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Unpacking the Mediating Role of Transformational Leadership in the Human Capital Development–Employee Performance Nexus: Evidence from Ghana

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Abstract

The investment of substantial amount in employee training and development does not give the right justification as to how these investments turn out as better employee performance in most cases, especially in developing-country universities. This paper examines the mediating role of transformational leadership in the relationship between training and development and employee performance at a Ghanaian technical university. A positivist philosophy and an explanatory survey design were adopted. 104 academic staff and non-academic staff were selected via stratified random sampling and their data were collected and processed by using descriptive statistics, regression analysis and Hayes' PROCESS Macro (Model 4). The findings revealed training and development significantly predicted transformational leadership ($\beta = 0.297$, $p < 0.001$) and employee performance ($\beta = .353$, $p < .001$, $R^2 = 0.272$). Transformational leadership greatly predicted employee performance ($\beta = 0.273$, $p = 0.002$, $R^2 = 0.431$), and partially mediated the training and development–performance relationship (indirect effect = 0.081, 95% CI [0.001, 0.235]). The findings hold important implications. In order to get the performance gains maximised, higher educational institutions should combine leadership development and training programmes. Cultivating transformational leadership in staff and line management is can enhance organisational learning and institutional performance. This paper contributes to the body of knowledge by investigating the mediating role of transformational leadership in the training-performance relationship in Ghanaian technical university. This extends the understanding of how training generates performance improvements in higher education institutions.

1. Introduction

The performance of employees is basic to the effectiveness of an organisation. The performance of employees determines the productivity, quality of services offered to clients, innovation and whether the institution's objectives are achieved. In the setting of higher education, the performance of both academic and administrative staff members directly impacts the quality of teaching, research productivity, the efficiency of administration and the competitiveness of the university (Armstrong and Taylor, 2020). As a result, many universities have started investing in practices related to human resources to ensure that their employees have the capabilities required to effectively perform their roles.

Among the various practices that have been discussed within this literature, training and development has been recognised as one of the most effective practices for enhancing employees' knowledge, skills and competencies required to effectively perform their jobs (Aguinis and Kraiger, 2009; Noe, 2017). These practices can take many forms, including workshops, professional development programs, seminars and continuous learning opportunities for employees. Within the higher education sector, such training and development is needed given the changing nature of the field and the need to remain up-to-date with technological advancements, pedagogical changes and increased expectations from stakeholders (Brewster *et al.*, 2020).

In spite of organisations investing large sums of resources into employee training, there is still quite a bit of empirical data backing the fact that training by itself usually is not the only reason for enhanced performance at work. Whether the transfer of newly learned knowledge and skills in the workplace will be successful will to a large extent, depend on several organisational and individual factors such as the amount of support provided by a leader, the overall atmosphere within the organisation, and motivation levels in employees (Grossman and Salas, 2011; Saks and Burke, 2012).

Therefore, research findings point out that leadership significantly influences the efficiency with which training activities convert to a change in actual performance levels. Transformational leadership can be identified at a level where it has made a big contribution towards a better understanding of what drives people to achieve their goals and how leadership helps people deliver results. Transformational leaders stimulate people via a vision of a better future, open up ways for people to think creatively, support each person in a one-on-one manner, inspire devotion of people to goals, and encourage employees to reach higher personal goals than simply meeting job specifications (Bass and Riggio, 2006).

Work environments thus resulting from such types of leadership are the places where people find it easier to go from one level to another in the application of newly learned knowledge and skills, and, hence, to the increase in the performance of each worker and ultimately the organisation as a whole. Different studies that examined this leadership style in great detail did not find any evidence to suggest that the correlation is one-way only, meaning that the benefits from having a transformational leader were clearly reflected in the form of various employee-level results such as job engagement, job commitment, and workplace productivity (Northouse, 2021).

Despite the numerous studies that have been conducted regarding employee training and performance, few studies have investigated how training impacts employee performance, specifically within public higher education institutions in developing countries. The majority of studies related to the impact of training on employee performance focus upon the direct effects of training on employees or on the leadership of organisations, ignoring the potential role of transformational leadership in mediating the relationship between training and employee performance (Grossman and Salas, 2011; Salas *et al*., 2012). Specifically within Africa and Ghana, studies investigating the relationship between transformational leadership, training and employee performance are nearly non-existent.

The Ghanaian higher education sector, particularly technical universities, continues to undergo organisational and technological changes that require employee development and effective leadership from their employees. Although many training and development programmes exist within these universities, there is little empirical evidence of the processes through which these programmes contribute to the improvement of employee performance in these institutions. The understanding of such processes is necessary for ensuring that the costs of implementing these programmes lead to an improvement in the overall effectiveness of the university as a whole.

To the best of the authors' knowledge, no previous study has examined transformational leadership as a mediator between training and employee performance within Ghanaian technical universities. This

represents an important contextual and theoretical gap that the present study seeks to address.

Against this background, this study examines the mediating role of transformational leadership in the relationship between training and development and employee performance at Tamale Technical University. Specifically, the study investigates whether training and development positively influences transformational leadership, whether transformational leadership enhances employee performance, and whether transformational leadership mediates the relationship between training and development and employee performance.

This study contributes to the human resource management and leadership literature by extending Transformational Leadership Theory through demonstrating its mediating role in explaining how training and development enhances employee performance. It further enriches the limited evidence from African higher education institutions by providing empirical evidence from a Ghanaian public technical university. Finally, the findings offer practical insights for university managers and policymakers seeking to maximise returns on training investments through leadership development initiatives.

2. Literature Review and Hypotheses Development

2.1 Transformational Leadership Theory

This study is grounded in Transformational Leadership Theory, which was first proposed by Burns (1978) and further elaborated on by Bass (1985). The main theme of this leader-follower dynamic theory is that the leader's influence (which is idealised), inspirational, intellectually stimulating and individualised consideration leads the followers to go beyond their self-interests to help the organisation achieve its goals (Bass and Riggio, 2006). In contrast to transactional leadership that is mainly based on exchanges and use of rewards, transformational leadership inspires and encourages employee growth, innovation and commitment by setting up such motivating and supportive work environment (Northouse, 2021).

Apart from explaining the effect of leadership on employee performance, the theory also allows us to understand how training and development is channelled into increasing productivity of employees via leadership actions. Training not only improves the skill level of the employees but also through their motivation, mentoring, and intellectual stimulation of the employees by the transformational leader, the knowledge is further deepened and its application is supported (Salas *et al.*, 2022). Consequently, transformational leadership represents a behavioural mechanism through which training investments can generate improved performance outcomes.

2.2 Training and Development and Transformational Leadership

Training and development are considered as human resource strategies that equip employees with knowledge, skills, and leadership capabilities. Other than upgrading technical skills, planned

development programs also boost communication, problem-solving, emotional intelligence, and decision-making which are all transformational leadership behaviors-linked aspects (Day *et al.*, 2021).

Theoretical concepts of the link between leadership development and transformational leadership behavior have been supported by empirical studies. The meta-analysis by Lacerenza *et al.* (2017) showed that leadership development programs result in a significant improvement in the level of transformational leadership behaviors in many different types of organisational settings. Leadership development interventions in the setting of universities have also confirmed to result in increasing transformational leadership behaviors: Zulfqar *et al.* (2021) found that a leadership development program that was standardized greatly increased transformational leadership awareness as well as the practice level among university deans and heads; while Kelloway *et al.* (2000) generally demonstrated that training and feedback that is specific to an individual lead to greater transformational leadership traits that subordinates attribute to their leaders.

From the viewpoint of evidence from Ghanaian public universities, it has been verified that training has a favorable impact on employee job performance (Somuah *et al*., 2024), though evidence on the effect of training on leadership effectiveness exclusively from Ghanaian public technical universities is still limited. Accordingly, this study proposes the following hypothesis:

H1: Training and development positively influences transformational leadership.

2.3 Transformational Leadership and Employee Performance

Transformational leadership has consistently been identified as an important predictor of employee performance because it motivates employees to exceed expected standards while fostering creativity, commitment, and continuous learning (Bass and Riggio, 2006). Through intellectual stimulation and individualised consideration, transformational leaders create conditions that encourage employees to utilise their capabilities effectively and achieve superior performance (Yukl, 2013).

Extensive empirical evidence supports this relationship. Meta-analytic studies have demonstrated that transformational leadership positively influences employee effectiveness, organisational commitment, and job performance across diverse organisational settings (Judge and Piccolo, 2004; Hoch *et al.*, 2018). Similar findings have been reported in higher education institutions: a meta-analysis by Kasalak *et al*. (2022) found a positive, moderate overall relationship between leadership styles, including transformational leadership, and academic staff's job satisfaction across higher education institutions worldwide. Evidence from African higher education institutions likewise indicates that transformational leadership behaviours, particularly intellectual stimulation and inspirational motivation, are positively associated with staff productivity (Etomes *et al.*, 2025). Based on these findings, the following hypothesis is proposed:

H2: Transformational leadership positively influences employee performance.

2.4 Training and Development and Employee Performance

Training and development enhance knowledge, skills, and competencies that are required for the effective performance in job. Human capital theory holds that investments in employee development enable individuals' productive capacity, thereby, leading to improved organisational performance (Becker, 1964). Multiple studies have supported that there is a significant link between training and employee productivity, adaptability, and service quality across different types of organisations, whether public or private (Aguinis and Kraiger, 2009; Arthur *et al.*, 2003; Tharenou *et al.*, 2007).

In higher education organisations, continuous professional development is of great significance for employees to face the challenges posed by the implementation of new technology, administrative changes and the transformation of institutional expectations (Brewster *et al.*, 2020). Accordingly, the present study expects that training and development will directly improve employee performance.

H3: Training and development positively influences employee performance.

2.5 The Mediating Role of Transformational Leadership

Beyond boosting employee competence, training effectiveness also relies on organisational environment factors that support the transfer of learning to workplace performance (Grossman and Salas, 2011). Transformational leaders build work environments that provide sufficient support to employees through employee motivation, coaching, intellectual stimulation, and constant feedback resulting in employee knowledge sharing (Bass and Riggio, 2006). Ultimately, leadership behaviors may enhance the association between employee training and employee performance levels.

Human resource practitioners who recognise the human resources development perspective are likely to support that transformational leadership connects HR practices with the employee outcomes. Broader human resource development research supports this view: Transformation and human resource development research have pointed out that the HRD professional should expand their scope not only to the physical aspects of the working environment but also to the social and psychological aspects of work, including supervisor behaviour since they significantly affect employee well-being and organisational performance (Gilbreath and Montesino, 2006).

Similar findings from higher education institutions revealed that transformational leadership behaviours are associated with stronger academic staff outcomes when supportive leadership and professional development practices are present (Kasalak *et al.*, 2022; Etomes *et al.*, 2025). Nevertheless, empirical studies explicitly examining transformational leadership as the mediator between training and employee performance are yet very limited in the case of Ghanaian public universities. Addressing this gap, the present study proposes the following hypothesis:

H4: Transformational leadership mediates the relationship between training and development and employee performance.

Source

Researchers' Own Construction (2025) using draw.io software.

3. Methodology

3.1 Research Design and Participants

This study opted for a quantitative explanatory design where a survey was employed to assess the linkages of training and development, transformational leadership, and employee performance.

The study population was composed of the staff of Tamale Technical University, both academic and administrative, having participated in training and development programs. At the time of the study, the university had 588 staff members, of which 240 were academic staff and 348 were non-academic.

With a power of at least 0.8, a minimum sample size of 107 was obtained by an a priori power analysis using G*Power (Cohen, 1992; Faul *et al.*, 2009). To minimise the potential effects of non-response, a total of 119 questionnaires were distributed and 104 questionnaires were completed which were of high quality, yielding a 87.4% rate of response. This response rate is considered excellent for survey research, because rates above 70% are generally seen as enough to cut down non-response bias and boost the trustworthiness of the findings (Babbie, 2021; Dillman *et al.*, 2014).

3.2 Measures

Data were collected by means of a structured questionnaire that contains validated multi-item scales. Respondents were given the option of strongly disagree to strongly agree (1–5 scales) to express the extent of their agreement with the statements.

Training and development items were eight in number drawn from Aguinis and Kraiger (2009), Noe (2017), Tannenbaum *et al.* (1991). To measure transformational leadership, twelve items were adapted from the Multifactor Leadership Questionnaire (MLQ-5X) by Bass and Avolio (1995). Seven items were used to measure employee performance, which were picked from Williams and Anderson (1991), and Armstrong and Taylor (2020).

Cronbach's alpha was employed to determine internal consistency. Every single construct was more than the 0.70 threshold; training and development ($\alpha = 0.885$), transformational leadership ($\alpha = 0.946$), and employee performance ($\alpha = 0.894$).

Construct validity of the measurement was also tested through exploratory factor analysis. Kaiser–Meyer–Olkin sample adequacy measures ranged from 0.62 to 0.82; Bartlett's Test of Sphericity was significant ($p < 0.001$), every factor loading is above the required level. These findings indicate acceptable construct validity (Hair *et al*., 2019).

3.3 Data Analysis

Analyses of data were carried out with the help of IBM SPSS version 27 to generate basic statistics that summarise respondents' characteristics and study variables. Multiple regression was performed to test the validity of each of three research hypotheses -*H1*, *H2*, and *H3*. The mediation effect of transformational leadership (*H4*) was explored using Hayes' PROCESS Macro Model 4. This method uses a large number of 5,000 bootstrap samples and bias-corrected 95% confidence interval (Hayes, 2018). Mediation was considered significant when the confidence interval for the indirect effect excluded zero.

4. Results

4.1 Respondent Characteristics

A total of 104 valid questionnaires were analysed, representing a response rate of 87.4%. The respondents comprised 57.7% males and 42.3% females. More than half of those who took part in the survey (56.7%) were aged between 26 and 35 years old. About 64.4%) of the respondents were the administrative staff of the university while the remaining 35.6% were academics. About 45.2% of the respondents held master's degrees while 38.5% had been working at the university for a period of one to five years (see Table 1).

Table 1
Demographic Characteristics of Respondents

Variable	Category	Frequency	Percentage (%)
Gender	Male	60	57.7
	Female	44	42.3
Age	18–25 years	3	2.9
	26–35 years	59	56.7
	36–45 years	22	21.2
	≥ 46 years	20	19.2
Staff Category	Academic	37	35.6
	Administrative	67	64.4
Highest Qualification	Diploma/HND	17	16.3
	Bachelor's Degree	31	29.8
	Master's Degree	47	45.2
	PhD	9	8.7
Years of Service	1–5 years	40	38.5
	6–10 years	18	17.3
	11–15 years	28	26.9
	> 15 years	18	17.3
Source: Field Survey, 2025			

4.2 Descriptive Statistics and Reliability

The descriptive statistics indicate that respondents generally reported favourable perceptions regarding training and development, transformational leadership, and employee performance. All constructs demonstrated satisfactory internal consistency reliability, with Cronbach's alpha coefficients exceeding the recommended threshold of 0.70 (see Table 2).

Table 2
Descriptive Statistics and Reliability

Construct	Items	Mean	SD	Cronbach's α
Training and Development	8	3.5	0.85	0.885
Transformational Leadership	12	3.98	0.75	0.946
Employee Performance	7	4.06	0.77	0.894
Source: Field Survey, 2025				

4.3 Hypothesis Testing

Regression analysis was conducted to uncover any possible connections among the study variables. It turned out that training and development had a significant positive influence on transformational leadership ($\beta = 0.297$, $p < 0.001$), thus validating hypothesis *H1*. Moreover, the coefficient of determination ($R^2 = 0.133$) suggested that training and development contributed 13.3% to explaining transformational leadership.

Moreover, training and development had a strong positive influence on employee performance ($\beta = 0.353$, $p < 0.001$), aligning with hypothesis *H3* proposed. The findings suggested that training and development were able to be responsible for 27.2% of the change in employee performance ($R^2 = .272$). The regression model further indicated that transformational leadership significantly predicted employee performance ($\beta = 0.273$, $p = 0.002$), thereby supporting *H2* (see Table 3).

Table 3
Regression Results for Hypothesis Testing

Hypothesis	Relationship	R^2	B	t	p-value	Decision
H1	Training and Development → Transformational Leadership	0.133	0.297	3.96	< 0.001	Supported
H2	Transformational Leadership → Employee Performance	0.431	0.273	3.23	0.002	Supported
H3	Training and Development → Employee Performance	.272	0.353	5.04	< 0.001	Supported
Source: Field Survey, 2025						

4.4 Mediation Analysis

The role of transformational leadership (TL) as a mediator was tested through the use of Hayes' PROCESS Macro Model 4 involving 5, 000 bootstrap samples. The indirect effect of training and development on employee performance through transformational leadership was positive and statistically significant ($\beta = 0.081$, 95% CI [0.001, 0.235]). Because the confidence interval did not include zero and the direct effect still remained statistically significant after the mediator came into the picture,

the conclusion is that transformational leadership partially mediates the relationship between training and development and employee performance. Accordingly, *H4* was supported.

The reduction in the direct effect following the inclusion of transformational leadership indicates that training and development improves employee performance both directly and indirectly through transformational leadership behaviours (see Table 4).

Table 4
Mediation Analysis

Effect	**β**	**SE**	**95% CI**
Total Effect (c)	0.353	0.07	[0.214, 0.492]
Direct Effect (c')	0.272	0.069	[0.135, 0.408]
Indirect Effect (a × b)	0.081	0.056	[0.001, 0.235]
Source: Field Survey, 2025			

5. Discussion

This study examined the links between employee performance, training and development, and transformational leadership in a public technical university in Ghana. All four hypotheses of the study have been supported and it has empirically established that transformational leadership is a major channel through which training contributes to employee performance.

Results from the study revealed that training and development significantly foster the development of transformational leadership among employees in Tamale Technical University. This implies that well-devised training programmes can not only help employees grow in technical and job-specific skills but also provide opportunities to improve interpersonal, communication, and leadership skills that lead to transformational leadership behaviours. By engaging in collaborative learning, problem-solving, and continuous professional development, employees will probably develop the self-awareness, insight, and motivational capabilities that are characteristic of transformational leadership. Ultimately, such types of training programmes will help in the development of a leader within the employee. Consequently, training should be seen not just as a way to help employees better perform technically but as a means to developing future leaders.

This aligns with Transformational Leadership Theory, which argues that effective leadership behaviours can be cultivated through learning, experience, and continuous professional growth (Bass, 1985; Bass and Riggio, 2006). The finding also corroborates earlier studies showing that structured training and leadership development programmes bolster transformational leadership behaviours across various organisations (Lacerenza *et al*., 2017; Day *et al.*, 2021). Recent findings from universities echo this, indicating that leadership development initiatives enhance transformational leadership skills among academic leaders, thereby boosting institutional performance (Zulfqar *et al.*, 2021). In essence, these

findings underscore the importance of investing in employee development to strengthen transformational leadership within higher education institutions.

Transformational leadership exudes a positive impact on employee performance. Employees under such leaders are usually able to attain greater levels of performance. This is because the leaders are inculcating a collective vision, giving their respective team members attention and support and encouraging creativity. Transformational leaders have the capability to inspire a culture of trust, motivation and psychological empowerment through which one is able to effectively utilise their knowledge and skills in the attainment of one's goals in the organisation. These characteristics do not only enhance the workers' dedication but also their initiative, teamwork and continuous improvement. All these combined lead to the worker performing their jobs better.

This discovery aligns with Transformational Leadership Theory, which posits that transformational leaders drive followers to surpass expectations by inspiring them through motivation, intellectual stimulation, and personalised consideration (Bass, 1985). Indeed, this result mirrors earlier studies that showed transformational leadership boosts employee engagement, productivity, and organisational effectiveness (Judge and Piccolo, 2004; Hoch *et al*., 2018). Similarly, Etomes *et al.* (2025) found that transformational leadership behaviours especially intellectual stimulation and inspirational motivation, were linked to sustainable staff productivity in African higher education institutions. Collectively, these findings stress the vital role of transformational leadership as a strategic organisational asset for enhancing employee performance in higher education settings.

The finding that transformational leadership partially mediates the relationship between training and development and employee performance sheds important light on the channel through which training investments result in performance improvements. The partial mediation discovered in this study suggests that while training and development directly boost employee performance, a part of its effectiveness is conveyed via transformational leadership behaviours. This means that training programmes become more effective when they include developing leadership skills that prompt employees to inspire others, support collaboration, enhance learning and create a supportive atmosphere in which the newly acquired knowledge can be effectively put to use. Therefore, the effectiveness of training goes beyond knowledge acquisition to the cultivation of leadership behaviours that sustain performance improvements in organisations.

This finding enriches human resource development literature as it reveals that transformational leadership serves as a vital behavioral mediator between training and development and employee performance. Although most previous literature has focused mainly on the direct effect of training on employee performance, the present findings show that leadership behaviours can also account for how training investments lead to more effective work outcomes. The result therefore contributes to a more nuanced understanding of the training–performance relationship by highlighting the complementary role of leadership development in facilitating learning transfer and organisational effectiveness.

The findings resonate with prior studies that leadership behaviours help improve employee development effectiveness and also the ability of employees to apply new learning in work performances (Grossman and Salas, 2011; Salas *et al*., 2012). They also support recent findings that transformational leadership is associated with stronger academic staff outcomes within higher education institutions, particularly when paired with supportive professional development practices (Kasalak *et al*., 2022; Etomes *et al*., 2025). Collectively, these outcomes suggest that organisations who are aiming for higher returns of their training investment should incorporate leadership development into employee training programmes rather than treating leadership development and training as separate human resource initiatives.

Beyond supporting existing theory, this research contributes significantly to the human resource development and leadership field in two key ways. Firstly, while the mechanisms connecting training, transformational leadership, and employee performance have been scarcely explored in African higher education institutions, this study fills that gap by examining these relationships within a Ghanaian public technical university. This extends our understanding of Transformational Leadership Theory and addresses the call for more diverse contextual research in human resource development and leadership. Secondly, the findings reveal that transformational leadership acts as a behavioural bridge, enabling training and development to boost employee performance. This provides solid evidence that leadership development should be integrated into organisational training initiatives, rather than treating them as separate human resource activities.

Overall, the findings suggest that employee performance is not only influenced by offering training opportunities but also by the leadership conditions under which employees apply their newly learnt knowledge and skills. Higher Education Institutions wishing to get the most out of training budgets should therefore combine the development aspects of training with leadership practices in a way that encourages innovation, mentoring and the availability of support through one's professional life.

The findings suggest that leadership development deserves to be considered as one of the pillars of employee training strategies because transformational leadership enables the transfer of newly gained knowledge and skills into the improvement of work performance. These insights are of a broader significance as they relate human resource development theory and practice to one another in the case of knowledge-intensive industries where sustained organisational performance require good leadership and continuous employee development.

6. Conclusion and Implications

This study examined the mediating role of transformational leadership in the relationship between training and development and employee performance among academic and administrative staff at Tamale Technical University, Ghana. The findings indicated that training and development significantly boosts transformational leadership and employee performance, while transformational leadership also positively affects employee performance. The most important conclusion from this study is that transformational leadership partially mediates the relationship between training and employee

performance, which means that besides developing employees' knowledge and skills, training also helps to change leadership behaviors enabling employees to fully and effectively use these competencies on the job.

These results clearly stated that employee development strategies should not simply be considered as isolated HR interventions. Rather, organisations should include leadership training within the training programmes to create learning and working environments which will allow continuous learning, innovation, collaboration, and high performance. In the case of higher education institutions working in changing and technology-driven environments, a combination of technical training with leadership development may provide a more sustainable way to enhance institutional effectiveness.

From the theoretical standpoint, this study builds upon Transformational Leadership Theory by demonstrating how this theory can be used as an effective tool that helps identify the relationship between training and employees' performance. While previous studies have been mostly concerned with the direct effects of training or transformational leadership independently, the present study provides empirical evidence that transformational leadership acts as a behavioural pathway linking employee development initiatives to improved performance outcomes. With findings from a public technical university in Ghana as evidence, the study adds to the increasing stream of leadership and human resource management (HRM) researches emanating from developing countries, where limited amount of empirical evidence exists.

Besides the contribution to theory, the findings have several practical implications which university administrators, human resource managers, and policymakers can apply. It is therefore recommended that educational institutions should design not only technical, but also leadership-oriented skill development programmes which will include such leadership competencies as coaching, mentoring, communication, problem-solving and/or innovation alongside the development of employees' technical abilities. Managers could also cultivate work environments that enable employees to apply their newly-gained knowledge in the course of daily duties. Through a synergistic mix of such strategies, it is likely that employees' commitment, service delivery, and institution performance will be enhanced. Eventually, there will be a noticeable appreciation in the return value on investing in staff development programmes.

Despite these contributions, the authors admit that their study was constrained by certain limitations. To start, the findings of this study depended on data gathered from one public technical university which may limit the applicability these findings to other HEIs or organisational contexts. Moreover, the authors acknowledge dependence on self-reported questionnaire data through which there is the risk of common method bias that cannot be completely ruled out even if some measures were taken to reduce the risk.

Moving forward, future research could use longitudinal or experimental research designs that will help study how training and transformational leadership affect employee performance overtime through causal mechanisms. Studies comparing several universities or institutions in a variety of sectors and areas would better strengthen the generalisability of the findings. Future research may also explore

additional mediating/moderating variables like organisational culture, employee engagement, psychological empowerment, or perceived organisational support in order to better understand the processes by which training contributes to employee performance.

Declarations

Author Contributions – Kamal Dawuda was responsible for conceptualisation, methodology, data collection, analysis, writing original draft and administration. Aboko Akudugu contributed by supervising, conceptualising, methodology and editing. Ismail Yussif was responsible for writing the review, editing and validating. Ummar Faruk Saeed contributed to the analysis, writing review and editing. Alhaji Massie Bah contributed to drafting the survey questionnaire and revising the manuscript. All authors contributed equally to developing this manuscript by reading and approving the final version of this paper.

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Informed Consent Statement – Informed consent was obtained from all respondents involved in the study, and participation was voluntary, confidential and anonymous.

Conflict of Interest – No conflict of interest to be disclosed.

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Figures

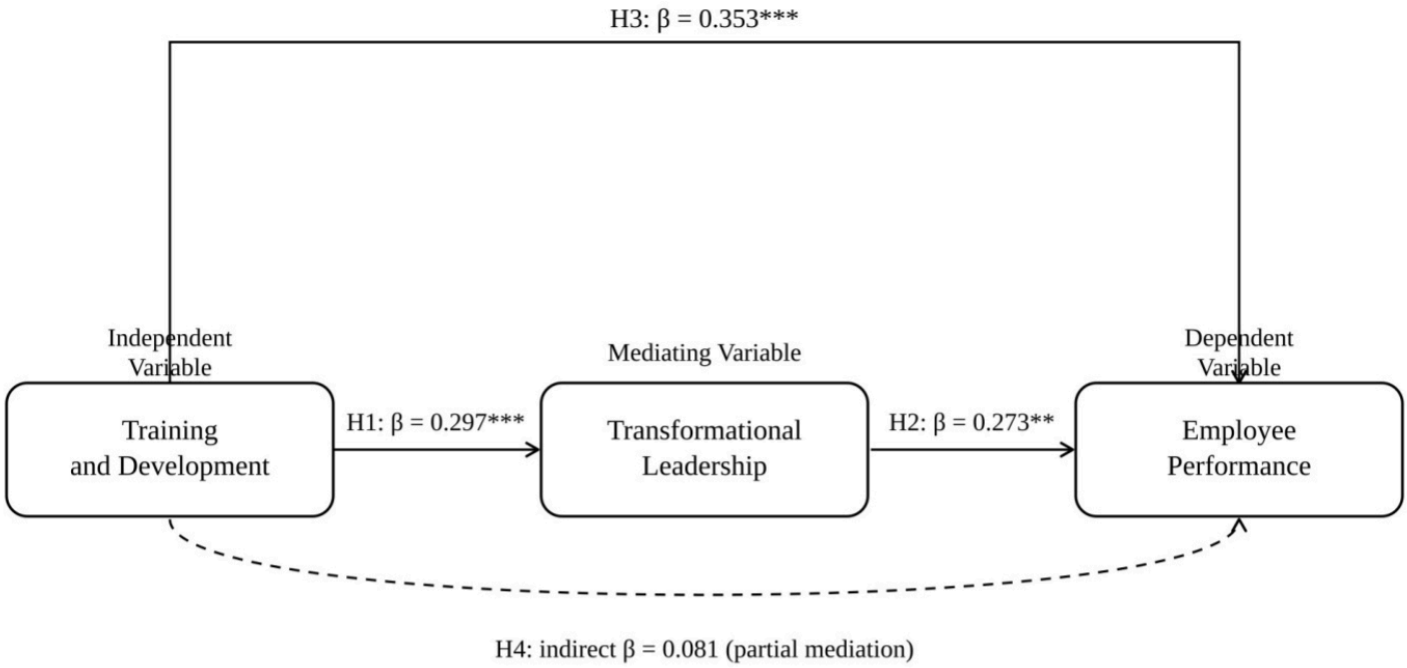

Figure 1

provides the hypothesised mediation model tested in this paper (See *Figure 1. Hypothesised mediation model of training and development, transformational leadership, and employee performance*).

Source: Researchers' Own Construction (2025) using draw.io software.