



Work Facets Predicting Overall Job Satisfaction among Resident Doctors in Selected Teaching Hospitals in Southern Nigeria: A Minnesota Satisfaction Questionnaire Survey

Segun Bello^{1*}, David Ayobami Adewole², Rotimi Felix Afolabi³

1- PhD in Public Health and Epidemiology, Dept. of Epidemiology and Medical Statistics, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria.

2- PhD in Health Management, Dept. of Health Policy & Management, Faculty of Public Health, College of Medicine, University of Ibadan, Nigeria.

3- PhD in Statistics, Population and Health Research Entity, Faculty of Humanities, North-West University, South Africa.



Citation: Bello S, Adewole DA, Afolabi RF. Work Facets Predicting Overall Job Satisfaction among Resident Doctors in Selected Teaching Hospitals in Southern Nigeria: A Minnesota Satisfaction Questionnaire Survey. JOHE 2020; 9(1):52-60.

Article Info

* Corresponding author:

Segun Bello,

E-mail:

drsegunbello@yahoo.com

Article history

Received: Sep 2019

Accepted: Jun 2020



10.29252/johe.9.1.52

Print ISSN: 2251-8096

Online ISSN: 2252-0902

Peer review under responsibility of Journal of Occupational Health and Epidemiology

Abstract

Background: Job satisfaction could be assessed using the single-item global approach or the multidimensional approach. This study aims to assess the work facets predicting the overall single-item job satisfaction measure among resident doctors.

Materials and Methods: This descriptive study was conducted from August to October 2018 among 195 resident doctors. The survey instrument, i.e. the Minnesota satisfaction questionnaire (MSQ), was used to assess satisfaction among resident doctors with 20 job facets. In addition, the single-item satisfaction measure was adopted to assess overall job satisfaction among the respondents. Both satisfaction measures were assessed on a 5-point Likert scale. The MSQ sum scores for the 20 items ranged from 20 to 100. The correlation between each satisfaction facet and the single-item overall job satisfaction was determined using the Pearson's correlation coefficient. Besides, a linear regression model of the overall job satisfaction, including facets significantly correlated, was developed to control age and work experience. P-value ≤ 0.05 was regarded statistically significant.

Results: The respondents expressed above-average satisfaction with only two work facets, namely compensation (56.7%) and creativity (52.5%). Satisfaction had the lowest rate for the facets of recognition (4.8%), supervision-human relations (5.3%), and responsibility (7.5%). Accordingly, only the facets of ability utilisation ($p = 0.005$), advancement ($p < 0.001$), supervision-human relations ($p = 0.035$), variety ($p = 0.012$), and working conditions ($p = 0.001$) significantly predicted overall job satisfaction.

Conclusions: Overall job satisfaction was mostly predicted by factors intrinsic to the job, so these could be specifically targeted for interventions.

Keywords: Workplace, Job Satisfaction, Surveys and Questionnaires, Cross Sectional Studies, Minnesota, Nigeria, Physicians.

Introduction

Job satisfaction is a major psychosocial behavioural concept that has attracted a great deal of attention in organisational research. Many

definitions have been given for job satisfaction, with most of which having taken into account similar considerations, such as the employee weighting of 'input' versus 'output/reward' or 'pain' versus 'pleasure' [1, 2]. Accordingly, an individual

is expected to exhibit positive or negative emotional reactions to working conditions in the work environment depending on how favourable these conditions are [3]. Employee expectations and personality traits could play a key role in determining how to produce such reactions [4]. For instance, females are generally more satisfied than males with working in a given work environment, which implies females' expectations from their job could be less than those of their male counterparts on average [5].

There is a global decrease in the job satisfaction level among doctors, even in the western countries. For instance, doctors in Germany have been reported to be seeking to work abroad despite available internal vacancies [6]. The worst conditions exist in the developing countries with a decrease in the number of healthcare workforce [7]. The job satisfaction level has far-reaching consequences for employees' emotional wellbeing and organisational commitment. Dissatisfied healthcare providers could adversely affect productivity and the quality of care. In addition, low levels of satisfaction among patients with healthcare services, an increase in the level of morbidity, and high hospital mortality rates have been shown to be associated with low job satisfaction levels among healthcare providers [7, 8].

Job satisfaction is a complex construct measured by two general approaches. The first approach adopts single-item global measures known to be more biased because of being mostly correlated with factors intrinsic to the job; however, these measures have psychometric and practical advantages [9, 10]. The second approach adopts multi-dimensional measures that provide a more comprehensive overview of work environment aspects. Work environment facets could be differentially weighted by employees. However, they will not contribute to determining employees' response if measured by a single-item global measure. Several multidimensional job satisfaction instruments have been developed and validated to measure satisfaction with different facets of the work environment.

The Minnesota Satisfaction Questionnaire (MSQ) is a multidimensional job satisfaction instrument useful in estimating global satisfaction among employees [11]. This questionnaire is based on the theory of work adjustment which assumes work adjustment outcomes, i.e. satisfaction in this case, could be explained by how well an individual's abilities match the work requirement and how well their needs match the reinforcement in the work environment [11]. Thus, facets in the work environment could be grouped into intrinsic and

extrinsic ones. An intrinsic facet includes domains related to the job itself, while an extrinsic facet is made up of domains usually within the control of the employers, such as salary, management or team relationships [10, 12, 13]. Job satisfaction measurement across work facets is complimentary to the overall global measure of job satisfaction [14-16]. However, the mere use of single-item global measures could be misleading because they are considered biased [9].

It is suggested that the single-item global measure of job satisfaction is more correlated to the intrinsic facets; however, the facets of multidimensional measures which are assessed by the single-item global measure for predicting overall job satisfaction have not yet been well researched. Using the Spector's job satisfaction survey, no facet of the job satisfaction measure predicted the overall single-item job satisfaction in the employees of a professional bank in Calabar, Nigeria [17]. However, using the same instrument, five facet satisfaction measures independently predicted the overall single-item job satisfaction measure among resident doctors in Calabar, including payment, contingent rewards, the operating procedure, communication, and autonomy [18]. To our knowledge, the MSQ has not yet been used in assessing job satisfaction among doctors in Nigeria, and the facet satisfaction measures that predict the overall single-item measure have not been studied as yet. Against this background, we aim to assess domain-specific job satisfaction among resident doctors in selected teaching hospitals in Southwestern Nigeria and to determine the facet satisfaction measures independently associated with the overall single-item job satisfaction measure.

Materials and Methods

This cross-sectional web-based survey was conducted among resident doctors practicing in four selected teaching hospitals in Southwestern Nigeria; namely: Ladoke Akintola University of Technology (LAUTECH) teaching hospital Ogbomoso, Lagos State University Teaching Hospital (LASUTH), Lagos University Teaching Hospital (LUTH), and University College Hospital (UCH) Ibadan. The teaching hospitals were selected based on the convenience of access to the resident doctors' electronic mails with the association executives' permission and consent, and also with the assurance of absolute confidentiality and anonymity. All available 643 resident doctors were contacted via an email that directed them to a survey link; thus, it was a full

population survey requiring no sampling as all of the participants were expected to respond. The survey tool contained some background information about the respondents, a single-item overall job satisfaction measure, and the short-form version of the Minnesota Satisfaction Questionnaire (Weiss et al., 1967). The short-form version consisted of 20 items describing satisfaction with the following facets of (1) ability utilisation, (2) achievement, (3) activity, (4) advancement, (5) authority, (6) company policies and practices, (7) compensation, (8) co-workers, (9) creativity, (10) independence, (11) moral values, (12) recognition, (13) responsibility, (14) security, (15) social service, (16) social status, (17) supervision-human relations, (18) supervision-technical (supervisor competence), (19) variety, and (20) working conditions. The short-form version of the MSQ consisted of the three scales of intrinsic satisfaction, extrinsic satisfaction, and general satisfaction. The responses to these items were weighed and scored accordingly within the range of 1-5, with 1 = very dissatisfied, 2 = dissatisfied, 3 = neither satisfied nor dissatisfied, 4 = satisfied, and 5 = very satisfied. Thus, higher scores indicated greater satisfaction. The reliability of the MSQ has been documented in an African setting. The Cronbach's alpha for the intrinsic and extrinsic subscales were 0.79 and 0.82, respectively, while it was 0.86 for the general MSQ scale, which demonstrated reliable internal consistency [19]. The single-item overall job satisfaction measure was similarly scored as well. The general satisfaction scale assigned scores to all 20 mentioned MSQ items, with the scores ranging from 20 to 100 [11]. The intrinsic satisfaction scale consisted of only 12 items of 1, 2, 3, 4, 7, 8, 9, 10, 11, 15, 16, and 20, with the sum score range of 12–60 [11]. In addition, the extrinsic satisfaction scale consisted of only six items of 5, 6, 12, 13, 14 and 19, with the sum score range of 6-30 [11]. Items 17 and 18 are only contained in the general satisfaction scale like other MSQ items, but not included in the intrinsic and extrinsic satisfaction scales. The scores of the MSQ items could be ranked to indicate areas of higher or lesser satisfaction rates. Past research has categorised the general satisfaction scale into moderate (score 60 and lower), moderate to not fully satisfied (the score range of 61-79), and satisfied (score 80 and higher) [20]. In addition, the percentiles for the three scales could be reported to provide norm group data. In addition, there is no information about any previously documented

norm group of doctors anywhere in the world. Thus, this study used score 80 and higher for a composite estimate of global job satisfaction as it was adopted by several other studies [20-22]. Statistical analysis was conducted using SPSS Statistics V.25.0 (IBM Corp. NY, United States). Percentages were reported for the distribution of the respondents according to sociodemographic characteristics as well as for the level of satisfaction with each facet. The mean \pm SD were reported for the scores of each facet and for the three scales of general, intrinsic, and extrinsic satisfaction. The Pearson's correlation coefficient was reported for the correlation between the scores of each facet and the scores of the single-item overall satisfaction measure. Besides, facets with statistically significant correlations ($p \leq 0.05$) were entered into a linear regression model of the overall single-item job satisfaction measure. The effect of the facets on overall job satisfaction were controlled for age and work experience. The control of age and work experience is justified on the basis of the fact that an increase in age has been consistently associated with higher job satisfaction levels in clinical medicine [23, 24]. In addition, work experience was known to have influenced the job satisfaction level [25]. P-value ≤ 0.05 was also reported as a statistically significant predictor of overall job satisfaction.

Results

A total of 195 doctors responded to the survey, out of which eight questionnaires were unusable and did not contribute data to the survey, with the response rate having been 30.3%. The respondents' mean age was 36.49 ± 5.414 , among whom 60% aged 30-39, 114 (60.9%) individuals were female, 109 (58.1%) individuals were male, and 114 (61.0%) individuals worked at UCH. About three-quarters (143; 76.4%) were married, more than two-thirds of the respondents were senior registrars (131; 69.8%), and 155 (83.2%) of them had at least six years of work experience since graduation from the medical school. The mean year of work experience since graduation was 9.81 ± 4.2 . More than 155 (80%) individuals had worked for more than five years. The more commonly represented specialties included surgery (37; 20.0%), internal medicine (34; 18.2%), community medicine (29; 15.3%), and family medicine (25; 14.7%) (Table 1).

Table 1. The respondents' sociodemographic characteristics

Characteristics		Frequency	Percentage
Age group	20-29	23	12.5
	30-39	114	60.9
	≥ 40	50	26.6
Sex	Male	109	58.1
	Female	78	41.9
Marital status	Never married	38	20.4
	Married	143	76.4
	Separated/Divorced/Widowed	6	3.2
Institution	UCH	114	61.0
	UCTH	20	10.8
	LAUTECH	18	9.7
	LASUTH	35	18.5
Position	Registrar	56	30.1
	Senior registrar	131	69.8
Specialty	Anaesthesia	14	7.6
	Community medicine	29	15.3
	Family medicine	28	14.7
	Internal medicine	34	18.2
	Obstetrics and gynaecology	9	4.7
	Ophthalmology	11	5.9
	Paediatrics	18	9.4
	Surgery	37	20.0
	Psychiatry	8	4.1
Total years of work experience	≤ 2	15	7.9
	3-5	17	8.9
	≥ 6	155	83.2

The mean score of the single-item overall job satisfaction was 2.72 ± 1.056 . Only 50 (26.7%) of the respondents expressed they were satisfied (45; 24.1%) or very satisfied (5; 2.7%), in general, with their jobs. The other categories of the responses included 'neither satisfied nor dissatisfied' (55; 29.4%), 'dissatisfied' (57; 30.5%), and 'very dissatisfied' (25; 13.4%). On the general satisfaction scale with score 100, the 25th, 50th, and 75th percentile scores were 51, 58, and 65, respectively. In addition, only 1.9% of the respondents were fully satisfied based on the cut-off of ≥ 80 , which in fact included the fully satisfied respondents. When the undecided group was added to the fully satisfied respondents, a cut-off of

about 47.5% was created for the moderate to not fully satisfied and fully satisfied respondents.

Concerning the facet-specific satisfaction scores, the mean of the general satisfaction scale was 57.68 ± 11.32 , the mean of the intrinsic factors was 37.40 ± 7.70 , and that of extrinsic factors was 15.48 ± 3.856 . Table 2 shows the distribution of the responses for each MSQ domain as well as the mean scores for each work facet. The respondents expressed an above average level of satisfaction in only two domains, including compensation (56.7%) and creativity (52.5 %) (Table 2). In contrast, the level of satisfaction was very low for the facets of recognition (4.8%), supervision-human relations (5.3%), and responsibility (7.5%).

Table 2. Work facet satisfaction scores among resident doctors in selected teaching hospitals in Southern Nigeria, 2018

Domain	Satisfaction categories n (%)					Proportion satisfied (%)*	Mean \pm SD
	Very dissatisfied	Dissatisfied	Neither satisfied nor dissatisfied	Satisfied	Very satisfied		
Ability utilisation	9 (4.8)	49 (26.2)	56 (29.9)	64 (34.2)	9 (4.8)	39.0	3.09 \pm 1.04
Achievement	6 (3.2)	37 (19.8)	53 (28.3)	84 (44.9)	7 (3.7)	48.6	3.28 \pm 0.96
Activity	10 (5.3)	66 (35.3)	52 (27.8)	55 (29.4)	4 (2.1)	31.5	2.87 \pm 1.01
Advancement	12 (6.4)	49 (26.2)	68 (36.4)	51 (27.3)	7 (3.7)	31.0	2.95 \pm 1.01
Authority	23 (12.3)	45 (24.1)	68 (36.4)	46 (24.6)	5 (2.7)	27.3	2.80 \pm 1.07
Company policies and practices	8 (4.3)	28 (15.0)	59 (31.6)	79 (42.2)	13 (7.0)	49.2	3.35 \pm 1.00
Compensation	8 (4.3)	22 (11.8)	51 (27.3)	88	18 (9.6)	56.7	3.35

				(47.1)			±1.00
Co-workers	24 (12.8)	60 (32.1)	51 (27.3)	48 (25.7)	4 (2.1)	27.8	2.70 ±1.09
Creativity	9 (4.8)	31 (16.6)	49 (26.2)	82 (43.9)	16 (8.6)	52.5	3.38 ±1.05
Independence	4 (2.1)	24 (12.8)	77 (41.2)	75 (40.1)	7 (3.7)	43.8	3.33 ±0.85
Moral values	10 (5.3)	42 (22.5)	53 (28.3)	69 (36.9)	13 (7.0)	43.9	3.19 ±1.07
Recognition	50 (26.7)	77 (41.2)	51 (27.3)	9 (4.8)	0 (0)	4.8	2.02 ±0.84
Responsibility	61 (32.6)	64 (34.2)	48 (25.7)	13 (7.0)	1 (0.5)	7.5	2.01 ±0.95
Security	30 (16.0)	72 (38.5)	51 (27.3)	31 (16.6)	3 (1.6)	18.2	2.45 ±1.03
Social service	9 (4.8)	30 (16.0)	53 (28.3)	77 (41.2)	5 (2.7)	43.9	3.22 ±0.94
Social status	10 (5.3)	44 (23.5)	81 (43.3)	50 (26.7)	2 (1.1)	27.8	2.94 ±0.90
Supervision - human relations	75 (40.1)	69 (36.9)	33 (17.6)	9 (4.8)	1 (0.5)	5.3	1.80 ±0.88
Supervision – technical	13 (7.0)	47 (25.1)	59 (31.6)	67 (35.8)	1 (0.5)	36.3	2.98 ±0.99
Variety	15 (8.0)	35 (18.7)	90 (48.1)	47 (25.1)	0 (0)	25.1	2.90 ±0.90
Working conditions	20 (10.7)	46 (24.6)	61 (32.6)	57 (30.5)	3 (1.6)	32.1	2.87 ±1.05

*Includes 'satisfied' and 'very satisfied'

The single-item overall job satisfaction score had a significant positive correlation with scores for each domain of the MSQ instrument (Table 3). Similarly, it had a significant positive correlation with the general sum score ($r = 0.625$, $p < 0.001$), the sum score for intrinsic factors ($r = 0.596$, $p < 0.001$), and the sum score for extrinsic factors ($r = 0.476$, p

< 0.001). However, the correlation between the single-item overall satisfaction score and the general domain sum score was much stronger than the correlation between the single-item overall satisfaction score and the individual scores of the MSQ domains.

Table 3. The correlation between overall job satisfaction scores (single-item measure) and MSQ facet scores among resident doctors in selected teaching hospitals in Southern Nigeria, 2018

Domain	Pearson's correlation coefficient (r)	P-value
Ability utilisation	0.460	< 0.001
Achievement	0.392	< 0.001
Activity	0.351	< 0.001
Advancement	0.514	< 0.001
Authority	0.332	< 0.001
Company policies and practices	0.219	0.004
Compensation	0.293	< 0.001
Co-workers	0.364	< 0.001
Creativity	0.329	< 0.001
Independence	0.268	< 0.001
Moral values	0.381	< 0.001
Recognition	0.361	< 0.001
Responsibility	0.338	< 0.001
Security	0.372	< 0.001
Social service	0.295	< 0.001
Social status	0.357	< 0.001
Supervision – human relations	0.385	< 0.001
Supervision – technical	0.165	0.031
Variety	0.237	0.002
Working conditions	0.529	< 0.001
Intrinsic factors	0.596	< 0.001
Extrinsic factors	0.476	< 0.001
General	0.625	< 0.001

The model of the single-item measure was a dependent variable, and all domains were independent variables. With the age and years of work experience kept constant, it was shown that only ability utilisation ($p = 0.005$), advancement ($p < 0.001$), supervision-human relations ($p = 0.035$), variety ($p = 0.012$), and working conditions ($p = 0.001$) significantly predicted overall job satisfaction in the assessment made by the single-item measure (Table 4). For a unit increase in the satisfaction score for ability utilisation, there was a unit increase of 0.208 in the overall job satisfaction score as assessed by the single-item measure, with all other variables kept constant. Similarly, for

a unit increase in the satisfaction score for advancement, there was a corresponding unit increase of 0.314 in the overall job satisfaction score. In addition, for a unit increase in the satisfaction score for supervision-human relations, there was a unit increase of 0.222 in the overall job satisfaction score, with all other variables kept constant. Finally, for a unit increase in the satisfaction scores for variety and working conditions, there were the unit increases of 0.235 and 0.299, respectively, in the overall job satisfaction score, with other variables kept constant.

Table 4. The linear regression model of overall job satisfaction among resident doctors in selected teaching hospitals in Southern Nigeria, 2018

Variable	Coefficient	95% CI	p-value
Age	0.006	-0.033 to 0.044	0.775
Work experience	0.003	-0.045 to 0.052	0.890
Ability utilisation	0.208	0.063 to 0.354	0.005*
Achievement	0.014	-0.145 to 0.172	0.865
Activity	-0.046	-0.204 to 0.112	0.564
Advancement	0.314	0.160 to 0.468	< 0.001*
Authority	0.125	-0.025 to 0.275	0.102
Company policies and practices	-0.010	-0.164 to 0.144	0.897
Compensation	-0.001	-0.153 to 0.151	0.987
Co-workers	0.033	-0.108 to 0.174	0.645
Creativity	0.001	-0.174 to 0.174	1.000
Independence	-0.125	-0.319 to 0.068	0.201
Moral values	0.042	-0.156 to 0.240	0.675
Recognition	0.034	-0.163 to 0.230	0.735
Responsibility	0.106	-0.046 to 0.258	0.169
Security	0.070	-0.076 to 0.216	0.347
Social service	-0.120	-0.311 to 0.071	0.216
Social status	0.168	-0.025 to 0.360	0.087
Supervision – human relations	0.222	0.015 to 0.428	0.035*
Supervision – technical	0.099	-0.040 to 0.238	0.161
Variety	-0.235	-0.418 to -0.053	0.012*
Working conditions	0.299	0.126 to 0.473	0.001*
Constant	-0.564	-1.850 to 0.722	0.387

*Statistically significant

Discussion

According to the study results, overall job satisfaction was too much below average among the respondents, with only about a quarter of them having expressed overall job satisfaction. Furthermore, the respondents expressed above average satisfaction with only compensation and creativity out of the 20 domains. The lowest satisfaction levels were reported for the domains of recognition, supervision-human relations, and responsibility. The single-item score of the overall job satisfaction was positively correlated with satisfaction scores for each domain, but there was a higher correlation for the general scale score of the MSQ instrument. The domains of ability

utilisation, advancement, supervision-human relations, variety, and working conditions significantly predicted the single-item measure of overall job satisfaction, with age and working experience kept constant.

The respondents in the present study were slightly older and more experienced than those in similar past studies, given the almost five-year difference in the mean age of the respondents in this study compared to a similar study by Bello et al [26]. Furthermore, the age range of less than 30 in this study is a half of that in the population in a similar past study and setting [27] and also about a third of that of the population reported by Bello et al. To verify that the population in the current study

appeared older than it could be expected for a population of representative resident doctors, more than two-thirds were senior registrars, and the average number of the years of work experience was 10. Less than 20% of the population in this study had a total work experience of five years, compared to more than 60% in the two earlier studies by Bello and Ofili [26, 27]. Thus, the sample in the present study could not be representative of the population of typical resident doctors, neither could the job satisfaction estimates reported be representative of true estimates. This might be due to the low response rate in the present study. However, the estimates were expected to be the best-case scenario because the population was older and more experienced than that in other studies, with both of which having been expected to be positively correlated with higher job satisfaction levels. The true job satisfaction estimates could be lower than those reported in this study.

To our knowledge, this study demonstrated one of the worst ever documented cases of overall job satisfaction among doctors in Nigeria and probably in most parts of the world. The number of doctors who expressed overall job satisfaction has decreased by about 50% or more compared to the studies carried out in past decades among doctors in Nigeria [26, 27]. This study even showed worse job satisfaction status when the MSQ general scale was used to assess full global satisfaction. It is not clear whether the MSQ had a lower or a higher discriminatory capacity than other multidimensional instruments, like the Spector's job satisfaction survey [28]. In contrast, in a study among a similar population of doctors in Calabar using the multidimensional Spector's job satisfaction survey, the cut-off showed the proportion of about 20% lower than the one reported by the single-item measure of overall job satisfaction. To our knowledge, these two studies are the only ones that have used both single-item and multidimensional measures to assess global satisfaction, with both of which having shown the underestimation of about 20% compared to the multidimensional measure [26, 29]. Nonetheless, the general scale of the MSQ has been widely used for estimating overall job satisfaction in the literature. The comparison of the MSQ scores in this study with a recent similar study among nurses using the same instrument showed a 10-point gap in each of the three percentiles, with higher percentiles reported among the population of the nurses [24]. Thus, the satisfaction level reported among the nurse population in Abeokuta, Nigeria, was much higher than the level determined among resident doctors in this study. The difference could

be partly due to the general trend of higher satisfaction levels in nurses than in doctors as well as the predominance of females in the population of nurses, with both of which being associated with higher job satisfaction levels [5, 30].

A total of 90% of the work facets recorded below average satisfaction were appalling. For example, almost all of the respondents did not feel recognised when doing a good job, and they felt they lacked the freedom to use their own judgement in their jobs. In addition, they rated the way their bosses handled subordinates as poor. In contrast and contrary to common beliefs, the compensation domain had the highest proportion of the respondents satisfied with it. This finding indicates that the recent mass exodus of doctors from whom the worst hit was the resident doctor population, and probably other health workers, might not have been entirely payment-driven [7, 31]. The findings from this study reiterates the potential effectiveness of clinical team leadership and hospital management in determining job satisfaction among resident doctors. Even though the doctors participated in this study were being trained, they contributed the bulk of the work done in tertiary hospitals, with the final point in the chain being patients. Conscious efforts could be made to recognise the work done and to empower clinical consultants more in leadership/management skills, which could improve engagement between team leaders and resident doctors, thereby leading to more involvements in the work-related decision-making process.

In addition, findings from this study showed that satisfaction with the individual work facet had a positive correlation with the single-item measure of overall job satisfaction. However, the correlation between each of the scales (intrinsic, extrinsic and general) and the single-item overall satisfaction was higher than the correlation between individual facet satisfaction and the overall single-item overall satisfaction. As observed in the literature [9], the intrinsic satisfaction scale was found to be better correlated with the overall satisfaction measure than the extrinsic satisfaction scale. Accordingly, the present study supports the use of a comprehensive facet satisfaction instrument that considers both intrinsic and extrinsic aspects of the work environment to make a valid assessment of overall job satisfaction. Three of the five work facets, i.e. ability utilisation, advancement, and working conditions, that significantly predicted the single-item global satisfaction measure were factors intrinsic to the job, while only one facet, i.e. variety, was extrinsic to the job. This is consistent with the earlier postulate by Rose, which indicates factors intrinsic to a job are more correlated with

overall job satisfaction assessed by the single-item measure than the extrinsic factors [9]. This is also supported by a similar regression model of global job satisfaction among nurse practitioners in South Carolina, which demonstrated four of five work facets that predicted overall job satisfaction were also MSQ work facets intrinsic to the job [32]. This could confirm that intrinsic factors weigh more in employees' personal assessment of their overall job satisfaction. Further research is recommended on the impact of intrinsic work factors compared to extrinsic work factors on overall job satisfaction.

Conclusion

The findings of this study imply that job satisfaction has deteriorated among resident doctors to a great extent. The findings also suggest that compensation could not be the major determinant contributing to the poor level of job satisfaction as it was the work facet that reported the highest satisfaction level among the study participants. For immediate impacts where resources are limited, addressing issues specifically related to factors constituting intrinsic satisfaction scales could improve overall job satisfaction among doctors.

Acknowledgement

This study did not receive any external funding.

Conflict of interest: None declared.

References

1. Brief AP, Weiss HM. Organizational behavior: affect in the workplace. *Annu Rev Psychol* 2002; 53:279-307.
2. Sousa-Poza A, Sousa-Poza AA. Well-being at work: a cross-national analysis of the levels and determinants of job satisfaction. *J Socio Econ* 2000; 29:517-38.
3. Armstrong M. *A Handbook of Human Resource Management Practice*. 10th ed. London: Kogan Page Publishing; 2006.
4. Fisher CD. Why do lay people believe that satisfaction and performance are correlated? Possible sources of a commonsense theory. *J Organ Behav* 2003; 24(6):753-77.
5. Clark AE. Job satisfaction and gender: Why are women so happy at work? *Labour Econ* 1997; 4(4):341-72.
6. Rosta J, Nylenna M, Aasland OG. Job satisfaction among hospital doctors in Norway and Germany. A comparative study on national samples. *Scand J Public Health* 2009; 37(5):503-8.
7. Tankwanchi AB, Ozden C, Vermund SH. Physician emigration from sub-Saharan Africa to the United States: analysis of the 2011 AMA

physician masterfile. *PLoS Med* 2013; 10(9):e1001513.

8. Janicijevic I, Seke K, Djokovic A, Filipovic T. Healthcare workers satisfaction and patient satisfaction - where is the linkage? *Hippokratia* 2013; 17(2):157-62.
9. Rose M. Disparate measures in the workplace ... Quantifying overall job satisfaction. Paper presented at: The 2001 British Household Panel Survey Research Conference; 2001 July 5-7; Colchester, UK.
10. Rose M. Good Deal, Bad Deal? Job Satisfaction in Occupations. *Work Employ Soc* 2003; 17(3):503-30.
11. Weiss D, Dawis RV, England GW, Lofquist LH. *Minnesota Satisfaction Questionnaire--Long Form*. APA PsycTests. Washington, D.C., US: American Psychological Association; 1967.
12. Spector PE. *Industrial and Organisational Psychology: Research and Practice*. 6th ed. New York City, United States: John Wiley & Sons, Inc; 2011.
13. Stride C, Wall TD, Catley N. *Measures of Job Satisfaction, Organisational Commitment, Mental Health and Job related Well-being: A Benchmarking Manual*. 2nd ed. New York City, United States: John Wiley & Sons, Inc; 2007.
14. Castillo JX, Cano J. Factors explaining job satisfaction among faculty. *Journal of Agricultural Education* 2004; 45(3):65-74.
15. Martinez-Martin P. Composite rating scales. *J Neurol Sci* 2010; 289(1-2):7-11.
16. Nagy MS. Using a single-item approach to measure facet job satisfaction. *J Occup Organ Psychol* 2002; 75(1):77-86.
17. Bello S, Adewole DA, Asuzu MC. Determinants of job satisfaction among bankers in Calabar, Nigeria. *Occupational and Environmental Health Journal* 2017; 6(1&2):7-16.
18. Bello S, Ajayi DT, Asuzu MC. Determinants of job satisfaction among physicians in public hospitals in Calabar, Nigeria. *Journal of Community Medicine and Primary Health Care* 2018; 30(1):19-33.
19. Buitendach JH, Rothmann S. The validation of the Minnesota Job Satisfaction Questionnaire in selected organisations in South Africa. *SA Journal of Human Resource Management* 2009; 7(1):a183. doi: <https://doi.org/10.4102/sajhrm.v7i1.183>
20. Fu J, Sun W, Wang Y, Yang X, Wang L. Improving job satisfaction of Chinese doctors: the positive effects of perceived organizational support and psychological capital. *Public Health* 2013; 127(10):946-51.
21. Sharp TP. Job satisfaction among psychiatric registered nurses in New England. *J Psychiatr Ment Health Nurs* 2008; 15(5):374-8.
22. Xiao Y, Wang J, Chen S, Wu Z, Cai J, Weng Z, et al. Psychological distress, burnout level and job satisfaction in emergency medicine: A cross-sectional study of physicians in China. *Emerg Med Australas* 2014; 26(6):538-42.

23. Bogue RJ, Guarneri JG, Reed M, Bradley K, Hughes J. Secrets of physician satisfaction. Study identifies pressure points and reveals life practices of highly satisfied doctors. *Physician Exec* 2006; 32(6):30-9.
24. Emmanuel Olatunde B, Odusanya O. Job Satisfaction and Psychological wellbeing among Mental Health Nurses. *International Journal of Nursing Didactics* 2015; 5(8):12-8.
25. Soni K, Chawla R, Sengar R. Relationship between job satisfaction and employee experience. *Journal of General Management Research* 2017; 4(2):41-8.
26. Bello S, Asuzu MC, Ofili AN. Job satisfaction and psychological health of medical doctors in Calabar, southern Nigeria. *East Afr Med J* 2013; 90(6):189-94.
27. Ofili AN, Asuzu MC, Isah EC, Ogbeide O. Job satisfaction and psychological health of doctors at the University of Benin Teaching Hospital. *Occup Med (Lond)* 2004; 54(6):400-3.
28. Spector PE. Measurement of human service staff satisfaction: development of the Job Satisfaction Survey. *Am J Community Psychol* 1985; 13(6):693-713.
29. Bello S, Asuzu MC, Ofili AN. Domain-specific job satisfaction among doctors in Calabar, Nigeria. *Occupational and Environmental Health Journal* 2012; 1(1):25-30.
30. Ugwa EA, Muhammad LM, Ugwa CC. Job satisfaction among nurses and doctors in a tertiary hospital in north-western Nigeria: a cross-sectional study. *International Journal of Hospital Research* 2014; 3(1):11-8.
31. Raufu A. Nigerian health authorities worry over exodus of doctors and nurses. *BMJ* 2002; 325(7355):65.
32. Koelbel PW, Fuller SG, Misener TR. An explanatory model of nurse practitioner job satisfaction. *J Am Acad Nurse Pract* 1991; 3(1):17-24.