



Uncertainty as a moderator of the relationship between job satisfaction and occupational stress



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Orientation: Organisations need to manage the behaviours and attitudes of their workforce to remain competitive, effective and efficient. Therefore, it is important to understand job dissatisfaction and stress levels to minimise their negative effect on both individuals and the organisation as a whole.

Research purpose: The study sought to compare the levels of job satisfaction and occupational stress of employees in merged and non-merged higher learning institutions and investigated the moderating role of uncertainty in the relationship between job satisfaction and occupational stress.

Motivation for the study: The study aimed to contribute a new model to explain the role of uncertainty in job satisfaction and occupational stress.

Research approach/design and method: The study used a quantitative survey research technique. A total sample of 424 respondents completed a self-administered questionnaire.

Main findings: Employees in both merged and non-merged institutions were satisfied but showed differed levels of occupational stress. No relationship was found between job satisfaction or uncertainty and occupational stress. Furthermore, uncertainty significantly moderated the relationship between job satisfaction and occupational stress.

Practical/managerial implications: Human resource managers should reduce the uncertainty of employees to increase job satisfaction and reduce the negative effects of occupational stress.

Contribution/value-add: Recommendations from the study could assist management to monitor the behaviours and attitudes of employees during and after organisational change. The study also contributed to the body of knowledge as no single study of this nature has been carried out in South African higher learning institutions.

Keywords: Job insecurity; higher education institutions; satisfaction; stress; academics; uncertainty.

Introduction and background

Mergers are extreme forms of organisational change, often seen as stressful by employees. Employees become concerned about their organisational structure, to whom they are going to report, how communication patterns will change and how restructuring will affect their salaries and benefits (Cartwright & Cooper, 2014). Mergers are therefore stressful life events even when the cultures of the merging organisations are similar (Barkhuizen & Rothmann, 2008).

While mergers are often carried out to improve the organisation's functioning and profitability, they can also have an unintended negative impact on employee attitudes. Zagelmeyer, Sinkovics, Sinkovics and Kusstatscher (2018) report that mergers result in low job satisfaction among employees who see their job security threatened. This may result in stress. Moreover, Coffey, Garrow and Holbeche (2012) argue that lack of communication, unfair and unclear implementation processes often lead to uncertainty during a merger. These uncertainties could lead to low job satisfaction and high occupational stress (Cooper, 2018). Mergers must, therefore, be carried out in such a way that employee job satisfaction is not affected, and that occupational stress is minimised (Martin & Roodt, 2008).

Stress can be viewed as an individual's response to the self-perceived imbalance between the demands of the present situation and available resources (Boyd, Tuckey, & Winefield, 2014). Organisational change such as a merger can lead to high uncertainty, and this can stimulate occupational stress. These uncertainties are, however, often more stressful to employees than the

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actual changes themselves (Martin & Roodt, 2008). This study argues that it is not only the merger that may lead to job dissatisfaction and high occupational stress, but it is also the uncertainty of retaining one's job following the merger.

The South African higher education sector is also affected by mergers. These mergers bring challenges such as high levels of uncertainty about job security, high levels of occupational stress and low job satisfaction among employees in South African institutions of higher learning. According to Section 23 of the *Higher Education Act* (Act No. 101 of 1997), a merger occurs when two or more separate organisations join to become a single entity with one governing body. Research shows that if the merger is not done properly, it can have a negative effects on employees' job satisfaction and occupational stress (Burke, 2017). These negative effects may be influenced by uncertainties about future job security. In this study, a comparison of the employees' level of job satisfaction and occupational stress in merged and non-merged higher learning institutions will be done.

Job satisfaction

Job satisfaction can be viewed as a pleasurable or positive feeling resulting from the assessment of one's job or job experiences (Cooper, 2018). According to Burke (2017), employees who are less satisfied with their organisation are highly stressed.

Authorities in higher education institutions should, therefore, understand the factors affecting the workforce's satisfaction. Higher learning institutions should also understand the impact job satisfaction has on employees' levels of occupational stress, particularly when changes like a merger take place. A study by Van der Westhuizen (2001) revealed that educators become dissatisfied when new educational policies are being introduced and new structures emerge as a result of interventions such as mergers.

Various factors influence employee job satisfaction. These include pay, working conditions, relationships with colleagues and supervisor support. Therefore, for institutions to remain productive and efficient, they should make sure that their employees are satisfied with their working environments.

Occupational stress and uncertainty

Boyd et al. (2014) define stress as the individual's response to an imbalance that is perceived between the demands made in the situation and the resources available. Organisational change such as a merger can lead to high uncertainty, which can stimulate occupational stress. These uncertainties are, however, often more stressful to employees than the actual changes themselves (Cooper, 2018). According to Slade, Ribando and Fortner (2016), mergers lead to stress among employees who feel that their job security is being threatened.

This study argues that it is not only the merger that may lead to job dissatisfaction and high occupational stress, but it is also the uncertainty of retaining one's job following the merger.

The demands made on an individual, known as stressors, serve as a stimulus for evoking a response, such as emotions of anger, anxiety, and stress (Cooper, 2018). These stressors can be internal or external. Although a single stressor may cause major stress, stressors usually combine to put pressure on an employee in a variety of ways until stress develops (Graebner, Heimeriks, Huy, & Vaara, 2017). Hence, one can argue that organisations should take note of these stressors to minimise employee occupational stress and improve job satisfaction.

A merger may cause employees to experience stress when they become anxious about possible events such as downsizing, layoffs and increasing workloads (Graebner et al., 2017). This could be because mergers are often associated with reduced morale and job dissatisfaction rather than with increased financial performance as expected (Graebner et al., 2017). Moran and Panasian (2005) also point out that mergers are a major source of stress due to uncertainties about organisational changes. However, these uncertainties are often more stressful to employees than the actual changes themselves (Cooper, 2018).

Uncertainty has not received as much attention in the occupational stress literature as other psychosocial stressors.

Studies have shown that employees who perceive that they have an uncertain future in their jobs often feel threatened and anxious and may exhibit symptoms of distress such as depression (Bakker, Demerouti, & Sanz-Vergel, 2014; Lee, Huang, & Ashford, 2018). Therefore, organisations should minimise the uncertainties of job security especially during and after an organisational change. To minimise uncertainties in any organisation during and after a merger process, management should communicate the purpose and benefits of the organisational change (Bauer & Matzler, 2014). This can be achieved if the merger process is done properly (Carleton & Lineberry, 2004).

Mergers do not only affect employees' levels of uncertainty regarding their future job security, but they may also become uncertain about the future job demands, fringe benefits, as well as future organisational culture. All these uncertainties affect the behaviour and emotional well-being of employees in an organisation (Khan, Soundararajan, Wood, & Ahammad, 2017). This study contends that it is this job dissatisfaction that leads to uncertainty and a higher level of occupational stress in a merged or merging institution than in a non-merging or non-merged institution. Therefore, the study investigates whether this is indeed the case.

The relationship between job satisfaction, occupational stress and uncertainty

Research shows that a negative relationship exists between job satisfaction and occupational stress (Burke, 2017;

Khamisa, Oldenburg, Peltzer, & Ilic, 2015; Yousef, 2002). This means that the more satisfied an individual is, the less the likelihood that the individual will experience occupational stress. However, Faragher, Cass and Cooper (2013) argue that there is no relationship between job satisfaction and occupational stress. Research on the relationship between uncertainty and occupational stress shows that there is a relationship between the two variables (Cooper, 2018; Vander Elst, Notelaers, & Skogstad, 2018; Warr, 2011). However, most studies that have been done on the relationship between job satisfaction and occupational stress and uncertainty focused mainly on one institution. Little is known about these relationships from the perspective of two different institutions. In addition, there is a dearth of knowledge on whether the relationship between job satisfaction and occupational stress is moderated by uncertainty, hence the need to explore further.

Even though several studies have been conducted on the general effects of job satisfaction, very few of these studies explore whether job satisfaction influences employee occupational stress in tertiary institutions.

Furthermore, existing research sheds little light on the role of uncertainty as a moderator of this impact. In South Africa, most of the research on the impact of job satisfaction has revealed conflicting results. Some of the findings attribute low job satisfaction and high levels of occupational stress to mergers (Martin & Roodt, 2008), while others relate mergers to high employee job satisfaction and low levels of occupational stress (Arnolds, Lillah, & Stofile, 2013). Results on whether there are some differences in employee levels of job satisfaction and occupational stress between employees in merged and non-merged institutions have been largely inconclusive (Burke, 2017). This makes it necessary to explore the matter further. Thus, this study investigates and compares the extent of job satisfaction and occupational stress among employees in a merged or merging institution and employees in a non-merged institution.

Research purpose

The main purpose of this study was to compare the levels of employee job satisfaction and occupational stress in a merged and non-merged institution of higher learning in South Africa. The study also investigated whether uncertainty moderates the relationship between job satisfaction and occupational stress. This study is important as it determines the proportion of variance in satisfaction and occupational stress that is due to uncertainty and that which is due to the merger itself.

Research objectives

The objectives of the study are:

- To compare the levels of job satisfaction of employees in a merged and a non-merged institution.
- To compare the levels of occupational stress of employees in a merged and a non-merged institution.

- To investigate the relationship between job satisfaction and occupational stress.
- To investigate the relationship between uncertainty and occupational stress.
- To investigate the moderating role of uncertainty in the relationship between job satisfaction and occupational stress.

Conceptual model

A conceptual model was developed based on reviewed literature and the researchers' logical deductions. The conceptual model indicated the hypothesised relationship between job satisfaction and occupational stress, and the moderating role of uncertainty. The conceptual model is shown in Figure 1.

Research hypotheses

Reviewed literature reveals that there is a relationship between job satisfaction and occupational stress. It also shows that the relationship between job satisfaction and occupational stress may be influenced by the level of uncertainty among employees. Therefore, it is hypothesised that:

H1: Employees in merged institutions experience significantly lower levels of job satisfaction than those in a non-merged institution.

H2: Employees in merged institutions experience significantly higher levels of occupational stress than those in a non-merged institution.

H3: There is a relationship between employee job satisfaction and occupational stress.

H4: There is a relationship between uncertainty and occupational stress.

H5: Uncertainty moderates the relationship between job satisfaction and occupational stress.

Research methodology

Research design

The study used the quantitative approach, in particular the survey research technique, to collect data and test hypotheses. The approach was deemed appropriate since it is mainly used when a study aims to examine the relationships between variables and test research hypotheses (Creswell & Creswell, 2017).

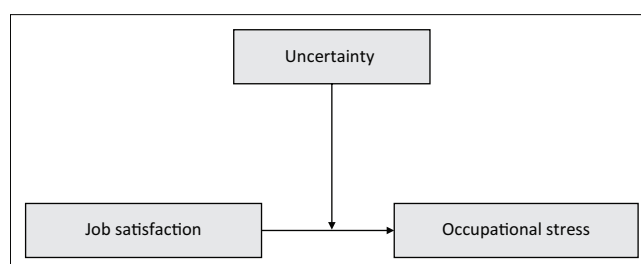


FIGURE 1: Uncertainty as a moderator of the relationship between job satisfaction and occupational stress.

Research participants

A sample of 424 academic staff, 212 from a merged and 212 from a non-merged institution of higher learning, were selected using Raosoft sample size calculator online software. The overall sample had an equal number of male and female respondents. The highest number of participants, 194 (45.8%), were aged between 36 and 45 years, followed by the 46–55 years age group 160 (37.7%). The lowest number of the participants were aged 25 years and below – 2 (0.5%). Furthermore, the highest number of participants, 208 (49.1%), were married, followed by singles 172 (40.6%), and the widowed 20 (4.7%). Respondents were also asked to indicate their educational qualifications.

The majority had postgraduate degrees, 352 (83%), with more than 10 years of working experience – 268 (63.2%). See Table 1.

Measuring instruments

A self-administered questionnaire was used to collect data. The questionnaire consisted of job satisfaction, occupational stress and uncertainty scales. Job satisfaction was measured using the 10-item Halpern's (1966) job satisfaction questionnaire. The questionnaire measures satisfaction with various job content (motivator factors) and job context factors (hygiene factors), as well as overall job satisfaction. Examples of the items included in this scale are working conditions, opportunities for achievement, work itself and overall satisfaction.

To measure occupational stress, the 16-item Effort-Reward Imbalance questionnaire was used. The questionnaire previously established a coefficient alpha of 0.68–0.86 from

TABLE 1: Sample profile.

Variable	Category	Frequency	%
Gender	Male	212	50.0
	Female	212	50.0
Age of participants in years	25 years and below	2	0.5
	26–35 years	34	8.0
	36–45 years	194	45.8
	46–55 years	160	37.7
	56 years and above	34	8.0
Marital status	Single	172	40.6
	Married	208	49.0
	Divorced	24	5.7
	Widowed	20	4.7
Highest qualification obtained	Diploma	4	0.9
	Undergraduate degree	68	16.0
	Postgraduate degree	352	83.0
Organisation	Merged institution	284	67.0
	Non-merged institution	140	33.0
Position occupied in the organisation	Junior lecturer	103	24.3
	Senior lecturer	259	61.1
	Professor	43	10.1
	Part time lecturer	19	4.5
Working experience in the organisation	< 1 year	20	4.7
	1–5 years	50	11.8
	6–10 years	86	20.3
	10 years and above	268	63.2

five different groups of nursing home samples (Siegrist & Peter, 1996). In the South African context, an alpha of 0.50 was found among administrative personnel (Mxenge, Dywili, & Bazana, 2014). Items that formed part of the scale include the following: 'I have constant pressure due to a heavy workload' and 'I receive the respect I deserve from my superiors'.

Uncertainty regarding future job security was measured with an adapted 10-item questionnaire, which asked the respondents to indicate their degree of certainty on whether or not they will have a job in the organisation after the merger (for the merging institution) or 'two years from now' (in the case of the non-merging institution). The whole questionnaire was measured on a five-point rating scale ranging from 'strongly disagree' (1) to 'strongly agree' (5).

Data processing and analysis

A statistical computer package, Statistics Package for Social Sciences (SPSS) version 25, was used to analyse data. Descriptive statistics were used to describe the sample profile. Several inferential statistical techniques were conducted to analyse data in this study. Firstly, an item analysis was performed to inspect the internal consistency of variables under investigation. Secondly, to determine the dimensionality of the scales, exploratory factor analysis was conducted. Thirdly, confirmatory factor analysis was conducted to determine the goodness of fit for the overall measurement model. Fourthly, independent-sample *t*-tests were used to compare the mean scores of the two independent groups from the two institutions (H1 and H2). Correlations were conducted to check the relationship of variables (H3 and H4). Finally, to test the degree to which uncertainty moderates the relationship between job satisfaction and occupational stress, moderated hierarchical multiple regression analysis was conducted (H5).

Reliability analysis: To check the reliability of the instruments and identify items that were not internally consistent with the other items in the instruments, an item analysis was conducted. Following the recommendations of Pallant (2016), items correlating below 0.30 with the total score were considered as poor items and were thus excluded from further analysis. The job satisfaction instrument contained two subscales, namely the hygiene factors subscale and the motivator factor subscale, which obtained an alpha of 0.756 after removing one poor item. The uncertainty scale found an alpha of 0.77 after removing four poor items. The Effort-Reward Imbalance scale, used to measure occupational stress, obtained a satisfactory internal consistency alpha coefficient of 0.78 after removing six poor items. This is shown in Table 2.

TABLE 2: Reliability statistics.

Scale	Cronbach's alpha	Number of items
Job satisfaction scale	0.756	9
Uncertainty scale	0.770	6
Occupational stress scale	0.780	10

Exploratory factor analysis: Principal component analysis using the varimax rotation method was used. The job satisfaction scale obtained an acceptable Kaiser–Meyer–Olkin measure of sampling adequacy value of 0.716 and the Bartlett’s Test of Sphericity test statistic value was 450.334 ($df = 21; p = 0.000$). Two factors that explained approximately 52% of variance were produced. However, three items were also removed due to cross-loading and the retained items are in Table 3. The occupational stress scale also obtained an acceptable Kaiser–Meyer–Olkin measure of sampling adequacy value of 0.832 and the Bartlett’s Test of Sphericity test statistic value was 1055.199 ($df = 6; p = 0.000$).

One factor was obtained, and it explained 77% of the variance. One poor item was removed, and the retained items are presented in Table 3. Exploratory factor analysis was also conducted on the uncertainty scale and a good Kaiser–Meyer–Olkin measure of sampling adequacy value of 0.718 was found. The Bartlett’s Test of Sphericity test statistic value was 471.534 ($df = 3; p = 0.000$). The scale was found to be unidimensional after removing two poor items. All retained items are presented in Table 3.

Dimensional analysis of job satisfaction: Principal component analysis was carried out on the nine items of the job satisfaction scale. The scale got an acceptable Kaiser–Meyer–Olkin measure of sampling adequacy value of 0.782. The Bartlett’s Test of Sphericity test was also significant at 568.385 ($df = 28; p = 0.00$). As expected, two components with eigenvalues larger than 1 were extracted. The two-factor solution explained a total of 51% variance, with component 1 contributing 31% and component 2 contributing 16%. Oblimin rotation was performed and the rotated solution revealed a simple structure, with both components showing strong loadings. However, one item was removed from further analysis due to cross-loading. The retained items are shown in Table 3.

Dimensional analysis of the occupational stress scale: Principal component analysis, using the varimax rotation method, was also carried out on the retained 10 items of the occupational stress questionnaire. The scale obtained an

TABLE 3: Job satisfaction scale.

Item	Component		Total variance (50.226)
	Factor 1	Factor 2	
Eigenvalue	2.77	1.248	-
Percentage of variance	34.624	15.602	-
Working conditions	0.748	-	-
Opportunities to achieve something you consider worthwhile	0.598	-	-
Relationship with colleagues	-	0.813	-
Company policy	0.688	-	-
Work itself	-	0.849	-
Relationship with the immediate supervisor	-	0.563	-
The opportunities available for getting ahead, for being promoted	0.615	-	-
The amount of money you receive as compensation for the work you do	0.615	-	-

acceptable Kaiser–Meyer–Olkin measure of sampling adequacy value of 0.849. The Bartlett’s Test of Sphericity statistic was also significant at 1225.463 ($df = 10; p = 0.00$). One component with an eigenvalue greater than 1 was extracted. This single component explained 69% of the variance and all the items loaded strongly on the component. Four items were removed due to poor loading. The retained items are shown in Table 4.

Uncertainty questionnaire: Principal component analysis, using the varimax rotation method, was also carried out on the retained five items of the uncertainty questionnaire. The scale received an acceptable Kaiser–Meyer–Olkin measure of sampling adequacy value of 0.771. The Bartlett’s Test of Sphericity test statistic, which tests the overall significance of all the correlations within the correlation matrix, was also significant at 591.597 ($df = 6; p = 0.00$). One component with an eigenvalue above 1 was extracted and it explained 64% of variance. However, two items were identified with poor loading and were removed from further analysis. Another round of principal component analysis was carried out on the four retained items and the items loaded strongly on one component. The retained items are shown in Table 4.

Evaluating the measurement models

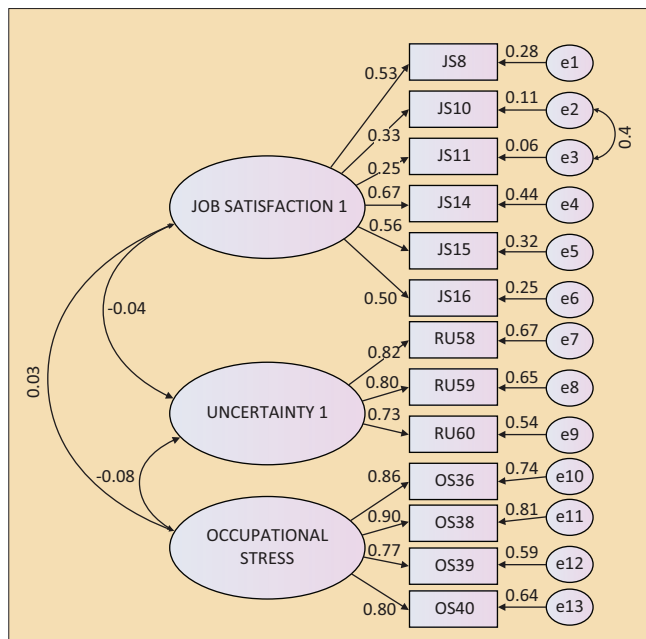
Confirmatory factor analysis was carried out on all the scales utilised in the study to assess the goodness of fit of the measurement models using the AMOS software. The overall measurement fit was done in two rounds. Several fit indices were used to assess model fit. As shown in Table 5, in the first round of confirmatory factor analysis, the p -value was 0.000 and root mean square error of approximation index was 0.076. Therefore, the two values were acceptable (Hair, Black, Babin, & Anderson, 2010). The goodness of fit index, the comparative fit index, the incremental fit index and Tucker–Lewis index also fulfil the good fit requirement of being

TABLE 4: Occupational stress and uncertainty scale.

Item	Component	Total variance
Occupational stress	-	69.016
Eigenvalue	3.451	-
Percentage of variance	69.016	-
I have constant time pressure due to a heavy work load.	0.885	-
I have many interruptions and disturbances in my job.	0.676	-
I have a lot of responsibilities in my job.	0.891	-
I am often pressured to work overtime.	0.845	-
Over the past few years, my job has become more and more demanding.	0.838	-
Uncertainty	-	63.724
Eigenvalue	2.549	-
Percentage of variance	63.724	-
It makes me anxious that I might become unemployed.	0.658	-
I fear that I might get fired.	0.876	-
There is a possibility that I might lose my job in the near future.	0.841	-
I think that I might be dismissed in the near future.	0.801	-

TABLE 5: Structural model fit summary.

Fit index	First round indices	Second round indices
p	0.000	0.000
Goodness of fit index	0.93	0.95
Adjusted goodness of fit index	0.89	0.93
Parsimony goodness fit index	0.63	0.64
Normed fit index	0.89	0.93
Relative fit index	0.87	0.91
Incremental fit index	0.92	0.96
Tucker–Lewis index	0.90	0.95
Comparative fit index	0.92	0.96
Root mean square error of approximation index	0.08	0.06

**FIGURE 2:** Structural measurement model.

larger than 0.90, with values of 0.926, 0.921, 0.922 and 0.901 (Hair et al., 2010).

However, the normed fit index was 0.89 and the relative fit index was 0.86. These reflected a poor fit because they were below 0.90. Similarly, both the adjusted goodness of fit index and parsimony goodness fit index also missed the 0.90 level with values of 0.89 and 0.63. These values indicated a poor fit. Therefore, results from the goodness of fit statistics indicated that the model had to be modified to obtain a better fit. Hence, item J10 (*Interpersonal relationships: The social atmosphere of your workgroup, the kinds of feelings that exist between yourself and your fellow-workers*) and J11 (*Work itself: The actual work you perform*) were co-varied as shown in Figure 2. After co-varying the two items, the second round of confirmatory factor analysis was conducted. Results showed that all the indices improved. Thus, data fit the measurement model as shown in Table 5, round two indices.

When collecting data, several ethical guidelines were followed. The participants were assured that the information provided would be confidential and their identities would remain anonymous. In addition, the study respondents were

also informed about their right to participate or withdraw from the research at any time. Furthermore, all participants were informed that the information sought was solely for academic purposes and the improvement of the organisation.

Ethical considerations

Ethical clearance certificates were granted from each university's research office.

Research results

To compare whether there is a significant difference in the levels of employee job satisfaction in the two institutions, the independent-sample t -test was conducted (H1). The results in Table 6 show that there is an insignificant difference between the levels of job satisfaction of employees in a non-merged institution and those working in merged institutions as evidenced by a p -value greater than 0.05. This suggests that employees in the two different institutions are similarly satisfied. Hence, we fail to reject the null hypothesis.

To test H2, which states that employees in a merging or merged institution experience higher occupational stress than those in a non-merged institution, an independent-sample t -test was conducted. Significant differences ($t = 6.583$; $df = 258$; $p < 0.05$) were reported in occupational stress levels for employees in a non-merged institution and those working for the merging institution. Mean differences show that employees in the merged institution show a higher level of occupational stress ($M = 20.33$; $SD = 5.134$) than employees in the non-merged institution ($M = 16.64$; $SD = 5.571$) as shown in Table 7. Therefore, the null hypothesis was rejected and we concluded that employees in a merged institution have higher stress levels than those in a non-merged institution.

Job satisfaction, occupational stresses, and uncertainty relationships

Pearson product-moment correlation was used to check the relationship between job satisfaction and occupational stress, as well as the relationship between uncertainty and occupational stress. The results in Table 8 show that no relationship between job satisfaction and occupational stress was found ($p > 0.05$). A non-significant relationship between uncertainty and occupational stress was also found ($p > 0.05$). Therefore, null H3 and H4 were supported.

To check whether uncertainty moderates the relationship between job satisfaction and occupational stress, a two-stage moderated hierarchical multiple regression analysis was conducted (Baron & Kenny, 1986). Job satisfaction was the independent variable, uncertainty was the moderator variable and occupational stress was the dependent variable. All variables were standardised before testing for moderating effect to reduce problems related to multicollinearity between the interaction term and the main effects (Pu, Hou, Ma, & Sang, 2017).

TABLE 6: Differences in employee's job satisfaction.

Variable	Institution	N	Mean	Standard deviation	df	T	p
Job satisfaction	Non-merged	284	31.25	5.457	422	1.318	0.188
	Merged	140	30.46	6.450	-	-	-

TABLE 7: Difference between two groups of employees on occupational stress.

Variable	Organisation	N	Mean	Standard deviation	df	T	p
Occupational stress	Merged institution	284	20.33	5.134	258	6.583	0.000
	Non-merged institution	140	16.64	5.571	-	-	-

TABLE 8: Correlations of job satisfaction, occupational stresses and uncertainty (N = 424).

Variable	Measurement	1	2	3
1. Job satisfaction	Pearson correlation	-	-0.002	-0.041
	Significance (two-tailed)	-	0.965	0.396
2. Occupational stress	Pearson correlation	-	-	-0.091
	Significance (two-tailed)	-	-	0.060
3. Uncertainty	Pearson correlation	-	-	-
	Significance (two-tailed)	-	-	-

*, significant at 95% confidence level.

TABLE 9: Uncertainty as a moderator of job satisfaction and occupational stress (N = 424).

Model	Variable	R ²	Adjusted R ²	R ² change	β	T	F	df	Significance
1	JS, Uncertainty	0.008	0.004	0.008	-	-	1.781	2.421	0.060
2	JS, Uncertainty, JS*Uncertainty	0.021	0.014	0.013	-0.112	-2.318	2.991	3.420	0.021

Note: Independent variable = job satisfaction; Moderator variable = Uncertainty; Dependent variable = occupational stress.

JS, job satisfaction.

*, $p < 0.05$

In the first model, two variables were included, namely job satisfaction and uncertainty. The results show that these variables accounted for a non-significant amount of variance in occupational stress: $R^2 = 0.008$, $F(1.781) = 2.421$, $p > 0.05$ (Hox, Moerbeek, & Van de Schoot, 2017). The interaction between job satisfaction and uncertainty accounted for a significant proportion of the variance in occupational stress: $R^2 = -0.021$, R^2 change (ΔR^2) = 0.031, $F(2.991) = -3.420$, $\beta = -0.112$, $t = 2.318$, $p < 0.05$. Therefore, the results show a complete moderation. This suggests that uncertainty moderates the relationship between job satisfaction and occupational stress. Therefore, null H5 is rejected as shown in Table 9.

Discussion

No significant differences in the job satisfaction levels of employees working at the non-merged institution and those working at the merging institution were found. Hence, H1 is not supported. Contrary to these results, several studies found that a merger or even the announcement of one affects employees job satisfaction in a negative way (Armstrong-Stassen, Mantler, & Horsburgh, 2001; Burke, 2017; Martin & Roodt, 2008).

Literature on mergers in South African institutions of higher learning also reported a significant difference in job satisfaction between employees affected by the merger and those not affected (Reddy, 2007). Another study by Viljoen and Rothmann (2009), on the impact of mergers on job satisfaction among academics in the United Kingdom, revealed that less than half of the British academics were

satisfied with their jobs after a merger, while academics in other institutions not affected by a merger had high levels of job satisfaction.

It is rather surprising that the results of the present study are inconsistent with existing literature. Although unexpected, a possible explanation of this inconsistency could be the fact that the merging process of the studied institutions extended over a long period and is still ongoing. Hence, employees are no longer directly affected by the merger process. It is also imperative to note that both institutions that participated in this study are historically black rural institutions with virtually similar organisational cultures. Hence, the levels of job satisfaction between the institutions are almost the same regardless of merger status.

Significant differences were reported in occupational stress levels for employees working for the non-merged institution and those working for the merging institution. Mean differences show that employees at the merged institution have higher levels of occupational stress than those at the non-merged institution. Therefore, H2 is supported and we conclude that employees in a merged institution have higher stress levels than those in an unmerged institution. The possible explanation for this result is that employee involvement and open communication during the merger process is usually low (Genkova & Gehr, 2016).

A study conducted among academics by Slade et al. (2016) also reported a positive relationship between a merger and employee stress. Other studies also revealed that organisational transformation through a merger will result in

high employee occupational stress (Al-Hummadi, 2013; Armstrong-Stassen, Mantler, & Horsburgh, 2001; Sharma, 2015; Zagelmeyer et al., 2018). Therefore, any organisation needs to manage a merger situation properly to minimise its possible emotional effects on employees.

In testing H3, which investigated the relationship between job satisfaction and occupational stress, an insignificant relationship was found. The results show that the two variables are not related. These findings are confirmed by Faragher et al. (2013) who also found an insignificant relationship between job satisfaction and occupational stress. In contrast, Burke (2017) and Yousef (2002) revealed that a negative relationship exists between job satisfaction and occupational stress.

No relationship was found between uncertainty and occupational stress (H4). This shows that uncertainty does not correlate with occupational stress, which was not expected. The observed results are in contrast with previous studies that found that a relationship exists between uncertainty and occupational stress (Cooper, 2018; Vander Elst et al., 2018; Warr, 2011). Thus, both H3 and H4 are not supported by the results.

This is probably because the merger has not been fully completed at the institution that was affected by the merger. From the findings, one can argue that organisations, through their human resource management departments, should provide an environment that will improve the satisfaction of employees, to minimise the effects of stress on both individuals and the organisation at large.

In testing H5, results further revealed that uncertainty moderates the relationship between job satisfaction and occupational stress. This indicates that the uncertainty levels of employees on whether their jobs are secure during an organisational change, influence the relationship between job satisfaction and occupational stress. In other words, the level of stress experienced by employees due to low job satisfaction during or because of a merger can be strengthened or weakened by the presence of job uncertainties. Employees will inevitably be more stressed when they are not certain that they will keep their jobs after the merger.

Literature has shown that studies on the relationship between job satisfaction and occupational stress, uncertainty and job satisfaction (Burke, 2017; Yousef, 2002), as well as between uncertainty and occupational stress are available (Barkhuizen & Rothman, 2008; Warr, 2011). However, no studies were done on the moderating role of uncertainty on the relationship between job satisfaction and occupational stress in the South African higher education sector. Therefore, a study of this nature is necessary to assist managers or organisational change decision-makers in organisations to focus on job satisfaction and stress-related issues that might affect employees.

They should also be aware of other organisational factors such as uncertainty that might affect employees.

Recommendations

Based on the findings discussed above, it is recommended that future research should be conducted on the same constructs but focusing on more than two institutions of higher learning. It is also recommended that the management of higher learning institutions and other organisations should monitor the behaviours and attitudes of employees during and after the organisational change. Future studies on similar variables may also be conducted using a mixed-method research approach. This will give more insight into the stress levels of employees in non-merged and merged institutions.

Conclusion

Considering that there are many changes taking place in higher education in several nations, it is important to investigate the level of job satisfaction and occupational stress of employees. The purpose of the study was to compare the levels of job satisfaction and occupational stress of employees in two institutions, as well as to examine the role of uncertainty in the relationship between job satisfaction and occupational stress. No differences in the level of job satisfaction were found between employees in a merged institution and those in a non-merged institution. However, significant differences in the levels of occupational stress were found. No relationship between job satisfaction and occupational stress and between uncertainty and occupational stress was found. Therefore, the study concludes that job satisfaction does not correlate with occupational stress, and uncertainty and occupational stress do not correlate either. It also concludes that uncertainty influences the relationship between job satisfaction and occupational stress. The researchers finally conclude that the study contributes to the literature on job satisfaction, and occupational stress and uncertainty influence the relationship between job satisfaction and occupational stress.

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