

The linkage between work-related factors, employee satisfaction and organisational commitment: Insights from public health professionals

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Orientation: The public health sector in South Africa faces a number of human resource-related inundations. Solving these challenges requires the provision of empirically derived information on these matters.

Research purpose: This study investigated the relationship between three work-related factors, person-environment fit, work-family balance and perceived job security, and employee satisfaction and organisational commitment. A conceptual framework that links these factors is proposed and tested.

Motivation for the study: The prevalence of employee-related challenges involving public health professionals, as evidenced through industrial action and high labour turnover, amongst others, demands further research in order to generate appropriate solutions.

Research approach, design and method: A quantitative design using the survey approach was adopted. A six-section questionnaire was administered to a stratified sample of 287 professionals in three public health institutions in Gauteng, South Africa. Data was analysed using descriptive statistics, exploratory factor analysis, Pearson's correlation analysis and regression analysis.

Main findings: Job security and person-environment fit both positively correlated with and predicted employee satisfaction. The association between work-family balance and employee satisfaction was weak and showed no significant predictive validity. Employee satisfaction was strongly correlated to and predicted organisational commitment.

Practical/managerial implications: The findings of the current study may be used by managers in public health institutions to improve the level of organisational commitment amongst professionals in the sector, thus preventing further employee-related challenges that negatively affect the provision of outstanding public health services.

Contribution: The study provides current evidence on how both work-related and human-related factors could contribute to the prosperity of the public health sector, both at micro and macro levels. The study also provides updated insights into the interplay between these factors in the context of South Africa, thereby addressing a research gap in this subject.

Introduction

As the costs of health services continue to soar in South Africa, the heavily subsidised public health sector has emerged as the major health service provider for the greater South African populace (Pillay, 2009). However, several challenges, emanating from both the internal and external environment, have mushroomed that tend to inhibit the ability of public health institutions to achieve their goals. In the external environment, a major challenge relates to increasing competition from the private health services providers (George, Gow & Bachoo, 2013). However, on the internal front, the principal impediment is the increasing number of cases of disgruntlement amongst public health professionals. This is evidenced by episodic industrial action in the sector as well as the high staff turnover amongst health professionals who may be destined for greener pastures in Western countries (Dhai, Etheredge, Vorster & Veriava, 2011). As suggested by Blaauw *et al.* (2013), public health professionals have the potential to be part of the central government's solution to key problems within the health-care systems. It is important then, to investigate the significant predictors of employee satisfaction and how the latter may subsequently contribute to the development of organisational commitment. This will clearly contribute to managerial solutions to the problems that are currently entrenched in the public health-care system.

In response to various developments in the South African public health sector, a number of fairly recent research projects have been conducted to investigate the dynamics within public health

institutions in South Africa (e.g. Chaiyachati, Loveday, Lorenz, Lesh & Larkan, 2013; Dhai *et al.*, 2011; George, Atujuna & Gow, 2013; Lehmann & Gilson, 2013). A number of studies (Appel, 2006; Blaauw *et al.*, 2013; George, Atujuna & Gow, 2013; Ludy, 2005; Pillay, 2009; Ramasodi, 2010; Visser, McKenzie & Marais, 2012) concentrated on specific aspects of organisational behaviour amongst public health professionals in various regions of South Africa. The presence of an array of literature focusing on public health sector employees in South Africa provides testimony to the significance of this sector. However, gaps in the literature still exist with regard to the drivers of employee satisfaction and organisational commitment in the public health sector, which gives impetus for further empirical focus on the area.

The current study sought to investigate the relationship between three work-related factors, person-environment fit, work-family balance and perceived job security, and employee satisfaction and organisational commitment amongst health professionals in public health institutions. There is an apparent lack of evidence from studies that examined this combination of relationships in the context of South African public health institutions. In view of this, this study proposes a conceptual framework that is yet to receive prior empirical scrutiny within the South African setting. Additional impetus is provided to investigate the employees' reasons to stay satisfied and committed as public health professionals are of strategic importance to the nation. Therefore, a need exists to extend empirical research evidence that captures the dynamics surrounding the behaviour of public health professionals in South Africa.

Literature review

Employee satisfaction

Researchers vary in their definitions of the concept of employee satisfaction. Employee satisfaction may simply be perceived as the feelings of individuals about their jobs (Arndt, Todd & Landry, 2006). Sieger, Bernhard and Frey (2011) conceptualise employee satisfaction in terms of how people feel about their jobs and different aspects of their jobs. In support, Ellickson and Logsdon (2002) define employee satisfaction as the extent to which employees like their work. As such, employee satisfaction is an assemblage of factors that depend on the interaction of employees (Fisher, 2000), their individualistic characteristics such as demography, emotions and personality (Cote & Morgan, 2002), job values and reward expectations such as salary and promotion, environmental factors (Ivancevich & Matteson, 2005) as well as other factors that may be specific to the unique nature of work being performed such as autonomy, role stress and teamwork (Concha, 2009). For the purposes of this study, the definition by Sieger *et al.* (2011) was adopted, since it acknowledges that employees' perceptions are not limited to the job only, but they tend to apply to other aspects of the job as well. Therefore, employee satisfaction is a highly complex and multifaceted phenomenon that depends not only on the nature of the job but also on the expectation regarding what that particular job will provide for the employee (Hussami, 2008).

Employee satisfaction leads to a number of consequences to health service employees that include, inter alia, increased productivity (Best, 2008), high-quality care (Al-Aameri, 2000) and intent to remain in the organisation (Yee, Yeung & Cheng, 2008). These outcomes pose explicit implications for the effectiveness of employees and, ultimately, the performance of the organisation as a whole (Koys, 2001; Mafini & Poee, 2013). Additionally, employee satisfaction has been found to be an indicator of constructive employee behavioural traits such as organisational citizenship (Wegge, Schmidt, Parkes & Van Dick, 2007), withdrawal behavioural traits such as absenteeism and turnover (Saari & Judge, 2004) as well as desirable behavioural traits such as subservience and orderliness (Mount, Ilies & Johnson, 2006). It appears then that employee satisfaction is fundamental to the prosperity of both individual employees and the organisation.

Organisational commitment

Organisational commitment has been defined as a psychological state that characterises an employee's identification, involvement and ultimate relationship with an organisation (Paulina, Ferguson & Bergeron, 2006). This factor is characterised by the employee's acceptance of the goals and values of the organisation (identification), the willingness to invest individual effort on behalf of the organisation (involvement) and the importance attached to keeping up the membership in the organisation (loyalty) (Boglera & Somech, 2004). Research evidence indicates that organisational commitment is negatively related to employee turnover, intention to leave (Cote & Morgan, 2002; Griffeth, Hom & Gaertner, 2000) and role stress (Concha, 2009) whilst being positively related to extra-role behaviour, team performance (Lavelle *et al.*, 2009) as well as increased work performance as measured by both self-reported measures and objective measures (Fedor, Caldwell & Herold, 2006). Within the context of health care, extra job roles include providing extra help to both patients and co-workers (Al-Aameri, 2000; Yoon & Suh, 2003), being considerate (Fisher, 2000), volunteering for special activities (Ahmad & Oranye, 2010) and being proactive when emergencies arise at the hospital (Coyle-Shapiro & Morrow, 2006).

Person-environment fit

Kristof-Brown, Zimmerman and Johnson (2005) define person-environment fit as the extent to which individual and environmental characteristics match. In other words, person-environment fit may be conceptualised in terms of specific person-situation relations that spell out the equivalence between person and environment dimensions (Ostroff & Schulte, 2007). Examples of person characteristics include, inter alia, an individual's biological or psychological needs, values, goals, abilities or personality. Similarly, environmental characteristics may consist of job demands, cultural values, rewards or various environmental conditions such as shelter, heat and the availability of food (Cable & Edwards, 2004). This dimension is characterised by three identifiable domains, namely: person-job fit, person-group fit and person-person fit (Song & Chon, 2012).

In addition, antecedents of the person-environment fit comprise of effective performance management (Boon & Den Hartog, 2011) as well as effective employee attraction. Moreover, noticeable improvements have been chronicled in terms of recruitment, selection, retention as well as training and development processes in various organisations (Chatman, 2011; Kristof-Brown & Guay, 2011).

Work-family balance

Although the job-holder and organisational member roles are two important roles, non-work roles (e.g. spouse, family, leisure) have also emerged as an integral part of employees' lives (Allen, Herst, Bruck & Sutton, 2000). Work-family balance occurs when work life is synchronised with family life such that there is an absence of conflict between these two dimensions of an employee's life (Cinamon, Rich & Westman, 2007). According to Judge, Ilies and Scott (2006), work-family balance is defeated when work interferes with family such that the paid work role obstructs the fulfilment of roles in the family domain. In addition, when the family roles and duties of an individual interfere greatly to such an extent that the family roles obstruct role fulfilment in the work domain, conflict is inevitable (Subramaniam & Mía, 2003). Eby, Casper, Lockwood, Bordeaux and Brinley (2005) classify the antecedents of work-family balance into three aspects: work domain variables, non-work domain variables and individual as well as demographic variables. On the other hand, work-family balance acts as an index of a number of positive consequences such as satisfaction amongst employees, increased organisational commitment, decreased turnover as well as reduced intention to quit and occupational stress (Ford, Heinen & Langkamer, 2007). Work-family balance is highly significant within the health care sector since it largely affects medical professionals who work abnormal hours (shifts) that infringe on their vacation, family and leisure periods.

Perceived job security

Perceived job security may be defined as a set of subjective feelings about the future security of an individual's employment situation (Fullerton & Wallace, 2007). Clark, Knabe and Rätzel (2010) state that perceived job security exists when an individual remains employed with the same organisation with no diminution of seniority, pay, pension rights and other associated privileges. Van Praag and Ferrer-i-Carbonell (2008) further argue that job security occurs when an organisation provides stable employment for employees. Employee perceptions of job security are influenced by factors such as education, work experience, job functional area, work industry and work location, all of which perform an important role in determining the need for an individual's services in the public sector (Khan & Rehnberg, 2009). In contrast, low perceptions of job security may result from factors such as anxiety emanating from one's contemplation of the possibility of losing a job, high levels of exposure to various types of work hazards, loss of job control and decreased workplace social support (Benach, Amable, Muntaner & Benavides, 2002).

Proposed conceptual framework and hypothesis formulation

The preceding discussion of the literature led to the formulation of the conceptual framework illustrated in Figure 1. The conceptual framework outlines the effects of specific work-related variables that comprise of the person element (person-environment fit), situational element (work-family balance) as well as an organisational element (perceived job security). The model assumes that the three identified work-related factors are positively associated with employee satisfaction. In turn, employee satisfaction is taken to be positively related to organisational commitment.

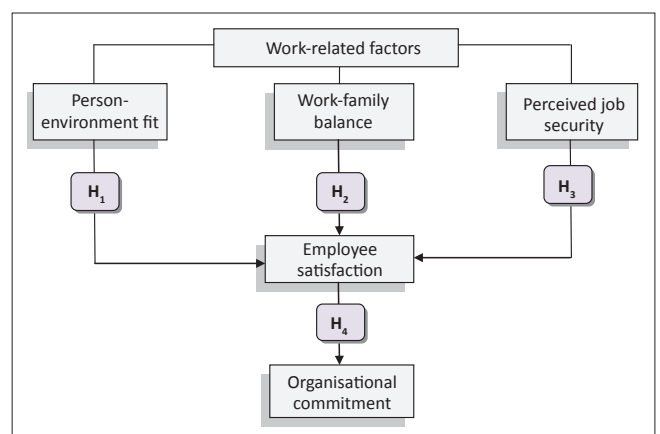
Person-environment fit and employee satisfaction

The person-job match is an important factor when determining the level of satisfaction amongst employees. Based on Pervin's (1968, p. 56) theory on best-fit between an individual and the employing organisation, 'a lack of fit often results in decreased performance, dissatisfaction and stress in the system'. As such, poor person-environment fit has been shown to result in a greater likelihood of undesirable organisational outcomes such as staff turnover and ineffectiveness amongst public hospital employees (Kristof-Brown & Guay, 2011). Boon and Den Hartog (2011) found person-environment fit to be a mediator variable between organisational trust and employee satisfaction. As such, it may be expected that when a match exists between individual characteristics, the environment and the organisation, both performance and satisfaction tend to be high and employee stress will decrease (Andrews, Baker & Hunt, 2011). In addition, a study conducted by Gregory, Albritton and Osmonbekov (2010) concluded that there is a significant positive relationship between person-environment fit and employee satisfaction. Drawing from the aforementioned empirical evidence, the following hypothesis is proposed:

- **Hypothesis 1:** There is a positive association and a predictive relationship between person-environment fit and employee satisfaction.

Work-family balance and employee satisfaction

Allen *et al.* (2000) suggest that a balance is necessary in order to foster affective feelings associated with staying happy on



Source: Authors' own conceptual framework
H₁, Hypothesis 1; H₂, Hypothesis 2; H₃, Hypothesis 3; H₄, Hypothesis 4.

FIGURE 1: Conceptual framework.

the job. Furthermore, a balanced lifestyle is evidenced by the absence of time competition between family and work roles as well as the absence of strain associated with performing roles in both the family and work domains (Hoobler, Wayne & Lemmon, 2009). Such balance also exists in the absence of behaviour-based conflict associated with incompatible roles (Byron, 2005). Employees who struggle to find balance between their work and family time are likely to experience either work-family conflict or job dissatisfaction (Ford *et al.*, 2007). In contrast, employees who easily find greater balance between their work, family and job schedules are likely to experience the pleasure of both pleasant work environments and valuable family time or obligations (Reynolds, 2005). It could be expected then that work-family balance and employee satisfaction amongst health professionals are positively related. This leads to the following hypothesis:

- **Hypothesis 2:** There is a positive association and a predictive relationship between employee satisfaction and work-family balance.

Perceived job security and employee satisfaction

In both developing and developed countries, it has been found that perceptions of job security are higher in government jobs, education and health-care sectors whilst they are expected to be lower in private sector jobs since the latter favour the use of flexible resources (Turnley, Bolino, Lester & Bloodgood, 2003). Van Praag and Ferrer-i-Carbonell (2008) suggest that temporary staff have a different psychological contract with the organisation than their permanent counterparts. It is also argued that the former will have a transactional contract, with the emphasis on the economic elements of the contract such as a salary, whilst permanent staff will have a more relational contract, involving commitment to the organisation and an interest in a satisfying job (Yea, Cardon & Rivera, 2012). Furthermore, perceived job security is also influenced by the possession of the necessary skills and experience that are in demand by employers, which in turn depend on the prevailing economic conditions and business environment (Khan & Rehnberg, 2009). It is an important supposition then that individuals whose services are in demand by employers are likely to enjoy higher perceived job security. Based on the foregoing empirical evidence, the following hypothesis is put forward:

- **Hypothesis 3:** There is a positive association and a predictive relationship between perceived job security and employee satisfaction.

Employee satisfaction and organisational commitment

Positive associations have been observed between employee satisfaction and organisational commitment in a number of previous studies (Al-Aameri, 2000; De Witte & Naesswall, 2003). Research further indicates that organisational commitment is associated with a number of variables such as leadership (Hussami, 2008), job stress (Concha, 2009), organisational justice and fair procedures (Paulina *et al.*, 2006). Interestingly,

the aforementioned variables are also known to be significant antecedents of employee satisfaction. A study by Lumley, Coetzee, Tladinyane and Ferreira (2011) found positive and significant relationships between employee satisfaction and organisational commitment. This demonstrates that as the degree of employee satisfaction increases, commitment to the employing organisation is also expected to increase. It is logical then to anticipate a positive association and a predictive relationship between employee satisfaction and organisational commitment amongst health professionals in South Africa. This notion is encapsulated in the following hypothesis:

- **Hypothesis 4:** There is a positive association and predictive relationship between employee satisfaction and organisational commitment.

Method

Measures

Design

Quantitative research designs have been used in a number of previous studies (Ahmad & Oranye, 2010; Bagtasos, 2011; Saari & Judge, 2004) that examined the relationship between various behavioural constructs amongst health professionals. On that basis, a quantitative design using the survey approach was adopted for the present study. The survey method was deemed appropriate for this study because it facilitates ease of data collection from large populations, making it easier to develop and administer the research questionnaire whilst allowing for generalisation of the research findings (Malhotra, 2010).

Sample selection and participants

A total of 500 survey questionnaires were distributed to respondents who were recruited from three public hospitals in Gauteng, South Africa, using the stratified probability sampling technique. Stratified sampling assumes that the data is normal and ensures that all the population elements have an equal chance of being selected (Iacobucci & Churchill, 2010). The rationale behind the adoption of a stratified technique was to obtain a balanced distribution of responses from a cross-section of public health professionals. Hospital databases containing information on the job positions of the professionals formed the basis for sampling strata. This culminated in a five-level stratum: (1) administrative employees, (2) technicians, (3) nurses (certified or registered), (4) general practitioners (medical doctors) and (5) specialists (clinical managers, surgeons, dieticians and physicians included).

The sample size was determined using Zikmund and Babin's (2009) historical evidence approach, which uses previous related literature sources (in this case, Ahmad & Oranye, 2010; Ramasodi, 2010; Siew, Chitpakdee & Chontawan, 2011) as a nominal anchor. In addition, Green's (1991) rule of thumb was also considered; this prescribes that no less than 50 participants are suitable for multivariate analysis, with the

number increasing in line with larger numbers of independent variables. Furthermore, the inclusion-exclusion criterion was also adhered to as only public health professionals who were 18 years and older and who had been working at any of the three hospitals for periods not less than 1 year on a full-time basis were included in the sample.

Measuring instruments

A six-section multidimensional questionnaire that was adapted from previous studies was employed. Section A determined the demographic profile of the participants. Questions in section A were structured on dichotomous, multiple choice and rank-order closed-ended scales. Section B contained questions on person-environment fit and included items that were adapted from Kristof-Brown (1996) as well as the categorical elements that were included under Pervin's (1968) theory on individual-organisation best-fit. In section C, items adapted from studies conducted by Greenhaus and Beutell (1985) and Hofman and Woehr (2006) were used to elicit information on work-family balance. Section D was composed of job security items that were adapted from Buitendach and De Witte (2005) as well as De Cuyper, Notelaers and De Witte (2009). Section E was an adapted version of the Minnesota satisfaction questionnaire, originally designed by Spector (1985). Section F contained questions on organisational commitment that were based on Mowday, Steers and Porter's (1979) organisational commitment questionnaire. The questions in sections B-F were placed on seven-point Likert scales ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). All items were scored such that a higher score indicated higher standing on the construct being measured.

Data collection procedures

The data used in the current study was collected between January and March 2013. Prior to data collection, ethical clearance was granted by the Gauteng provincial health department (authorisation number 2013/07/13-4GPHD). To ensure randomisation, data was collected at different times and days of the week at each of the three public health institutions. During the collection of data, various ethical considerations such as informed consent, the participants' right to anonymity and confidentiality were observed. In addition, voluntary participation was encouraged and the respondents were informed that they were able to withdraw from the study at any stage, if they wished to do so. Of the 500 questionnaires that were distributed, 287 were returned and considered usable for the current study, giving a 57% response rate.

Reliability and validity of the study

In this study, it was accepted that assessing the validity and reliability of measuring instruments is integral in validating an instrument's usefulness, as suggested by Alumran, Hou and Hurst (2012). Cronbach's alpha values for the sub-scales were as follows: work-family balance ($\alpha = 0.762$), person-environment fit ($\alpha = 0.805$), perceived job security

($\alpha = 0.896$), employee satisfaction ($\alpha = 0.884$) and organisational commitment ($\alpha = 0.817$), which indicate adequate reliability of the sub-scales (Nunnally & Bernstein, 1994). The Cronbach's alpha coefficient for the entire scale was 0.827, which confirms the proficiency of the instrument in effectively capturing the constructs examined in the study.

Content and face validity of the instrument were ascertained through pilot testing of the questionnaire with a convenient sample of 50 public health professionals. This procedure was conducted to validate the content of the questionnaire in terms of relevance, accuracy and wording. In addition, the questionnaire was also reviewed by three academics who are experts in the field of organisational behaviour. Feedback from the pilot study and the panel of experts ensured that the instrument only comprised those questions that would validly capture the aims of the study.

Discriminant validity was assessed using the exploratory factor analysis procedure. It was necessary to ascertain the discriminant validity since the proposed conceptual framework had not been tested previously. The aim was to establish whether the set of latent variables on the questionnaire were specifically measuring each construct related to the conceptual model. The results indicated that there were no cross loadings (items loading on one factor only) amongst the constructs included in the framework. In addition, there were no cross loadings on the employee satisfaction (mediator) and organisational commitment (dependent variable) constructs, which confirmed the adequacy of discriminant validity in the scale.

Convergent validity of the study was assessed in two ways. Firstly, the high Cronbach's alpha coefficients for the scale (≥ 0.70) reflect the degree of cohesiveness amongst the variables, thereby serving as an indirect indicator of convergent validity (Nunnally & Bernstein, 1994). Secondly, Pearson correlation coefficients indicate the high degree of convergence amongst the constructs linked in the conceptual model. Moreover, predictive validity was assessed using regression analysis. Two of the three independent constructs were statistically significant, which attests to the acceptable predictive validity of the study.

Analysis

Data was analysed using the Statistical Package for the Social Sciences (SPSS version 21.0). Initially, demographic data of the subjects, frequencies and the scores of the overall work-related factors as well as measures of central tendency were established. Internal consistency estimates were formulated using Cronbach's alpha coefficients. Following this, a series of multivariate statistical procedures that included exploratory factor analysis, Pearson correlation analysis and linear regression were computed on all the variables. These statistical analysis tools were applied in line with the proposed framework (Figure 1) and were therefore the basis for testing the hypotheses. The required level of significance (p) was set at 0.01.

Results

Sample composition

The demographic profile of the respondents is reported in Table 1.

Of the respondents, 64% ($n = 184$) were male whilst 36% ($n = 103$) were female. The majority of the respondents were aged between 31 and 40 years (46%; $n = 133$). Approximately 47% ($n = 135$) of the respondents had been employed in public health institutions for periods ranging between 5 and 10 years. With regard to ethnicity, the majority of the respondents were of African descent (72%; $n = 207$), which is representative of the racial composition amongst employees at most public health institutions in South Africa. In terms of job positions, most respondents were either nurses (47%; $n = 134$); technicians (25%; $n = 73$) or administrative personnel and general employees (19%; $n = 56$). Higher-level medical employees such as medical practitioners (7%; $n = 19$) as well as surgeons, physicians or specialists (2%; $n = 5$) remained in the minority. In addition, most of the respondents (67%; $n = 191$) were permanently employed.

Extraction of work-related factors

In the study, exploratory factor analysis using the principal components analysis method and Varimax rotation was applied in order to identify the underlying dimensions. An iterative scale purification and refinement procedure was applied during which low factor loadings, cross loadings and low communalities were eliminated with a view to enhancing 'interpretability of the factor structure' (Malhotra, 2010, p. 643). A minimum cut-off of 0.50 was used on the variable loadings. This is consistent with Hair *et al.*'s (2010) suggestion that factor loadings greater than ± 0.30 are considered to meet the minimum levels, loadings of ± 0.40 are considered important and loadings of ± 0.50 and greater are considered more important (also see Mafini & Dlodlo 2014).

The Bartlett's test was significant at less than 0.000, inferring that the data set is not an identity matrix with zero correlations (i.e. variables are correlated). Furthermore, the Bartlett's test produced a Chi-square value (χ^2) of 6728.079 and a Kaiser-Meyer-Olkin (KMO) value of 0.782 (> 0.50), further confirming the suitability of the data set for factor analysis. The total variance explained by the extracted factors was 66.3%, indicating that the other 33.7% is accounted for by extraneous variables that do not constitute part of this study. The results of the rotated component matrix, percentage of variance explained by each factor, cumulative percentage of variance, eigenvalue criterion and scree plot were assessed. Finally, a three-factor structure was developed and the identified constructs were labelled as perceived job security, person-environment fit or work-family balance, which confirms the structure of the conceptual framework that is presented in this study. Table 2 reports these findings (also see Mafini & Dlodlo 2014).

TABLE 1: Demographic profile of the respondents.

Variable	Categories	<i>n</i>	%
Gender	Male	184	64
	Female	103	36
Age	21–30 years	106	37
	31–40 years	133	46
	41–50 years	37	13
	Older than 50 years	11	4
Race or ethnicity	African	207	72
	White	23	8
	Indian or Asian	49	17
	Mixed race	8	3
Job position	Specialist	5	2
	General practitioner (MD)	19	7
	Nurse (certified or registered)	134	47
	Technicians	73	25
	Administrative personnel	56	19
Length of service	0–5 years	46	16
	5–10 years	135	47
	10–15 years	69	24
	More than 15 years	37	13
Form of employment	Permanent	191	67
	Contract	96	33

N = 287.
MD, Medical Doctor.

Mean score rankings and standard deviations of factors

Table 3 reveals the mean score rankings, which were computed with a view to providing a rating of the factors in terms of the level of importance. The minimum and maximum values are based on the lowest and highest values on a seven-point Likert scale. The means were calculated by summing the response values of variables that comprised each dimension divided by the number of variables in each dimension.

The findings of the study revealed that employee satisfaction ($\bar{x} = 5.689$; $SD = 3.149$) and organisational commitment ($\bar{x} = 5.567$; $SD = 4.401$) had the highest mean score rankings in the overall scale. However, in terms of the identified work-related constructs, perceived job security was rated the most important dimension ($\bar{x} = 5.331$; $SD = 6.052$) followed closely by person-environment fit ($\bar{x} = 5.226$; $SD = 4.585$). Work-family balance ($\bar{x} = 5.069$; $SD = 2.523$) scored the lowest mean of the identified factors. These findings reveal that all three work-based dimensions are moderately important in contributing towards the employee satisfaction of public service health employees.

Correlation and regression analyses

Pearson correlations were computed in order to identify significant relationships between the three work-related factors and employee satisfaction as well as between employee satisfaction and organisational commitment. The results are reported in Table 4.

Since the relationship between the identified work-related factors and employee satisfaction showed significant positive correlations, it was necessary to conduct regression analysis

TABLE 2: Extracted work-related factors, employee satisfaction, organisational commitment and description of dimensions.

Factor	Label	Number of items	Percentage variance explained	Eigenvalue	Description
1	Organisational commitment	5	32.875	8.502	The individual's psychological bond to the organisation, including a sense of job involvement, loyalty and belief in the values of the organisation (Paulina <i>et al.</i> , 2006)
2	Employee satisfaction	8	5.149	2.914	The extent to which an employee is content with their job as expressed by an affective or emotional response towards various aspects of their work (Sieger <i>et al.</i> , 2011)
3	Person-environment fit	4	5.120	1.809	The alignment of employee interests with organisational interests (Vogel & Feldman, 2009)
4	Work-family balance	4	4.298	1.230	The extent to which individuals are equally involved in and satisfied with their work roles and family roles (Byron, 2005)
5	Perceived job security	6	3.710	1.169	The individual's perception that there is a very high likelihood that they will keep their job (not become redundant) in the long run (De Witte & Na' Swall, 2003)

Note: Please see the full reference list of the article, Mafini, C., & Dlodlo, N. (2014). The linkage between work-related factors, employee satisfaction and organisational commitment: Insights from public health professionals. *SA Journal of Human Resource Management/SA Tydskrif vir Menslikehulpbronbestuur*, 12(1), Art. #616, 12 pages. <http://dx.doi.org/10.4102/sajhrm.v12i1.616>, for more information.

TABLE 3: Mean score rankings of the work-related factors, employee satisfaction and organisational commitment.

Dimension or construct	Mean score ranking	Mean factor score (\bar{x})	Standard deviation
Employee satisfaction	1	5.689	3.149
Organisational commitment	2	5.567	4.401
Perceived job security	3	5.331	6.052
Person-environment fit	4	5.226	4.585
Work-family balance	5	5.069	2.523

Minimum mean value = 1 Maximum mean value = 7
N = 287.

in order to test causality. As a preliminary procedure, the correlation matrix was examined for the existence of multicollinearity, that is, if the predictor variables correlate too highly ($r > 0.9$) with each other (Field, 2005). Since none of the correlations in Table 4 reached a value of greater than 0.9, the data was considered suitable for regression analysis. Consequently, the 'enter' method of regression was applied to the data set with a view to ascertaining whether any causal relationships exist between the three work-related factors (independent variables) and employee satisfaction (dependent variable). Field (2005, p. 349) suggests that if the variance inflation factor (VIF) is greater than 10, it implies that the predictor variables are correlated amongst themselves, which makes collinearity a cause for concern. The VIF for the three sub-scales in the current study ranged between 1.615 and 2.021, which implies that multicollinearity was not a problem for the current study. The F statistic obtained was 56.849 with 4 degrees of freedom (df). The results are reported in Table 5.

The regression analysis results revealed that the three sub-scales had an adjusted R^2 value of 0.412, implying that the independent variables explain approximately 41% of the total variance in employee satisfaction. The other 59% of variability of employee satisfaction can be explained by other factors (non-work-related) that were not explored in this study. Employee satisfaction was strongly predicted by person-environment fit and perceived job security. Beta values showed perceived job security was the strongest predictor ($\beta = 0.184$; $t = 2.235$; $p < 0.01$), followed by person-environment fit ($\beta = 0.064$; $t = 1.722$; $p < 0.05$). An interesting result is the negative and insignificant predictive relationship ($\beta = -0.268$; $t = -1.159$; $p > 0.05$) between work-family balance and employee satisfaction.

The proposed relationship between employee satisfaction and organisational commitment was tested through regression analysis. Employee satisfaction was entered into the regression model as the independent variable whilst organisational commitment was entered as the dependent variable. The findings are reported in Table 6.

As shown in Table 6, employee satisfaction explained approximately 24.1% ($R^2 = 0.241$) of the variation of organisational commitment amongst health professionals. Collinearity statistics showed a tolerance value of 0.604 (tolerance > 0.50) as well as a VIF value of 3.492 ($1.0 \leq VIF \leq 10.0$), thus attesting to the insignificance of the multicollinearity problem within the regression model.

Discussion

Person-environment fit and employee satisfaction

A strong positive association was observed between person-environment fit and employee satisfaction ($r = 0.569$; $p < 0.05$). The person-environment fit factor also emerged as a statistically significant predictor of employee satisfaction ($\beta = 0.064$; $t = 1.722$; $p = 0.048$) in the regression analysis. These findings demonstrate that the employee satisfaction of public health employees increases or decreases in parallel to the degree of person-environment fit. In addition, the degree of person-environment fit reflects the extent to which health professionals are satisfied at work.

In line with the abovementioned results, it is widely acknowledged that person-environment fit influences a number of organisational outcomes, all of which are also related to employee satisfaction in one way or another (Kristof-Brown, Zimmerman & Johnson, 2005). Consequently, employees tend to feel a greater sense of accomplishment, receive more positive evaluations from supervisors and obtain more tangible rewards such as pay increases, promotions and increased responsibility (Scroggins, 2007). In turn, these rewards serve to reinforce desirable values and behaviour amongst employees (Song & Chon, 2012). A number of previous scholars (Hofman & Woehr, 2006; Kristof-Brown, Barrick & Stevens, 2005) found consistent positive relationships between person-environment fit and important workplace attitudes and behaviour such as employee

TABLE 4: Correlation analysis – extracted work-related factors, employee satisfaction and organisational commitment.

Construct or dimension	PEF	WFB	PJS	ES	OC
Person-environment fit	1	-	-	-	-
Work-family balance	0.526**	1	-	-	-
Perceived job security	0.273**	0.035*	1	-	-
Employee satisfaction	0.569*	0.182*	0.420**	1	-
Organisational commitment	0.502**	0.111*	0.425**	0.686**	1

PEF, person-environment fit; WFB, work-family balance; PJS, perceived job security; ES, employee satisfaction; OC, organisational commitment.

** , Correlation is significant at the 0.01 level (two-tailed); * , correlation is significant at the 0.05 level (two-tailed)

TABLE 5: Regression analysis – work-related factors and employee satisfaction.

Independent variables: Work-related factors	Dependent variable: Employee satisfaction				
	Beta	T	Sig.	Collinearity statistics	
				Tolerance	VIF
Person-environment fit	0.064	1.722	0.048*	0.509	1.963
Work-family balance	0.268	-1.159	0.522	0.582	1.717
Perceived job security	0.184	2.235	0.002**	0.619	1.615

Sig., significance; VIF, variance inflation factor.

$R = 0.706$; Adjusted $R^2 = 0.412$; $F = 56.849$; $df = 4$.

** , Correlation is significant at the 0.01 level (two-tailed); * , correlation is significant at the 0.05 level (two-tailed)

TABLE 6: Regression model 2 – employee satisfaction and organisational commitment.

Independent variable	Dependent variable: Organisational commitment				
	Beta	T	Sig.	Collinearity statistics	
				Tolerance	VIF
Employee satisfaction	0.337	5.412	0.000**	0.604	3.492

Sig., significance; VIF, variance inflation factor.

$R = 0.491$; Adjusted $R^2 = 0.241$; $F = 26.216$.

** , Correlation is significant at the 0.01 level (two-tailed)

satisfaction, intentions to leave, career success, in-role performance and citizenship behaviour. A study by Kristof-Brown and Guay (2011) identifies person-environment fit as one of the strongest predictors of employee satisfaction. An earlier study by Tak (2007) suggests that person-environment fit could explain significant variance in job performance, organisational citizenship behaviour, turnover and employee satisfaction. A meta-analysis by Verquer, Beehr and Wagner (2003) indicates that person-environment fit was related to employee satisfaction and intention to quit amongst nurses. It is not surprising then that there were positive and significant associations between person-environment fit and employee satisfaction in the current study. Hypothesis 1 is therefore supported and is accepted in this study.

Work-family balance and employee satisfaction

A positive but weak association ($r = 0.182$; $p < 0.05$) was observed between work-family balance and employee satisfaction. However, the regression analysis results revealed that work-family balance is not a statistically significant predictor ($\beta = -0.268$; $t = -1.159$; $p = 0.522$) of employee satisfaction. These findings illustrate that work-family balance neither triggers any significant increases in nor predicts the employee satisfaction of public health professionals. The results of the current study contradict the established view that work-family balance is positively linked to employee satisfaction. According to Zhao and Namasivayam (2012), employees who experience high work-family balance have high satisfaction levels, less work-related stress and fewer job resignations. Bloom, Kretschmer and Van Reenen (2006)

note that a balance between work and family responsibilities amongst employees has a stimulus effect on employee satisfaction and organisational performance. Conversely, an imbalance between work and family results in reduced employee commitment (McCarthy & Cleveland, 2005), occupational stress (Darcy & McCarthy, 2007), decreased employee satisfaction (Poelmans & Sahibzada, 2004) as well as reduced employee productivity (Grady & McCarthy, 2008).

The unorthodox result of this study could be attributed to the fact that workers in the health-care profession are expected to work round the clock, due to the life-saving nature of their responsibilities. For instance, doctors can be officially 'on call' for 24 h a day or called back to work for emergency purposes at any time. Even supporting services such as technicians and administration staff work odd hours to provide full service to patients. Health professionals are also expected to be on duty during periods that are normally designated as family time (Baldwin & Daugherty, 2004; Brown *et al.*, 2010). It is possible that when employees are expected to report for duty at any hour, the balance of work and family ceases to be a compelling issue. This is in contrast to professionals in other work disciplines, who work under different job environments. It can be deduced then that although work-family balance is positively associated with employee satisfaction, the relationship between the two factors amongst health professionals in South Africa is weak and insignificant. Based on these findings, hypothesis 2 is partially accepted in this study and may be considered for further study in future empirical studies.

Perceived job security and employee satisfaction

With regard to employee perceptions of job security, a positive and moderate association ($r = 0.420$; $p < 0.01$) was observed between perceived job security and employee satisfaction. In the regression analysis, perceived job security emerged as a statistically significant predictor ($\beta = 0.184$; $t = 2.235$; $p = 0.002$) of employee satisfaction. These findings disclose that the satisfaction of public health employees increases in line with their perceptions of the level of job security. Additionally, the perceived job security of public health professionals serves as an index of their satisfaction at work. These results are in line with previous studies by Dawley, Andrews and Bucklew (2008) and Yea *et al.* (2012) in which similar conclusions were made. Smith (2010) found that job security is related to employee satisfaction through reduced intention to quit and lower staff turnover. A study by Sverke and Goslinga (2003) that focused on health professionals from a number of European countries reveals that a reduction in job security leads to a corresponding decline in satisfaction. Another study by De Witte and Na'Swall (2003) concludes that there is a positive association between job security and both organisational commitment and employee satisfaction. In a number of previous studies (Domenighetti, D'Avanzo & Bisig, 2000; McDonough, 2000; Probst, 2002), it was found that individuals who had high levels of job security were in good health and experienced lower levels of workplace injuries and accidents, leading to high satisfaction levels. Ferrie, Shipley, Newman, Stansfeld and Marmot (2005) further opine that job security stimulates improved physical and emotional health amongst health-care employees. Still, high perception levels of job security are associated with organisational effectiveness, which is also linked to employee satisfaction (De Witte & Na'Swall, 2003). The literature cited in this discourse tends to add credence to the findings of the current study. Therefore, hypothesis 3 is supported and is accepted in this study.

Employee satisfaction and organisational commitment

An analysis of the correlation matrix (Table 4) indicates a strong positive association ($r = 0.686$; $p = 0.01$) between employee satisfaction and organisational commitment. A further analysis of the regression model (Table 6) reveals that employee satisfaction is a significant predictor ($\beta = 0.337$; $t = 5.412$; $p = 0.000$) of organisational commitment. The results of the correlation analysis demonstrate that an increase in the employee satisfaction of public health professionals leads to an increase in their levels of commitment and vice versa. The result of the regression analysis illustrates that the employee satisfaction of public health professionals is an indicator of their degree of organisational commitment. These results are consistent with previous studies (Al-Aameri, 2000; Siew *et al.*, 2011; Tsai & Huang, 2007) in which employee satisfaction was found to be related to organisational commitment amongst various health professionals. A meta-analysis by Meyer, Stanley, Herscovitch and Laryssa (2002) also shows that there is a strong positive relationship between employee satisfaction and organisational commitment.

A number of scholars (Griffeth *et al.*, 2000; Martensen & Gronholdt, 2001) have found direct predictive interactions between employee satisfaction and organisational commitment. Satisfied employees are more likely to exert more effort in their work and provide better services through organisational citizenship behaviour, which attests to their commitment (Hom & Kinicki, 2001; Yoon & Suh, 2003). Studies by Rahman and Bullock (2005) and Juna, Caib and Shinc (2006) also conclude that employee satisfaction is arguably the most important determinant of employee commitment to their organisations. Yee *et al.* (2008) found that satisfied employees tend to be more involved in their organisations and demonstrate more dedication towards the delivery of high-quality services. Moreover, employee satisfaction leads to client (patient) satisfaction, mainly because satisfied employees are more likely to be motivated and work harder than dissatisfied ones (Chi & Gursoy, 2009). It is logical then to conclude that the satisfaction of public health professionals is deeply intertwined with their organisational commitment. Based on these findings, hypothesis 4 is accepted in this study.

Strengths, limitations and implications for future research

The strength of this study lies in the use of a stratified sample, which presented the study with valid findings that are based on a cross-section of the target population. In addition, data was collected from three public health institutions, rather than a single one, which further enhances the validity of the current study. However, the findings of the study are limited in that they are restricted to only 287 participants who were based in Gauteng. This has the potential of limiting the extent to which the findings can be generalised to other contexts. A possible remedy then could be to replicate the study in other provinces. The study is further limited in that it is based on only three work-related factors when it is known that there are other significant factors that may be extended to the current framework. In view of this fact, future studies could focus on these work-related factors as well as other non-work-related constructs that did not form part of this study. In addition, the proposed conceptual framework could further be tested using more robust statistical applications such as path modeling. Comparative studies of the perspectives of public health professionals and their counterparts in private health institutions could also be conducted.

Conclusion

The purpose of this study was to examine the relationship between three work-related factors, person-environment fit, work-family balance and perceived job security, and employee satisfaction and organisational commitment amongst health professionals in public health institutions. The results of the correlation analysis revealed that there were strong positive associations between employee satisfaction and two work-related factors, person-environment fit and perceived job security. The association between work-family balance and employee satisfaction was weak. However, employee satisfaction and organisational commitment were strongly

correlated. Results of the regression analysis showed that person-environment fit and perceived job security were both statistically significant in predicting employee satisfaction. In turn, employee satisfaction predicted organisational commitment. Work-family balance was insignificant in predicting employee satisfaction.

Based on the aforementioned results, three conclusions can be made. Firstly, the employee satisfaction of public health professionals is strongly related to and is predicted by their levels of person-environment fit as well as perceptions of job security. Secondly, work-family balance, in this case, neither strongly influences nor predicts the employee satisfaction of public health professionals. Thirdly, the commitment of public health professionals to their organisations is strongly associated with and is predicted by the level of employee satisfaction.

Managerial implications

The results of the current study have managerial implications, which are worth highlighting. These findings could be used as a reference point for managers in public organisations as they seek to enhance the motivation of their workforce, leading to decreased cases of both labour unrest and staff turnover in the sector. More specifically, improvements in the individual factors examined in this study could be made in order to boost the related outcomes. Sustained training and development of health professionals may be necessary in order to continuously augment their levels of person-environment fit. Such actions may facilitate the further improvement of the skills of health professionals so that they may be in sync with the requirements and demands of their jobs, or to prepare them to make the transition into new ones (Boon & Den Hartog, 2011). It is also necessary to enhance the perceptions of job security amongst professionals in the public health sector. An effective strategy may be to increase the number of permanent job positions within health public institutions. Efforts by management in public health institutions to meet the employment needs of professionals may also promote higher levels of job security. Overall, in order for public health institution management to maintain the morale of professionals, a balance should be maintained amongst all the factors examined in this study with a view to creating a fulfilling working experience.

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Competing interests

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Authors' contributions

C.M. (Vaal University of Technology) was responsible for the literature review, the research methodology section and made language revisions to the manuscript. N.D. (Vaal University of Technology) performed the data analysis and

interpreted the results and wrote the results section up to the conclusion.

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