

Psychological career resources, career adaptability and hardiness in relation to job embeddedness and organizational commitment

ABSTRACT

The study examined the relationship between employees' psychological career resources, career adaptability, hardiness (as a set of psychological career meta-capacities) and their job embeddedness and organizational commitment (as a set of retention-related dispositions). A quantitative survey was conducted on a convenience sample of employed adults (N=355) at managerial and staff levels in the human resource management field. A canonical analysis indicated that the psychological career meta-capacities construct canonical variate predicted a significant but practically small percentage of the variance in the retention-related dispositions construct variables. Structural Equation Modelling was used to validate the overall relationship between the two canonical construct variates. The results produced a good fit model, showing that psychological career meta-capacities (self/other skills, behavioral adaptability, career directedness, curiosity, concern, control, confidence, curiosity, hardy-commitment and hardy-control) significantly contributed to explaining the participants' sense of fit (job embeddedness). The findings may be used to inform career development support interventions that aim to assist with the retention of valuable and talented staff.

Keywords: psychological career meta-capacities, psychological career resources, career adaptability, hardiness, retention-related dispositions, job embeddedness, organizational commitment

Introduction

The retention of qualified, highly skilled and high performing employees has become a major concern for businesses competing in an extremely turbulent and uncertain socio-economic and socio-political environment (Hausknecht, Rodda, & Howard, 2009; Presti, Nonnis & Briscoe, 2011; Rappaport, Bancroft, & Okum, 2003; Samuel & Chipunza, 2009). This concern is compounded by skilled employees emigrating on a daily basis in search for improved employment conditions (Samuel & Chipunza, 2009) in a boundaryless career context (Briscoe, Hall & DeMuth, 2006; Sullivan & Arthur, 2006). Rappaport et al., (2003) posit that organizations that do not manage to retain their high performers will be left with an understaffed and less qualified workforce that will ultimately hold back their capability to continue being competitive.

Research increasingly shows that the retention of employees is influenced by their job embeddedness and commitment to the organization (João, 2011; Van Dyk, 2012). The retention of employees seems to be further influenced by psychological coping resources and self-regulation capacities that include individuals' ability to adapt to and deal proactively with the changing and uncertain nature of their careers in the contemporary world of work (Bezuidenhout, 2010; Ferreira, 2009; Savickas, 2011; Savickas et al., 2009; Savickas & Porfeli, 2012). In an increasingly turbulent environmental context people are increasingly dependent on their psychological and social resources (human capital), and less dependent on organizational career arrangements because they experience more frequent career transitions, have greater agency in career decisions and must be able, adaptable life-long learners (Arthur, Khapova & Wilderom, 2005; Baruch, 2004; Rossier, Zecca, Stauffer, Maggiori & Dauwalder, 2012; Savickas, 2011; Savickas & Porfeli, 2012). Consequently, subjective career measures that emphasize psychological attributes, resources and capacities have taken on greater salience in today's work environment (Brown, George-Curran & Smith, 2003; Coetzee, 2008; Ebbewein, Krieschok, Ulven & Prosser, 2004; Kidd, 2008; Savickas, 2011; Savickas et al., 2009; Savickas & Porfeli, 2012; Van Dam, 2004).

Although the construct of organizational commitment has been studied extensively in the South African career and retention context (Döckel, Basson & Coetzee, 2006; João, 2011; Lumley, 2009; Van Dyk, 2012), little research has been conducted on the psychological career meta-capacities that

influence employees' psychological attachment (Ferreira, Basson & Coetzee, 2010) to, and embeddedness (Ng & Burke, 2005; Van Dyk, 2012) in the organization.

In the current study we examine how individuals' psychological career meta-capacities (comprising their psychological career resources, career adaptability resources and hardiness) relate to their retention-related dispositions (job embeddedness and organizational commitment). In line with the reasoning of Savickas (2005) and Savickas and Porfeli (2012), we propose that individuals' repertoire of psychological career resources, career adaptability resources, and hardiness has the function of (1) organizing their career-related experiences, establishing criteria for success whereby they can assess their career and work achievements and experiences, and (2) guiding adaptive strategies for implementing their self-concepts in work roles to achieve a harmonic fit between personal needs and external opportunities. We further propose in line with the arguments of Mitchell, Holtom, Lee, Sablinski and Erez (2001) that the retention-related dispositions (job embeddedness and organizational commitment) act as mediating constructs between an individual's work and personal life. Whereas job embeddedness represents individuals' non-affective reasons for staying in an organization and their cognitive beliefs about the fit between their inner needs and the organization, organizational commitment represents their emotional responses or feelings about organizational issues which influence their psychological attachment to the organization (Mitchell et al., 2001). Building on our proposition, research indicates that individuals' career motives, values and psychological career-related resources, capacities and dispositions have an impact on their career decision-making and their psychological attachment to an occupation (Coetzee & Bergh, 2009; Ferreira, 2009; Kniveton, 2004; Lumley, 2010; Savickas, 2005; 2011; Schein, 1996; Tanova & Holtom, 2008).

The current study thus adds to the retention and careers literature by increasing understanding of the psychological career-related resources, capacities and dispositions that potentially influence the retention of employees. The findings might be helpful for career counselors and human resource practitioners to identify career development support interventions that may help to strengthen employees' job embeddedness and organizational commitment in the contemporary retention context.

Psychological career meta-capacities

In the context of the present study the constructs psychological career resources, career adaptability and hardiness are regarded as a composite set of psychological career meta-capacities. In line with Savickas and Porfeli's (2012) reasoning, these meta-capacities act as personal resources in managing the person-environment fit harmonics.

Psychological career resources

Coetzee (2008) coined the construct psychological career resources to help individuals recognise the significance of developing their inner career resources and drawing into these psychological resources to improve their general employability characteristics and abilities. Psychological career resources (people's career preferences and values, career enablers, career drivers and career harmonizers) are regarded as inherent resources or meta-competencies which enable individuals to adapt to changing career circumstances and to shape and select environments in order to attain success within a particular socio-cultural context (Coetzee, 2008).

People's *career preferences and values* comprise their unique views about the paths their careers should follow and guide their career decisions. The *career drivers* comprise people's sense of career purpose, career directedness and career venturing attitudes. These attitudes energize people and motivate them towards experimenting with new or alternative career and employment possibilities that are based on their viewpoints of the possible selves they could become or the possible working roles they could experience. The *career enablers* comprise people's transferable skills such as their practical or creative skills, and personal and interpersonal management skills that help them to succeed in their careers. The *career harmonizers* comprise people's self-esteem, behavioral adaptability, emotional literacy and social connectivity. These psychological attributes act as promoters of flexibility and resilience, and as controls by keeping the career drivers in balance so that people do not go overboard (or burn themselves out) in the process of pursuing and reinventing their careers (Coetzee, 2008).

Career adaptability

Savickas's (1997; 2005) notion of career adaptability is relevant to the current study. In the context of career construction theory, Savickas (2005) conceptualizes adaptive individuals as those who

become concerned about their future as an employee and then take action to increase their personal control over their vocational future. Adaptive individuals are proactive by displaying curiosity and exploring possible selves and future scenarios. They also seek to strengthen their confidence to pursue their aspirations (Savickas, 2005).

In considering adaptability, the career construction theory (Savickas, 2005) highlights a set of specific attitudes, beliefs, and competencies, which shape the actual problem-solving strategies and coping behavior that individuals use to synthesize their vocational self-concepts with work roles. Accordingly, career and life-design interventions aim to increase career adaptability. For example, such interventions seek to increase the five “Cs” of career adaptability theory which include: concern; control; curiosity; confidence and commitment (Savickas, 1997; 2005).

Concern involves a tendency to consider life within a time perspective anchored in hope and optimism (becoming concerned about the vocational future). *Control* rests on the conviction that it is an advantage for people to be able not only to use a self-regulation strategies to adjust to the needs of the different settings, but also to exert some sort of influence and control on the context (increasing personal control over one’s vocational future). *Curiosity* about possible selves and social opportunities increases people’s active exploration behaviors (display curiosity by exploring possible selves and future scenarios). *Confidence* includes the capacity to stand by one’s own aspirations and objectives, even in the face of obstacles and barriers (strengthening the confidence to pursue one’s aspirations). *Commitment* to one’s life projects rather than one’s particular job means that career indecision must not necessarily be removed, as it actually generate new possibilities and experimentations that allow individuals to be active even within uncertain situations (Savickas, 1997; 2005).

More recently, Savickas and Porfeli (2012) emphasize concern, control, curiosity and confidence as important self-regulation strategies and adapt-ability resources in negotiating the person-in-environment fit harmonics in a more uncertain and turbulent careers context.

Hardiness

The notion of hardiness (Maddi & Khoshaba, 2005) has emerged as an important stress resilience construct that has attracted a high level of continued research attention. However, this construct has been under-researched in the South African careers and retention context (Ferreira, 2012).

In their original work, Kobasa, Maddi and Kahn (1982) described hardiness as a collection of personality characteristics that functions as a flexible resource during the encounter with demanding life events. These include the hardy characteristics of commitment, control and challenge. Individuals high in hardiness tend to whole-heartedly involve themselves in or commit to whatever they are doing, believe and act as if they can influence or control the events forming their lives, and consider change to be not only normal but also a stimulus or challenge to development or personal growth (Azeem, 2010; Delahaij, Gailard & van Dam, 2010; Hystad, Eid, Johnsen, Laberg & Bartone, 2010; Kobasa, Maddi & Zola, 1985; Zhang, 2010).

Individuals with high levels of *hardy-commitment* are able to believe in the certainty, significance, and interest value of what they are and what they are doing, and therefore show the tendency to involve themselves fully in a number of life situations, including work, family, interpersonal relationships, and social institutions (Kobasa, 1987). *Hardy-control* enhances the motivation to engage in effortful coping because it predisposes the individual to view stressors as changeable (Kobasa, 1982; Maddi, 2002; Maddi & Kobasa, 1984). Hardy individuals feel that attempting to control or change a demanding or undesirable situation (rather than fatalistically accepting the outcome) falls within their scope of personal responsibility. *Hardy-challenge* generates a zest for facing up to (or even seeking out) difficult experiences because these are seen as opportunities for personal growth rather than as potential threats to security (Maddi, Khoshaba, Persico, Lu, Harvey & Bleecker, 2002). Thus, individuals who expect to thrive must learn to embrace the challenge of "authentic living", draw strength from difficulties previously faced and overcome successfully rather than looking for ways to avoid stressful events (Carr, Kelley, Keaton, & Albrecht, 2011).

Retention-related dispositions

In the context of the present study, the constructs job embeddedness and organizational commitment are regarded as a composite set of retention-related dispositions. These dispositions act as mediating constructs between employees' work and personal lives, influencing their cognitive (non-affective) and affective reasons for staying or leaving an organization or job, and hence their retention (Mitchell et al., 2001; Tanova & Holtom, 2008).

Job embeddedness

According to Mitchell, Holtom, and Lee (2001), job embeddedness represents a broad set of influences on an employee's decision to stay on the job. Job embeddedness refers to individuals' dispositional orientations or perceptions of their: (1) *fit* (the extent to which a person perceives that the job, organization and environment meshes with or complements (fit) other areas and aspects of his or her life space), (2) *links* (the extent of an individual's ties with other people and activities at work to family, non-work and off-the-job interests), and (3) *sacrifice* (the ease with which a person feel that links can be broken, or people's perceptions of what they would have to give up if they were to leave their current position (Feldman & Ng, 2007).

In the retention context, research evidence indicates job embeddedness as a predictor of employee turnover and job satisfaction (Tanova & Holtom, 2008). The higher the number of links between the person and the social, psychological and financial web (constituting work and nonwork friends, groups, and the community, and the physical environment in which the person lives), the more the person is bound to the job and organization (Mitchell et al., 2001). The better the fit between an individual's personal values, career goals, and plans for the future and the larger corporate culture and job demands (the job knowledge, skills, and abilities required), the higher the likelihood that the individual will feel professionally and personally tied to the organization (Mitchell et al., 2001). The more an employee perceives that which he or she would have to give up (financially or psychologically) by leaving a job or organization, the more difficult it will be for the individual to sever employment with the organization (Mitchell et al., 2001; Shaw, Delery, Jenkins & Gupta, 1998).

Organizational commitment

The three-component organizational commitment model developed by Meyer and Allen (1991) is used as a theoretical framework in the current study. According to Meyer and Allen (1991) organizational commitment reflects three extensive aspects of reasons for staying at or leaving an organization, namely: (1) affective commitment, (2) continuance commitment, and (3) normative commitment. Commitment is viewed as a set of affect-driven job attitudes that reflect the individual's affective or psychological attachment to, identification with and participation in the organization; acknowledgement of the consequences of, or expenses and threats linked to leaving the organization (and thus their continuance commitment based on their perception that they need to stay); and an internalized normative idea of ethical responsibility to stay which allows individuals to value their continued membership of a specific organization (Allen & Meyer, 1990). Similar to job embeddedness, research indicates organizational commitment as a significant predictor of turnover and job satisfaction (Griffeth, Hom & Gaertner, 2000; Hom & Griffeth, 1995; Mitchell et al., 2001).

Psychological career resources, career adaptability and hardiness in relation to job embeddedness and organizational commitment

We propose that an individual with a well-developed psychological career resources profile might show stronger perceptions of fit (embeddedness) with the job, organization and community, better ties with the people within the organization as well as the community. Strong feelings of fit might ensure that the individual remains with the organization due to the perceived sacrifices to be made should he or she decide to leave the organization. As found by Ferreira et al. (2010), the individual might be affectively more committed or psychologically connected to the organization. The individual might refrain from leaving the organization due to the perceived costs associated with leaving the organization (sacrifice and continuance commitment). The individual might also feel a strong sense of responsibility towards the organization (normative commitment), which in turn might influence the decision to leave the organization.

In line with Savickas and Porfeli (2012), we further propose that individuals high in career adaptability are able to skilfully and strategically negotiate the person-environment fit harmonics. Highly career adaptable individuals might show stronger perceptions of embeddedness (fit) with

the organization, having a sense that their values, career goals and plans for the future fit with the larger corporate culture as well as the demands (e.g., job knowledge, skills and abilities) of the immediate job (Mitchell, et al., 2001). Research by Van Dyk (2012) also produced evidence that high levels of job embeddedness significantly increase individuals' sense of organizational commitment.

Similarly, in line with Maddi, Khoshaba, and Pammenter (1999), we propose that individuals with a well-developed hardy personality might demonstrate the hardy values of cooperation, credibility and creativity at team and organizational level, implying higher levels of job embeddedness and organizational commitment.

Method

Sample and procedure

The participants were a convenience sample (N = 355) of employed adults at managerial and staff levels in a South African service industry who were enrolled for a human resource management programme at a distance higher education institution. The sample predominantly comprised blacks (92%) and females (71%), and single (55%) and married (38%) participants mostly in the early adulthood life stage or the establishment phases of their careers (26 – 40 years; 64%).

The participants attended a three day study school during which the questionnaires were administered in a group session. Each questionnaire included a covering letter inviting subjects to participate voluntarily in the study and assuring them that their individual responses would remain confidential. Permission for the research was obtained from the institution's research ethics committee. The cover letter also stated that completing the questionnaires and returning them constituted agreement to use the results for research purposes only. A total of 396 students attended the study school and a sample of 355 usable questionnaires was returned, yielding a response rate of 89.6%.

Measures

Psychological career resources were measured by using the Psychological Career Resources Inventory (PCRI) (Coetzee, 2008). The PCRI is a self-rated multi-factorial measure which contains 64 items and five subscales (career preferences, career values, career enablers, career

drivers, career harmonizers). The PCRI measures 15 constructs in total. A 6-point Likert-type scale was used for subjects' responses to each of the 64 items. Cronbach Alpha inter-consistency coefficients for each subscale range from .64 to .86. Studies conducted by Coetzee (2008) and Ferreira (2009) confirmed the reliability and validity of the PCRI in the South African context.

Career adaptability was measured by using the research version of the original Career Adapt-Abilities Inventory (CAI) developed by Savickas (2010). The CAI (Savickas, 2010) is a multi-factorial self-rating measure, consisting of 55 items and five subscales: concern, control, curiosity, cooperation and confidence. A 5-point Likert-type scale was used for subjects' responses to each of the 55 items. The Cronbach Alpha coefficients (internal consistency) for the five subscales (as obtained for the sample of this study) were as follows: concern (.88), control (.90), curiosity (.90), cooperation (.85) and confidence (.90).

Hardiness was measured by using Maddi's (1987) Personal Views Survey II (PVS-II). The PVS-II is a self-rated multi-factorial measure which contains 50 items and three subscales (commitment, control and challenge). A 4-point Likert-type scale was used for subjects' responses to each of the 50 items. Factor analysis by Maddi (1987) confirmed the construct validity of the PVS-II. In terms of internal consistency reliability, Maddi (1987) reports the following Cronbach Alpha coefficients: .70 to .75 for commitment; .61 to .84 for control; .60 to .71 for challenge and .80 to .88 for total hardiness. The Cronbach Alpha coefficients (internal consistency) for the five subscales (as obtained for the sample of this study) were as follows: commitment (.76), control (.71) and challenge (.59)

Job embeddedness was measured by using the Job Embeddedness Scale (JES) of Mitchell, Holtom and Lee (2001). The JES measures three causal, not effect, indicators of the dimensions for embeddedness: fit (7 items), sacrifice (10 items) and links (6 items) on a 6-point Likert type scale. The JES (Mitchell et al., 2001a) comprises two dimensions, namely organisational and community dimensions. In the present study the examination was limited to the organisational dimension. Researchers have found that the organisational dimension better predicts employee performance than does the community dimension (Allen, 2006; Halbesleben & Wheeler, 2008; Lee, Mitchell, Sablinski, Burton & Holtom, 2004). Research (Mallol, Holtom & Lee, 2007) confirms the validity

and reliability of the JES. Research findings on the reliability of this questionnaire indicate that it is a reliable measuring instrument for measuring job embeddedness (Mitchell et al., 2001). The Cronbach Alpha coefficients (internal consistency) for the five subscales (as obtained for the sample of this study) were as follows: fit (.84), links (.77) and sacrifice (.87).

Organizational commitment was measured by using the Organizational Commitment Scale (OCS) of Meyer and Allen (1997). The OCS is a multi-factorial measure rating affective commitment (8 items), continuance commitment (9 items) and normative commitment (6 items) on a 7-point Likert Type scale. The following internal consistency reliability estimates (Cronbach's Alphas) are reported for affective commitment (.82), continuance commitment (.74) and normative commitment (.83). Studies by Coetzee & Roythorne-Jacobs, (2007), Ferreira (2009), Lumley (2010) and Lumley, Coetzee, Tladinyane and Ferreira (2011) confirmed the reliability and validity of the OCS in the South African context. The Cronbach Alpha coefficients (internal consistency) for the five subscales (as obtained for the sample of this study) were as follows: affective commitment (.56), continuance commitment (.73) and normative commitment (.74).

Statistical analyses

Canonical correlational analyses were performed to assess the overall statistical relationship between the PCRI, CAI and PVS II variables (as a composite set of multiple independent variables of the psychological career meta-capacities construct), and the JES and OCS variables (as a composite set of multiple dependent variables of the retention-related dispositions construct). Canonical correlation analysis limits the probability of committing Type I errors (Hair, Black, Babin & Anderson, 2010). The Wilks Lambda's chi-square test was performed to test for the significance of the overall canonical correlation between the independent and dependent variates of a canonical function. In order to counter the probability of a type I error, it was decided to set the significance value for interpreting the results at a 95% confidence interval level ($F_p \leq .05$).

Effect sizes were used to decide on the practical significance of the canonical correlation findings. In line with guidelines by Hair et al. (2010), the cut-off criteria for factorial loadings ($\geq .30$) were used to interpret the relative importance of the canonical structure correlations or loadings in deriving the canonical variate constructs. The redundancy index was also considered for assessing the magnitude of the overall correlational relationships between the two variates of a canonical

function and the practical significance of the predictive ability of the canonical relationship (Hair et al., 2010). Squared canonical correlation (Rc^2) values of $\leq .12$ (small practical effect), $\geq .13 \leq .25$ (medium practical effect) and $\geq .26$ (large practical effect) ($Fp \leq .05$) (Cohen, 1992) were also considered in the interpretation of the magnitude or practical significance of the results.

Structural Equation Modelling (SEM) was also performed using AMOS 18 (Arbuckle, 1995-2009) to validate the overall relationship between the two canonical construct variates (psychological career attributes and retention-related dispositions) as latent variables. The canonical correlation analysis results were regarded as the measurement model. In line with guidelines provided by Garson (2008), we assumed that an adequate fit of the structural model to the measurement data exists when we obtain a confirmatory fit index (CFI) of .90 or higher, a root-mean-square error of approximation (RMSEA) of .08 or lower, and a standardized root-mean-square residual (SRMR) of .05 or lower.

Results

Descriptive statistics: Means and standard deviations

Table 1 shows that the participants obtained the highest mean scores on the following PCRI subscales: stability/expertise career preference ($M = 5.28$; $SD = .11$); growth/development career value ($M = 5.42$; $SD = .116$); career purpose driver ($M = 5.39$; $SD = .05$); and self/other skills ($M = 4.89$; $SD = .23$).

Table 1 also shows that the participants obtained the highest mean scores on the CAI (career adaptability) control ($M = 4.39$; $SD = 6.93$), PVS-II (hardiness) challenge ($M = 3.43$; $SD = 5.71$), JES fit ($M = 5.04$; $SD = 6.73$) and OCS continuance commitment ($M = 4.76$; $SD = 9.92$) subscales.

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Canonical correlation analyses

Table 2 shows that the canonical model has three canonical functions (dimensions) of which the canonical correlation of only the first function is statistically significant: $Rc = 0.454$ ($Rc^2 = .21$;

moderate practical effect; $F(p) = 1.56$ ($p = .0001$). The canonical function explains the relationship between the two canonical variates, that is, the canonical variate for the set of dependent variables (retention-related dispositions: job embeddedness and organizational commitment) and the canonical variate for the set of independent variables (psychological career attributes: psychological career resources, career adaptability and hardiness). The four multivariate criteria and the F approximations for the model are also statistically significant ($p \leq .0001$)

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Due to the instability and variability of canonical weights and multi-collinearity concerns (Hair et al., 2010), only the individual canonical structure correlations (loadings) and their squared canonical structure loadings are considered in interpreting the relative importance and magnitude of importance (practical significance) in deriving the two canonical variate constructs: the psychological career meta-capacities independent canonical variate construct and the retention-related dispositions dependent canonical variate construct. The canonical structure correlations (loadings) measure the strength of the canonical relationship between a canonical variate and its individual original variables in the set of variables (within-set variable-to-variate correlation) (Hair et al., 2010). Those variables that correlate highly ($\geq .30$) with its canonical function variate can be regarded as having more in common with it.

In terms of the independent canonical variate, Table 3 shows that the psychological career meta-capacities variate construct was most strongly influenced by the PCRI (psychological career resources) and CAI (career adaptability) variables. More specifically, the PCRI variables career directedness ($Rc = .59$), self/other skills ($Rc = .56$) and behavioral adaptability ($Rc = .52$) showed a practically large degree of association with the psychological career meta-capacities construct variate. The PCRI career preference variable stability/expertise ($Rc = .36$), and the career harmonizer variables self-esteem ($Rc = .42$) and social connectivity ($Rc = .42$) showed a practically moderate degree of association with the psychological career meta-capacities construct variate ($Rc^2 \geq .13 \leq .25$). All the CAI (career adaptability) variables showed a practically large degree of association with the psychological career meta-capacities construct variate ($Rc^2 \geq .26$) except for cooperation ($Rc = .48$; $Rc^2 = 23\%$) that showed a moderate degree of association with

the psychological career meta-capacities construct variate. All the PVS-II (hardiness) commitment ($Rc = -.64$), control ($Rc = -.49$) and challenge ($Rc = -.31$) variables showed an inverse association of a practically moderate degree with the psychological career meta-capacities construct variate.

In terms of the dependent canonical variate, Table 3 shows that the retention-related dispositions canonical variate construct was most strongly influenced by the JES-fit variable ($Rc = .77$; very large practical effect), and to a lesser extent by the JES variables links ($Rc = .43$; moderate practical effect) and sacrifice ($Rc = .38$; small practical effect). The results furthermore indicated that the retention-related dispositions variate construct was most strongly influenced by the OCS continuance variable ($Rc = -.49$), which indicated an inverse association of a practically moderate degree with the retention-related dispositions variate construct. The OCS affective ($Rc = -.08$) and normative variables ($Rc = .07$) both indicated an association with the canonical variate construct of small practical effect.

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The overall squared canonical correlation (Rc^2) explains the proportion of variance shared by the canonical variables in each variate set. As observed for the individual cross-loadings, the psychological career meta-capacities canonical variate construct explained 21% ($Rc^2 = .21$; moderate practical effect) of the variance in the retention-related dispositions canonical variate construct.

In terms of practical significance, the magnitude of the relationship between the two canonical variate constructs is measured by the redundancy index. Ideally, the higher the redundancy the higher the percentage of variance accounted for by the independent variate in the dependent set of original variables and vice versa. Table 3 shows that the psychological career meta-capacities canonical variate construct was able to predict only 4% (small practical effect) of the variance in the individual original retention-related dispositions construct variables. The retention-related dispositions canonical variate construct was able to predict only 4% (very small practical effect) of the variance in the individual original PCRI, CAI and PVS-II variables. Neither of the two

canonical variate constructs was thus found to be a good overall predictor of the opposite canonical variate construct. By contrast, each canonical variate was a stronger predictor of its own construct variables. The psychological career meta-capacities canonical variate construct explained 19% (moderate practical effect) of the variance in the individual original PCRI, CAI and PVS-II variables while the retention-related dispositions canonical variate construct explained 20% (moderate practical effect) of the variance in the individual original JES and OCS variables.

The canonical cross-loadings in Table 3 show that a very low percentage of the variance for each of the individual variables was explained by the first canonical function independent and dependent variates (indicating a low shared variance between the individual variables). The JES-fit variable exhibited the highest correlation with the psychological career meta-capacities canonical variate construct which explained 21% of the variance in the JES-fit variable. Overall, it appears from the cross-loadings (although small in practical effect size) that the psychological career meta-capacities of self/other skills, and career adaptability competencies of concern, control, and confidence contributed the most in explaining the variance in the job embeddedness fit variable.

Structural Equation Modeling (SEM)

Three models were tested. The initial baseline model (as shown in Table 4) had only a marginal fit to the data because of the low CFI fit statistics ($CFI \leq .90$), with a chi-square of 12188.97 (7122 *df*); $CMIN/df = 1.71$; $p = .000$; $NFI = .54$; $RFI = .52$; $IFI = .74$; $TLI = .73$; $CFI = .74$ and $RMSEA = .05$.

Although the second model showed a 94% improvement in the data fit ($NFI = .94$), the fit was still marginal: chi-square = 155.37 (60 *df*); $CMIN/df = 2.59$; $p = .000$; $RFI = .91$; $TLI = .94$; $CFI = .96$ and $RMSEA = .07$.

The third model showed a 96% improvement in the model ($NFI = .96$). The model had a very good fit to the data: chi-square = 91.24 (41 *df*); $CMIN/df = 2.23$; $p = .000$; $RFI = .95$; $TLI = .97$; $CFI = .98$; $RMSEA = .06$ and $SRMR = .03$.

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Insert Table 4 here

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Figure 1 specifies the standardized path coefficient estimates between the psychological career meta-capacities construct and its variables and the standardized path coefficients estimates between the retention-related dispositions construct and its variable job embeddedness (fit). The standardized path coefficient estimates between the psychological career meta-capacities construct and the retention-related dispositions construct are also specified.

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Insert Figure 1 here

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The model fit (shown in figure 1) revealed that the model explains 9% of the variance in the retention-related disposition construct fit (job embeddedness). In terms of relative importance, the psychological career meta-capacities construct is mostly explained by the psychological career resources variables (self/other skills, behavioral adaptability and career directedness), and the career adaptability variables (curiosity, concern, control, confidence and cooperation). The psychological career resources variables in the model explain 98% of the variance in the psychological career meta-capacities construct while the career adaptability variables explain 74% of the variance. The hardiness variables (commitment and control) showed an inverse relationship with, and contributed the least in explaining the variance (8%) in the psychological career meta-capacities construct.

Discussion

Overall, the results suggested that the psychological career meta-capacities (self/other skills, behavioral adaptability, career directedness, curiosity, concern, control, confidence, curiosity, hardy-commitment and hardy-control) significantly contributed to explaining the participants' sense of fit with their work group, job and organization. These psychological career meta-capacities highlighted by the results seem to reflect the self-regulation capacities inherent to the career adaptability resources highlighted by Savickas and Porfeli (2012). Career adaptability resources are regarded as psychosocial resources or transactional capacities upon which individuals may draw upon in negotiating the person-environment fit harmonics. These personal resources or capacities support individuals' self-regulation strategies relative to the social and

developmental tasks of adapting to a social environment and successfully achieving the goal of person-environment integration (Savickas & Porfeli, 2012). Managing the person-environment equilibrium in a more turbulent, uncertain careers context has become a key socio-developmental task in career construction theory (Savickas, 2011; Savickas & Porfeli, 2012).

It appears from the findings that increasing the participants' psychological career meta-capacities (psychological career resources and career adaptability resources) may assist them in managing or negotiating their personal fit with the work group, job or organization as an aspect of their careers. In agreement with the reasoning of Savickas et al. (2009) and Rossier, Zecca, Stauffer, Maggiori and Dauwalder (2012), it appears that the set of psycho-social resources reflected in the psychological meta-capacities highlighted in the findings of the current study, may strongly influence other career or work-related outcomes such as job tenure and organizational commitment impacting the retention of valuable and talented staff. Employees who feel strongly embedded and committed may define their relationships with their employers as long term, and have lower intent to quit as opposed to employees who have lower levels of embeddedness and commitment to their organizations (Mallol et al., 2007).

The findings indicated that the participants' behavioral adaptability (courage, confidence and willingness to deal with uncertainty and meeting daily challenges, and adapting to new things and situations), self-management and interpersonal skills, and clarity about their future career direction (Coetzee, 2008) were important psychological career resources in explaining their sense of fit with the work group, job and organization. Moreover, their overall career adaptability (Savickas, 1997; Savickas & Porfeli, 2012), illustrated by their sense of personal control over their vocational future, their curiosity in exploring possible selves and future career scenarios, working well (cooperating) with others in their career pursuits, and confidence in pursuing their career aspirations, were also significantly related to their sense of fit with the job and organization. According to Mitchell et al. (2001a,b), a fit between employees' values, career goals and plans for the future and the larger corporate culture as well as the demands of the immediate job (e.g., job knowledge, skills and abilities) leads to a stronger sense of embeddedness. Research by Van Dyk (2012) showed employees' satisfaction with career opportunities and the characteristics of their jobs (autonomy, skill variety and challenge) to be significantly related to their sense of job embeddedness (fit and

sacrifice). João (2010) also found the need for career growth and advancement opportunities and challenging work to be significant factors that keep professionally qualified employees from leaving their organizations.

The inverse relationship between the participants' sense of hardy-control and hardy-commitment, and their sense of job embeddedness (fit) suggests that being highly motivated to engage in effortful coping in dealing with demanding or undesirable situations negatively influenced their sense of being embedded in their jobs. These results further suggest that should the participants perceive a low fit with the job or organization, they might have the confidence and inner drive or motivation to attempt to deal responsibly with the undesirable situation. They might draw on their career adaptability resources or psychosocial capacities to deal positively with the perceived lack of fit. Research indicates that individuals high in hardiness tend to whole-heartedly involve themselves in, or commit to whatever they are doing, and believe and act as if they can influence or control the events forming their lives (Azeem, 2010; Delahaij, Gailard & van Dam, 2010).

Implications for practice

The findings of this study have implications for managers and human resource practitioners who are responsible for providing career development support, especially in the retention context. The findings confirmed the need to assess and develop the psychological career meta-capacities of employees as they seem to significantly influence individuals' perceived fit with their work group, job and organization (embeddedness). More specifically, organizational career development support interventions should focus on developing the psychological career meta-capacities pointed out in the findings of the current study as important psychosocial resources to increase the participants' sense of job embeddedness (fit). Developing employees' career adaptability resources encourage proactive career behaviors which will help them to shape the problem-solving strategies and coping behaviors they need to synthesise their vocational self-concepts with their work-roles (Savickas, 2005) in negotiating the person-environment fit harmonics (Savickas & Porfeli, 2012), thus increasing their attachment (sense of job-embedded fit) to the organization.

Limitations and future research

Since the present study has been limited to early career participants predominantly employed in the human resources management field in the South African organizational context, the findings cannot be generalized to other occupational contexts, age, race or gender groups. Furthermore, given the exploratory nature of the research design, this study can yield no statements about causation. Associations between the variables have therefore been interpreted rather than established. These findings therefore need to be replicated with broader samples across various occupational groups and economic sectors before more comprehensive conclusions can be drawn about the relationship between employees' psychological career meta-capacities (psychological career resources, career adaptability and hardiness) and their retention-related dispositions (job embeddedness and organizational commitment). Longitudinal studies are also recommended to investigate the relationship between these variables and how they influence the retention of employees over the long term.

Conclusion

In conclusion, our study contributes to the literature on retention and subjective (psychological) measures of individuals' career behavior and decisions. We tested the overall relationship between a set of psychological career meta-capacities regarded as being important for proactive, adaptive career behavior in the contemporary world of work context, and a set of acknowledged retention-related dispositions (job embeddedness and organizational commitment). We further validated the relationship between these constructs by means of Structural Equation Modelling and found empirical support for the proposition that individuals' psychological career meta-capacities (psychological career resources, career adaptability and hardiness) significantly influenced their sense of job embeddedness (fit). In this regard, the research results contributed valuable new insights to the body of knowledge relating to the psychological self-regulatory capacities and dispositions that may potentially influence staff retention in the South African organizational context. The findings may be used to inform career development support interventions that aim to assist with the retention of valuable and talented staff.

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Table 1

Descriptive statistics: Means, standard deviations and reliability summary statistics (PCRI, CAAS, PVS-II, JES and OCS) (N=355)

Scale dimension	<i>M (SD)</i>	α
<i>PCRI (psychological career resources)</i>		
<i>Career preference</i>	4.89 (10.92)	.86
Stability/Expertise	5.28 (.11)	.74
Managerial	4.78 (.94)	.75
Variety/Creativity	4.95 (.84)	.72
Independence/Autonomy	4.32 (.39)	.74
<i>Career values</i>	5.13 (3.87)	.85
Growth/Development	5.42 (.16)	.74
Authority/Influence	4.84 (.68)	.64
<i>Career enablers</i>	4.70 (6.40)	.83
Practical/Creative skills	4.47 (.29)	.70
Self/Other skills	4.89 (.23)	.79
<i>Career drivers</i>	4.95 (7.00)	.85
Career purpose	5.39 (.05)	.83
Career directedness	4.69 (.79)	.81
Career venturing	4.75 (.84)	.71
<i>Career harmonizers</i>	4.68 (13.36)	.89
Self-esteem	5.09 (.10)	.82
Behavioral adaptability	4.66 (.28)	.81
Emotional literacy	4.22 (.14)	.71
Social connectivity	4.75 (.34)	.74
<i>CAI (career adaptability)</i>		
Concern	4.12 (6.79)	.88
Control	1.39 (6.93)	.90
Curiosity	4.16 (7.08)	.90
Cooperation	4.05 (7.21)	.85
Confidence	4.21 (6.88)	.90
<i>PVS-II (hardiness)</i>		
Commitment	2.31 (6.46)	.76
Control	2.59 (6.47)	.71
Challenge	3.43 (5.71)	.59
<i>JES (job embeddedness)</i>		
Fit	5.04 (6.73)	.84
Links	4.68 (6.48)	.77
Sacrifice	4.68 (10.94)	.87
<i>OCS (organizational commitment)</i>		
Affective commitment	4.71 (7.28)	.56
Continuance commitment	4.76 (9.92)	.73
Normative commitment	4.70 (7.55)	.74

Table 2

Canonical correlation analysis relating to psychological career resources, career adaptability and hardiness (independent variables) to job embeddedness and organizational commitment (dependent variables) (N =355)

Measures of overall model fit for canonical correlation analysis				
Canonical function	Overall Canonical correlation (Rc)	Overall squared canonical correlations (Rc ²)	F Statistics	Probability (p)
1	.454	.21	1.56	.0001**
2	.370	.13	1.22	.06
3	.283	.08	1.01	.46
4	.271	.07	.94	.60
5	.224	.05	.81	.79
6	.120	.04	.75	.76
Multivariate Tests of Significance				
Statistics	Value	Approximate F-Statistic	Probability (p)	
Wilks' lambda	.535	1.56	<.0001***	
Pillai's trace	.583	1.54	<.0001***	
Hotelling-Lawley trace	.675	1.58	<.0001***	
Roy's Greatest Root	.259	3.72	<.0001***	

*** $p \leq .001$

Table 3

Standardized canonical correlation analysis results for the first canonical function variates (N = 355)

Variate/variables	Canonical coefficients (weights)	Canonical loading(Rc) (structure correlations)	Canonical cross-loadings (squared multiple correlations)
<i>Career Preference(PCRI)</i>			
Stability/Expertise	.23	.36	.16
Managerial	.13	.23	.12
Variety/Creativity	-.09	.32	.14
Independence/Autonomy	-.24	-.02	-.01
<i>Career Values (PCRI)</i>			
Growth/Development	-.09	.26	.12
Authority/Influence	-.30	.01	.01
<i>Career Enablers (PCRI)</i>			
Practical/Creative skills	.16	.35	.16
Self/Other skills	.32	.56	.26
<i>Career Drivers (PCRI)</i>			
Career Purpose	-.45	.25	.12
Career Directedness	.32	.59	.27
Career Venturing	.01	.32	.14
<i>Career Harmonizers (PCRI)</i>			
Self-esteem	.16	.42	.19
Behavioral adaptability	.03	.52	.24
Emotional literacy	.04	.31	.14
Social connectivity	-.05	.42	.19
<i>Career adaptability(CAI)</i>			
Concern	.18	.60	.27
Control	.20	.60	.27
Curiosity	-.01	.53	.24
Cooperation	.12	.48	.22
Confidence	-.09	.53	.24
<i>Hardiness (PVA-II)</i>			
Commitment	-.50	-.64	-.29
Control	.01	-.49	-.22

Challenge	-0.00	-0.31	-0.14
Independent canonical variate (psychological career meta-capacities)			
Shared variance: .19++			
Overall R²: .21++			
Redundancy index: 0.4+			
Fit	.87	.77 (.59)	.35
Links (organization)	-.10	.43 (.19)	.20
Sacrifice	.10	.38 (.14)	.17
<i>Organizational commitment (OCS)</i>			
Affective commitment	-.12	-.08 (.01)	-.04
Continuance commitment	-.65	-.49 (.24)	-.22
Normative commitment	.15	.07 (.01)	.03
Dependent canonical variate (Retention-related dispositions)			
Shared variance: .20++			
Overall R²: .21++			
Redundancy index: 0.4+			

Note: + R² ≤ .12 (small practical effect size) ++ R² ≥ .13 ≤ .25 (moderate practical effect size) +++ R² ≥ .26 (large practical effect size)

Table 4

SEM fit statistics summary (N = 355)

Model	CMIN(χ^2)	df	CMIN/df	P	NFI	RFI	TLI	CFI	RMSEA	SRMR	Δ CMIN
1	12188.97	7122	1.71	.00	.54	.52	.73	.74	.05		
2	155.37	60	2.59	.00	.94	.91	.94	.96	.07		12033.60
3	91.24	41	2.23	.00	.96	.95	.97	.98	.06	.03	64.13

Note: * $p < .01$. Model 1 is the hypothesised five-factor model in which psychological career resources, career adaptability, hardiness, job embeddedness and organizational commitment each load onto their respective latent factors. Model 2 is a two-factor model in which psychological career resources, career adaptability and hardiness load onto one factor and job embeddedness and organizational commitment onto another factor. Model 3 is a two-factor model in which psychological career resources, career adaptability and hardiness load onto one factor (psychological career meta-capacities) and job embeddedness onto a second factor (retention-related dispositions). CMIN(χ^2) = chi-square; df = degrees of freedom; p = significance level; NFI = Bentler-Bonett normed fit index; RFI = relative fit index; TLI = non-normed fit index; CFI = comparative fit index; RMSEA = root-mean-square error of approximation. SRMR = standardized root-mean-square residual.

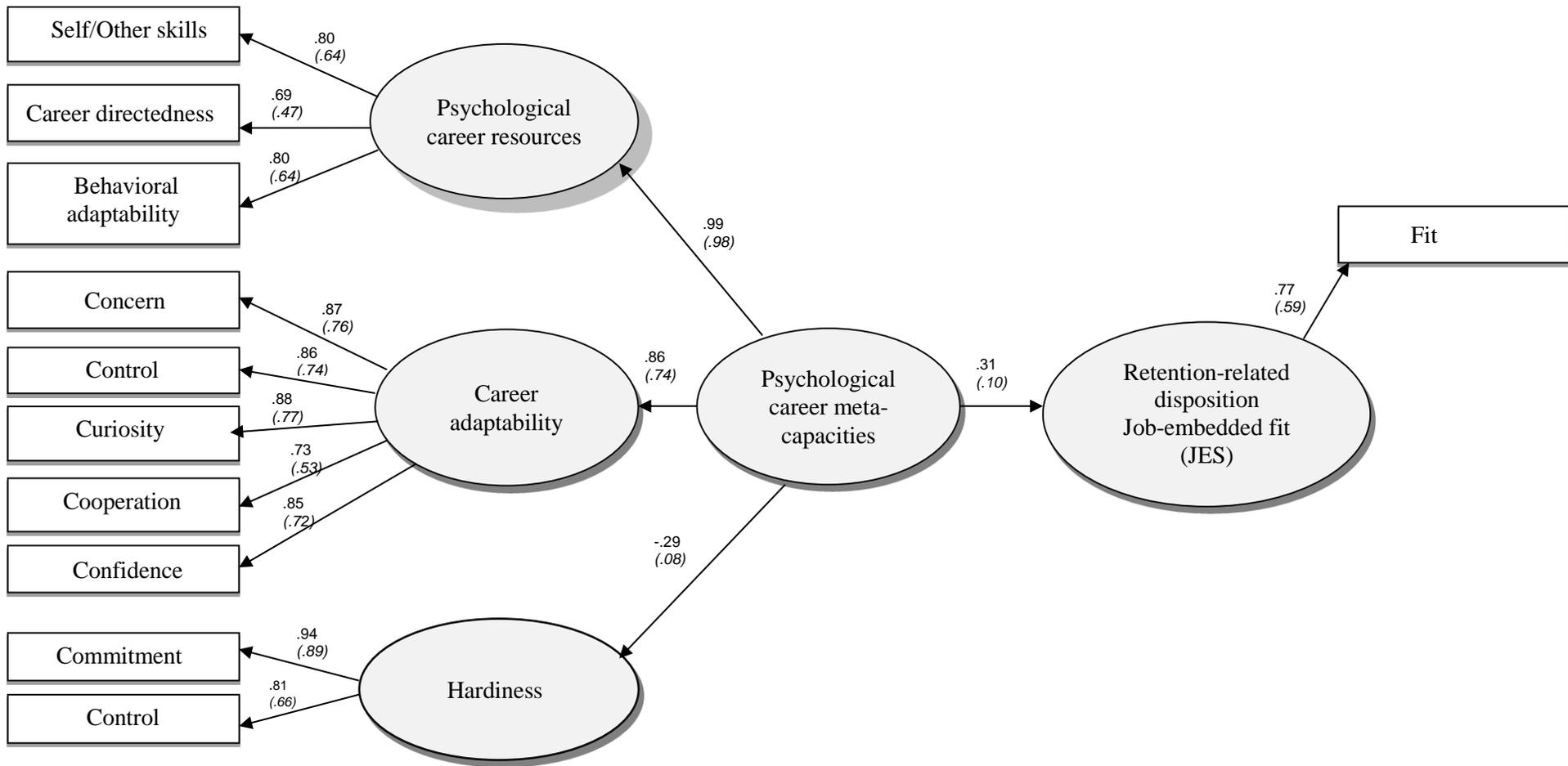


Fig.1. Final structural model (3) linking the psychological career meta-capacities construct variables to the retention-related dispositions construct variable job-embedded fit. *Note:* All standardized path coefficient estimates *** $p \leq .001$. Squared multiple correlations (R^2) shown in brackets

