



Effect of Employee Job Satisfaction on the Relationship Between Leadership Styles and Psychological Well-Being Among Health Workers in a Developing Economy: The Quantitative Approach

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Abstract

This study examined the effects of transformational and servant leadership styles on the employees' psychological well-being as well as the mediating role of job satisfaction in the relationship between transformational and servant leadership styles and the psychological well-being of the employees. This quantitative and explanatory-based study employed the leader-member exchange theory. A structured questionnaire was employed to gather primary data from 155 out of over 300 health workers in a developing economy through the simple random sampling technique. The data was then processed with IBM SPSS and SmartPLS 4.0. Based on the PLS-SEM technique. The study found that transformational (p=0.007) and servant leadership (p=0.036) styles positively affected the psychological well-being of health workers in a developing economy. Also, job satisfaction partially mediated the relationship between transformational leadership style and the health workers' psychological well-being (TLS and PWB, 0.123) better than SLS and PWB (0.084). It was also found that job satisfaction significantly mediated the relationship between servant leadership style and employee well-being in the health sector of a developing economy. The study concluded that the presence of employee job satisfaction indirectly improves the relationship between leadership styles and psychological well-being in the health sector. It was recommended that the management of health facilities in developing economies should adopt and/or improve upon the transformational and servant leadership styles to attain employee satisfaction and thereby strengthen their psychological well-being.

Introduction

Workers frequently face stressful work demands, which may cause undesirable emotional and psychological reactions ([Salama et al., 2022](#)). Unwanted effects on employees' well-being could arise if the

pressures are not appropriately identified and managed. In order to protect the well-being of their employees, organizations must create a favourable work environment by recognizing the different demands that might lead to significant stress for service-oriented workers and promptly decreasing these stressors. There are numerous definitions of employee well-being, including both positive and negative ones. More optimistically, it is described as the subjective sensations of enjoyment and good vitality sentiments of employees ([Meyer et al., 2021](#)), including happiness, fulfilment, tranquillity, personal development, and learning vigour. ([Alrawadieh et al., 2022](#)).

Leadership involves guiding followers toward common goals, with different styles varying in motivation, ([Ab Rahman & Jantan, 2020](#); [Yue et al., 2021](#)). Effective leadership depends on contextual factors like style, behaviour, and traits ([Vuong, 2022](#)). In the health sector, engaged employees are crucial for competitive advantage ([Huertas-Valdivia et al., 2019](#)), financial success, and long-term achievement, investing high energy and concentration in work ([Rabiul & Yean, 2021](#); [Albrecht et al., 2015](#); [Turner & Turner, 2020](#)). Globally, disengaged employees can lead to yearly deviance costs of up to \$1 trillion ([Correia et al., 2023](#)). Research shows leadership styles, particularly servant and transformational styles, significantly impact employees' psychological well-being ([Platania et al., 2022](#); [Wakelin, 2023](#); [Chon & Zoltan, 2019](#); [Eva et al., 2019](#); [Huertas-Valdivia et al., 2019](#)). The well-being of employees is crucial for organizational performance ([Edwards & Marcus, 2018](#)). Literature suggests that public sector workers, particularly health workers in Ghana, often resort to strikes and travails for better pay and conditions ([GCB, 2017](#); [GNA, 2016](#)). Health workers face dissatisfaction with leadership styles and working environment, leading to increased attrition rates and management needs to develop comprehensive strategies to solve the problem ([Amoako-Asiedu, & Obuobisa-Darko, 2017](#)).

However, in Ghana, there is less empirical research on how health leaders should present behaviours to improve employee job satisfaction and psychological well-being ([Abubakari et al., 2022](#); [Tamakloe et al., 2022](#)). In contemporary healthcare organizations, the relationship between transformational leadership, servant leadership, employee job satisfaction, and employee well-being remain a complex and understudied phenomenon ([Xiu et al., 2023](#); [Iqbal et al., 2022](#)). While transformational leadership, characterized by inspiring and motivating followers through a shared vision, and servant leadership, emphasizing leaders' role in serving the needs of employees, are recognized as influential styles in healthcare settings, servant leadership centres on serving the needs of employees and fostering a collaborative environment ([Rabiul & Yean, 2021](#)). The current literature lacks a comprehensive understanding of how these contrasting leadership styles impact employee job satisfaction and the overall well-being of healthcare employees ([Tamakloe et al., 2022](#)).

Transformational leaders are known for fostering innovation and personal growth, the specific mechanisms through which this impacts employee job satisfaction and overall well-being require further investigation, with its focus on contingent rewards and corrective actions, which may have implications for employee job satisfaction by shaping the work environment and the nature of interpersonal relationships ([Fuller et al., 2022](#)). On the other hand, servant leadership, which prioritizes employee development and well-being, may contribute to a positive workplace culture and enhance employees' job satisfaction ([Banks et al., 2018](#)).

The potential interplay between these leadership styles and their unique effects on the well-being of healthcare employees is not well-examined ([Yasin et al., 2023](#)). Understanding how transformational and servant leadership styles stimulates employee job satisfaction and well-being is central for developing targeted interventions to augment the overall quality of the work environment in healthcare settings. This research aims to bridge this gap by investigating the nuanced relationships between transformational and servant leadership, employee job satisfaction, and well-being in the context of contemporary healthcare organizations, especially among health workers in a developing economy like Ghana. The outcome of this study stands to contribute to the literature on the kind of interaction that exists between leadership styles

(transformational, and servant), employee job satisfaction, and psychological well-being into a complete study model and to improve such correlations.

Theoretical review and hypothesis development

Theory of Leader-Member Exchange

This theory's central claim is that effective leadership behavior helps leaders and followers build and preserve solid interpersonal bonds and is crucial in assisting staff members in realizing their greatest potential ([Algarni & Munshi, 2023](#)). In the framework of moral and social care, servant leadership places a strong emphasis on the development and advancement of employees. Servant leaders will empower their followers by assisting, motivating, and supporting their personal development ([van Dierendonck, 2011](#); Liden et al., 2015). By genuinely caring about their professional development and letting them advance their abilities, the serving leader will support their growth and success ([Chiniara & Bentein, 2018](#)).

By enhancing and elevating individuals' self-interests, transformational leadership primarily concentrates on organizational goals ([Legutko, 2020](#)). As mentors, transformational leaders inspire followers to become more inventive, creative, hopeful, and enthusiastic ([Puni, Hilton, & Quao, 2021](#)). Despite having comparable objectives, the two leadership philosophies have different tactics. While transformational leaders try to change followers' greater expectations for the organization's goal ([Xie, 2020](#)), servant leaders primarily focus on followers' needs through humility, spirituality, and justice ([Kauppila et al., 2022](#)). In his review of the literature on servant leadership and transformational leadership, Van observed that an array of studies demonstrates the positive effects of high-quality LMX relationships, trust, satisfaction, and fairness on followers' psychological well-being, work attitudes, personal development, and performance. The quality of the interactions connecting leaders and their followers is the primary focal point of the Leader-Member Exchange (LMX) theory. While LMX has been influential in leadership research, it is not without criticism. According to Chiniara and Bentein ([2018](#)), LMX often assumes that high-quality exchanges between leaders and followers result in positive outcomes. However, there is a need for a more nuanced understanding, as not all high-quality exchanges may lead to positive organizational outcomes, and some may even have negative consequences ([Xie, 2020](#)). While acknowledging these criticisms, it's essential to recognize that LMX has extensively contributed to the interpretation of leader-follower relationships and will be relevant in this study while examining the interplay between leadership styles, employee job satisfaction and employee well-being among employees of health facilities in a developing economy.

Conceptual review and hypotheses development

This section reviews related literature on the study's objectives and relates them to the specific hypothesis that guides this study.

Transformational Leadership Style (TLS) and Psychological Well-Being (PWB)

The direct association between TLS and PWB in various circumstances has received a lot of attention from scholars in recent years. TLS significantly contributes to improving the PWB of subordinates, according to review research conducted by Tongtong and Yusuf ([2022](#)). Furthermore, Algarni and Munshi (2022) reported an exceptionally significant relationship between TLS and PWB ($\beta = 0.687$, $p < 0.001$) in their investigation of a sample of 235 individuals from some hospitals in Surakarta, Indonesia.

Additionally, Kloutsiniotis et al. (2022) demonstrate how TSL is essential in mitigating COVID-19-related stress, anxiety, and occupational loneliness while eradicating the adverse implications of stressors on hotel staff burnout. According to Rabiul and Yean (2021), the four aspects of TLS have a significant impact on employees' PWB. In times of crisis, for example, leaders who exhibit idealized influence might refocus their attention from immediate financial gains to the long-term health and well-being of their staff. Additionally, leaders who are inspirational and motivating can encourage their followers to overcome mental obstacles and meet obstacles head-on.

Further, TLS has a highly significant predictive effect on employees' quality of life, according to Puni, Hilton, and Quao (2021), who also found that TLS significantly raised satisfaction levels of various needs (such as esteem needs, social, economic, and family needs, and health and safety needs). The job demands-resources (JD-R) theory may theoretically strengthen the relationship between TLS and PWB in addition to the earlier findings. Owing to this idea, there may be detrimental effects like a decline in psychological well-being when there are high job demands and insufficient employment resources (Puni, Hilton, & Quao, 2021). Transformational Leadership Style (TLS) significantly enhances Psychological Well-Being (PWB) in developing economies and healthcare settings by fostering collaboration and employee empowerment. However, limited research explores TLS's unique impacts in these contexts, especially concerning cultural factors and resource constraints. Addressing this gap could deepen understanding and improve organizational outcomes (Nghia, 2022; Hossain, 2023). The perspectives from the development economies are however missing in these previous studies. Meanwhile, TSL can be considered one of the key predictors of employees' PWB in developing economies. As a result, the present study will test the following hypothesis.

H₁: TLS has a significant positive effect on PWB among health workers in a developing economy.

Servant leadership Style (SLS) and Psychological Well-Being (PWB)

Dooley et al. (2020) observed that SLS inspires motivation by connecting one's calling and their life's purpose. In order to urge their followers to act in a morally, ethically, and socially responsible manner, servant leaders de-emphasize personal glory. According to studies, one's self-concept has a significant impact on both their own and their employer's well-being (Kloutsiniotis et al., 2022). All things considered, SLS operates like guardians who are friendly, loving, considerate, and concerned about their subordinates' development. This approach promotes the subordinates' sense of wellbeing and improves their self-esteem and productivity. The work setting is an environment in which workers are impacted positively or negatively by the nature of their employment, colleagues, clients, or authorities. This event has a bearing on the psychological health of the subordinates.

According to SLS proponents, the likelihood that employees would experience a decline in psychological well-being is lessened if the organization's leader adopts a management style driven by SLS. The leader of SLS consistently demonstrates a willingness to serve, which fosters ongoing development and offers opportunities for advancement to others who collaborate with them. Additionally, the subordinates' cognitive and affective levels of comprehension rise as a result of this (Teimouri et al., 2018). Thus, it is possible to conclude that SL fosters psychological health. Hewett et al. (2018) investigated this claim by surveying 443 employees of major German banks. The findings revealed that SL is positively connected to psychological health while adversely related to psychological strain. Coetzer, Bussin, and Geldenhuys (2017) discovered statistically significant evidence that SLS improves job-related well-being, promotes work engagement, and prevents burnout. However, many of these conclusions are weak from a developing economy standpoint. In addition, the Servant Leadership Style (SLS) enhances Psychological Well-Being (PWB) by fostering supportive environments. However, gaps exist in understanding SLS's

impact in developing economies and healthcare settings, where cultural and economic factors may influence effectiveness. Recent studies highlight the need for tailored interventions to align SLS with local contexts (Kwok et al., 2022; Kumar & Jha, 2023) Based on these reasoning, the study generated the second hypothesis, which states:

H₂: Servant leadership style (SLS) will positively influence psychological well-being (PWB).

Mediating Effect of JS in the Relationship between Transformational Leadership Styles and Psychological Well-Being

Job satisfaction is widely acknowledged as one of the most researched aspects in industrial and organisational psychology. Both scholars and practitioners recognize the importance of JS in predicting crucial organisational outcomes (Xu & Jin, 2022). This is referred to be the person's feelings and attitudes toward their employment. Job satisfaction is demonstrated by positive attitudes toward the job. On the contrary, negative and unfavourable sentiments indicate job discontent (Vondolia et al., 2021). Numerous studies have examined the elements that influence employee work satisfaction. Transformational leadership is one of the variables that contribute considerably to increased job satisfaction.

Scholars have conducted substantial research on the link between TLS and JS in a variety of circumstances. Existing research strongly suggests that TLS improves JS (Hussain & Khayat, 2021; Day, Lawong, Miles, & Effen, 2022; Skopak & Hadzaihmetovic, 2022). For example, in the context of Bosnia and Herzegovina's food business, data illustrates that when the TLS style is utilized, its four elements considerably contribute to improving JS (Skopak & Hadzaihmetovic, 2022). Furthermore, the findings of a systematic review study used to establish the effects of TLS on hospital staff JS found that TLS has a significant effect on JS among hospital staff and recommended that practicing TLS is vital for increasing JS among medical personnel (Hussain & Khayat, 2021).

In the context of the JS-PWB relationship, some studies have examined this relationship (Alrawadieh, et. al., 2022). The findings of these studies confirmed the significant positive effect of JS on the PWB of employees. It is noted that the majority of these studies were applied in the healthcare sector. For instance, Park et al. (2021) in their empirical investigation carried out on a sample of Malaysian mental health practitioners illustrated that JS is significantly associated with PWB, which was measured by lower levels of perceived stress ($\beta = -0.51$, $p < 0.001$) and less mental health issues ($\beta = -0.33$, $p < 0.01$). In other words, the higher the perceived JS, the lower the perceived stress and the fewer mental health issues.

Although multiple studies have established a favourable relationship between servant leadership and overall job satisfaction, some evidence suggests that this is not always the case. Khattak et al. (2023) conducted a longitudinal study to investigate the potential association between servant leadership and overall job satisfaction. The research found that servant leadership does not necessarily explain levels of job satisfaction. Even after the study's leaders received training in servant leadership principles, the workers' level of job satisfaction did not improve. Based on the conclusions of previous studies, which show that TLS, JS, and PWB are significantly positively correlated, it is reasonable to assume that the practice of TLS and servant leadership in the workplace may result in an increase in employees' JS, which may lead to improved psychological well-being. Following this, the study hypothesizes that:

H_{3a}: Employee job satisfaction mediates the relationship between transformational leadership style and the psychological well-being of health workers in a developing economy.

Mediating Effect of JS in the Relationship between Servant Leadership Styles and Psychological Well-Being

Numerous empirical studies have investigated the relationship between servant leadership, employee job satisfaction, and employee well-being, shedding light on the interconnected dynamics within contemporary workplace environments. A study by Eva, Robin, Sendjaya, Van Dierendonck, and Liden (2019) found a positive association between servant leadership and both employee job satisfaction and well-being. The research, conducted across diverse organizational contexts, highlighted that employee under servant leaders reported higher levels of job satisfaction and perceived well-being. Additionally, another empirical study by Liden, Wayne, Zhao, and Henderson (2008) provided evidence of the positive impact of servant leadership on employee job satisfaction. The study revealed that servant leadership behaviors, such as empathy and empowerment, significantly contributed to higher levels of job satisfaction among employees.

Furthermore, a meta-analysis conducted Olaimat et al. (2022) synthesized findings from multiple studies and affirmed the positive relationship between servant leadership and employee well-being. The meta-analysis indicated that employees working under servant leaders experienced greater psychological well-being and job-related affective well-being. Recent empirical research may have expanded on the positive relationship between servant leadership and employee outcomes. For example, a study by Udofia (2022) explored the mediating role of psychological empowerment in the relationship between servant leadership and employee job satisfaction. Another study by Chen and Zhang (2021) investigated how servant leadership contributes to employee well-being by fostering a positive work climate. Upon that, the study hypothesizes that:

H3b: Employee job satisfaction mediates the relationship between servant leadership style and the psychological well-being of health workers in a developing economy.

Based on the conceptual review and the theoretical review, a conceptual framework as presented in Figure 1 was deduced to guide the study. The framework was developed using three key constructs comprising leadership styles (independent), employee job satisfaction (mediator) and psychological wellbeing. The independent variable, for instance, had two dimensions comprising transformational and servant leadership styles.

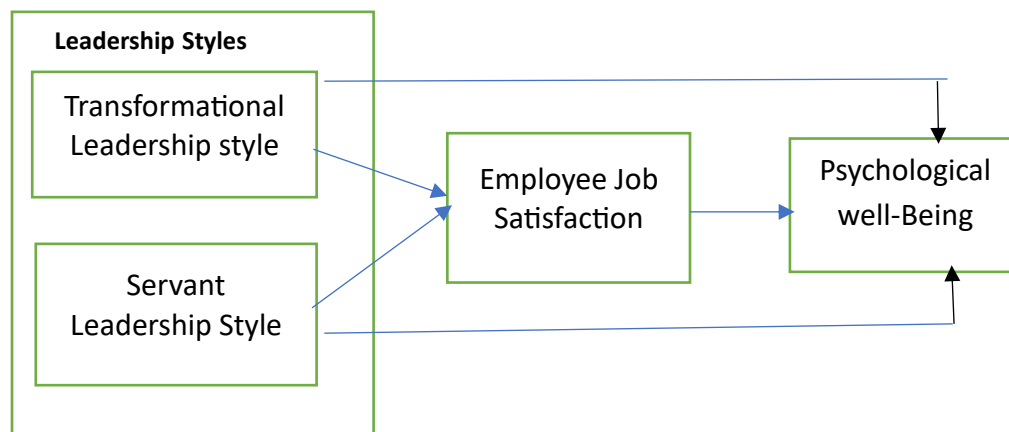


Figure 1: Conceptual framework of the Study

Methods

Design and sample

In relation to this study, the quantitative approach was adopted due to its relevance in establishing causal relationships among variables of interest (Malhotra, 2017). More precisely, the quantitative approach is appropriate for establishing the causal relationship between leadership styles, employee job satisfaction and the psychological well-being of health workers in a developing economy. In addition, an explanatory design was adopted. According to Lyon, Mßllering and Saunders (2015), the explanatory design encourages study reproducibility, generalization of study results, and increases reader confidence. It also plays a crucial role in explaining the cause and effects of one variable on the other variable (Malhotra, 2017). The study area covered health facilities and health workers in the northern part of Ghana in the West African sub-region. These health facilities provide 24-hour care to thousands of patients every year. This study's target population size specifically consisted of 300 private health workers in the various medical facilities in the northern part of Ghana. These health workers comprises of doctors, nurses, and pharmacists. The target population size was obtained from the HRIMS database in 2023. To select a reasonable and justifiable sample for this study, it is estimated that there are about 300 employees working in the various private hospitals.

Adopting Yamane's formula: $n = \frac{N}{1+Ne^2}$

where n = sample size. E = Margin of error (which is 0.05 at a 95% confidence level) and

N = Population (300).

$$n = \frac{300}{1+300(0.05)^2} = 172$$

Based on the sample size calculation formula employed, the required sample size was 172 employees. The simple random probability sampling technique was then adopted to select the actual members from the target population (Etikan & Bala, 2017). The study adopted the structured questionnaire in order to enable every respondent to respond to the same set of questions in order to reduce access to extremely different responses which could delay the research process. Also, with a structured questionnaire, the researcher would be able to obtain identical or uniform set of answers in a prearranged sequence from the respondents. The question items for the four constructs were put on a 5-point Likert scale (using interval data) with 1 representing least agreement and 5 representing the highest agreement.

Measurement of constructs

The servant leadership style measure was adopted from Liden et al. (2015), which has been utilized by numerous academics (e.g., Karatepe et al., 2019; Lapointe & Vandenberghe, 2015) and has demonstrated excellent reliability. The items include 'My immediate supervisor puts my best interests ahead of his/her own'. A commonly used seven-item scale (e.g., Arnold & Walsh, 2015; Buil et al., 2019) established by Carless et al. (2000) and Dappa et al. (2019) to assess transformational leadership style. The items include 'my immediate supervisor encourages me to think to solve the old problems innovatively' my supervisor/manager gives recognition and encouragement to staff; my supervisor/manager treats employees as individuals and supports and encourages their development. Park, et al. (2021) measures on employee job satisfaction was adapted; The work itself, co-workers, the work conditions, and the availability of resources to do the job. Psychological well-being measures were adapted from (Pradhan & Hati, 2022). The study met the reliability requirement because all of its constructs had α values > 0.70 (see Table 1). This study tested the hypotheses using the partial least square-structural equation modelling (PLS-SEM) technique. This technique handles normality violations (multivariate normality), and it does not require any hard assumptions about the raw data's distributional features (Hair et al. 2021). This method

examines a situation's structural theory using a confirmatory hypothesis-testing approach. It is a complicated statistical technique for evaluating correlations between or among constructs that do not always necessitate a large sample size before analysis ([Henseler, et.al., 2015](#)). A common practice is to use 5000 bootstrap samples, which provide robust confidence intervals and significance tests for path coefficients and loadings. It helps in understanding the precision of the model estimates and in validating the structural relationships. It also provides sophisticated and rigorous statistical algorithms for dealing with complex models (Hair et al. 2019, [2021](#)). In this study, the PLS-SEM offers rigorous analysis to test the causal linkage between TLS, SLS, EJS, and PWB.

Table 1: Reliability Analysis

Construct	No. of Items	α Value
Transformational leadership style	5	0.848
Servant leadership style	5	0.869
Employee job satisfaction	5	0.876
Psychological wellbeing	5	0.827

Source: Field survey (2023)

Ethical Considerations

The researcher made sure that the responders remained anonymous; as a result, none of them were revealed to the public or any other parties. In order to accomplish this, certain questions that could reveal the respondents' identities and locations, such as respondents' names, locations, and digital addresses, were all disregarded. The researcher made sure that the information on the respondents was kept private and secret. The respondents were also given the assurance that the data they provided would only be used for this study and wouldn't be used for anything else. The purpose of doing this was to formally inform and invite the responders to take part in the data collection process. The exercise was completed within one month (5th July 2023 to 31st July 2023).

Results and Discussion

This section presents the results and the findings of the study concerning the hypotheses that guided the study. The presentation begins with the presentation of respondents' demographic characteristics or respondents' socio-demographic information.

Respondents Socio-Demographic Characteristics

This section described the respondents' socio-demographic characteristics. The study, during the data collection exercise, distributed 172 questionnaires to employees at the health facilities, of which a valid data set of 155 with a response rate of 90.12% was obtained. In view of this, this section describes the respondents' socio-demographic features based on the 155 valid responses. The respondents' features, comprising sex, age, highest level of education and number of years the employees have worked at the medical centre, were presented in Table 2 and described. From Table 2, the respondents' sex was first described and it was revealed that, majority (59.4%) of them were males and 40.6% of them were females. This means that most of the employees who currently work with private health facilities in the study area

were males. Regarding the respondents' age, the majority (51.0%) of them were between the ages of 30 and 40 years; followed by 38.1% of them who were between 18 and 30 years; 8.4% of them were between 40 and 50 years while 2.6% of them were over 50 years. This shows that all the respondents are of legal ages; thus, they have the right to participate in this study and provide valid information.

Table 2: Respondents Socio-demographic Characteristics

Item	Frequency	Percent (%)
<i>Sex</i>		
Male	92	59.4
Female	63	40.6
Total	155	100.0
<i>Age Group</i>		
18-30	59	38.1
31-40	79	51.0
41-50	14	8.4
Over 50	4	2.6
Total	155	100.0
<i>Level of Education</i>		
HND or lower	86	55.5
Degree	58	37.4
Postgraduate degree	11	7.1
Total	155	100.0
<i>Number of years worked</i>		
Below 5 years	95	61.3
5– 10 years	44	28.4
11 – 15 years	16	10.3
Total	155	100.0

Source: Field Survey (2023)

Table 2 also presented the respondents' highest educational qualification and revealed that the majority (55.5%) of them hold HND or lower (WASSCE, BECE certificates); followed by 37.4% of them with first degrees while 7.1% of them hold postgraduate degrees in various fields. Finally, majority (61.3%) of the respondents have worked for less than 5 years; followed by 28.4% of them who have been in working for 5 to 10 years and 10.3% of them have been working for 11 to 15 years respectively.

Analysis of the PLS-SEM

This section presented and discussed the results of the study's objectives based on the Partial Least Square-Structural Equation Modelling (PLS-SEM) output. The PLS-SEM analytical tool is suitable for establishing causal relationships between the exogenous and endogenous constructs (Hair & Amper, 2022), as is the case of the study. Prior to testing the study's hypotheses, the path model was first specified and assessed. The assessments ensured that the model's items are quality, valid and suitable for testing hypotheses; hence, it can produce objective outcomes appropriate for generalisation purposes. The next section first specified the path model.

Path Model Specification

Model specification usually represents the initial stage in PLS-SEM (Hair et al., 2017). It displays the constructs and assigns objects that were utilized to create the model. It also supports both measurement and structural assessments. The model included four latent variables, two of which represented the exogenous construct (i.e., leadership style). The exogenous construct had two dimensions comprising transformational leadership style (TLS) and servant leadership style (SLS) with five items each. The model had one endogenous construct (psychological well-being [PWB]) with six items and finally, one mediating construct (employee job satisfaction [EJS]) with five items or indicators. TLS, for instance, comprised TLS1-TLS5, SLS also had SLS1-SLS5, EJS comprised EJS1-EJS5 and PWB comprised PWB1-PWB6. Figure 2 presents the initial path model before its assessment using the indicator reliability.

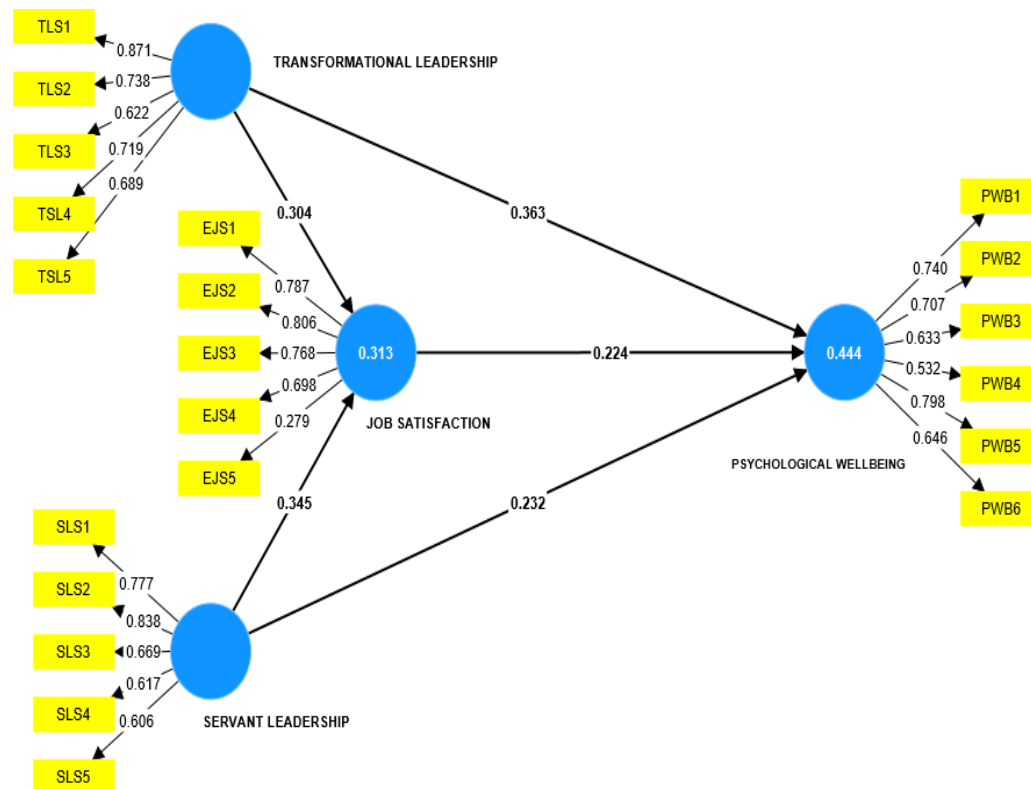


Figure 2: Initial Path Model

Source: Field survey (2023)

Measurement Model Assessment

After specifying the model in the earlier section, it underwent measurement model assessment in terms of reliability (indicator, construct), validity (convergent, discriminant) and multicollinearity. The indicator reliability, for instance, was first assessed using the item loadings with the rule that an item or indicator should have a loading of at least 0.70 (Hair & Alamer, 2022; Hair et al., 2017). This assessment was done to check whether an indicator truly measures its construct. According to Hair and Alamer (2022), items below 0.40 are considered inferior or poor measures of their assigned constructs and should be removed from the model. However, items with loadings between 0.40 and 0.70 must only be removed if their removal would improve the model's internal consistency reliability and construct validity (Hair & Alamer, 2022). Figure 3 presents the final model based on the indicator reliability assessment.

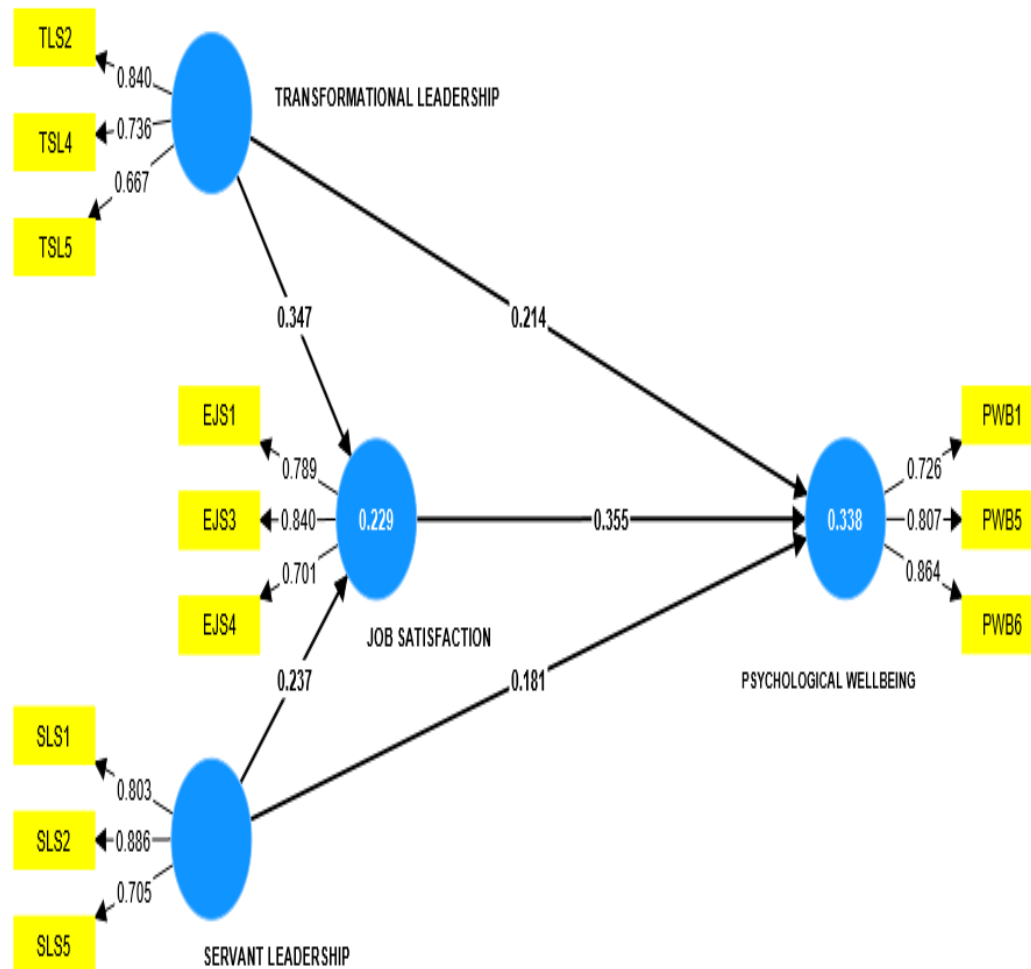


Figure 3: Final Path Model

Source: Field survey (2023)

From Figure 3, it can be seen that some items have been removed from the initial model. This is because these items had poor loadings (i.e., <0.70) and their inclusion affected the model's overall quality. Precisely, items with poor loadings that were removed included TLS3(0.622), EJS5(0.279), SLS3(0.669), SLS4(0.617), PWB3(0.6233), PWB4(0.532) and PWB6(0.646). However, items like TLS1(0.871), EJS2(0.806), PWB2(0.707) had loadings above 0.70 but were all removed because their exclusion improved the significance levels of the model. Finally, TSL5(0.667) was maintained, although it fell between 0.40 and 0.70

because its inclusion improved the model's overall internal consistency reliability and convergent validity. Hence, Figure 3 had only items that were deemed 'quality' or 'reliable' for the model. Therefore, the other assessments were based on this final path model.

Construct Reliability and Validity Assessments

After specifying the model and checking for indicator reliability, the final model in Figure 2 underwent further measurement model testing comprising construct reliability (CR) using rho_A, construct validity (CV) using the average variance extracted (AVE) values and discriminant validity (DV) using the HTMT ratio. The model was also assessed for possible multicollinearity using the inner VIFs (see Table 3). Table 3 presents the model output for the constructs' reliability and validity.

Table 3: Assessment of Construct Reliability and Validity

Items	C.A	rho_A	CR	CV (AVE)
EJS	0.714	0.798	0.821	0.606
PWB	0.725	0.767	0.843	0.642
SLS	0.717	0.727	0.842	0.642
TLS	0.694	0.645	0.794	0.564

Construct reliability (CR) – rho_A; construct validity (CV) - AVE scores

Source: Field survey (2023)

Table 4 initially displays the model's CR by reporting the rho_A values. The CR describes how effectively the indicators measure their respective latent variables (Hair et al., 2017). It also aids in determining the accuracy and reliability of the measurement model. It is evaluated by reporting either the Cronbach Alpha (CA), rho_a, or rho_c values; however, the study reported rho_a since it falls between CA and rho_c and provides a superior reliability outcome (Hair et al., 2017). The criterion implies that rho_a values should be > 0.60. Table 4 shows that all constructs were greater than 0.60 (between 0.645 [TLS] to 0.798 [EJS]), indicating that the measuring methodology is reliable.

Also, the model's CV, using the AVEs, was assessed to describe the degree to which a measurement tool effectively and accurately measures the construct it is intended to measure (Hair et al., 2021). It shows whether the instrument measures what it claims to measure. The rule suggests that a construct's AVE should be ≥ 0.50 (Henseler et al., 2015) and from Table 3, all the constructs' AVEs were > 0.50 (i.e., between 0.564[TLS] and 0.606[EJS]). The result shows that the model's CV was met to suggest that the measurement instrument accurately measures what it intends to measure. The model was also assessed for possible multicollinearity using the VIFs. The presence of Multicollinearity suggests that two or more exogenous constructs are significantly associated, which is cause for concern (Hair et al., 2017). As a result, the existence of it might complicate the interpretation of the model's results because differentiating the distinct effect of each construct when they are strongly correlated can be difficult and lead to ambiguities when discussing the relationships. (Hair & Alamer, 2022). The rule suggests that VIF should be < 3.3 to indicate the absence of multicollinearity in the relationships (Hair & Alamer, 2022). Table 4 presented inner VIFs.

Table 4: Inner VIFs

Path relationships	VIF
EJS -> PWB	1.297
SLS -> EJS	1.114
SLS -> PWB	1.187
TLS -> EJS	1.114
TLS -> PWB	1.271

Source: Field survey (2023)

From Table 4, the model showed absence of multicollinearity because all the VIFs of the path relationships were within the proposed threshold of 3.3. Precisely, the relationship between TLS and EJS had the lowest VIF of 1.114 while the relationship between EJS and PWB had the highest threshold of 1.297. The results show that the results are truly distinct from each other.

Discriminant Validity

The measurement model was finally investigated for discriminant validity (DV) to see whether the instrument can effectively distinguish between distinct theoretical notions (Hair et al., 2017). It ensures that the instrument accurately measures a given construct while avoiding significant overlap with other related constructs (Wong, 2019). In a PLS-SEM model, DV is measured using the Fornell and Larcker criterion, cross-loadings, or the Heterotrait-Monotrait (HTMT) ratio. With these approaches, the HTMT was employed because it shows superior output due to its strength in easily detecting the absence of DV in basic research. The rule proposes that the correlation between the constructs should be < 0.90 ([Wetzels, Odekerken-Schroder & Vab Oppen, 2009](#)). Table 5 presents the HTMT.

Table 5: Heterotrait-Monotrait (HTMT) Ratio

	HTMT
PWB <-> EJS	0.553
SLS <-> EJS	0.430
SLS <-> PWB	0.500
TLS <-> EJS	0.615
TLS <-> PWB	0.642
TLS <-> SLS	0.474

Source: Field survey (2023)

From Table 5, all the constructs' HTMT values were well below the 0.90 threshold, with the highest value of 0.642 in the correlation between TLS and PWB. On the other hand, the relationship between SLS and EJS had the lowest value of 0.430. The result suggests that the constructs are clearly different or distinct from each other; hence, the relationships between the constructs are discriminately valid and the model is suitable for further analysis.

Assessment of Structural Model

This phase evaluated the study's structural model to explore the relationships or interactions between constructs in order to test hypotheses (Hair et al., 2017). It is employed to examine the complicated

correlations between latent constructs by reporting the coefficient of determination (R^2) score, effect size (f^2), and path coefficient significance. Table 6 first shows the model's R^2 and adjusted R^2 values. Table 7 reveals the model's effect size (f^2).

Table 6: Coefficient of Determination and Effect Size

	R-square	R-square adjusted
EJS	0.229	0.219
PWB	0.338	0.325

Note: Coefficient of determination (R^2)

Source: Field survey (2023)

The R^2 value was first reported to show the combined contributions of the exogenous latent constructs (TLS, SLS,) on each endogenous construct comprising EJS and PWB ([Hair et al., 2021](#)). It also suggests the variation in EJS and PWB that is linearly accounted for by combining the TLS and SLS. Wetzels et al. (2009) suggested that R^2 values < 0.29 , $0.29 - 0.67$ and > 0.67 signify weak, moderate and strong contributions. From Table 6, the R^2 was 0.229 to indicate that the two leadership styles combine to linearly account for 22.9% of any variation in EJS. Therefore, for any change in the employees' job satisfaction levels, about 22.9% of it is linearly accounted for by the leadership styles. For any adjustments made in TLS and SLS, they combine to account for 21.9% of the change in EJS. Also, Table 6 revealed that about 33.8% of the change in PWB is linearly accounted for by combining the leadership styles (TLS and SLS). Hence, the leadership styles moderately account for any change in the employees' PWB. When the leadership styles are adjusted, they linearly account for 32.5% of the variation in the centre's PWB. The result reveals that the two leadership styles combine to linearly contribute to improving PWB better than EJS at the medical facilities.

The model's f^2 of each exogenous construct was assessed using the Cohen et al. (2002) impact criterion. They suggested values of 0.02 (small), 0.15 (medium) and 0.35 (large) respectively. Table 7 presents the f^2 .

Table 7: Effect Size

Path Relationship	f-square
EJS -> PWB	0.147
SLS -> EJS	0.065
SLS -> PWB	0.042
TLS -> EJS	0.140
TLS -> PWB	0.054

Source: Field survey (2023)

From Table 7, SLS had the smallest f^2 (0.042) on PWB as compared to TLS with a small f^2 of 0.054. Also, SLS had the smallest f^2 (0.065) on EJS as against TLS with a medium f^2 of 0.140. The result implies that when the leadership styles are adopted, TLS has a stronger effect on both PWB and EJS as compared to SLS.

Significance of Path Coefficients

This section explained the significance of the path coefficients in the structural model. Hair et al. (2017, 2019) proposed that the relevance of the path coefficients is only discussed if the model passes the measurement and structural model assessments and so is judged "accurate" or "quality". This section establishes whether the hypothesised relationships are statistically significant or not. It also revealed the strength and direction of each link using the 5000 bootstraps method described by Hair et al. (2017). Hair & Amper (2022), Hair et al. (2021), and Wong (2019) imply that a t-stat of ≥ 1.96 ($p\text{-value} \leq 0.050$) indicates a significant association. Table 7 shows the results with five columns: structural paths, path coefficients (β), t-stats, p-values, and decision rule for each hypothesis.

Table 8: Significance of the Path Coefficients and Decision Rule

Structural Path	(β)	t-stats	p-values	Decision Rule
<i>Direct effect</i>				
TLS -> PWB	0.214	2.705	0.007	H ₁ (supported)
SLS -> PWB	0.181	2.095	0.036	H ₂ (supported)
<i>Indirect effect</i>				
TLS -> EJS -> PWB	0.123	2.854	0.004	H _{3a} (supported)
SLS -> EJS -> PWB	0.084	2.231	0.026	H _{3b} (supported)

Source: Field survey (2023)

Also, the direction (+ or -) and strength of each relationship were interpreted using the β values with the rule that values < 0.29 , $0.29 - 0.67$ and > 0.67 signify weak, moderate and strong effects respectively (Gignac & Szodorai, 2016; Sullivan & Feinn, 2012). A relationship is "positive" if its β -value is + and vice versa (Sullivan & Feinn, 2012). From Table 8, all four hypothesised relationships were significant because their t-stats were > 1.96 ($p < 0.050$). Precisely, the direct relationships between (a) TLS and PWB (H₁) were significant with a t-stat of 2.705 ($p = 0.007 < 0.050$) and (b) SLS and PWB (H₂) was also significant with a t-stat of 2.095. In terms of the indirect relationships, Table 8 also revealed that EJS significantly mediated in the relationship between (a) TLS and PWB (H_{3a}) with a t-stat of 2.231 and (b) SLS and PWB (H_{3b}) with a t-stat of 2.854.

Moreover, the β -values for all the relationships (direct and indirect) were positive. Precisely, TLS and SLS had positive effects on PWB whereas EJS positively mediated the relationships. In terms of strengths of the path relationships, the results revealed that both TLS (0.214) and SLS (0.181) had weak significant effects on PWB; however, TLS had a higher effect compared to SLS. Regarding the mediating effect, EJS had small mediation effects in the two direct relationships. Also, EJS improved the relationship between TLS and PWB (0.123) better than SLS and PWB (0.084). The next sections extensively discussed the study's results.

Discussion of Results

The section discussed the study's results in line with the research hypotheses. The hypotheses were tested after the study developed a path model and met the assessment criteria. The results were presented in the earlier section and the ensuing sections presented the discussion aspect. The first hypothesis which was accepted because it established that transformational leadership style significantly related to psychological wellbeing of health workers in a developing economy. This result implies that when management of the health facilities adopts the TLS, they can improve their employees' PWB by 21.4%. Precisely, when

management focuses on motivating and inspiring the employees to achieve extraordinary outcomes and exceed their own expectations, their PWB tends to improve significantly. Also, management with this style encourages their followers to work and think collectively than individually which improve their emotional and mental health.

Also, management with the TLS can create an environment where the employees can easily develop relationships and trust each other which help them to easily manage and control their emotions. Similarly, when management acts as role models for their employees, it helps them to improve self-awareness, possess the capacity to experience positive emotions and become emotionally resilient. This finding is buttressed by Tongtong and Yusof (2022) who concluded that TLS is a significant predictor of the PWB of subordinates. A similar outcome was obtained by Kloutsiniotis et al. (2022) who revealed that TLS plays a positive role in improving employees' stress levels, workplace loneliness and anxieties within the hotel industry. Olaimat et al. (2022) similarly concluded that there is a strong correlation between the TLS and PWB at hospitals in Indonesia.

The second hypothesis of the study also confirmed that servant leadership style (SLS) also significantly influenced psychological well-being (PWB) of health workers in the Northern region of Ghana. This implies that when management at health workers adopts the SLS, it improves their employees' PWB significantly by 18.1%. Hence, for anyone-unit increment in SLS would lead to 18.1%-unit increment in PWB. The study practically implies that when management health workers prioritise the needs of their employees and adopt measures to address them, it significantly improves those employees PWB. Moreover, when management puts their employees first and build strong relationships with them, they tend to manage and regulate their mental state and emotions positively. The result implies that employees' cognitive well-being in terms of creativity, decision making and problem solving can be improved when the management possess SLS. Precisely, employees at various private health facilities would have a sense of personal growth and development and develop positive self-perception if their management team prioritise their interest and needs and build long-lasting relationships with them. The study's outcome was corroborated by Rivkin et al. (2014) who found SLS to motivate employees to understand their purpose in life. They concluded that the self-concept dimension of SLS, for instance, helps employees to have a set of beliefs, feelings and attitudes about themselves.

Udofia (2022) similarly revealed that the self-concept dimension has key implications for improving employees' wellbeing; thus, plays a critical role in improving employees' PWB. Farnngton and Lillah (2019) noted that leaders with the SLS display the desire to serve and ensure continuous growth of their employees which give them the opportunity to develop them. This leadership style also helps employees to build strong cognitive and social well-being. They added that when leaders prioritise their employees' needs, it helps them to improve their affective and cognitive levels. Coetzer et al. (2017) concluded that servant leaders ensure that employees work-related well-being improve significantly in the construction company.

The hypothesis three and hypotheses four also revealed that employee job satisfaction mediated the relationship between TLS and PWB, and SLS and PWB of health workers. This shows that both H3a and H3b were supported; thus, when employees are satisfied with the leadership styles exhibited by their management at KMC, their psychological well-being improve significantly. Regarding the actual mediating effects, the study found EJS to play a partial mediating role in the relationship between leadership styles (TLS and SLS) and PWB at the KMC. This is based on the rule that when both the direct and indirect effects are significant then the mediating effect is "partial" rather than "full". This is because, there is a "full" effect if the indirect effect is significant but the direct effect is insignificant (Hair et al., 2017). This result, therefore, implies that leadership styles can directly affect the employees' well-being at the health facilities. When the employees are also satisfied with the leadership styles, their well-being improve significantly.

The study specifically reveals that employees who are satisfied with the leadership styles comprising transformational and servant styles exhibited by their management team also tend to become emotionally stable; thereby, handle their emotions more effectively. A satisfied employee with his or her leader's TLS, for instance, can improve his or her work-life balance by reducing stress and improve psychological health even outside the workplace. According to Day et al. (2022), TLS plays a significant positive role in improving an employee's job satisfaction. They concluded that such leaders are risk-takers, emotionally intelligent, charismatic and act as role models which are critical to improving their employees' satisfaction levels. This is also buttressed by Charoensukmongkol and Puyod (2021) and Skopak and Hadzaihmetovic (2022) who all found TLS to promote EJS; thereby, improving their overall PWB.

Conclusions

The study investigated the role of employee job satisfaction in the correlation between leadership styles and the psychological well-being of health workers in a developing economy. It can be concluded for the first hypothesis of the study that TLS contributes significantly to improving the PWB among health workers in a developing economy. It can be concluded for the hypothesis two that SLS is a critical determinant of PWB among health workers in a developing economy. The study found that the relationship between LS (TLS and SLS) and PWB are significantly and positively mediated by EJS. This finding is corroborated by previous studies which concluded that employees who are satisfied with the leadership styles exhibited by their managers or leaders tend to possess strong mentality and emotional stability. It was concluded that EJS is needed in the relationship between LS and PWB at the medical centre.

Theoretical implications

Theoretical implications of this study extend the understanding of leadership styles and their effects on psychological well-being in healthcare settings, specifically in a developing economy. By elucidating the relationship between leadership styles (such as transformational, transactional, and servant leadership) and employee psychological well-being, the research contributes to refining existing leadership theories to better address the complexities of healthcare environments.

Furthermore, the study underscores the significance of employee job satisfaction as a mediator in this relationship. Understanding how job satisfaction mediates the impact of leadership styles on psychological well-being offers insights into the underlying mechanisms driving employee experiences within the healthcare organization. These implications are crucial for organizational leaders and managers in designing interventions and policies that promote positive leadership practices, enhance job satisfaction, and ultimately foster better psychological well-being among employees at private health facilities in a developing economy. Such theoretical insights can inform evidence-based strategies aimed at improving organizational culture and employee outcomes in healthcare contexts.

Managerial implications

The managerial implications of this study are significant for leaders and administrators in the health sector of developing economies. Firstly, understanding the impact of different leadership styles on employee psychological well-being underscores the importance of leadership development programs tailored to healthcare contexts. Managers can prioritize training in transformational and servant leadership approaches to promote employee engagement and satisfaction.

Secondly, recognizing the mediating role of employee job satisfaction highlights the need for managers to prioritize factors contributing to job satisfaction, such as fair compensation, opportunities for growth, and

supportive work environments. Implementing strategies to enhance job satisfaction, such as fostering open communication channels and providing recognition for employees' contributions, can positively influence psychological well-being.

Practically, healthcare administrators in Ghana should prioritize training for leaders to adopt inclusive and supportive leadership styles, fostering an environment where health workers feel empowered and engaged. This involves creating open channels of communication, encouraging feedback, and recognizing achievements, all of which contribute to increased job satisfaction. Moreover, managers should engage in regular assessments of organizational culture and employee well-being to identify areas for improvement and implement targeted interventions. By prioritizing leadership development and job satisfaction initiatives, managers can cultivate a supportive work environment conducive to promoting the psychological well-being of employees at private health facilities in a developing economy.

Suggestions for Further Research

Although the study's objectives were largely attained, the study offered some suggestions for further improvement. For instance, the study collected primary data from workers of the health facilities in Ghana; hence, generalising the findings to across the entire sectors in Ghana could be misleading. In view of this, the study suggested that further research should include workers of the other sectors to obtain more generalisable results. Finally, future researchers could adopt the mixed methods to obtain both qualitative and quantitative outcomes to improve existing findings.

Data availability statement

The dataset used in the study may be available on request.

Declaration of Interest

The authors have no conflicting interests.

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