

Mediation Roles of Transformational Leadership and Psychological Empowerment on Work-Life Balance and In-role Performance of Vocational Educators in Nigeria

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Abstract

This study is necessitated by the dire need to determine the mechanisms of leadership transformation approaches that explain why 360-degree feedback is effective in helping supervisors and subordinates identify weaknesses and strengths and take positive actions for institutional health, growth, and productivity. The study tested five hypotheses based on survey responses from 754 TVET stakeholders (Deans, HODs, educators, undergraduate and postgraduate students). Data was elicited from the participants using four Scales. The reliability of the instruments was determined using the Cronbach alpha technique. Data collected was analysed using descriptive, inferential statistics and hierarchical Multiple Regression method to determine the total, direct and indirect effects of the variables studied. The result indicated that psychological empowerment and work-life balance jointly and significantly mediated the relationship between transformational leadership and the in-role performance (IRP), and also psychological empowerment and educators' IRP. This study contributes to the extant literature that promote supervisors' transformational leadership styles, vocational educators' in-role performance, and work-life balance. The practical implications, limitations, and suggestions for future research were discussed.

1. Introduction

Employees who possess comprehensive knowledge and skills have been in high demand by most organizations particularly -educational institutions. Previous studies affirmed that the indispensability of human resources in today's organizations has pushed institutional administrators to an incessant quest for proficient employees (Dixit, 2023). In the same vein, institutional administrators not only recruit employees, they also empower them to increase their capabilities and productivity (Ugwu, Enwereuzor & Orji, 2015). In recent years due to market

and economic fluxes, technological advancement, and global financial crisis, competition has geometrically increased among firms within and across economic sectors. Incidentally, the development and growth of all organizations and institutions are hinged on the quality of the human resources and their performances.

Performance is an important parameter that measures the productivity of both employees and organizations. It has been multifariously perceived by several authors as measurable actions, behaviors, and outcomes workers employ to achieve organizational goals (Handrick, 2023). Although previous studies have identified in-role performance and extra-role performance as the two inseparable parts of employees' performance (Bakker & Demerouti, 2008), however, this study will concentrate on the in-role performance of vocational educators. An employee's in-role performance encompasses the duties and responsibilities he is charged and obliged to do as a primary job or assignment (Handrick, 2023). For instance, vocational educators and technologists/technical instructors in TVET institutions, working under the heads of department, unit/specialization coordinators as supervisors, and the deans of faculties, teach undergraduate, SANDWICH, and postgraduate students. Contextually, the vocational educators are the academic staff of the university while the technologists and technical instructors are non-teaching staff who handle TVET students in skill-based courses (Zhou, Tigelaar, & Admiraal, 2022). Since both the lecturers and technologists/technical instructors passed through the same pedagogical and professional training and may possess similar certificates, they will be addressed as vocational educators hereinafter ((Zhou, Tigelaar, & Admiraal, 2022).

Similarly, the heads of department and/or unit/specialization coordinators will be referred to as supervisors of the vocational educators. Vocational educators in addition to teaching of the students, conduct research work and ensure that they publish articles and attend conferences to be promoted as at when due and also perform other administrative duties that may be assigned to them by any of the supervisors (Dymock, & Tyler, 2018). However, with the upsurge in students' enrolment, expansion in academic activities, and the quest for accountability, productivity, and quality outputs particularly in a developing country like Nigeria, the vocational educators experience work overloads and exertions that may be harmful to their personal life expectations. The academic workload is more on the educators because of the paucity of computer-simulated learning environments, lack of innovative pedagogical approaches, and poor ICT facilities that can make instructional delivery easy in developing countries, particularly in TVET institutions in Nigeria (Antera, 2021). For vocational educators to cope with their huge workload, they need motivation and empowerment from their supervisors and leaders to balance their work-life expectations and achieve high job performance (Antera, 2021). Although significant studies have been conducted on job performance and its antecedents in the survival and sustainability of organizations, more understanding of the involvement of institutional leaders and other variables in the in-role performance of the workers is imperative. It is salient to note that as much as the exhibition of transformational leadership behaviours may not always guarantee improved employee performance (Ugwu, Enwereuzor & Orji, 2015), investigating other psychological and motivational mechanisms that may clarify the relationship between transformational leadership style and in-role performance is likewise apparent (Ambad, Kalimin, Ag Damit, & Andrew, 2021). Thus, we determined whether psychological empowerment and work-life balance are jointly influential factors that could explain the relationship.

At the time of this study, we observed that most of the previous studies on transformational leadership, employee empowerment, motivation and performance were conducted in countries other than Nigeria and profit-making organisations, and the majority of the research findings were to some extent based on the cultural background in which they were obtained (Ugwu, Enwereuzor & Orji, 2015; Bacha, 2014; Zacher & Jimmieson, 2013). However, we are not sure whether transformational leadership will promote the in-role performance of vocational educators, and whether psychological empowerment and work-life balance of the educators will jointly give credence to this relationship in a multifaceted cultural setting like Nigeria and particularly in TVET institutions. More so, most of the previous studies on the job performance of workers sourced information via employees' self-reports and/or supervisors' generated reports (Ugwu, Enwereuzor & Orji, 2015) with some doubts in the literature concerning the inbuilt limitations and deficiencies associated with self-reported measures of employees' job performance.

There is increasing awareness of the challenges in eradicating common method biases in one-source assessments, prompting an exploration into whether 360-degree feedback, also known as a multi-source assessment system (MSAS) or multi-rater feedback, could effectively measure the in-role performance of vocational educators in Nigerian TVET institutions (Vulpen, 2023). This feedback system gathers performance evaluations from a broad spectrum of sources within the organization, including supervisors, subordinates, peers, and clients, aiming to enhance decision-making and identify performance improvement areas (Vulpen, 2023). It's posited that increasing response diversity through 360-degree feedback ensures more objective and fair employee performance ratings and provides a comprehensive view of transformational leadership's impact in the relatively unexplored settings of TVET institutions in developing countries like Nigeria (Vulpen, 2023). Anchored in quality management theory, which emphasizes motivation and empowerment by leaders as key to organizational quality, this study explores how transformational leadership and psychological empowerment mediate the relationship

between work-life balance and in-role performance, addressing global challenges in tertiary education quality and development (Shewhart, 1931; Leiber, 2019; Leiber, Stensaker & Harvey, 2018; Aquino, Silva, Melo, & Silva, 2017).

1.1 Literature Review and Hypotheses Development

The in-role performance of an employee encompasses all the job requirements assigned to the employee to achieve the organisational goals (Rai, Ghosh, Chauhan, & Singh, 2018). It refers to the duties and responsibilities a worker undertakes as his job assignment (Juyumaya, 2022). Juyumaya (2022) argued that in-role performance is the employee's behaviour in carrying out the objectives or job specifications set in advance for him to perform. This performance is remarkably influenced by the employee's strategy to achieve those objectives. Authors are of the view that employees' in-role performance is dependent on their interactions with their leaders particularly the supervisors (Bakker, & Albrecht, 2018). Researchers have variously provided evidence on the positive relationship between transformational leadership and workers' in-role performance (Juyumaya, 2022). Research has established that the transformational leadership style through its four dimensions (idealized influence, intellectual stimulation, inspirational motivation, and individualised consideration) acts as a change agent that can help organisational leaders articulate clear visions that are in line with organisational goals. This will also assist the leaders to foster the trust and respect of the subordinates and to act as role models while encouraging subordinates to exceed the performance standards.

Transformational leadership is crucial in TVET institutions as it enhances the performance of employees by focusing on their psychological empowerment and work-life balance, leading to more effective instructional delivery and services (Abdulrab et al., 2017). Employees under transformational leadership, such as vocational educators responsible for various teaching and administrative duties, exhibit higher performance levels (Cavazotte, Moreno & Hickmann, 2013). However, these educators often face significant stress from heavy workloads and long hours, which adversely affects their mental health and performance, potentially leading to higher staff turnover and reputational damage to institutions (Cheng et al., 2016). To address these challenges, TVET management must implement policies that not only mitigate stress but also promote organisational justice, providing fair feedback that can improve educators' performance and welfare (Bonache, 2022). Additionally, positive organisational policies, rewarding work conditions, and good relationships with colleagues and supervisors are essential for job satisfaction and performance among educators (Beau, 2018). Several researchers have noted that psychological empowerment and work-life-balance of employees is an effective practice used by transformational leaders of organisations to handle innovation, performance, and productivity issues among employees, including vocational educators (Ambad, Kalimin, Ag Damit, & Andrew, 2021), therefore we hypothesised that: Ho1: Transformational leadership predicts the in-role performance of vocational educators in TVET institutions.

Psychological empowerment involves employees' perceptions of their roles and duties within an organisation, fostering intrinsic motivation and a sense of self-control over their work (Kim & Lee, 2020). Transformational leaders enhance organisational performance by employing psychological empowerment strategies that boost employees' morale, confidence, and engagement, thereby reinforcing their self-esteem, self-determination, competence, impact, and meaningfulness in their roles (LaForce, Noble, & Blackwell, 2017; Kim & Lee, 2020; Baird et al., 2018). These empowerment dimensions include self-determination, the ability to autonomously direct one's actions; competence, the capability to perform tasks effectively; impact, the influence over organisational outcomes; and meaningfulness, the value placed on one's work (Kim & Lee, 2020). Psychologically empowered employees demonstrate enhanced self-efficacy, effectively meet and solve customers' needs, and exhibit superior in-role performance. Since transformational leadership style is associated to psychological empowerment and employees' high performance (Kibozzi & Michael, 2018), we hypothesise that: HO2: Transformational leadership predicts vocational educators' psychological empowerment in TVET institutions. Ho3: Psychological empowerment predicts vocational educators' in-role performance in TVET institutions.

Literature indicates that employees in organisations with work-life balance policies are more engaged and perform better, defining work-life balance as the equilibrium between professional duties and personal life activities (Shah, Khattak & Shah, 2020). Work-life balance includes managing the time spent on work tasks versus personal interests to achieve harmony in life. Work-life balance initiatives are categorised into flexible work arrangements, leave arrangements, dependent care assistance, and general services. Supervisors who employ transformational leadership style are considered dynamic leaders, hence they help their subordinates to enjoy greater work-life balance and higher in-role performance (Kibozzi & Michael, 2018). Based on this premise, we hypothesise that: Hypothesis 4: Transformational leadership predicts vocational educators' work-life balance in TVET institutions and Hypothesis 5: Work-life balance predicts vocational educators' in-role performance in TVET institutions.

The research literature robustly supports the positive correlation between transformational leadership and workers' in-role performance, particularly emphasising the mediating roles of psychological empowerment and

work-life balance. However, existing studies often limit their focus to the direct impacts of individual variables, neglecting broader mediation mechanisms. This oversight has led to suggestions for employing more comprehensive approaches, such as joint mediation and 360-degree feedback, to better understand these relationships (Batram & Casmir, 2007). This study specifically investigates whether psychological empowerment and work-life balance can collectively mediate the impact of transformational leadership on the in-role performance of vocational educators in TVET institutions, examining the total, direct, and indirect effects of these interconnected variables. Hence, we also proposed that: Ho6: Psychological empowerment positively mediates between transformational leadership and vocational educators' in-role performance in TVET institutions, Ho7: Work-life positively mediates between transformational leadership and vocational educators' in-role performance in TVET institutions and Ho8: Psychological empowerment and work-life-balance jointly mediate between transformational leadership and vocational educators' in-role performance in TVET institutions.

1.2 Hypothetical Multiple Mediation Model (MMM)

The conceptual framework of the study model is presented in Figure 1. The model is anchored on the hypotheses that underpinned the study. The MMM illustrates the associations among the study variables (psychological empowerment, transformational leadership, work-life balance, and in-role performance).

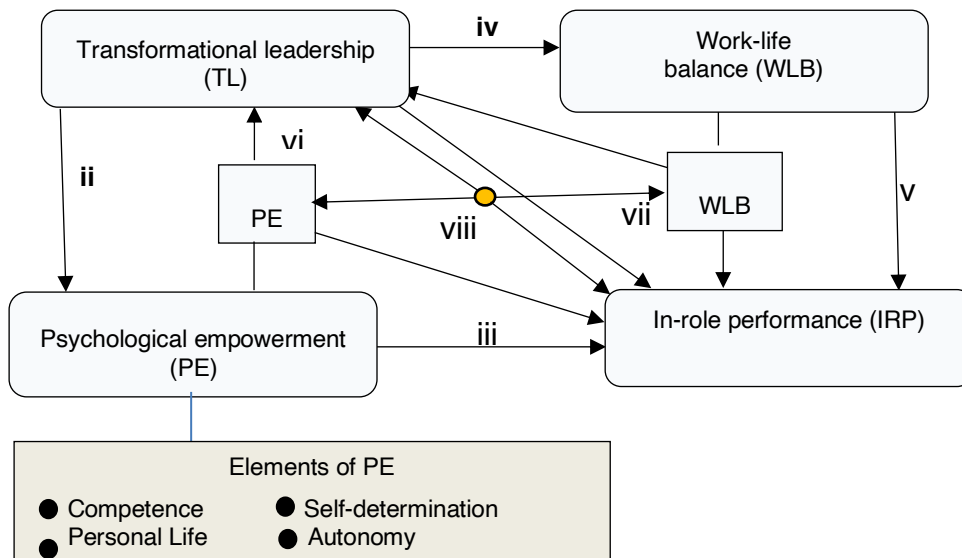


Fig 1. Multiple mediation model path diagram for the effect of PE and TL on WLB and IRP

The MMM strengthens the mediators (i.e., psychological empowerment and work-life balance) employed in this study and affirms the relationship between transformational leadership and the in-role performance of the participants (Hayes, 2013). Previous studies agree that multiple mediations reduce estimate errors that might occur because of distinct mediations (Calcagni, Lombardi, Avanzi, & Pascali, 2020). Hence, the MMM showed the mediated and unmediated regressions. For instance, paths i, ii, and iv were used to test the relationships between TL and PE, IRL, and WLB of the subjects studied (Ugwu, Enwereuzor, & Orji, 2015). Furthermore, paths iii, vi, and vii represented the separate mediating and joint mediating effects of PE between TL and IRP. In addition, path vi and vii tested the mediating effects of WLB between TL and IRP of the VE and T/TI. In addition, the model presented the elements of psychological empowerment (PE) that the transformational leader can employ to help the subordinates achieve both personal and organizational goals. The elements include competence, self-determination, personal life, and autonomy.

1.2 Theoretical Framework

The quality management theory by Edwards W. Deming in the 1940s is a system-based philosophy that addresses leadership and management. The theory sets a road map for leaders, especially on how to achieve organisational goals by working with teams and external organizations as systems rather than just focusing on workers' problems or actions of persons (Sting Change, 2020). Quality management theory emphasizes the entire institution which includes the people, functions, and external organizations. Institutions that will embrace the theory recognize customers and their needs. Such institutions must set standards that are consistent and favour

customer requirements, control processes, and improve their ability. More so, such institutions should establish systems that promote quality and management must take responsibility for setting and ensuring that quality policy is implemented. They should motivate employees and equip people with the time required to achieve quality. According to Koskela, Tezel, and Patel (2019), quality management theory is linked to Total Quality Management (TQM) in which case there are three rudimentary principles and practices. The practices are customer focus, constant improvement, and employee teamwork. Dean and Bowen argued that customers' focus is associated with the value generation model (VGM) of the production process. Also, continuous or constant improvement is related to process metaphysics. Finally, teamwork has to do with process metaphysics (Koskela, Tezel, & Patel, 2019). Quality management theory is relevant to the present study because the attainment of TVET objectives in developing countries like Nigeria requires all-inclusive approaches which demand that every aspect of the TVET institutions including the stakeholders must be re-oriented. Similarly, TVET educators need to be empowered psychologically and motivated by the institutions and supervisors through a viable transformational leadership approach. In this vein, attention must be given to the entire TVET process to establish a quality system.

Furthermore, both the supervisors and the educators must crave continuous quality improvement through a commitment to in-role performance supported by a good work-life balance culture. To help the TVET supervisors and educators apply the total quality model and be committed to quality, we established that institutions should adopt a culture of total commitment to quality delivery. To achieve this, there should be an understanding of the right cordial relationship that should exist among the supervisors and the educators. Such a relationship must be based on mutual understanding, and empathy, and should be void of fear. Every stakeholder should know that improvement of the TVET systems can only be managed by all. To eliminate friction, fear and intimidation, there should be a process managed properly, there should be an improved communication channel and a strong teamwork spirit. Moreover, TVET delivery should be based on a process that is of international standard. Emphasis should be placed on a holistic teamwork approach. There should be quality assurance and enhancement teams, and corrective and educative teams among others. In addition, appropriate tools for finding predictions, analysis, correlations, and action for continuous improvement should also be established. These approaches are diagrammatically represented in the model below (see Figure 2).

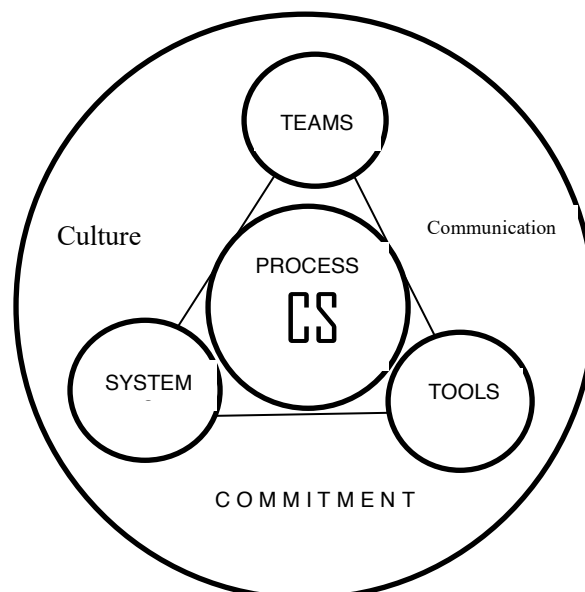


Fig. 2: Total Quality Management Model (TQMM).

2. Method

2.1 Design of the Study

The study adopted a descriptive research design and elicited information from TVET stakeholders via a 360-degree feedback approach (Vulpen, 2023). A descriptive research design was used as it afforded the researchers the means to collect data using a survey and to analyse data to describe the characteristics, attributes, behaviours or perceptions of individuals and groups. Since we aimed to examine the mediating roles of transformational leadership and psychological empowerment on work-life balance and in-role performance of vocational educators in TVET institutions, the descriptive research design enabled us to achieve our research objectives.

2.2 Sample and Procedure

The study was carried out in five selected TVET institutions from South-East and South-South, Nigeria (University of Nigeria, Nsukka, Enugu State University of Science and Technology, Enugu State, Nnamdi Azikiwe University Awka, Anambra State, University of Calabar, Ambrose Alli University, Ekpoma, Edo State). The TVET institutions are universities that offer different TVET programmes such as Agricultural Education, Business Education, Computer Education, Entrepreneurship Education, Home Economics Education, and Industrial and Technical Education. The sample size of the study is 754 consisting of five deans of faculties, 25 heads of departments (HODs), 181 vocational educators (VE), 46 Technologists/Technical Instructors (TTI), 318 undergraduate and 179 postgraduate students. The HODs are responsible to the dean of faculties, while the VE and TTI are teaching staff of the TVET institutions and are answerable to the HODs. The HODs supervise and monitor the activities of the VE and TTI to guarantee that they satisfactorily attend to the academic needs of the TVET students. The study focused majorly on the psychological empowerment, work-life balance, and in-role performance of vocational educators.

Prior to the study, we first wrote a permission letter to obtain permission from the deans of faculties and the HODs of all the institutions studied. Again, we gave informed consent forms to all the participants which they filled in, signed, and were retrieved within a week with the help of 12 research assistants. We equally assured the respondents of the confidentiality of their responses and that every response would be addressed anonymously. Afterwards, seven hundred and fifty-four research questionnaires were administered to them by both the researchers and 12 research assistants. This exercise lasted for a duration of four weeks due to the large number of respondents. The demographic characteristics of the population of the study with their base line equivalence are presented in Table 1.

Table 1: Demographic Variables of the Sample with Baseline Equivalence N = 754

Participants	Number (%)	Gender		Marital Position		Age (%)			Tenure
		Male n (%)	Female n (%)	Single n(%)	Married n(%)	18-35	36-42	43-64	
Deans	5(.66)	5(100)	0(0)	5(100)				5(100)	2
HODs	25(3.32)	16(64)	9(36)	0(0)	25(100)	0(0)	0(0)	25(100)	2 - 3
VE	181(24.0)	138(76)	43(24)	53(35)	118(65)	36(20)	81(45)	64(35)	-
T/TI	46(6.10)	34(74)	12(36)	14(30)	32(70)	19(41)	16(35)	11(24)	-
TVET UGS	318(42.18)	196(62)	122(38)	256(81)	62(19)	288(91)	30(09)	-	-
TVET PGS	179(23.74)	138(77)	41(23)	43(24)	136(76)	38(21)	54(30)	87(49)	-
TOTAL	754(100)	N=527(70)	N=227(30)	366(49)	388(51)	381(51)	181(24)	192(25)	-

Note: n = Number, HODs = Head of Departments, VE = Vocational educators, T/TI = Technologist/Technical Instructors, TVET UGS = TVET Undergraduate Students, TVET PGS = TVET Postgraduate Students.

The demographic characteristics of the study groups were determined as follows: The deans of faculties numbered five (i.e. one person per institution studied) with the age range of 43 - 64 years and have a maximum of two years tenure. The HODs are 25 (3.32%) consisting of 16 (64%) males and 9(36%) females. All were married and were of the age range between 43 - 64 years with 2 -3 years of tenure (three years for people within the professorial cadre). The VE were 181 (24%) comprising 138(76%) males and 43(24%) females. 53(35%) of them are single while 118(65) are married. Their age range is as follows: 36(20%) fell between 18-35 years, 81(45%) were within 36-42 years, and 64(35%) were within 43-64 years of age. The T/TI was 46(6.10%) out of which 34(74%) of them were males while 12(36%) were females. Also, 14(30%) of them are single while 32(70%) others are married. Among them, 19(41%) were in the age range of 18-35, 16(35%) are with 36-42 years, while 11(24) others were between 43-64 years of age. The TVET UGS were 318(42.18%) consisted of 196(62%) males and 122(38%) females. 256(81%) of them were not married, while 62(19%) were married. Their age ranges are as follows: 288(91%) are with 18-35 years while 30(09%) others were married. The sample size of the TVET PGS is 179(23.74%) made up of 138(77%) males and 41(23%) females. Out of them, 43(24%) are single while 136(76%) others are married. Their age ranges are as follows: 38(21%) 18-35 years, 54(30%) 36-42 years, and 87(49%) 43-64 years. Seven hundred and sixty-two copies of the research questionnaire were distributed, while 754 copies were retrieved, thus representing 99% response rate. 754 copies were used for data analysis.

2.3 Measures

We adapted four sets of instruments for this study namely TVET Transformational Leadership Questionnaire (TVET TLQ), TVET In-role Performance Questionnaire (TVET IRPQ), TVET Psychological Empowerment Questionnaire (TVET PEQ), and TVET Work-life Balance Questionnaire (TVET WLBQ). TVET TLQ was employed to generate information from the vocational educators (VE) and technologists/technical instructors (T/TI) who are the teaching staff that are responsible for teaching of the TVET graduates and postgraduates. The VE and T/TI were charged to rate the transformational leadership style adopted by their supervisors (HODs) and to determine the extent to which they are motivated and empowered psychologically by their supervisors. They were also to assess the degree of influence of the supervisors' empowerment on their work-life balance.

The TVET IRPQ was used to elicit information from the deans, HODs, and students (TVET UGS and TVET PGS). The respondents used the instrument to measure and evaluate the in-role performance of the VE and T/TI. To ensure the accuracy and certainty of the information collected, we added the faculty, phone number, and staff number to the staff that each respondent was meant to assess. In the third instrument (TVET PEQ), the VE and T/TI were asked to appraise and rate the level of psychological empowerment and work-life balance they received from their supervisors.

TVET Transformational Leadership Questionnaire (TVET TLQ): TVET TLQ is a multifactor transformational leadership questionnaire adapted from Bass and Avolio's (1995) and Zacher and Jimmieson (2013) to evaluate the leadership dimensions of the staff supervisors. The TVET TLQ is a 10-item scale that measures the transformational leadership of TVET institutional leader and determines the extent to which the supervisors engaged in transformational leadership behaviours to support their subjects achieve the TVET goals. The instrument was based on 7 Likert options that ranged from strongly disagree (1) to strongly agree (7) and was scored 10 to 70 in line with the options. Scores of 70 and above are considered to be high and indicate a high degree of application of the transformational leadership style by the supervisor is high. 40 scores are considered as moderate and indicate a moderate degree of application of the leadership style, while 20 scores down depict low application of the leadership style. The internal reliability of the TVET TLQ was determined using Cronbach's alpha which yielded a correlation index of .87.

TVET In-role Performance Questionnaire (TVET IRPQ): TVET IRPQ was a 4-item questionnaire adapted from Eisenberger et al. (2001) to assess in-role performance VE and T/TI. To predict the challenges that are inherent in a shared source, the HODs, Unit/Specialization Heads, rated the in-role performance of the VE while the Technical Unit Coordinators rated the T/TIs who are their direct subordinates. The deans rated the HODs and unit/specialisation heads while the students rated the in-role performance of the VEs and T/Ts based on their performances in the teaching and learning process. On the other hand, VE and T/TIs rated the Unit/Specialization Heads and Technical Unit Coordinators. The in-role performance of each staff was based on a 7-point Likert scales ranged from strongly disagree (1) to strongly agree (7) while the scale was scored from 4 to 28. Total scores of the items were computed to arrive at the overall in-role performance score of the staff assessed. A score of 70 and above depicts high in-role performance, 40 score was considered moderate while 20 and below were termed low performance. The internal reliability of the TVET IRPQ was determined using Cronbach's alpha which yielded correlation index of .85.

TVET Psychological Empowerment Questionnaire (TVET PEQ): TVET PEQ was a 12-item self-reported questionnaire adapted from Spreitzer (1995). It consists of four dimensions or levels of psychological empowerment (i.e. meaning, competence, self-determination, and impact) with three items from each of the dimensions. Among the items contained in the dimensions include "The teaching job is very important to me and I value it (meaning)," "I have confidence in myself to do my job effectively" (competence), "I can take decision by myself on how to handle my work and to achieve TVET goals" (self-determination), and "My impact in my job contributes to a large extent to the overall departmental performance" (impact). The TVET PEQ was scored based on a 7-point Likert scale ranging from strongly disagree (1) to strongly agree (7). The internal reliability of the TVET PEQ was determined using Cronbach's alpha, which yielded a correlation index of .85. To determine the overall psychological empowerment of the VEs and T/TIs, the total score for all the items was computed. As a guide, a score of 35 and above depicts high psychological empowerment while scores below 35 shows low psychological empowerment.

TVET Work-life Balance Questionnaire (TVET WLBQ): The work-life balance of the VEs and T/TIs was determined using TVET WLBQ. The TVET WLBQ is a 15-item valuation questionnaire developed to assess the work-life balance of the participants of the study (Hayman, 2005). The TVET WLBQ covered the three aspects of work-life balance, namely Work Interference with Personal Life, Personal Life Interference with Work, and Work/Personal Life Enhancement.

Work Interference with Personal Life contained seven items such as "My personal life suffers because of my work", "I put my personal life activities on hold because of my work." Personal Life Interference with Work consists of four items that show how a staff work affects his or her lifestyle. The item statements of the Personal Life Interference with Work reflect the opposite view of Work Interference with Personal Life. Such items include:

“My teaching work suffers because of my personal lifestyle”, and “It is very difficult to do my work because of personal matters, among others”. These items demonstrate the degree to which the educators’ and instructors’ personal lives affect their work.

The Work/Personal Life Enhancement was a 4-item subset of the TVET WLBQ. The subscale elaborates positive impacts of the educators’ and instructors’ work on their personal lives. In other words, it assesses the extent to which one’s personal life helps to improve job performance. Among the item statements used here include: “I often have a good mood at over my work because of personal life”, and “I regularly experience a better mood because of my work, among others.” This subscale was structured on a 5-point Likert scale of strongly disagree (1) Disagree (2), Neither Agree nor Disagree (3), Agree (4), and Strongly Agree (5). The dimensions of the instrument were scored 1, 2, 3, 4, and 5 according to the options above. Items that are scored high depict high work/ personal life enhancement of the staff assessed. Hence, a high level of work and personal life enhancement is associated with and mediates high work-life balance. To obtain an overall work-life balance score, we summed up all the scores across the three dimensions. The outcome was proof that the three dimensions of the TVET WLBQ indicated a single latent construct (Fisher-McAuley, et al., 2003). The reliability of the three instruments was determined using Cronbach alpha which yielded 0.88.

2.4 Control Variables

To control extraneous variables against experimental bias, we checked the demographic variables in the regression models. This is consistent with a general practice in previous studies particularly those that surveyed similar interactions (Bacha, 2014). Furthermore, we controlled for the demographic variables of supervisors in the context of the study (the variables include age, gender, marital status, and office tenure). Again, we developed two dummy variables that supported the regression modelling as follows: Gender (male = 1, female = 2), and marital status (single = 1, married = 2). However, the tenure for deans and HODs was used as a continuous variable and was interpreted based on institutional scale.

3. Data Analysis

3.1 Preliminary Analysis

First, we conducted a preliminary analysis using descriptive statistics to enable us to determine the mean, standard deviation, and correlation of the variables used in the study. Again, the Cronbach alpha technique was employed to ascertain the reliability of the instruments for data collection. Subsequently, we conducted three separate Hierarchical Multiple Regression (HMR) using the dependent variables of the study (PE, WLB, and IRP) as reliant. In the first regression analysis, we introduced the supervisors’ characteristics such as age, gender, marital status, and office tenure. Through this measure, we were able to control the possible effects of those characteristics on the VEs and T/TIS PE and TL, and equally to estimate their predictive effects on the general outcomes of the study. The approach was also applied in the second regression, to ascertain their effects on WLB. Furthermore, we introduced TL, to estimate its predictive effect on WLB and IRP. We equally brought in TL, to determine its effect on IRP and PE and WLB, to detect their independent and joint mediating predictive effects in the relationship between TL of the VEs and T/TIs and IRP of them.

Both the hierarchical Multiple Regression (HMR) Analyses and PROCESS macro were conducted using SPSS version 23. This is to authenticate the multiple mediation analysis used and create the opportunity to determine the indirect effects of the study variables. Finally, 5000 re-samples BC bootstrapping method on the PROCESS macro program of SPSS were used to ascertain the total, direct, and indirect effects of the studied variables. This is a measure agreed with previous studies (Preacher & Hayes, 2008).

3.2 Ethical considerations

For the ethical approval for this study, a written letter for permission was sent and approval was obtained from the Research Ethics Committees of all the five selected TVET institutions studied. More so, an informed consent form was administered and was signed by all the participants (deans of faculties, heads of departments, vocational educators, Technologists/Technical Instructors, undergraduate, and postgraduate students).

4. Results

To establish the basis and need for mediation analysis, we first used the preliminary data gather for the study to carry out an initial analysis on the variables as stated in the study model (Figure 2) (Baron & Kenny, 1986). Thus, the descriptive mean and standard deviation, as well as the Cronbach’s alpha coefficient correlation.

Table 2: Descriptive Statistics, Cronbach's α Coefficients and Correlations of the Study Variables

Variables	M	SD	1	2	3	4	5	6	7	8	9	10	11	12
Gender	.44	.48	(.866)											
Age	.89	.73	-.29**	(.947)										
Tenure	1.52	1.45	-.44**	.59***	(.912)									
Marital status	.36	.47	-.22*	.83***	.89***	(.879)								
TL	66.75	23.63	.470**	.371**	.465**	.374**	(.906)							
PE	58.24	12.37	.384**	.372**	.370**	.461**	.484**	(.932)						
WLB	38.20	3.69	.151*	.144**	.163**	.119*	.225**	.138**	(.852)					
IRP	30.93	6.64	-.235	-.273	-.309	-.277	-.200	-.233	.162	(.838)				
Comp.	28.16	4.27	.165**	.284**	.267**	.303**	.352**	.263**	.151**	.184**	(.862)			
SD	30.26	4.41	.177**	.168**	.186**	.247**	.183**	.138**	.173**	.264**	.196	(.915)		
PL	38.62	5.26	.263**	.288**	.221**	.195**	.203**	.226**	.251**	.246**	.185**	.341**	(.891)	
Auto	35.27	4.38	.185**	.195**	.158**	.161**	.170**	.163	.263	.179**	.241**	.254**	.316**	(.862)

Note: M = Mean, SD = standard deviation, TL = Transformational leadership, PE = Psychological empowerment, WLB = Work-life balance, IRP = In-role performance, Comp = Competence, SD = Self-determination, PL = Personal Life, Auto = Autonomy. (α) values are in diagonal parentheses and are reported along the diagonal the same diagonals, *** $p < .001$ (2-tailed), ** $p < .01$ (2-tailed), * $p < .05$ (2-tailed). Gender: male = 1, female = 2; Marital status: single 0 =, married = 1.

Table 2 presents the result of descriptive statistics, Cronbach's α coefficients and correlations of the variables of the study. The mean and standard deviations of the control and predictor variables are presented in the following ways: Transformational leadership (TL) 66.75±23.63, Psychological empowerment (PE) 58.24±12.37, Work-life balance (WLB) 38.20±3.69, In-role performance (IRP) 30.93±6.64, Competence 28.16±4.27, Self-determination (SD) 30.26±4.41, Personal Life (PL) 38.62±5.26, and Autonomy 35.27±4.38. From the diagonal outputs of Cronbach's Alpha values, we see that the internal consistency of the study variables are relatively high (see Table 2). Similarly, the result showed significant correlations among the constructs of the study, thus, justifying the need to carry out the mediation analysis (Baron & Kenny, 1986).

Table 3: Summary of Hierarchical Multiple Regression (HMR) on transformational leadership as predictors of vocational educators' in-role performance, psychological empowerment, and work-life balance

Variables (Controls & Predictors)	Step 1 β	Step 2 β
Controls Variables		
Age	-.182	-.0361
Gender	.037	.043
Office Tenure (2 or 3 years)	.029	-.022
Marital status (single or married)	.153	.068
Predict Variables		
Trans Lead → IRP		.877***
Trans Lead → VE (L & T/TIPE)		.922***
Trans Lead → WLB		.781***
Mediator(s)		
Vocational Educators' Psychological Empowerment		.84
Work-Life Balance		.92
Adjusted R^2	-.017	.782***
ΔR^2	.045	.661***
F	$F(5, 749) = .95$	$F(6, 748) = 57.48***$
ΔF	$\Delta F(5, 749) = .95$	$\Delta F(1, 748) = 432.57***$
Predictorss		
FPE → IRP		.839***
WLB → IRP		.766***
Adjusted R^2	-.006	.624***
ΔR^2 (change)	.039	.575***
F value	$F(5, 749) = .84$	$F(6, 748) = 55.28***$
ΔF (F change)	$\Delta F(5, 749) = .84$	$\Delta F(1, 748) = 393.27***$

* = $p < 0.05$; ** = $p < 0.001$; N = 360; OT (MY) = Office Tenure (in years); Trans Lead = Transformational leadership, IRP = In-role performance, VE (L & T/TIPE) = Vocational Educators (Lecturers and Technologist/Technical Instructors), WLB = work-life balance

Table 3 presented the results of the HMR on transformational leadership as a predictor of in-role performance, vocational educators' psychological empowerment and work-life balance including the study control variables (age, gender, office tenure (2 or 3 years), and marital status). The result of the control variables as shown in step 1 of the equation, revealed a negative significance of -0.6% against transformational leadership on in-role performance, vocational educators' psychological empowerment and their work-life balance, Adjusted $R^2 = -.006$, $F(5, 749) = .84$, $p = .66$ (see Table 3). The inference drawn is that transformational leadership made no significant contribution to the prediction of vocational educators' in-role performance, psychological empowerment, and work-life balance. Furthermore to this, we added transformational leadership to the equation and observed that there was a significant difference of 62.4% of the variance in in-role performance, followers' psychological empowerment, and work-life balance ($\beta = .877$, $\Delta R^2 = .781$, $P < .001$). Thus, we affirmed that transformational leadership positively predicts vocational educators' in-role performance, psychological empowerment, and work-life balance. Therefore, hypotheses 1 to 3 were upheld.

Furthermore, we tested hypotheses 4 and 5 and observed that the control variables (age, gender, office tenure, and marital status) showed no significant effect on the in-role performance of the vocational educators. However, in the second step of the equation, we introduced psychological empowerment and work-life balance, and the result showed a higher significant value of 52.6% variance in favour of the in-role performance revealing FPE ($\beta = .839$) and WLB ($\beta = .782$), $\Delta R^2 = .624$, $P < .001$). Based on the result, we upheld hypotheses 4 and 5 and inferred that both vocational educators' psychological empowerment and work-life balance have positive associations with in-role performance.

Table 4: Summary HMR on Mediating Role of Psychological Empowerment and Work-Life Balance Between Transformational Leadership and Vocational Educators' In-Role Performance

Variables (Controls & Predictors)	Step 1 β	Step 2 β	Step 3 β
Controls Variables			
Age	-.22	.01	.00
Gender	.093	.086	.080
Office Tenure (2 or 3 years)	-.044	-.062	-.065
Marital status (single or married)	-.006	-.137	-.133
Predict Variables			
Psychological empowerment		.751***	.748***
Mediator(s)			
TL \leftrightarrow IRP (jointly mediate)		.892***	.655***
Adjusted R^2	.042	.071	.074
ΔR^2 (change)	.626	.548	.851
F value	$F(5, 749) = 1.57$	$F(6, 748) = 36.50***$	$F(7, 747) = 31.36***$
ΔF (F change)	$\Delta F(5, 749) = .1.57$	$\Delta F(1, 748) = .251***$	$\Delta F(1, 747) = .88***$
Predictors			
PE \leftrightarrow WLB (jointly mediate)		.793***	.836***
Mediator(s)			
Transformational Leadership on VEs In-Role Performance			.783
Adjusted R^2	.053	.064	.069
ΔR^2 (change)	.635	.546	.879
F value	$F(5, 749) = 1.81$	$F(6, 748) = 57.41***$	$F(7, 747) = 18.60***$
ΔF (F change)	$\Delta F(5, 749) = .1.81$	$\Delta F(1, 748) = .384***$	$\Delta F(1, 747) = .92***$
Predictors			
Work-life balance		.844***	.781***
Mediator(s)			
Transformational Leadership on VEs In-Role Performance			.964
Adjusted R^2	.058	.066	.084
ΔR^2 (change)	.538	.758	.046
F value	$F(5, 749) = 1.83$	$F(6, 748) = 58.63***$	$F(7, 747) = 55.82***$
ΔF (F change)	$\Delta F(5, 749) = .1.83$	$\Delta F(1, 748) = 88.518***$	$\Delta F(1, 747) = 13.07***$

* = $p < 0.05$; ** = $p < 0.001$

Table 4 presented the result of the summary HMR on the mediating role of psychological empowerment and work-life balance between transformational leadership and vocational educators' in-role performance. The analysis result revealed that the control variables (age, gender, office tenure, and marital status) accounted for a low significant variance of (-0.44%) of the in-role performance with an Adjusted $R^2 = .040$ $F(5, 749) = 1.57$, $P <$

.68. However, at step 2 we tested hypothesis 6 to ascertain whether psychological empowerment positively mediates the impact of transformational leader on the vocational educators' in-role performance. The result showed a highly significant value when psychological empowerment and work-life balance were introduced into the equation. Thus, confirming that psychological empowerment significantly mediates transformational leadership and followers' in-role performance as the demographic variables were controlled Adjusted $R^2 = .071$, $F(5, 748) = 36.50$, $p < .001$ [$\beta = .892$, $\Delta R^2 = .071$, $P < .001$].

Again, in step 3, we tested whether transformational leadership and in-role performance are jointly associated with psychological empowerment and work-life balance. The result shown in the third equation revealed that in-role performance and transformational leadership accounted for a 63.50% variance in psychological empowerment and work-life balance Adjusted $R^2 = .074$, $F(7, 748) = 31.36$, $p < .001$. It was, therefore, concluded that transformational leadership and in-role performance significantly mediated psychological empowerment and work-life balance [$\beta = .736$, $\Delta R^2 = .074$, $P < .001$].

Moreso, we tried to ascertain whether work-life balance mediates transformational leadership on vocational educators' in-role performance. The finding showed that work-life balance accounted for 96.40% variance in transformational leadership Adjusted $R^2 = .084$, $F(5, 747) = 55.82$, $p < .001$ implying that work-life balance and transformational leadership significantly predicted vocational educators' in-role performance ($\beta = .964$, $P < .001$) (see Table 4). These mediation analysis outcomes corroborate previous studies and established models (Baron & Kenny, 1986). For instance, Baron and Kenny (1986) postulated that for any mediation to be accepted, the four mediating criteria/conditions must be met.

The first condition is that the independent variable(s) must positively predict the proposed mediator (e.g., conducting a simple regression analysis where X predicts Y to determine path c only, $Y = B_0 + B_1 X + e$). The second condition is that the independent variable(s) must positively predict the dependent variable(s) (e.g., performing a simple regression analysis where X predicts M to determine for path a, $M = B_0 + B_1 X + e$). Thirdly, the proposed mediator(s) must significantly predict the dependent variable(s) (e.g., conducting a simple regression analysis where M predicts Y to test the significance of path b only, $Y = B_0 + B_1 M + e$). Finally, the fourth criterion is that significant association between the independent variable(s) and the dependent variable(s) must be substantially reduced or become non-significant if the proposed mediator(s) are added to the model (e.g., conduct a multiple regression analysis where X and M predict Y, $Y = B_0 + B_1 X + B_2 M + e$). The results of our first and second HMR analyses fulfilled the above conditions, thereby creating the opportunity for us to test for total, direct, and indirect effects of the variables studied.

Table 5: Total and Direct Effects of Transformational leadership, Psychological Empowerment on Employees' in-Role Performance and Vocational Educators' Work-Life Balance

Effects	Estimate	SE	t	95% CI		Significance
				Lower	Upper	
Total	.882	.869	15.662	.647	.916	S
Direct	.436	.092	11.683	.253	.548	S
Indirect	.660	.081	-	.316	.633	S

*S = Significant

The result of the unmediated analysis of the total effects obtained via PROCESS macro showed significant $\beta = .882$, $SE = .869$, $t = 15.662$, $p < .001$ (see Table 5). The result validates the multiple mediation model used for this study on the mediating effects of psychological empowerment and transformational leadership on work-life balance and the in-role performance model (see MMM).

Table 6: Indirect (Mediation) 5000 Re-samples BC Bootstrap Test Effects of Transformational leadership and Psychological Empowerment on Vocational educators' In-Role Performance and Work-Life Balance

Hypotheses	Estimate	SE	95% CI		Remark
			Lower	Upper	
Trans lead → IRP	.084	.047	.076	.263	PM
Trans lead → PE	.146	.043	.461	.125	PM
PE → IRP	.120	.040	.380	.133	PM
Trans lead → WIB	.085	.046	.373	.148	PM
WIB → P	.117	.058	.286	.161	PM
PE → Trans lead → IRP	.128	.051	.225	.157	PM
WIB Trans lead → IRP	.083	.038	.193	.140	PM
PE/WIB → Trans lead → IRP	.658	.041	.172	.107	PM

* PM = Partial Mediation

Finally, Table 6 presents the result of the indirect (mediation) 5000 re-samples by bootstrap test effects of transformational leadership and psychological empowerment on vocational educators' in-role performance and work-life balance. The focus was to determine the mediating effect of the variables studied as proposed on the eight hypotheses that underpinned the study. First, it was found that the effect of transformational leadership was statistically significant on the in-role performance of the vocational educators (CI .076 to .263). Implying that there was partial mediation between the transformational leadership and in-role performance of the vocational educators in TVET institutions. Similarly, the mediation results of transformational leadership on the followers' psychological empowerment revealed a statistically significant indirect effect (CI = .461 to .125, $p < .01$). Thereby indicating that transformational leadership has partial mediation on the vocational educators' psychological empowerment. Generally, it was observed that the results of all the hypotheses showed that all the independent variables tested had indirect effects on the dependent variables (for details see Table 6).

5. Discussion

The focus of this study was to determine the mediation roles of transformational leadership and psychological empowerment on work-life balance and in-role performance of vocational educators in TVET institutions in South-East and South-South, Nigeria. The findings for hypothesis one showed that the transformational leadership styles adopted by vocational educators directly and significantly influence the increase in educators' in-role performance of their jobs. The inference drawn from the above result is that for vocational educators to improve their in-role performance, their supervisors must implement transformational leadership styles such as idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. These findings are in line with Ugwu, Enwereuzor and Orji (2015) who found that a positively significant relationship exists between supervisors' application of transformational leaders and followers' effectiveness and attainment of duties. Again, the findings are congruent with Bacha, (2014) who maintained that dynamic transformational leaders who engage their subordinates in creative and innovative activities help the latter to succeed and to meet up with both personal and job demands.

Again, the study found that transformational leadership is positively associated with followers' psychological empowerment. This finding authenticates Bartram and Casimir (2007) who postulated that transformational leaders perform the job of role models by showing unequivocal commitments to the welfare of their subordinates. The finding also strengthened LaForce et al. (2017) who found that transformational leaders help to activate a set of positive behaviors in their subordinates which makes work enjoyable, engaging, and very exciting. The findings of the study also agree with previous studies that revealed that transformational leaders create mutual relationships with their subordinates to support their in-role performance (LaForce et al. (2017).

Furthermore, the study showed that there is a positive significant association between psychological empowerment and educators' in-role performance. Hence, the result indicated that vocational educators who are psychologically empowered by their supervisors can perform their jobs effectively with high morals. These findings supported the findings of Aydogmus, Camgoz, Ergeneli, and Ekmekci (2018) who found that transformational leadership positively predicts workers' in-role performance. The findings also on transformational leadership as a predictor of workers' in-role performance authenticated the findings of several authors (Jauhari, Singh & Kumar, 2017).

Moreover, we found that transformational leadership was positively associated with vocational educators' work-life balance. By implication, a flexible work arrangement avails vocational educators opportunities to enjoy a work-family friendly relationship and by extension leads to increased goal achievement, healthy living, and a balanced lifestyle both at the office and at home (Ambad, Kalimin, Ag Damit, & Andrew, 2021).

We found that transformational leadership mediates significantly with vocational educators' psychological empowerment and in-role performance. These findings align with previous studies (Abdulrab, Zumrah, Almaamari & Al-Tahitah, 2017). The findings also agree with Shah, Khattak and Shah (2020) who found that institutions that apply flextime and provide psychological empowerment to their workers will succeed in promoting workers to engage more actively in their tasks and this will optimally accelerate both the individual and collective performances of the workers.

The findings on whether work-life balance positively mediates between transformational leadership and vocational educators' in-role performance in universities confirmed a positive association between employees' work-life balance, transformational leadership, and vocational educators' in-role performance. These findings are consistent with the findings of Thevanes and Mangaleswaran (2018) who noted that a good work-life policy of an institution significantly supports workers to manage the conflicts between work assignments and non-work duties effectively.

Finally, we tested to determine whether psychological empowerment and work-life balance jointly mediate between transformational leadership and accounting vocational educators' in-role performance in universities. It was found that a positive association exists between psychological empowerment and work-life balance and that transformational leadership significantly enhances subordinates' in-role performance. The inference drawn here is that vocational educators' psychological empowerment and work-life balance could be ascribed to the

transformational leadership styles adopted by their supervisors. The findings are comparable to the results of Ambad, et al. (2021) who established that a combination of leadership policies, employees' welfare and interest helps to promote organizational growth via the employees' in-role performance. Generally, the findings of this study elucidated that the relationship among the studied variables (transformational leadership, vocational educators' psychological empowerment, their in-role performance, as well as their work-life balance) could best ascertained via joint mediation methods.

The multiple mediating effects of the studied variables showed partial mediation. The result explained that part of the variance that transformational leadership had on the moderating variables was because of the combined effects of supervisors' psychological empowerment on the educators and leadership styles they adopted. This study to the best of the authors' knowledge is the first to explore the multiple mediating effects of psychological empowerment and work-life balance on transformational leadership and in-role performance of vocational educators in TVET institutions in South-East Nigeria. Hence, the results of the study are contributions to the literature on psychological empowerment, work-life balance, transformational leadership, and in-role performance.

5.1 Implications for Institutional Practitioners and Researchers

The results of this study have several implications for educational institutions and institutional administrators/practitioners. TVET human resource managers (HRM) should endeavour to motivate their subordinates by formulating and implementing TVET policies that promote educators' psychological empowerment and work-life balance to improve the employees' in-role performance. It has been established that workers' confidence levels can be improved if institutional administrators and practitioners can motivate them. This would by extension lead to general improvement in work and personal life goals. This is imperative for HRM in universities and other organizations where evidence-based organizational change and development is indispensable for improvement in the quality of processes and products. Again, administrators of TVET institutions particularly should also emphasise more on approaches that can empower the educators psychologically to balance their work-life. This measure can help to alleviate general institutional challenges such as students' poor performance, incompetent outputs, and low productivity (Leiber, 2019; Leiber et al. 2018). The implication extends to administrators of other tertiary institutions thus, requiring them to develop their managers through training, seminars, workshops, and symposiums on transformational leadership styles that promote workers' psychological empowerment, in-role performance, and work-life balance.

The authors recommend that researchers should incorporate multiple mediation approaches while conducting a study on the effects of transformational leadership styles and employees' job performance and productivity. Multiple mediation analysis has been confirmed to offer a broader view of the underlying mechanisms that can promote organizational approaches that can boost workers' productivity and general welfare (Ugwu, Enwereuzor & Orji, 2015). Since individual mediators often result in different results, it is salient that the researcher should have a deeper understanding that mediation mechanisms, especially in the relationship between transformational leadership and in-role performance of subordinates, can be gained via some more fine-grained methods such as multiple or joint mediation of variables. We suggest that researchers particularly those interested in studying transformational leadership and the in-role performance of subordinates, ought to research more on the combined roles of mediating variables in the relationship between independent and dependent variables.

5.2 Theoretical Contribution of the Study

This study contributed to the extant literature of quality management theory by progressing on the strategies that promote supervisor's transformational leadership styles, vocational educators' in-role performance and work-life balance. The study explained how the transformational leadership style of the supervisors of vocational educators could help to improve performance and maximise goal achievement of the TVET institutions studied. Similarly, this study revealed that the joint mediation effect of psychological empowerment and work-life balance can optimally aid in improving vocational educators' in-role performance, consequently promoting institutional quality since quality management systems guarantee quality (Shewhart, 1931).

5.3 Limitations of the Study

The major limitation observed in this study is the use of the vocational educators of the TVET institutions only. This may influence the generalisation of the study outcomes, especially outside the study context. However, the 5000 re-sample bootstrapping method via PROCESS macro was used in the study to estimate the total, direct, and indirect effects of the study variables (Hayes, 2013), which positively influenced the observed limitation. It can also be noted that the application of the 360-feedback method to gather data from the stakeholders using different

scale ranges and response formats could better assist in explaining the in-role performance of the vocational educators and extend the effect of the findings. This is counted as one of the strengths of the study.

6. Conclusion

This study revealed that transformational leadership significantly predicts in-role performance, psychological empowerment, and work-life balance of vocational educators in TVET institutions. It also showed that transformational leadership is associated positively with vocational educators' psychological empowerment. The inference drawn is that effective transformational leaders often take into cognisance the basic psychological needs and work-life balance of workers when enacting policies that target the welfare of the employees' in-role performance and work-life balance. Hence, it is affirmed that the development of a transformational leadership style can guarantee the general health of workers and that of the organisation and help achieve the organisational goals. The novelty of this study is centred on its contributions to the leadership and management extant literature. Thus, it established the association between transformational leadership and the variables studied by generating data via the 360-degree feedback method from different TVET groups and stakeholders. Through this approach, it is affirmed that the findings of the study would be authentic, consistent, and reliable.

7. Recommendations

To eliminate friction, fear and intimidation, there should be a process managed properly, there should be an improved communication channel and a strong teamwork spirit. Moreover, TVET delivery should be based on an international standard process. Emphasis should be placed on a holistic teamwork approach. There should be a quality assurance and enhancement team, and corrective and educative teams among others. In addition, appropriate tools for finding, predictions, analysis, correlations, and action for continuous improvement should also be established. Again, based on the findings of the study, the following practical recommendations were formulated:

- The TVET institutions and administrators should strive to provide a computer-simulated learning environment and ICT facilities to facilitate the educators' instructional delivery and reduce their work-related stresses.
- The deans, heads of department, and TVET institutional administrators should organise regular workshops and seminars to train educators on innovative pedagogical approaches that promote deep learning and instructiveness while reducing stress.
- The federal government should improve the salary scale of TVET practitioners and create other fringe benefits such as overseas training funds, scholarships, and post-doctoral fellowship opportunities specific to TVET educators. This will promote in-role performance and enhance their work-life balance.
- TVET agencies such as UNESCO-UNEVOC, World Bank, and the United Nations Institute for Training and Research should provide intervention programmes and mobilise funds for TVET manpower development and research-based training for educators.
- Both the TVET administrators and supervisors should adopt transformational leadership styles that are based on integrity, mentorship, and motivation, which can promote trust, and enhance the in-role performance of the TVET educators.
- The supervisors of vocational educators should collaborate, motivate, and psychologically empower their supervisees to promote healthy and balanced work-life expectations and to achieve optimal job performance.

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Conflict of Interest

The authors declare that there is no conflict of interest regarding the publication of the paper.

Author Contribution

Nathaniel Ifeanyi Edeh: **Study conception, drafted original manuscript, design, data analysis**; Felicia N. Ezebiuro **Drafted original manuscript**; Agnes Lawrence Okute: **Data interpretation**; Calister Lebechukwu Nwadi: **Administration and retrieval of instrument**; Emeka Promise Ugwunwoti: **Data analysis and interpretation**.

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