

# TRANSFORMATIONAL LEADERSHIP AND ORGANIZATIONAL CITIZENSHIP BEHAVIOUR AMONG NURSES WORKING IN PUBLIC HOSPITALS IN UGANDA: THE MEDIATING EFFECT OF ORGANIZATIONAL CLIMATE

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## Abstract

### Keyword:

Transformational, leadership, climate, citizenship, behaviour



Uganda's public hospitals continue to face critical workforce challenges, including weak leadership systems, low morale, and limited organizational support, which collectively undermine nurses' willingness to engage in discretionary behaviours essential for effective service delivery. Understanding how leadership can enhance organizational citizenship behaviour (OCB) is therefore vital in such resource constrained health systems. Guided by Social Exchange Theory and Social Learning Theory, this study examines the effect of transformational leadership on OCB among nurses in Uganda's public hospitals and assesses the mediating role of organizational climate. A quantitative correlational design was employed using a multistage sample of 384 nurses drawn proportionately from public hospitals across Uganda's four regions. Data were collected using a 5-point Likert-scale questionnaire and analysed using SPSS for descriptive statistics and SmartPLS 4.0 for measurement and structural equation modelling. From the 384 distributed questionnaires, 345 were returned (90% response rate). Measurement model results confirmed reliability and validity (factor loadings  $> 0.70$ , CR = 0.72-0.89, AVE  $> 0.50$ ). Structural model. Findings revealed that transformational leadership significantly predicted OCB ( $\beta = 0.206$ ,  $t = 3.007$ ,  $p < 0.01$ ) and organizational climate ( $\beta = 0.719$ ,  $t = 14.228$ ,  $p < 0.001$ ). Organizational climate also had a significant effect on OCB ( $\beta = 0.206$ ,  $t = 3.319$ ,  $p < 0.01$ ). Mediation analysis demonstrated a significant indirect effect of transformational leadership on OCB through organizational climate ( $\beta = 0.091$ ,  $t = 2.991$ ). The model showed moderate predictive power, with transformational leadership and climate explaining 37% of the variance in OCB, while climate alone explained 51%. The study advances leadership and organizational behaviour literature in under studied African public health contexts by empirically integrating Social Learning Theory and Social Exchange Theory to explain how transformational leadership shapes OCB both through behavioural modelling and reciprocal exchanges facilitated by a supportive climate. Findings highlight the need for public hospitals to strengthen transformational leadership competencies such as individualized consideration, ethical conduct, and intellectual stimulation and to cultivate a fair, supportive, and communicative organizational climate to enhance nurses' extra-role behaviours critical for improving patient care.



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## Introduction

The primary challenges facing human resource management in low-and middle-income countries include consistent leadership problems as well as staffing issues that work to the detriment of service delivery. It has been reported that as many as 5.9 million nurses worldwide are not available, with the vast majority of them situated in developing nations (Nilsen et al., 2020). World Health Report 2019 outlines Uganda among the 57 states by the WHO that have a severe shortage of health workers at less than 2.3 nurses, physicians, and midwives per 1,000 people. Moreover, nearly 80% of the healthcare services in Ugandan public hospitals are handled by nurses because of the acute shortage of doctors (Udho, 2022).

However, despite being at the Centre of nursing, nurses in Uganda face conditions that hinder their effectiveness, including weak leadership structures, limited participation in decision-making, inadequate supervision, poor salaries, and vague job descriptions (Mukundane et al., 2016; Mujasi et al., 2016). Reduced morale and absenteeism, informal dual practice, strikes, and massive corruption among healthcare workers are some of the consequences that have resulted from these conditions (Kendall, 2017; Salima Namusobya, 2021).

In such circumstances, organizational citizenship behaviour or voluntary behaviour outside the job but critical for hospital effectiveness, is instituted. With teamwork, conflict diminishes, patient care improvement unfolds, and infrastructure shortfalls are compensated by OCB (Organ, 2015; Podsakoff et al., 2018). Leadership significantly predicts OCB, and transformational leadership turns into an asset since it inspires the way staff are motivated through vision (Bass, 1985; Hoch et al., 2016). However, in Uganda, little empirical work has examined how transformational leadership shapes nurses' OCB, and particularly how organizational climate may mediate this relationship. Moreover, understanding this mechanism through Social Exchange Theory (Blau, 1964) and Social Learning Theory (Bandura, 1977) provides theoretical depth and relevance to managerial practice.

## Literature Review

### Transformational Leadership

Burns (1978) and Bass (1985) introduced transformational leadership as a means of motivating followers to put aside personal interests and to commit themselves to organizational goals. Transformational leaders engage followers' internalized commitment by remodelling their values, attitudes, and aspirations, rather than through the use of authority or external rewards.

Bass and Avolio (1994) identified four key dimensions for the analysis of transformational leadership: idealized influence, wherein leaders act as ethical role models earning the trust of followers, inspirational motivation, wherein leaders articulate an attractive vision fostering unity and optimism, intellectual stimulation, encouraging creativity, critical reasoning, and new forms of problem solving and individualized consideration, where leaders mentor followers and support their growth. This leadership approach works well in healthcare because nursing is itself is demanding and collaborative.

Transformational leadership creates an environment conducive to the enhancement of staff morale, job satisfaction, retention, teamwork, and organizational citizenship behaviour where nurses are valued, empowered, and motivated to go beyond their formal job requirements (Boamah et al. 2018)

### Theoretical Linkage

Social Learning Theory (SLT)

The theory of social learning, postulated by Bandura in 1977, states that individuals acquire behaviours, attitudes and norms through observing and imitating persons that could be construed as models in their environment. In the organizational context, the role of leaders is particularly highlighted and weighted. By virtue of how they behave, interact with followers, and personally demonstrate commitment to organizational values, transformational leaders act as powerful role models for followers.

Transformational leadership attributes, including integrity, concern, fairness, collaboration, and professional excellence, act as verbal and behavioural signals or cues to what the organization considers appropriate, desirable, and expected. In this way, nurses under such leadership are more prone to model these behaviours and internalize pro-social practices that would foster cooperation, empathy, and discretionary effort (Walumbwa et al., 2008).

In challenging healthcare environments where ethical dilemmas abound, together with heavy workloads and uncertainty, transformational leaders would normalize behaviours for nurses that encourage interpersonal skills, teamwork, and responsible citizenship behaviours. Therefore, the notion of social learning theory (SLT) explains how transformational leadership impacts organizational citizenship behaviours (OCB) through observational learning and behaviour modelling practices.

#### Social Exchange Theory (SET)

The Social Exchange Theory (Blau, 1964) functions supplementary to other mechanisms explaining how relationships at work arise involving reciprocal exchanges of support, respect, and socio-emotional resources. Notably, SET postulates that when employees feel the leaders treat them fairly, care for their well-being, and develop their skills, then, to some extent, they begin to feel emotionally indebted towards the leaders or the organization.

Transformational leaders lead to the creation of strong exchange relationships by engaging in actions that make employees feel valued and supported. Individualized consideration translates into emotional support and customized mentoring, in turn enhancing employees' feelings of respect and belonging. Recognition and appreciation enhance morale amongst employees so that they can put in extra effort towards doing more than is expected of them at the workplace. Intellectual stimulation enhances psychological understanding because it stimulates creativity and encourages learning while creating an impression amongst employees that they are cared for by the organization with respect to their development. Through idealized influence, integrity, and ethical behaviour establish trust in the leader. With such behaviours, a positive exchange relationship is created, the employees feel obliged to reciprocate. This kind of reciprocity creates an atmosphere where, from the Social Exchange Theory point of view, the employees will engage in altruistic behaviour towards the organization, exhibit loyalty, cooperate with other co-workers, and work voluntarily beyond their contracted duties. In Uganda's public hospitals, leaders acting fairly while extending support strengthen nurses' willingness to engage in extra-role behaviours. Hence, this sense of reciprocity would explain the close link between transformational leadership and OCB

#### Integrating SLT and SET

In tandem, Social Learning Theory and Social Exchange Theory express why and how transformational leadership promotes organizational citizenship behaviour. SLT indicates the process through which nurses learn pro-social behaviours through observing and modelling the ethical, supportive, and collaborative actions of their transformational leaders. SET would contend that when leaders create a climate of fairness, recognition, and support, nurses would feel valued and reciprocate with extra role behaviours benefitting the organization. A positive organizational climate of trust, openness, and psychological safety would thus both support the learning processes embodied by SLT and enhance the reciprocal exchanges pointed to by SET. In this way, transformational leadership would promote OCB through both behavioural modelling and reciprocal social exchanges in a supportive climate

#### Organizational Citizenship behaviour (OCB)

An individual behaviour that contributes to Organizational Citizenship behaviour is defined as extrinsic behaviour within the working definition given by Katz (1964) and structured by Organ (1988). Experts consider this

behaviour primarily an engine fuelling the effectiveness of organizations, especially in service-revenue-generating sectors like healthcare.

These behaviour actions, above job descriptions, are discretionary behaviours that employees perform in its absence of formal reward systems. These voluntary behaviours pro-social, initiative, and altruism enhance perceived service quality, operational efficiency, and overall organizations' performance (Creasy & Carnes, 2017; Danish et al., 2017).

Familiarizing OCB to both block and electronic documents of scholars is commonly done with reference to these dimensions made by Organ (1988) selflessness, conscientiousness, courtesy, civic virtue, and sportsmanship. Altruism reflects voluntary provisions of help by co-workers regarding work-based problems (Loveth et al., 2019). Involves voluntary behaviour of acting in excess of the minimum requirement of role responsibilities, such as being on time, saving resources, etc. (Mahooti et al., 2018). Courtesy regarding individual and group interactions prevents almost all conflicts regarding inter-personal relationships, which include pro-communication and empathy (Vashisht, 2017; Odek, 2018).

Civic virtue concerns activities effectively involving oneself in the affairs of the organization in terms of attending meetings and giving constructive suggestions (Mahmoud et al., 2016; Creasy & Carnes, 2017). Sportsmanship reflects the capacity to put up with all kinds of situations without indulging in complaints, thus creating a harmonious working environment (Masharyono et al., 2018; Abdullah et al., 2019)

Contrary to this, the connections established by Chen et al. (1998); Smith et al. (2016); and Okoye et al. (2018) point towards positive associations between turnover rates, absenteeism, and employee satisfaction, respectively with organizational citizenship behaviour (OCB). Besides, employees with higher levels of OCB could stabilize the organization and create future viability through cooperation and conflict resolution (Henry et al., 2018). These employees will be good for the organization.

Social Exchange Theory (SET) proposes a foundation for understanding why employees perform OCB. According to SET, individuals consider what they put into and gain out of relationships (Blau, 1964). Employees who feel they are treated with equity, respect, and acknowledgement on the part of the organization feel the need to reciprocate with positive voluntary behaviours (Cho & Johanson, 2008; Kurniawan et al., 2019). These considerations may restrain employees from going out of their way to help their peers if employee perception of the exchange relationship is marked by unfairness or exploitation, creating an economic exchange between the employer and employee (Coyle, Shapiro & Diehl, 2017; Nazir et al., 2018). It has further been shown that employees differentiate their exchange relationship with their supervisor, peers, and organization, each of which uniquely influences OCB (Tsui et al., 1997; Lin & Liu, 2016).

Essentially, though, OCB remains multidimensional and operates for the enhancement of the effectiveness of an organization based on voluntary, prosocial behaviours by the employee. The appearance of OCB is influenced by the organizational context and other aspects, including perceived fairness and quality of exchange relationships, which finally determine the employee's motivation to work beyond formally prescribed role expectations (Organ, 1990; Masharyono et al., 2018; Mahooti et al., 2018)

### Organizational Climate

Organizational climate is actually the perception of all employees about the specific policies, practices, and procedures within their organization, as stated under Schneider et al. in 2013. This further gives an idea of how people jointly see, as in 'what it feels like', working in an organization, influencing a broad range of attitudes as well as behaviours. A good organizational climate is characterized as having high levels of trust and open communication or collaboration, having a psychological safety condition that propels individuals out of their formal duties to practice citizenship behaviours (Kuenzi and Schminke, 2009; Neal et al., 2020). Such climates allow employees to articulate their ideas, help others, and take initiative, which serves to enhance both individual and organizational performance.

Research consistently indicates that the organizational climate is predominantly framed through the behaviour of leaders. Beneath all kinds of leadership, transformational leadership has emerged as one of the best transformational criteria that has successfully recognized an atmosphere of support and empowerment (Ehrhart et al., 2014; Newman et al., 2020). Transformational leaders are engaged in making purpose clearer, being fair-minded, inviting innovation, and communicating exemplary ethical standards, all of which mold how employees interpret their work environment. To engender motivational

climates that inspire employees to consider their contributions their own, these leaders engage in inspirational motivation, individualized consideration, and intellectual stimulation (Zhang & Liu, 2022). Hence, it is a good and acceptable proposition empirically evident for most researchers to accept that organizational climate is a plausible mediator between transformational leadership and OCB. Research further indicates that transformational leadership shows a more favourable environment and that the environment itself is, in turn, expected to predict OCB at higher levels as it may enhance feelings of belongingness, motivation, and perceived support within an organization (Afsar et al., 2019; Aryee et al., 2012). When employees see the climate as having fair, ethical, and supportive currents, they will tend to reciprocate this behaviour with extra-role behaviours like helping co-workers, peers, showing others initiative, and developing others' access to activities in the organization. A favourable organizational climate, thus, is not only the outcome of effective leadership but also an important mechanism through which transformational leadership promotes OCB as well as overall organizational effectiveness

### Research Objectives

- i. To examine if there is a significant relationship between transformational leadership and OCB among nurses in Ugandan public hospitals.
- ii. Examine if organizational climate mediates relationship between transformational leadership and OCB

### Methodology

This study used a quantitative correlational design to assess relationships among transformational leadership, organizational climate and OCB. A sample of 384 nurses from public hospitals across Uganda's four regions was determined using Krejcie and Morgan (1970). A multistage sampling procedure was applied. First, hospitals were stratified by region. Second, proportional allocation ensured that each region contributed respondents relative to its staffing level. The basic random sampling was finally employed for selecting individual nurses, thereby granting equal selection probability for each of them.

Data were collected using a structured questionnaire measured on a 5-point Likert scale. SPSS was used for descriptive statistics and SmartPLS-SEM 4.0 for measurement and structural model evaluation. There were actually 384 questionnaires distributed, 345 completed questionnaires were brought back, creating a great response rate of 90%. The representation across the four regions of Uganda is distributed: The Central region had 27% synonymous to 94 respondents, the Eastern region 26% synonymous to 89 respondents, the Western region 24% synonymous to 83 respondents, and the Northern region 23% which amounts to 79 respondents. Slightly more respondents hailed from urban facilities, that are 53 % against 47%, but it indicates slightly stronger participation among nurses in urban settings

### Findings

#### Demographic Characteristics

One analysis of the sample indicated a predominantly female sex (70%), akin to gender inequality in the nursing profession. Most were between 31-40 years (42%), followed by 41 years & above (35%) and 18-30 years (23%). Of the respondents, about half were diploma holders (49%), whereas the other 33% had certificates, and only 18% were nursing degree holders. The study findings also showed the majority of respondents were married (67%) with a good variation in work experience, with 33% working more than 16 years, while 28% had between 6 and 10 years under this field, 20% between 11 and 15 years, whereas only 18% had worked for less than five years. The demographic profile reveals an experienced and rather mature workforce of mostly diploma-trained practitioners

### Transformational Leadership

The descriptive results showed that there were mainly unfavourable impressions on transformational leadership by the nurses. Although these five leadership items had the highest proportion of sympathy with only about 2% to 9%, most of the respondent's expressed disagreement, with disagreement rates over 62% to 77%. For instance, only 13.1% had an impression that the leaders showed behaviour beyond self-interest while 70.7% disagreed. Similarly, only 8% thought leaders would include the moral implications of the decisions whereas 68% disagreed. Most also reported non-communication by leaders of an optimistic vision of the future (68% disagreement) and non-examination of assumptions by them (77.7% disagreement). Another 73% reported that leaders did not assist staff in developing their strengths. In the bulk, this finding pointed to the absence of transformational leadership behaviours in public hospitals

### Organizational Citizenship behaviour (OCB)

Analysis of the OCB dimensions indicated generally low levels of extra-role behaviours among nurses. Across most items, agreement levels ranged from 2% to 12%, while disagreement levels commonly exceeded 45%. Courtesy behaviours such as preventing problems for colleagues were mainly absent, with disagreement levels between 41% and 51%. Substantially low civic virtue behaviours, where less than 10% of respondents admitted to engaging in any organizational involvement activities, while close to 50% denied any such practices. All three behaviours followed the same pattern sportsmanship, conscientiousness and altruism - wherein disagreement dominated across the items (from 45 to 62%). Findings indicate limited engagement in voluntary, extra-role behaviours necessary for organizational effectiveness.

### Organizational Climate

From a very gloomy perspective, the nine climate items generated varying levels of agreement of just 1 to 4% among the nurse population, indicating very few had a good perspective about their work environment. Likewise, all items had disagreement levels between 45% and 54%. There was believed to be limited support, inadequate communication, absence of openness, and poor climate towards teamwork. This data mostly indicates a broad consensus that there is an unsupportive and demotivating organizational climate in public hospitals in Uganda.

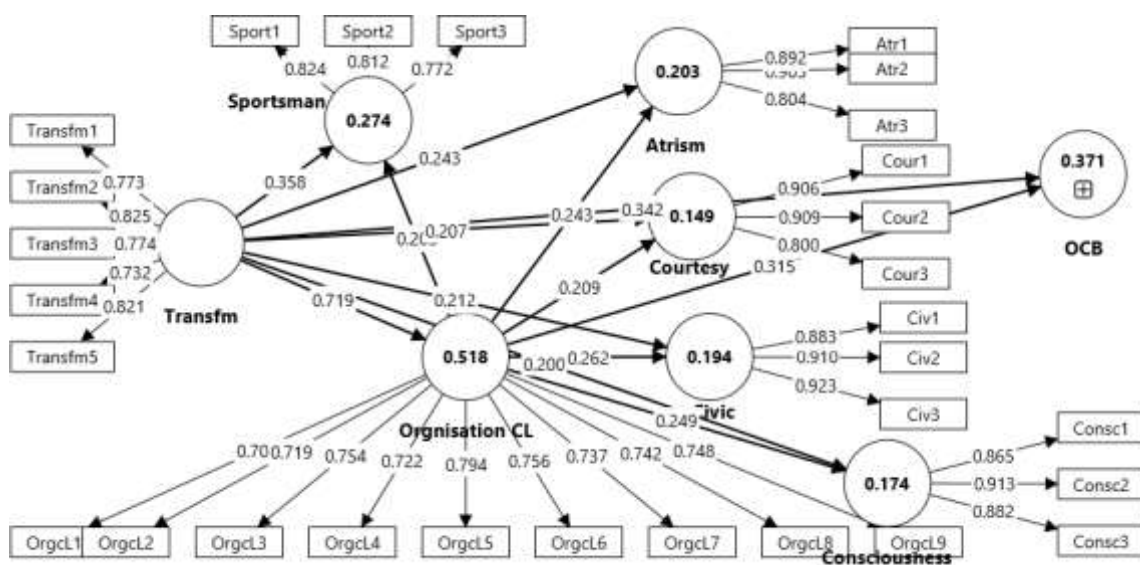


Figure 1. showing Measurement Model

The measurement model was assessed by examining the discriminant validity and convergent validity. The convergent validity of the measurement is generally determined by evaluating the loadings, average variance extracted and also the composite reliability (Gholami et al., 2013). All the loadings were above the threshold of 0.7, the composite reliabilities were also above 0.7 and the AVE are greater than 0.5 as recommended by Hair et al., (2024). See the figure1 and Table 1 below.

Table 1. Measurement Model

Variables	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Altruism	0.837	0.879	0.901	0.752
Civic	0.890	0.895	0.932	0.820
Consciousness	0.864	0.867	0.917	0.786
Courtesy	0.844	0.864	0.906	0.763
OCB	0.881	0.885	0.901	0.395
Organizational Climate	0.898	0.899	0.917	0.551
Sportsman	0.724	0.727	0.845	0.645
Transformation	0.846	0.848	0.889	0.617

Data Source: Researcher

Internal consistency reliability refers to the degree to which a construct produces consistent and dependable results across repeated measurements, reflecting the precision of the instrument (Boudreau et al., 2001; Straub, 1989). This study prioritized internal consistency reliability as it is one of the most widely used measures of reliability in social science research (Hair et al., 2013). Internally consistent constructs were measured using composite reliability (CR) values. The outcomes showed that the values of CR for all constructs ranged between 0.72 and 0.89, which is higher than the recommended threshold of 0.7 (Benitez et al., 2020; Hair et al., 2017), confirming that such a measurement model possesses optimal internal consistency as well as reliability (Chin, 2010; Hair et al., 2013). The CR values for all constructs are presented in Table 1.

Indicator reliability was evaluated using factor loadings to determine how well individual items reflect their respective constructs (Rigdon et al., 2014). As per standard recommendations, an indicator loading of greater than or equal to 0.7 is deemed appropriate at the 0.05 significance level (Chin, 2010; Hair et al., 2013). The loadings for all the items were above this threshold, with the lowest value being that of sportsmanship (0.72) and the highest being for organizational climate (0.89). Details of the item-wise factor loadings and their corresponding t-statistics are shown under Table 1.

Convergent validity evaluates how well the indicators of any given construct share this meaning, implying that they measure the intended latent variable (Chin, 2010). In this study, convergent validity was evaluated via the average variance extracted. The AVE values ranged from 0.59 to 0.87, all above the recommended value of 0.50 (Hair, Sarstedt, et al., 2019), and therefore giving reasonable assurance that the constructs exhibited sufficient convergent validity. These results assured that the measurement model accurately captured the central constructs and their intended indicators, thus fortifying the analysis of the structural model that follows.

The study determined that there is strong discriminant validity based on the Fornell-Larcker criterion as well as the HTMT ratio. The square root of AVE for each construct was found to exceed any of the inter-construct correlations, thereby establishing their empirical distinction. Additionally, all HTMT ratios fell below the recommended thresholds of 0.85 and 0.90, confirming that transformational leadership, organizational climate, and the dimensions of OCB represent unique conceptual domains suitable for structural equation modelling (Hair et al., 2013).

Since the VIFs range from 1.363 to 3.299 and are well below the generally acceptable upper limits of 3.3 (Diamantopoulos & Siguaw, 2006) or 5.0 (Hair et al., 2011), collinearity assessment results lend credence to model stability, they also mean that, within the multicollinearity area, stability in parameter estimates remains possible with reliable interpretations.

Table 2. Fornell and Larcker Criterion

Variables	Atrism	Civic	Consciousness	Courtesy	OCB	Organization Climate	Sportsman	Transformational
Altruism	0.867							
Civic	0.440	0.906						
Consciousness	0.399	0.371	0.887					
Courtesy	0.263	0.500	0.374	0.873				
OCB	0.720	0.789	0.666	0.670	0.629			
organization CL	0.417	0.415	0.393	0.358	0.561	0.742		
Sportsman	0.467	0.464	0.468	0.344	0.768	0.461	0.803	
Transformational	0.417	0.401	0.379	0.357	0.569	0.719	0.504	0.786

Data Source: Researcher

Accordingly, the intervening relationship in the model was significant, transformational leadership was found to have a positive and significant relationship with OCB ( $\beta$  0.206,  $t$  3.007,  $p$  0.01), as did organizational climate with OCB ( $\beta$  0.206,  $t$  3.319,  $p$  0.01). Transformational leadership influenced specific OCB dimensions such as altruism and sportsmanship but did not significantly affect civic virtue, courtesy, or conscientiousness. These mixed results suggest that transformational leadership influences some forms of discretionary behaviour more strongly than others.

The coefficient of determination ( $R^2$ ) exhibited moderately good predictive power. Altogether, transformational leadership and organizational climate accounted for 37% of the variance in OCB, while organizational climate alone was responsible for 51% variance. The coefficient of determination ( $R^2$ ) exhibited moderately good predictive power. Altogether, transformational leadership and organizational climate accounted for 37% of the variance in OCB, while organizational climate alone was responsible for 51% variance. Predictive relevance was similarly established given that all  $Q^2$  values were greater than zero.

Through mediation analysis, it was found that organizational climate could be a mediating factor in transformational leadership to OCB effects. There was a significant indirect effect ( $\beta$  = 0.091,  $t$  = 2.991), and  $R^2$  values also improved toward OCB and its sub-dimensions when climate was included in mediation. Generally, a supportive climate is important for the effective conversion of leadership behaviours into positive employee outcomes.

## Discussion

Results show EC has a significant positive effect on INT (H1). IL, SF, and PS significantly mediate the EC-INT link (H2-H4), with SF and PS showing stronger effects. KN significantly moderates EC-INT (H6), amplifying EC's influence at higher KN levels. SES moderation (H5) is non-significant, with slopes across SES levels remaining close, indicating minimal moderating impact. Overall, EC directly and indirectly drives INT through IL, SF and PS, while KN strengthens this relationship, and SES does not alter it.

These findings are closely allied with previous studies on battery-electric vehicle adoption. According to Li et al. (2023), environmental concern has a positive, significant influence on intention, even when accounting for attitudinal and contextual antecedents, which further supports the importance of environmental concern as an antecedent of intention. Risk and safety beliefs also operate as a key assessment filter. Jain et al. (2022) consider perceived risk and consistently find that safer appraisals

increase translation of environmental concern into adoption intention, whereas risk perceptions decrease it, which is compatible with a mediation-based pathway through safety. Knowledge is introduced as a boundary condition: the higher the environmental or technology knowledge, the greater the translation of concern into intention, and vice versa. The vehicle industry has moderated models that capture this amplification and support the premise that consumer knowledge conditions the relationship between concern and intention (Hamzah & Tanwir, 2021).

Socioeconomic status findings are also similar after psychological, informational, and evaluative constructs are identified, socioeconomic factors (income, education, occupation) exhibit weak (and often inconsistent) ties to intention. Chhikara et al. (2021) stress that attitudes, perceived value, usefulness and risk are more effective in predicting the propensity of adoption than socioeconomic characteristics, which coincides with there being no moderation by socioeconomic status. Besides, Abbasi et al. (2021b) indicate that information processing ability and information literacy serve as transmission channels that translate environmental concern into a positive evaluation and intention. They demonstrate that enhanced information acquisition, understanding, and problem-solving cause elevated perceived usefulness and perceived benefits, which assume the impact of environmental concern on adoption intention.

Khan et al. (2022) emphasized that socioeconomic variables typically demonstrate limited moderating effects once psychological and informational variables are modelled because differences in access to charging and inherent infrastructure distributions drive actual adoption; socioeconomic status per se tends to demonstrate weaker direct or moderating effect on intention when involving information, perceived safety, and knowledge in models, leading to findings broadly similar to the observed lack of moderation by socioeconomic status in this study. Besides, Abudu et al. (2024) have found that technological advancements including increasing BEV range and growth in charging infrastructure, are a key component that can increase the acceptance of battery electric vehicles. These developments significantly facilitate the decarbonization of transport and align with national net-zero targets. A survey by Zhang et al. (2022) covering 858 participants in eight first and lower-tier Chinese cities has found that environmental concern, product cognition (knowledge), attitude, and subjective norms are all positive predictors of intention to adopt EVs. Nevertheless, infrastructure influenced adoption only in lower-tier cities, highlighting regional and socioeconomic disparities in adoption, even though socioeconomic status as a variable did not moderate the EC adoption relationship.

An investigation conducted by Liu and Zhang (2024) proved that the utilization of digital devices is a great way to increase the level of environmental knowledge, favourable feelings about the environment

## **Conclusion**

The research determined that transformational leadership and organizational climate are key predictors of OCB among nurses in public hospitals in Uganda. In addition, the organizational climate emerged as a major mediator in the relationship between leadership and OCB. Both measurement and structural models showed strong validity without collinearity issues and meaningful predictive relevance. Generally, transformational leadership has been found to directly improve OCB by creating a fulfilling organizational climate which enhances the effectiveness of social learning (SLT) and reciprocal exchanges (SET). These observations highlight how both leadership and climate activities drive nurses to over perform in their duties for improved organizational outcomes and better patient care.

## **Co-Author Contribution**

The author did all the write-up for this article with the support of members in the faculty

## **Conflicts of Interest**

The authors declare no conflicts of interest regarding the publication of this paper.



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**Data Availability Statement:** All relevant data are within the manuscript and its [Supporting Information](#) files.