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*Job satisfaction versus turnover intentions*

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Article

# Human Resource Management for Ghanaian Nurses: Job Satisfaction Versus Turnover Intentions

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**Abstract:** The study has the aim of exploring the determinants of turnover intentions and job satisfaction of nurses. A survey of 163 nurses from two public and two private hospitals in the capital of Ghana, Accra, who completed a questionnaire in English, was conducted. The study uses SEM analysis to evaluate the goodness-of-fit of the model and to test hypotheses. Regarding the findings, pay rise, pay structure/administration and job satisfaction were significantly and negatively related to turnover intentions. However, the effect of benefits on turnover intentions was nonsignificant and was negatively associated with turnover intentions. The antecedents of nurses' job satisfaction, all the constructs, i.e., pay level, pay rise, benefits, and pay structure/administration, had positive and statistically significant impacts. The influence of pay level, pay structure/administration and pay rise had the most important effect on nurses' job satisfaction. In addition, the age status as a control variable had negative and significant effects on turnover intentions. However, gender status as a control effect had a nonsignificant impact on turnover intentions. It is recommended that the government of Ghana, the Ministry of Health, and the Ghana Health Service must institute measures such as the provision of competitive salaries and a quality work environment to entice nurses to stay in order to reduce the exodus of nurses outside the shores of Ghana. One limitation of this study is that there are other factors that could cause employees to quit their jobs, such as employee commitment, engagement, and leadership behaviours but these variables were not tested. Therefore, future studies must control these variables in studies regarding pay satisfaction and turnover intentions.

**Keywords:** nurses' pay satisfaction; nurses' turnover intentions; nurses' job satisfaction; human resource management; Ghana

## 1. Introduction

Interest in employee satisfaction with pay has been a topical issue for many decades; for instance, Williams, McDaniel and Nguyen [1] showed that the first systematic study on pay satisfaction was conducted in the 1960s to examine the factors that affect it. The authors argued that if employers understood the factors that determine pay satisfaction, then they would be able to ensure employee satisfaction. Similarly, the issue of employee job satisfaction has been a subject of research for many decades; for instance, Locke [2] studied the nature and causes of job satisfaction in 1976. These two constructs have indeed been shown to be fundamental in the effective management of employees due to their potential impact on the turnover of employees [3,4].

Nurses are very important for the delivery of healthcare in every country; in their absence, other medical officers may find it quite difficult to function. As such, nurses must be treated well to enable them to happily discharge their duties; unfortunately, nurses in Ghana seem to have issues with

low wages and working conditions [5,6]. This situation sometimes causes nurses in Ghana to go on strike or threaten strike action to express their displeasure with pay and certain working conditions. For instance, in 2017, nurses at Ankaful Psychiatric Hospital went on a sit-down strike due to inadequate funding and managerial issues with the head of the facility [7]. Additionally, in 2011, junior nurses went on strike due to unpaid salaries from 2009, as reported by Gomda [8]. Similar strike action was also recorded in 2016 due to unpaid salaries [9]. Finally, in December 2011, community nurses from Suyani threatened to strike due to frustration and discrimination [10]. Singh and Loncar [11] observed that the scant research on nurses' pay satisfaction is attributed to the belief that the job of nursing is more intrinsically than extrinsically motivated, and, for that reason, nurses will sacrifice their pay in favour of supervisory excellence, good work relationships, promotional opportunities, recognition, and pride [12]. According to Carr, Parker, Arrowsmith, and Watters [13], perceived decent levels of income and fair processes of wage determination have an association with motivation, performance, and the productivity of an organisation. Thus, when employees' pay meets their basic living expenses, they tend to be happy with their pay and jobs, which reduces turnover intentions.

### *Research Gap*

Even though this field has received considerable attention in Ghana (Addai et al. [14]; Agbokey [5]; Aninanya et al. [15]; Atitsogbui and Amponsah-Tawiah [16]; Bofo [6]; Bofo [17]; Bonenberger, Aikins, Akweongo, and Wyss [18]; Kwansah et al. [19]; Prytherch et al. [20]; Sacks, Alva, Magalona, and Vesel [21]), we are not aware of any study that has examined the relationship between pay satisfaction, turnover intentions, and job satisfaction together, as is done in this study.

The study by Bonenberger et al. [18], which examined the relationship between worker motivation and job satisfaction and its influence on turnover intentions using doctors, nursing professionals, allied health workers and pharmacists, is the closest to our study. Other studies such as Sacks et al. [21], Aninanya et al. [15], Prytherch et al. [20], and Kwansah et al. [19] looked at nurses' satisfaction, incentives, and motivation, but not turnover intentions and pay satisfaction. Studies by Bofo [6,17] looked at the relationship between nurse's emigration intentions and workplace violence. Finally, studies by Atitsogbui and Amponsah-Tawiah [16] and Agbokey [5] examined the relationship between turnover intentions, job fit and psychological climate and nurses' job satisfaction at Kintapo hospital.

These studies from Ghana did not look at satisfaction with pay and its influence on turnover intentions and job satisfaction, as this paper intends to. It is important to investigate this connection in view of the alarming statistics (Ahmad [22]) on nurses emigrating to other countries due to low wages, poor motivation, lack of basic medical supplies, poor working conditions, and obsolete working materials (Ahmad [22]; OECD [23]; Buchan, Parkin and Sochalski [24]). For instance, a comparison of pay between nurses and employees in other sectors such as mining and quarrying, electricity and gas, finance and insurance, and security show that nurses are the lowest paid according to a report by the Ghana Statistical Service [25]. The salary of nurses in Ghana is also slightly lower than the average nurse's pay in Nigeria [26], Canada [27]), and the UK [28], which are almost 25 and 12 times better, respectively. A number of studies have already established a negative relationship between nurses' pay satisfaction and turnover intentions (Williams et al. [1]; Singh and Loncar [11]; Vandenberghe and Tremblay [29]; Lee, Mitchell, Wise and Fireman [30]; Lum, Kervin, Clark, Reid and Sirola [31]).

Moreover, a report by International Office for Migration [32], cited in Bofo [6], revealed that 56% of doctors and 24% of nurses trained in Ghana emigrate to work in the UK and the USA. Additional evidence from the Nurses and Midwives Council, cited in Bofo [6], also showed that between 2002 and 2005, 71% of nurses emigrated to the UK to work, while 22% also went to the USA (Antwi and Phillips [33]). A study by Bofo [6] acknowledged that 48.9% of the respondents had emigration intentions. It was in view of this that we seek to establish whether pay satisfaction and job satisfaction are the antecedents of nurses' turnover intentions.

Furthermore, the relationship between nurses' job satisfaction and turnover intentions have been established in the literature (McGilton et al. [4]; Alhamwan and Mat [34]; Naburi et al. [35];

Gieter, Hofmans, and Pepermans [36]; Murrells, Robinson, and Griffiths [37]; Van Der Heijden et al. [38]; Delobelle et al. [39]). In contrast, Stone et al [40], Curtis [41], and Seymour and Buscherhof [12] have argued that factors such as work atmosphere and work conditions contribute more to employee satisfaction than pay increases and pay level. This suggests that the results are not consistent, and more studies are needed to resolve the argument. Moreover, we employed multidimensional measures of pay satisfaction instead of unidimensional measures [29] as the latter are not enough to bring out the effects of each dimension of the underlying factors of pay satisfaction, because each dimension is distinct [42]. Therefore, this study intends to use a multidimensional approach to pay satisfaction to examine its impact on turnover intentions. The findings from this association would assist governments to better manage the dimensions of pay satisfaction and provide better working conditions [43] to minimise the exodus of nurses to developed countries. This paper contributes to the literature by being the first study to use a multidimensional measure of pay satisfaction to assess pay satisfaction from the Ghanaian perspective and to ascertain how each dimension affects turnover intentions. It is the first study to measure pay and job satisfaction from the perspective of both general and community nurses from Ghana. It adds to the literature as one of the few studies that have used a multidimensional pay satisfaction measure.

There are at least two studies from Ghana, the first dealing with the effects of health worker motivation and job satisfaction on turnover intention [18] and the second examining the domains of community health nurse satisfaction and motivation [21].

Additionally, findings from this paper would help the government to deepen their effort in achieving the sustainable development goals earmarked by the United Nations as a hallmark for reducing poverty in developing countries such as Ghana [44]. Specifically, it contributes to two critical indices of sustainable development goals: good health and wellbeing and decent work and economic growth. According to the UN, one of the cardinal points of sustainable development goals is instituting measures to provide excellent health services for all, and provision of good health services rests entirely on health workers, amongst which nurses play a critical role. Similarly, decent work primarily emphasises the provision of work that pays employees well and meets their basic standard of living and also enables them to invest in other ventures, which, in turn, will enhance the economic growth of the state. When nurses are satisfied with their pay, they will assist in the delivery of quality healthcare, which will reduce mortality rates, and they will also invest in other ventures, thus boosting general economic growth. Such an act would ultimately help to achieve sustainable development which would, in turn, help to reduce poverty and the exodus of nurses from Ghana to countries where they believe their contribution would receive an equitable reward.

The research question of this study is as follows: what are the determinants of both nurses' turnover intentions and nurses' job satisfaction in the context of Ghana? Furthermore, the subobjectives of the study are the following: first, to investigate nurses' pay and satisfaction in Ghana and, second, the influence of pay level, pay rise, benefits and pay structure/administration on nurses' intentions to leave.

The main objective of the study is to ascertain whether pay and job satisfaction influence turnover intentions. Furthermore, the subobjectives of the study are the following: first, to investigate whether nurses' pay influences nurses' job satisfaction in Ghana and, second, to find out whether pay level, pay rise, benefits and pay structure/administration influence nurses' intention to leave. For these objectives, the authors employed CFA and SEM analysis to explore the fitness of the data, as well as the association between the variables based on our proposed hypotheses (please see specific hypotheses below).

The contribution of the study is the finding that in an African country like Ghana, nurses' turnover intentions are negatively influenced by factors such as pay level, pay rise, pay structure/administration and job satisfaction, the first three factors of which have the greatest impact on nurses' turnover intentions. Benefits are found to have no significant impact on nurses' turnover intentions. In addition, pay level, pay rise, benefits and pay structure/administration have positive and statistically significant

impacts on nurses' job satisfaction at the 99% confidence level. The antecedents with the biggest impact on nurses' job satisfaction were found to be pay level, pay structure/administration, and pay rise.

In the following sections, we analyse the theoretical background and develop the hypotheses. Furthermore, we explain the methods used and follow this with the results describing the profile of the participants, evaluation of the model, hypotheses testing, and comment on the reliability and validity of the study. Finally, the conclusions, practical implications, limitations and future research are discussed.

## 2. Literature Review

### 2.1. Theoretical Background

The issue of pay and how it satisfies its recipients seems to be a never-ending topic of discussion of employers and employees all over the world. The reason for this rests on how employers view pay as compared to employees. While employers see it as an unavoidable cost to the organisation (Lawler [45]), employees, on the other hand, see it as a transactional cost that ensures survival. Studies on pay satisfaction essentially employed Adams' equity theory (Adams, [46,47]) and organisational justice (distributive and procedural) to explain pay satisfaction (Singh and Loncar [11]; Lum et al. [29]; Tekleab, Bartol, and Liu [48]).

The theories contained in Tekleab et al. [48] are used as the foundation of our study. Huseman, Hartfield and Miles [49] indicated that Adams' equity theory (Adams, 1963 [46]; 1965 [47]) draws from exchange, dissonance and social comparison theories in understanding how individuals assess their input and output against others. Singh and Loncar [11] pointed out that employees perceive what is fair by comparing their work to that of other colleagues, within or outside the organization, with a similar position and performing similar tasks. They added that equity is achieved when employees feel there is no difference between the input–output ratio, compared to their colleagues. Lum et al. [29] also added that the equity theory emphasises that pay satisfaction is caused by feelings regarding the equity of one's pay and, in most cases, the feelings are derived from a perceptual and comparative process.

Similarly, distributive justice and procedural justice have been identified as the foundation for pay satisfaction and job satisfaction. Distributive justice refers to the way things are shared fairly within an organisation (Singh and Loncar [11]), and evidence shows that it is negatively related to turnover intentions (Khan, Abbas, Gul, and Raja [50]). DeConinck and Stilwell [3] argued that another means that employees use to assess the fairness of compensation or other managerial judgment is procedural justice. Distributed justice was found to mediate the relationship between pay and both pay level satisfaction and pay rise satisfaction (Tekleab et al. [48]). They added that procedural justice was a stronger predictor of a pay rise. Additionally, Khan et al [50] established that procedural justice is positively related to job satisfaction. If nurses are happy with the procedures employed within hospitals to determine that the pay levels and pay rises are fair, they will be much more satisfied with their jobs, which will reduce their turnover intentions or the turnover in general [11].

### 2.2. Hypotheses Building

In the following paragraphs, the hypotheses related to this study are presented. Figure 1 below shows the conceptual model of this research and the hypothesised relationships.

### 2.3. Pay Satisfaction to Turnover Intentions

Pay satisfaction, job satisfaction and turnover intentions are inseparable, and they serve as the foundation for the effectiveness (Lawler, [45]) and efficiency of any organisation. To this end, many studies have been conducted to understand these aspects ( Williams et al. [1]; Singh and Loncar [11]; Lum et al. [29]; Lawler [45]; Tekleab et al. [48]; Alhamwan, Mat, and Muala [51]; Williams et al. [52]). Lawler [45] argued that pay strategies that draw a clear link between pay and performance can support an organisation's strategic objectives.

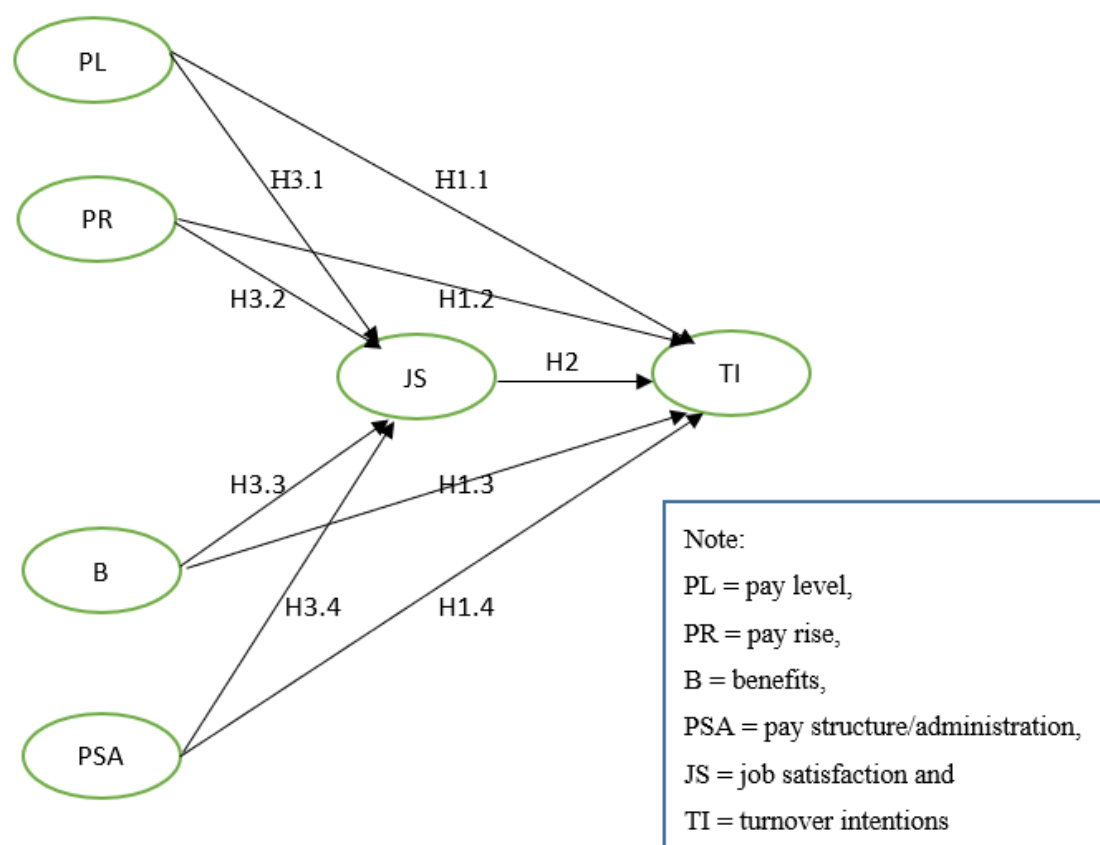


Figure 1. Conceptual model.

Pay satisfaction is basically defined as the “amount of overall positive or negative affect (or feelings) that individuals have toward their pay” (Miceli and Lane [53]). Judge [42] observed that pay satisfaction has long been a topic of interest to researchers in the social sciences and management practitioners. The author adds that researchers have identified pay satisfaction to be a multidimensional construct. Thus, Heneman and Schwab’s [54] study identified that pay satisfaction is not a unidimensional construct but rather a multidimensional one, which is made up of four dimensions (pay level, pay rise, benefits, and pay structure/administration). This study, therefore, employs a multidimensional approach to measure nurses’ pay satisfaction. According to Singh and Loncar [11], research on nurses’ pay satisfaction and turnover is in its infancy, even though a consistent relationship has been obtained. This study agrees with Singh and Loncar’s [11] view because there are few studies on nurses’ pay satisfaction and turnover intentions or turnover from a Ghanaian perspective.

Therefore, this study seeks to examine the impact of pay satisfaction on turnover intentions and job satisfaction to ascertain if pay dissatisfaction is the reason for the frequent strike action by registered general nurses in Ghana. Previously, Huseman et al. [49] have argued that the greater the inequity perceived by an employee, the more distress the employee will experience, and this pushes employees to restore equity to minimise this distress. Could this inequity be the reason for the constant agitation by Ghanaian nurses? According to Williams et al. [52], pay level refers to an employee’s current direct wage or salary (compensation), while increases in pay basically concern changes in the employees’ pay level. Benefits reflect indirect remuneration to the individual, for example, payment for time not worked, insurance, and fringe benefits (Williams et al. [52]), while pay structure or administration describes the hierarchical relationships created among pay rates for different jobs within the organisation and procedures by which the pay system is managed or administered (Williams et al. [52]; Heneman and Schwab [54]).

From the literature, Tekleab et al. [48] proved that satisfaction with pay rise and pay level was significantly and negatively related to turnover intentions. Their results show that if there is a disparity between employees' expected and actual pay level and pay rise, then they are more likely to leave. Similarly, Singh and Loncar [11] established a negative and significant relationship between pay level, pay rise, benefits, and pay structure and turnover intentions. This confirms the view by Singh and Loncar [11] that the results on nurses' pay satisfaction and turnover intentions have been consistent. Furthermore, Alhamwan et al. [51] revealed that leadership and pay level have a negative and significant relationship with turnover intentions. Williams et al. [1] also found a positive relationship between pay level satisfaction and general pay satisfaction. This implies that when employees experience equilibrium in the input and output ratio, they are likely to be happy with their general pay. Additionally, Currall et al. [55] found a negative relationship between pay level, satisfaction with pay structure, satisfaction with pay rise and benefits and turnover intentions. The findings clearly suggest that there is a negative relationship between pay satisfaction and turnover intentions, but evidence from Ghana is scarce; hence, this study intends to examine this relationship using registered nurses to see if the same results can be obtained. Based on the literature review above, we propose the following hypothesis.

**Hypothesis (H1):** *Pay satisfaction (H1.1 = pay level, H1.2 = pay rise, H1.3 = benefits and H1.4 = pay structure/administration) is negatively related to turnover intentions.*

#### 2.4. Job Satisfaction to Turnover Intentions

Job satisfaction is another factor that has the potential to influence the decision of employees to leave their current organisation. Nurses' job satisfaction basically represents the positive feelings they derive from their working conditions that support their desired needs, arising out of their assessment of their value or equity in their work experience (Liu, Aunguroch, and Yunibhand [56]). The work environment of nurses has been found to be one of the major factors that affect their job satisfaction, which, in turn, affects the quality of nursing care (Liu and Aunguroch [57]). This result acknowledges that the working environment of nurses is a major factor that determines their level of satisfaction as employees. This current study seeks to examine the relationship between nurses' job satisfaction and turnover intentions. Turnover intentions represent a deliberate decision to quit a job. It would be helpful to know if nurses quit their job due to dissatisfaction with the job or with pay. Lum et al. [29] reported that job satisfaction was negatively related to nurses' turnover intentions.

Additionally, the findings from Singh and Loncar [11] showed that nurses' job satisfaction was negatively related to turnover intentions. They further argued that nurses are more influenced by job satisfaction than by salary. In addition, Gillet, Fouquereau, and Coillot [58] pointed out that nurses' job satisfaction is positively related to the quality of healthcare and negatively related to turnover intentions. Their study argues that even though several studies have been conducted on nurses' job satisfaction and its impact on nurses' turnover intentions, evidence from Ghana is scant. Furthermore, other existing studies have been largely conducted in the western world. However, factors that determine job satisfaction there may be different from what constitutes job satisfaction in a developing country like Ghana. Therefore, this study seeks to explore the relationship between nurses' job satisfaction and turnover intentions and to see whether similar results can be obtained from Ghana. From the literature, the hypothesis below is proposed.

**Hypothesis (H2):** *Job satisfaction is negatively related to turnover intentions.*

#### 2.5. Antecedents of Job Satisfaction

The antecedents of job satisfaction, i.e., pay level, pay rise, benefits and pay structure/administration, have been investigated in a study by Singh and Loncar [11] and by Judge and Wellbourne [59] in another employee context. Literature reviews on nurses' turnover intentions by

Hayes et al. [60] revealed 12 studies concerning job satisfaction during the period 1993–2003. In their update of a literature review on nurse turnover (Hayes et al. [61]), five more studies on nurses' job satisfaction can be found. Additionally, a literature review by Coomber and Barriball [62] revealed nine extra studies on nurses' job satisfaction.

According to Locke [63], the definition of job satisfaction is "the pleasurable emotional state resulting from the appraisal of one's job values".

Based on the literature review above, we propose the following hypothesis:

**Hypothesis (H3):** *Pay satisfaction (H3.1 = pay level, H3.2 = pay rise, H3.3 = benefits and H3.4 = pay structure/administration) is positively related to job satisfaction.*

### 3. Methods

#### 3.1. Sample and Procedure

We gathered data from general and community nurses using a survey in the English language. Overall, 250 questionnaires were distributed to nurses in two private and two public hospitals in Accra, the capital of Ghana, of which 197 were returned. One of the private hospitals is a faith-based hospital owned by a church. However, only 163 questionnaires were fully completed and, therefore, used in the analyses. Based on Hair et al. [64] "SEM models containing six constructs, each with more than three items (observed variables), and with high item communalities (0.6 or higher), can be adequately estimated with samples as small as 100 to 150". In addition, it is common practice that the number of observations should be between 5 and 10 for each item/variable in the model to be sufficient for testing the fit of the model. Therefore, the sample exceeds the minimum number of needed observations (163 > 30 items in the model by 5 minimum observations per item or the sample of 150 suggested by Hair et al. [64] for the SEM analysis).

According to a Ghana Ministry of Health report [65], there are 207 community health and 351 registered nurses in the Greater Accra region. Hence, 163 replies represent 29% of the total population of the community and registered nurses in Accra. Overall, there are 3302 community and registered nurses in Ghana according to the Ministry's report [65]. Hospitals in the capital were used because of easy accessibility and lower cost in data gathering as compared to gathering data from all the regions, as the study did not receive any funding. However, we argue that the study could be generalised to all the regions since all nurses, irrespective of the region where they work, receive the same salary, with the exception of private hospital nurses, whose salaries are not fixed across the region.

The questionnaires were distributed by our research assistant to the various Accra hospitals after permission was granted by them. A polite cover letter informing them about the purpose of the study was attached to the two-page questionnaire. The cover letter showed the logo of Knutsford University College, and it was signed by the lecturer in charge.

The two-page questionnaire comprises two sections. The first includes the participants' demographic characteristics, and the second consists of 30 statements related to pay level, pay rise, benefits, pay structure/administration, job satisfaction and turnover intentions, as shown in Table 1 below. The first 24 statements use a 5-point Likert scale anchored with 1 (very dissatisfied), 2 (dissatisfied), 3 (neither satisfied nor dissatisfied), 4 (satisfied), and 5 (very satisfied). The last six statements of turnover intentions use a 5-point Likert scale anchored with 1 (very unlikely), 2 (unlikely), 3 (neither likely nor unlikely), 4 (likely), and 5 (very likely).



**Table 1.** Operationalisation of constructs used in this study.

Constructs	Items Item Description	Source
<b>Pay Satisfaction</b>	<b>Pay Level</b>	Adopted from Singh and Loncar (2010)
	X16 How satisfied are you with your overall level of pay?	
	X17 How satisfied are you with the influence your supervisor has on your pay?	
	X18 How satisfied are you with the size of your current salary?	
	X19 How satisfied are you with the pay of other jobs in the hospital relative to yours?	
	X20 Overall, how satisfied are you with your pay?	Adopted from Singh and Loncar (2010)
	<b>Pay Rise</b>	
	X9 How satisfied are you with the way your pay rise is determined?	
	X10 How satisfied are you with your recent pay rise?	
	X11 How satisfied are you with the rises you have typically received in the past?	
	Adopted from Singh and Loncar (2010)	<b>Benefits</b>
		X21 How satisfied are you with the value of your benefits?
		X22 How satisfied are you with the amount that the hospital pays towards your benefits?
		X23 How satisfied are you with the number of benefits you receive?
		X24 How satisfied are you with your benefits package?
Adopted from Singh and Loncar (2010)	<b>Pay Structure/Administration</b>	
	X1 How satisfied are you with the way the organisation administers pay?	
	X2 How satisfied are you with the hospital's pay structure?	
	X3 Overall, how satisfied are you with the opportunities for promotion?	
	X4 How satisfied are you with the differences in pay among jobs in the hospital?	
	X5 How satisfied are you with your current salary?	
	X6 How satisfied are you with your take-home pay?	
	X7 How satisfied are you with the consistency of the hospital's pay policies?	
	X8 How satisfied are you with the information the hospital gives about pay issues of concern to you?	
	Adopted from Singh and Loncar (2010)	<b>Job Satisfaction</b>
X12 How satisfied are you with the amount that the hospital pays towards your benefits?		
X13 Overall, how satisfied are you with the way you are being supervised?		
X14 How satisfied are you with your take-home pay?		
X15 Overall, how satisfied are you with your job?		
Adopted from Singh and Loncar (2010)	<b>Turnover Intentions</b>	
	X25 How likely it is that you can find satisfactory employment with another organisation within the next six months?	
	X26 How likely it is that you will change your employment status due to a personal decision (e.g., maternity leave, return to school, move to a different geographical location)?	
	X27 In the last few months, how likely was it that you seriously thought about looking for a job at another hospital?	
	X28 In the last few months, how likely was it that you seriously thought about looking for a non-nursing job?	
	X29 Taking everything into consideration, how likely is it that you will make a serious effort to find a new job within the next year?	
	X30 How likely are you to be looking for a nursing job outside Ghana?	

Based on analysis suggested by Armstrong and Overton [66], the study examined, with the use of a *t*-test, whether a comparison of the two groups of the sample, i.e., early respondents (the first 81 nurses) and late respondents (82 nurses), had statistically significant differences among the variables investigated. The findings revealed that there were no statistically significant differences between the two groups in relation to the variables in this study. Therefore, there was no problem concerning a

nonresponse bias (Armstrong and Overton [66]). Furthermore, we checked for common method bias, and CFA was performed, in which all indicators included in the structural model were restricted to load on a single factor (Podsakoff and Organ [67]). The fit indices obtained from this analysis indicated a poor model fit, which implies that common method bias did not appear to be a problem in the current study.

Furthermore, based on the two-stage least squares method, the study explored the endogeneity bias. The instrumental variables, i.e., pay level, pay rise, benefits, pay structure/administration, and job satisfaction, were correlated with their respective endogenous explanatory variables, but not with turnover intentions. F-tests (Stock and Watson [68]) revealed the strength of instrumental variables, and we computed another model. The findings of the test of Durbin–Wu–Hausman indicated that pay level, pay rise, benefits, pay structure/administration and job satisfaction were exogenous to turnover intentions, with all variables having F statistics greater than 10 (Stock and Watson [68]). Therefore, there was no endogeneity bias (Papies, Ebbes and Van Heerde [69]; Ebbes, Papies and Van Heerde [70]).

### 3.2. Measures

Regarding the operationalisation of the study, we employed the multidimensional pay satisfaction instrument designed by Heneman and Schwab [54] to measure pay satisfaction. The questionnaire was adopted from Singh and Loncar's [11] study. The questionnaire has also been used by Tekleab et al. [48], and by Alhamwan, Mat, and Muala [51], and Judge [42]. The questionnaire was made up of four dimensions: pay level (4 items), pay rise (4 items), benefits (4 items) and pay structure/administration (6 items). From Singh and Loncar's [11] study, alpha values obtained for the four dimensions are pay level 0.91, pay rise 0.83, benefits 0.93, and pay structure and administration 0.90.

Job satisfaction was measured by a 5-item scale also adopted from Singh and Loncar's [11] study. The authors pointed out that they adopted 4 items from Smith-Randolph [71]. The four items were centred on four thematic areas of job satisfaction, namely, satisfaction with the work itself, promotional opportunities, quality of supervision and coworker satisfaction, and they added a fifth item themselves, which assessed overall job satisfaction (Singh and Loncar [11]).

The final instrument for this study was turnover intentions, and it was also adopted from Singh and Loncar's [11] study. Regarding nurses' intentions, the authors of that study adopted 3 items from Lum et al. [29] and added another item to make it 4 items. However, in this study, 6 items were employed to measure nurses' turnover intentions.

In Table 1 below, we show the operationalisation of the constructs used in the survey.

## 4. Results

### 4.1. Profile of the Survey

The total sample used in the analysis was comprised of 163 participants. This sample consisted of females (72%) and males (28%). The study showed that the mean number of years of work of the participants in the nursing profession was 5.38 years (SD = 5.598) and the mean number of years with the current employer was 4.03 years (SD = 4.340).

Furthermore, the nurses were categorised into three groups: full-time, part-time, and temporary staff. Specifically, the survey revealed that 63.7% of the participants were full-time workers, while temporary workers and part-time workers were 13.4% and 22.9%, respectively. The highest percentage of participants (19.7%) had been working in the nursing profession for three years, while 30.2% had been working for 2 years with their current employer. Of the participants, 26.9% were aged between 18–25, 54.4% between 26–35, 13.8% between 36–45, 2.5% between 46–55 and 2.5% were 56 and above. The majority of participants were female (72%), and concerning the marital status of the participants, 60.1% were single, 39.3% married, and 0.6% in other categories.

#### 4.2. Evaluation of the Model

The initial task of the study was to evaluate the model and test the fit of the model with the data. Therefore, the study used confirmatory factor analysis (CFA) with the implementation of the maximum likelihood tool of AMOS 24. The CFA findings showed that there was a very good fit, as shown by the goodness-of-fit statistics (see Table 2). The default model, which was estimated by implementing CFA using the 163 cases, demonstrated a very good fit. CMIN/DF ( $\chi^2/df$ ) was 1.746, which was below the threshold of 5, with 358 degrees of freedom, and the value of the confirmatory fit index (CFI) was very good (0.883, well above the universal acceptable criterion of 0.700). Furthermore, the root mean square error of approximation (RMSEA) was 0.068 (with LO 90 = 0.059 and HI 90 = 0.077), lower than the critical value of 0.08, which is the worldwide minimum limit (Hair et al. [72], with an expected cross-validation index (ECVI) as high as 4.810. The fit of the model was very good, as  $\chi^2/df$  was below 3, CFI was above 0.7, and RMSEA had a value of 0.068, which was significantly below the critical value of 0.08. The goodness-of-fit index (GFI), normed fit index (NFI), relative fit index (RFI), incremental fit index (IFI), Tucker–Lewis index (TLI), and parsimonious normed fit index (PNFI) values were 0.800, 0.768, 0.737, 0.886, 0.868, and 0.677, respectively. Being equal to 0.8 and above 0.7, respectively, the values of GFI and NFI were considered to be good.

**Table 2.** Model fit statistics \*.

Model Fit Parameters	Estimates of Parameters of Default Model				
CMIN	NPAP 77 (75)	CMIN 625.205 (701.083)	DF 358 (390)	P 0.000 (0.000)	CMIN/DF 1.746 (1.798)
GFI	RMR 0.077 (0.078)	GFI 0.800 (0.784)	AGFI 0.757 (0.742)	PGFI 0.658 (0.657)	
Baseline Comparisons	NFI, Delta1 0.768 (0.742)	RFI, rho1 0.737 (0.713)	IFI, Delta2 0.886 (0.867)	TLI, rho2 0.868 (0.848)	CFI 0.883 (0.864)
Parsimony-Adjusted Measures	PRATIO 0.882(0.897)	PNFI 0.677(0.666)	PCFI 0.779(0.775)		
RMSEA	RMSEA 0.068 (0.070)	LO 90 0.059 (0.062)	HI 90 0.077 (0.078)	PCLOSE 0.001 (0.000)	
ECVI	ECVI 4.810 (5.254) HOELTER, 0.05	LO 90 4.405 (4.821)	HI 90 5.263 (5.735) HOELTER, 0.01	MECVI 5.026 (5.473)	
HOELTER	105 (101)		110 (106)		

\* Note: In parentheses are the initial model fit estimates, which are very good without correlating the errors of the variables that had high covariance (N = 163). The estimates of parameters outside parentheses are based on N = 163 and after deducting variable X15 from Job Satisfaction due to its low value of standardised regression weight of 0.221.

The value of CFI, 0.883, is not the only measurement that can be used to evaluate the model fit as to whether it is very good or satisfactory. This study reveals that the model fit was very good. In addition, the value of the parsimony comparative-of-fit index (PCFI) was 0.779, which satisfied only the first assumption of a well-fitting parsimonious model (Rigdon [73]). The second assumption of Rigdon [73] was not achieved, as the CFI value was below 0.95.

Based on Hair et al. [72], the largest estimated variable of each construct was initially unidimensionalised (for example, constrained). Furthermore, the study correlated the errors of the variables for their modification indices (MIs) in the findings that had high covariance (greater than MI = 7.700, i.e., e8 to e7 = 19.210, e8 to e4 = 13.004, e24 to e23 = 8.218, and e20 to e18 = 7.721). Table 2 shows in parentheses that the model fit estimates were very good without correlating the errors of the variables that had high covariance. Additionally, while checking the observation furthest from the centroid (i.e., the Mahalanobis distance), we found that there were no observations with a high

Mahalanobis d-squared value. Therefore, there was no need to deduct any cases from the sample. Finally, there was a need to extract the variable X15 from the construct of Job Satisfaction of the model, as its standardised regression weight had a value of 0.221, which was below 0.5. This removal of the variable resulted in a further improvement of the estimates of the model and the reliability and validity of the findings.

As Table 2 shows, the CFA results showed a very good fit, based on the goodness-of-fit statistics. The hypothesised associations between the constructs were tested by performing structural equation modelling (SEM) with the assistance of the maximum likelihood method. The results revealed that relevant statistics such as NFI, CFI, RFI, IFI and TLI performed very well. The estimations of the various statistics of the model in Table 2 indicate a very good fit.

Table 3 shows the correlation matrix. In particular, the seven constructs are given by the output of AMOS 24. This matrix reveals that there is no multicollinearity problem due to the low values of correlations (less than 0.7).

**Table 3.** Correlation matrix and average variance extracted (AMOS 24, based on 163 cases) \*.

	PL	PR	B	PSA	JS	TI
PL: Pay Level	(0.505)	-	-	-	-	-
PR: Pay Rise	0.643	(0.538)	-	-	-	-
B: Benefits	0.699	0.639	(0.591)	-	-	-
PSA: Pay Structure/ Administration	0.635	0.687	0.635	(0.522)	-	-
JS: Job Satisfaction	0.611	0.576	0.453	0.690	(0.525)	-
TI: Turnover Intentions	-0.266	-0.259	-0.055	-0.235	-0.224	(0.535)

\* Note: average variance extracted (AVE) in brackets () on the diagonal.

It is evident from Table 3 and other calculations of the square root of average variance extracted (AVE) that all the AVEs were larger than the correlations between the construct and all other constructs. Fornell and Larcker's (1986) criterion indicates that discriminant validity is established if the following proven condition holds:  $AVE_i > \max_j r_{ij} \forall i \neq j$  (Henseler, Ringle, and Sarstedt [74]). Therefore, this test proves the discriminant validity and reliability of the analyses.

#### Control Effects

The study also investigates the influence of age status (between 18–25 years (N1 = 70) and 26–35 years (N2 = 49)) and gender status as control variables on turnover intentions. Age status has negative and significant impacts on the performance of turnover intentions ( $\beta = -0.379$ ,  $t = -2.037$ ,  $p = 0.044$ ). Based on Cohen's d value, the effect of age status on turnover intentions is negative and medium, meaning that the effect decreases. However, gender status has a nonsignificant effect as a control variable on turnover intentions ( $\beta = 0.094$ ,  $t = 0.504$ ,  $p = 0.615$ ). There is evidence from other studies (Leonidou, Coudounaris, Kvasova and Christodoulides [75]) that other sociodemographic variables such as education and income status can impact on the dependent variable of turnover intentions as moderators.

#### 4.3. Hypotheses Testing

Table 4 reveals the status of each hypothesis based on SEM of the 163 cases. According to this table, four relationships are supported. However, only one relationship is not supported, namely, the relationship between benefits and turnover intentions.

**Table 4.** Test of hypotheses based on SEM \*.

Hypotheses (1)	Hypothesized Relationship (2)	Relation-ship (3)	Estimate (4)	SE (5)	C.R. (6)	p-Values (7)	Status of Hypotheses (at 95% and 99% Confidence Levels) (8)
H1.1	Pay Level to Turnover Intentions	PL to TI	−0.248	0.092	−2.685	0.007	Supported
H1.2	Pay Rise to Turnover Intentions	PR to TI	−0.250	0.097	−2.584	0.010	Supported
H1.3	Benefits to Turnover Intentions	B to TI	−0.054	0.089	−0.607	0.544	Nonsupported
H1.4	Pay Structure/ Administration to Turnover Intentions	PSA to TI	−0.219	0.090	−2.436	0.015	Supported
H2	Job Satisfaction to Turnover Intentions	JS to TI **	−0.165	0.076	−2.176	0.030	Supported
H3.1	Pay Level to Job Satisfaction	PL to JS	0.385	0.074	5.198	0.000	Supported
H3.2	Pay Rise to Job Satisfaction	PR to JS	0.324	0.069	4.679	0.000	Supported
H3.3	Benefits to Job Satisfaction	B to JS	0.257	0.064	4.023	0.000	Supported
H3.4	Pay Structure to Job Satisfaction	PSA to JS	0.373	0.070	5.343	0.000	Supported

\* The tests of the hypotheses are based on the final dataset (163 cases), without missing data. \*\* dependent variable: TI.

Based on the SEM analysis using AMOS 24, we present the standardised path coefficients of the latent variables and their standard errors, critical ratio (CR), and *p*-values in Table 4. The standardised path coefficients, particularly for the four relationships, were negative and statistically significant at the 95% confidence level: pay level and turnover intentions, pay rise and turnover intentions, pay structure/administration and turnover intentions and job satisfaction and turnover intentions. The standardised path coefficient for one relationship was negative and nonsignificant: benefits and turnover intentions. The effects of pay level and pay rise on turnover intentions were the most important ones in the model.

#### 4.4. Reliability and Validity

The construct reliabilities and the variance extracted for all six constructs were calculated using CFA via AMOS 24. The calculations in Table 5 below show that all six constructs of the model had construct reliabilities above 0.7 (pay level = 0.835, pay rise = 0.777, benefits = 0.852, pay structure/administration = 0.897, job satisfaction = 0.768 and turnover intentions = 0.872). The average construct reliability is 0.834, which is very high.

In addition, the estimates of Cronbach's  $\alpha$  [76] of the constructs based on 163 cases revealed high reliability (pay level = 0.836, pay rise = 0.777, benefits = 0.838, pay structure/administration = 0.842, job satisfaction = 0.701, and turnover intentions = 0.815). The average construct reliability is 0.802, which is very high. Therefore, these estimates suggested a satisfactory degree of reliability, as the mean construct reliability estimate based on Cronbach's  $\alpha$  was 0.802, which was well above the critical value of 0.7.

To assess convergent validity, we performed the following two steps. First, the loading estimates (i.e., the standardised regression weights of all 29 variables) were well above 0.5 (within the range of 0.510 to 0.847), showing satisfactory convergent validity. As 83% of the values of the loadings were above 0.7, we concluded that there was convergent validity. Second, the calculation of VE from each construct exceeded 50%, and thus the model showed convergent validity. Specifically, VE for the seven constructs was above 50% (pay level = 50.48, pay rise = 53.80, benefits = 59.05, pay structure/administration = 52.18, job satisfaction = 52.47, and turnover intentions = 53.47). The average construct reliability was 0.834, which is very high, and the AVE was 0.536. Since each construct had a variance extracted larger than 0.5, and as the average variance extracted was 0.536 or larger than 0.5, the discriminant-validity criterion of average variance extracted being larger than 0.5, as introduced by Fornell and Larcker [77], was satisfied.

**Table 5.** Completely standardised factor loadings, variance extracted, and estimates of construct reliability (N = 163).

Variables	PL	PR	B	PSA	JS	TI	Item Reliability	Eigenvalues	$\delta = 1\text{-item Reliability}$
X1				0.716			0.513		0.487
X2				0.712			0.507		0.493
X3				0.740			0.548		0.452
X4				0.704			0.496		0.504
X5				0.754			0.569		0.431
X6				0.725			0.525		0.475
X7				0.725			0.526		0.474
X8				0.700			0.490	4.174	0.510
X9		0.772					0.596		0.404
X10		0.701					0.491		0.509
X11		0.726					0.527	1.614	0.473
X12					0.718		0.516		0.484
X13					0.696		0.485		0.515
X14					0.757		0.573	1.574	0.427
X16	0.763						0.582		0.418
X17	0.673						0.452		0.548
X18	0.770						0.593		0.407
X19	0.634						0.402		0.598
X20	0.704						0.495	2.524	0.505
X21			0.752				0.566		0.434
X22			0.785				0.617		0.383
X23			0.756				0.571		0.429
X24			0.780				0.608	2.362	0.392
X25						0.750	0.563		0.437
X26						0.779	0.602		0.398
X27						0.716	0.513		0.487
X28						0.678	0.460		0.540
X29						0.847	0.717		0.283
X30						0.594	0.353	3.208	0.647
Variance Extracted %	50.48	53.80	59.05	52.18	52.47	53.47	AVE = 53.58		
Construct Reliability	0.835	0.777	0.852	0.897	0.768	0.872	CR = 0.834		

Note: The following formulae are used for calculating VE and CR of constructs:  $VE = \sum \lambda^2/n$ ,  $CR = (\sum \lambda)^2 / ((\sum \lambda)^2 + (\sum \delta))$ .

## 5. Conclusions, Practical Implications, Limitations and Future Research

### 5.1. Conclusions

The constructs of nurses' turnover intentions and nurses' job satisfaction have both been studied in at least eight previous investigations in surveys related to nurses (Bonenberger et al. [18]; Lum et al. [29]; Naburi et al. [35]; Gieter, Hofmans, and Pepermans [36]; Murrells, Robinson, and Griffiths [37];

Delobelle et al. [39]; Gillet et al. [58]; Ekici, Cerit, and Mert [78]). The goodness-of-fit statistics of the current study's model were very good, suggesting a very good fit of data on the model.

Apart from the above studies on nurses' behaviour, there are at least three studies that exclusively investigated nurses' turnover intentions (Alhamwan and Mat [34]; Alhamwan et al. [51]; Simon, Müller, and Hasselhorn [79]), three other studies that exclusively explored nurses' job satisfaction (Sacks et al. [21]; Liu et al. [56]; Siddiqui [80]), and two additional studies that, respectively, examined therapists' job satisfaction (Smith-Randolph [71]) and employees' job satisfaction in the leather industry (Addis, Drivedi, and Beshah [81]). In addition, there are at least six studies that have dealt with the turnover intentions of employees (DeConinck and Stilwell [3]; Tekleab et al. [48]; Khan et al., 2015 [50]; Currall et al. [55]; Judge and Wellbourne [59]; Abouraia and Othman [82]) and one study on the turnover intentions of teachers (Addai et al. [14]).

This study reveals that pay rise, pay level and pay structure/administration have the most influential negative and statistically significant effects on nurses' turnover intentions (see Table 4). However, the construct of benefits has a nonsignificant and negative impact on nurses' turnover intentions. In a previous study on nurses' behaviour by Singh and Loncar [11] in Canada, the independent variable of benefits was negative and significant when explaining the nurses' turnover intentions. Finally, nurses' job satisfaction has a significant and negative influence on nurses' turnover intentions. When comparing the current study to previous ones, the effect of nurses' job satisfaction on nurses' turnover intentions is  $-0.165$ , but the magnitude of this variable varies by  $-0.49$  (Gillet et al. [58]) or  $-0.29$  (Model A) and  $-0.18$  (Model B) (Vandenberghe and Tremblay [29]). On the one hand, Gillet et al. [58] used three factors as antecedents of job satisfaction, namely, perceived supervisor support, value congruence and nurse staffing. On the other hand, Lum et al. [29] included organisational commitment as an independent variable of job satisfaction (Model A) or organisational commitment as an independent variable of turnover intentions (Model B).

Furthermore, the testing of the hypotheses (see Table 4) revealed that the antecedents of nurses' job satisfaction, i.e., pay level, pay rise, benefits and pay structure/administration, have a positive and statistically significant impact on nurses' job satisfaction at a 99% confidence level. In addition, based on column (4) of Table 4 the antecedent factors pay level, pay structure/administration and pay rise have the biggest effects on nurses' job satisfaction.

## 5.2. Practical Implications

This study shows that all relationships are statistically significant and are supported, with the exception of the relationship between benefits and nurses' turnover intentions. The Government of Ghana, through the Ministry of Health, and the Ghana Health Service should try to implement various schemes to eliminate the turnover intentions of nurses by encouraging them to stay and offer their services at the hospitals. To do so, the government should provide regular pay rises, the pay level should be an attractive one, and the pay structure/administration should be favourable to nurses. In terms of stimulating nurses' job satisfaction, the government of Ghana should focus on maintaining the pay level and pay structure/administration. A recent study has investigated other factors that influence nurses' work-family conflicts (Ekici et al. [78]). Such factors should also be considered in new investigations. Additionally, workplace violence must be reduced to ensure that all nurses, irrespective of their level, are respected, as previous studies have shown that workplace violence is one of the factors that lead to emigration (Boafo [6,17]). Finally, the cultural differences between countries should be investigated as a factor hampering the moving of nurses from Ghana to other countries with different norms and values. However, the government of Ghana does not want to encourage the moving of nurses abroad and, very soon, will announce measures to reduce it.

## 5.3. Limitations and Future Research

One of the limitations of this study is that the respondents did not answer the question of the survey concerning their education level. Furthermore, the study did not include the variable of

organisational commitment as an independent variable of turnover intentions. In another study by Hayes et al. [60], it was revealed that both job satisfaction and organisational commitment were the most important determinants of nurses' turnover intentions. Furthermore, other studies have suggested other determinants of nurses' turnover intentions, such as organisational support, relationships with coworkers and working conditions (Coomber and Barriball [62]; Simon et al. [79]). This present study shows that there is scope for meta-analysis studies on nurses' turnover intentions, intentions to leave, and a comparison of nurses' job satisfaction between advanced countries and third world ones. Cultural differences and differences in norms and values and personal traits and emotions should be considered in future comparative studies. The final and most important limitation is that the sample employed is not large enough and is concentrated only on the capital city. Even though the recommendation by Hair et al. [64] justified the sample size as adequate to predict the proposed relationship, future studies should endeavour to increase the sample size and expand the study area to include other regions to see whether the same or different results might be obtained. The study also recommends that future research should consider the role of leadership behaviour in the daily operations of hospitals since previous studies have already established that the manner in which leaders manage conflicts, as well as showing favouritism, influences employees' behaviour negatively and results in employees engaging in counterproductive work behaviours (Akuffo and Kivipöld [83]; Akuffo, [84]). Therefore, future studies should consider the leadership behaviours that have the potential to influence employees' leaving intentions.

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