

Examining the Relationship between Training and Development Practices and Employee Performance in Private Hospitals: The Mediating Role of Employee Engagement

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Abstract

This study looks at how employee performance is related to training and development practices in private hospitals, mediated by employee engagement. The study was conducted on 450 employees of selected private hospitals in Tiruchirappalli (Trichy) in Tamilnadu, India in the quantitative, cross sectional research design with a structured questionnaire. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used for analyzing the collected data in SmartPLS 4. The findings suggest that training and development activities have positive significant impact on employee performance and employee engagement. Moreover, employee engagement has a positive effect on employee performance, and it acts as a partial mediation between the training and development practices and employee performance. The results indicated that investment in employee training can develop employee knowledge and skills, and consequently improve employee psychological engagement, which leads to better work performance. The study adds to the HRM body of knowledge, given that this literature lacks empirical evidence from the private healthcare industry and emphasises the importance of linking employee development programmes with engagement measures to boost organisational efficiency. The results have implications for hospital managers and HR practitioners in the design of training programs for their staff to enhance the quality of services and organizational performance through employee engagement.

Keywords: Training and Development Practices; Employee Performance; Employee Engagement; Private Hospitals; Human Resource Management; PLS-SEM.

Introduction

Training and development have become an integral and indispensable field of strategic human resource management (HRM) practices where with the help of training and development, organizations can improve their employee competencies, quality of services and sustainable organizational performances. Within the healthcare industry, which relies heavily on the expertise, skills, and dedication of healthcare practitioners, ongoing training and development are essential for upholding high standards in patient care. The fast-changing healthcare environment, with growing patient expectations, changing healthcare regulations and rapid technological developments, poses a highly competitive situation for private hospitals in particular. Thus, hospital management needs to undertake good training and development programs to ensure employees have the skills needed to carry out their work effectively and meet the evolving needs of the organization. Training and development had been consistently identified as one of most influential HRM practices that positively influenced employee competencies and organizational effectiveness as reported in previous studies (Sendawula et al., 2018; Shahbaz & Hadi, 2021; Parayitam et al., 2025).

In the healthcare sector, especially, employee performance is considered one of the major factors for the organisations to succeed. The performance of employees in a private hospital directly affects the satisfaction of patients, service quality, operational efficiency and the reputation of an organization. Optimally functioning health care professionals can make more precise diagnoses, provide timely care, communicate effectively, and offer care

to patients with empathy. HR researchers have suggested that employee performance goes beyond performance on the job and involves things like: Collaborating, Adaptability, Continuous Improvement, and Contextual Behaviour. In response to this, HRM practices that boost employees' knowledge, motivation, and behavioral dedication to improve overall performance outcomes are gaining increasing importance in organizations (Arwab et al., 2023; Salsabil et al., 2022; Hasan et al., 2023).

Training and development have been given much attention among various HRM practices as it helps employees to build their technical knowledge, interpersonal skills, problem solving skills and confidence level in executing complex job. Good training programs will increase staff awareness of organizational goals and promote ongoing learning and staff development. The research has shown that when employees feel that the organization is investing in their development, they are more inclined to return the favor with greater commitment, better quality of work and better performance. Continuous professional development is also crucial for ensuring adherence to clinical standards and fostering innovation in service provision within healthcare institutions (Fletcher et al., 2018; Arabw et al., 2023; Shahbaz & Hadi, 2021).

Recent human resource management literature indicates that the link between training and development and employee performance might not be straightforward. Rather, the psychological mechanisms, by which developmental practices lead to better work outcomes, can be explained by employee engagement. Employee engagement is a state of positive, fulfilling work-related experience that is manifested by employees' vigour, dedication, and absorption in work experiences. Employees who are engaged are more enthusiastic, more committed, more persistent and will put in discretionary effort to meet organizational objectives. Consistent with previous studies, employee engagement is found to positively affect employee productivity, job performance, organizational citizenship behaviors, and service quality in healthcare organizations (Jose et al., 2024; Giallourou et al., 2024; Hawarna et al., 2025).

Some empirical research has shown that employee engagement is an important intermediate factor between HRM practices and employee outcomes. HRM strategies like training, leadership, managing talent, rewarding strategies, and supportive work atmospheres motivate employees to be psychologically committed, which in turn leads to improved performance. For instance, in the health sector of Uganda, Sendawula et al. (2018) established that there is a significant mediating effect between training and employee performance by employee engagement. Likewise, Chaudhry et al. (2017) showed that training and development have a positive impact on organizational performance via employee engagement, and Aldoghan (2021) indicated that work engagement plays a mediation role between HRM practices and service recovery performance. These results suggest that the organizations' performance is not only improved through training but also through increased employee engagement that inspires employees to effectively utilize the knowledge and skills they learn.

While a number of studies have examined the separate links between training and development, employee engagement and employee performance, not many have explored the three variables together, especially in emerging healthcare systems as private hospitals. Previous research has mainly been on manufacturing companies, public health services or been on HRM practices in general, but not specifically on training and development practices. In addition, the context of healthcare is changing rapidly, and hospitals ought to be more familiar with the psychological mechanisms that underlie the impact of developmental efforts on employee behavior. In this regard, employee engagement can be reviewed as a mediation mechanism as it offers theoretical and practical insights for the administrators of hospitals in maximizing the use of investments in employee development (Arabw et al., 2023; Parayitam et al., 2025; Hasan et al., 2023).

In this context, the present study aims to explore the relationship between the practices of training and development and employee performance in private hospitals through the mediation of employee engagement. Specifically, the study aims to: (1) investigate the impact of training and development practices on employee performance in private hospitals, (2) investigate the impact of training and development practices on employee engagement, (3) investigate the impact of employee engagement on employee performance and (4) investigate the mediating role of employee engagement in the relationship between training and development practices and employee performance. The results will offer hospital administrators practical advice in formulating effective

training strategies to boost employee engagement and improve hospital performance, and will also offer insights to the human resource management literature.

Literature Review And Hypotheses Development

Training and development is an integral component of human resource management (HRM) that helps to improve the knowledge, skills and competencies of employees to meet organizational goals. The importance of Continuous Professional Development (CPD) is even greater in the healthcare industry, where healthcare practitioners are constantly challenged by new technologies, evolving clinical guidelines and growing patients' expectations. Implementing training programs and development initiatives empower staff to elevate their technical proficiency, communication abilities, problem-solving skills, and resilience, ultimately improving healthcare outcomes. An organisation that regularly invests in employee development establishes a learning culture that will facilitate employees to work efficiently, while enhancing the competitiveness of the organisation. In the healthcare industry, training and development have been shown to have a positive effect on employees' skills, attitudes toward work, and organizational performance in numerous studies, such as those by Sendawula et al. (2018), Fletcher et al. (2018), Shahbaz & Hadi (2021), and Parayitam et al. (2025).

Employee performance is the degree to which employees are able to complete assigned work and be effective in their work behaviors in order to enable the organization to meet its goals. The quality of care, the accuracy of clinical services and the way in which staff respond, co-operate and uphold professional standards are all indications of employee performance in private hospitals. By enhancing the skills and knowledge of employees, training and development can help them to be more efficient in their work, thereby minimizing errors and improving productivity. The study conducted by Arwab et al. (2023) showed that employee training in the hospitality sector has a significant impact on task performance by increasing the capabilities of the employees. Likewise, Salsabil et al. (2022) found that high performance work practices have a positive impact on the performance of hospital workers, and Shahbaz and Hadi (2021) found that well-designed training programs have a positive impact on the performance of employees because of the facilitation of individual learning. The results suggest that those organizations that invest in systematic training programs have greater chances of obtaining better employee performance.

H1: Training and development practices have a significant positive effect on employee performance in private hospitals.

Employees' psychological involvement in their work is one of the most important factors in making them effective or not, after they have learned the knowledge and skills needed. Employee engagement is a positive state of mind that an employee has when it comes to work, which includes vigor, dedication and absorption. Employees who are engaged show more enthusiasm, commitment, persistence and willingness to use their knowledge to meet organizational goals. Social exchange theory suggests that when people feel that their organizations are investing in them through training and development, they tend to respond in kind by contributing more to the organization. According to Fletcher et al (2018), trained employees have positive attitudes towards work and high level of commitment to the organization. Similarly, Jose et al. (2024) indicated that employee engagement is significantly affected by HRM practices among healthcare professionals, and Giallourous et al. (2024) observed that supportive HRM works to boost employee engagement in healthcare. The results here are that training and development inspire employees to be more emotional and cognitive with their work.

H2: Training and development practices have a significant positive effect on employee engagement in private hospitals.

In recent years, employee engagement has been recognized as one of the important factors in predicting employee performance in a variety of settings. Employees who are engaged have higher levels of energy, commitment to the organization, job satisfaction, and willingness to go beyond the profiled job requirements. These workers are proactively involved in contributing to the effectiveness of the organization by providing quality services, working cooperatively with other workers and actively looking for ways to improve services. In a health care setting, employee engagement is linked to better care for the patient, lower levels of burnout, better service quality and

better organizational outcomes. As per the study of Arslan and Roudaki (2019), employee engagement has a significant impact on employee performance since it helps minimize organizational cynicism. In the same way, Hasan et al. (2023) showed that Work Engagement has a positive relationship with Job Performance of Nurses, and Şanlıöz et al. (2023) found that Work Engagement is a considerable predictor of Job Performance in hospitals. In addition, Hawarna et al. (2025) pointed out that employee engagement can play a significant role in hospitals' quality improvement programs.

H3: Employee engagement has a significant positive effect on employee performance in private hospitals.

Employee engagement has become an important psychological mechanism in the process of linking HRM practices to employee outcomes in recent HRM literature. In recent years, the HRM literature suggests that employee engagement is an important psychological mechanism in linking organizational practices to employee outcomes. Training and Development are not directly linked to performance but rather linked to the motivation, dedication and psychological bond that employees have to their work, which in turn, will lead to better performance. When employees feel a sense of organizational support and value through receiving proper learning opportunities, they tend to have more engagement and are more likely to apply the new competencies gained properly. There are several empirical studies that support this mediating relationship. In Uganda's health sector, Sendawula et al. (2018) concluded that there is a significant mediating effect of employee engagement between training and employee performance. In the same way, Chaudhry et al. (2017) found that the training and development has an indirect effect on organizational performance through the mediation of employee engagement, and Aldoghan (2021) found that the HRM practices have an indirect effect on service recovery performance via employee engagement. Additionally, Arwab et al. (2023) found that employee training is linked to employee engagement, which explains the relationship between employee training and task performance. These findings collectively indicate that employee engagement is an important mechanism to connect training and development practices and employee performance.

H4: Employee engagement significantly mediates the relationship between training and development practices and employee performance in private hospitals.

On the basis of above theoretical arguments and evidences, conceptual framework is proposed that Training and Development practices directly affects employee performance and indirectly affects employee performance through employee engagement. The framework is based upon the social exchange theory, and the theory suggests that the more that the organizations invest in employee development, the more engaged they will feel, and the more engaged they feel, the more they will engage in the organization's performance. These relationships within private hospitals will be used to add to the literature of HRM by providing empirical evidence in the area of the mechanisms by which training and development practices positively affect employee performance in the healthcare industry.

Methodology

The present study used a quantitative and cross sectional research design to analyze the relationship between the training and development practices and employee performance with a mediating variable employee engagement for the private hospitals employees in Tiruchirappalli (Trichy), Tamil Nadu, India. The main instrument of data collection was a structured questionnaire that contained measurement scales adapted from existing human resource management literature and measured on a 5-point Likert scale which ranged from "Strongly Disagree" to "Strongly Agree". Healthcare workers (HWs) such as doctors, nurses, paramedical, and administrative staffs of selected private hospitals in Trichy were the target population. Using a purposive sampling approach, 450 valid responses were collected and used for data analysis. The sample size is sufficiently large for SEM and offers a good level of statistical power to test complex mediation relationships (Hair et al., 2011; Hair et al., 2019).

Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyze the data using the software SmartPLS. Analysis was carried out in two stages, the first being the assessment of the measurement model to ensure the reliability of the indicators, internal consistency reliability, convergent validity and discriminant validity using factor loading, Cronbach's alpha, composite reliability (CR), average variance extracted (AVE) and

the Heterotrait-Monotrait (HTMT) ratio. The structural model was then assessed by identifying the paths, coefficient of determination (R^2), effect size (f^2), predictive relevance (Q^2) and bootstrap (5,000 resamples) to identify the significance of the hypothesized direct and indirect links. Bootstrapping was utilized to evaluate the mediating effect between the variables as recommended by PLS-SEM to make robust estimation of indirect effects and generate confidence intervals (Hair et al., 2019; Sarstedt et al., 2014).

Results And Findings

Table 1: Demographic Profile of Respondents (N = 450)

Demographic Variable	Category	Frequency (n)	Percentage (%)
Gender	Male	186.00	41.30
	Female	264.00	58.70
	Total	450.00	100.00
Age (Years)	Below 25	72.00	16.00
	25–34	171.00	38.00
	35–44	126.00	28.00
	45–54	63.00	14.00
	55 and Above	18.00	4.00
	Total	450.00	100.00
Educational Qualification	Diploma	81.00	18.00
	Bachelor's Degree	207.00	46.00
	Master's Degree	135.00	30.00
	Doctorate/Others	27.00	6.00
	Total	450.00	100.00
Designation	Doctor	63.00	14.00
	Nurse	198.00	44.00
	Paramedical Staff	99.00	22.00
	Administrative Staff	90.00	20.00
	Total	450.00	100.00
Work Experience	Less than 2 Years	81.00	18.00
	2–5 Years	162.00	36.00
	6–10 Years	126.00	28.00
	More than 10 Years	81.00	18.00
	Total	450.00	100.00
Monthly Income (INR)	Below ₹20,000	54.00	12.00
	₹20,001–₹40,000	171.00	38.00
	₹40,001–₹60,000	135.00	30.00
	Above ₹60,000	90.00	20.00
	Total	450.00	100.00

Source: Primary Data

The demographic profile presented in Table 1 indicates that the majority of respondents were female (58.7%), reflecting the predominance of women in healthcare professions, particularly nursing, while male respondents constituted 41.3% of the sample. Most respondents were between 25 and 34 years of age (38.0%), followed by those aged 35–44 years (28.0%), suggesting that the workforce largely comprised employees in their productive career stages. Nearly half of the respondents held a bachelor's degree (46.0%), and nurses represented the largest occupational group (44.0%), followed by paramedical staff (22.0%), administrative staff (20.0%), and doctors (14.0%). In terms of work experience, the highest proportion of respondents had 2–5 years of experience (36.0%), indicating a relatively experienced workforce capable of evaluating organizational training practices. Additionally, 38.0% of the respondents reported earning a monthly income between ₹20,001 and ₹40,000. Overall, the demographic distribution demonstrates that the sample is sufficiently diverse and representative of employees working in private hospitals, thereby enhancing the credibility and generalizability of the study findings within the selected research context. Similar demographic compositions have been reported in healthcare workforce studies examining employee engagement and performance among hospital employees (Sendawula et al., 2018; Jose et al., 2024; Parayitam et al., 2025).

Table 2: Reliability and Validity Measures

Construct	No. of Items	Cronbach's Alpha (α)	Composite Reliability (CR)	Average Variance Extracted (AVE)	Factor Loadings
Training and Development Practices (TDP)	5.00	0.90	0.93	0.72	0.801–0.892
Employee Engagement (EE)	6.00	0.92	0.94	0.71	0.794–0.901
Employee Performance (EP)	5.00	0.90	0.92	0.71	0.798–0.887

Source: Primary Data

Table 2 demonstrates that all three constructs exhibit satisfactory reliability and convergent validity. The Cronbach's alpha values range from 0.895 to 0.918, exceeding the recommended threshold of 0.70, indicating excellent internal consistency among the measurement items. Similarly, the Composite Reliability (CR) values range between 0.923 and 0.936, confirming the reliability of the latent constructs. The Average Variance Extracted (AVE) values vary from 0.705 to 0.718, all above the minimum acceptable value of 0.50, demonstrating adequate convergent validity. Furthermore, the standardized factor loadings range from 0.794 to 0.901, exceeding the recommended cut-off value of 0.70, indicating that the observed indicators strongly represent their respective constructs. These findings confirm that the measurement model possesses adequate reliability and convergent validity, making it appropriate for subsequent structural model assessment and hypothesis testing using PLS-SEM. The results are consistent with the recommendations of Hair et al. (2011) and Hair et al. (2019), who suggest that these criteria are essential for establishing the quality of measurement models in PLS-SEM studies.

Table 3. Model Fit Summary (PLS-SEM Path Analysis)

Model Fit Index	Recommended Value	Obtained Value	Decision
Standardized Root Mean Square Residual (SRMR)	< 0.08	0.06	Accepted
Normed Fit Index (NFI)	> 0.90	0.92	Accepted
RMS Theta	< 0.12	0.10	Accepted

d_ULS	Lower than HI95	0.87	Accepted
d_G	Lower than HI95	0.51	Accepted
Chi-Square (χ^2)	Descriptive Measure	684.27	-

Source: Primary Data

Table 3 indicates that the proposed structural model demonstrates a satisfactory level of model fit and predictive accuracy. The SRMR value of 0.057 is below the recommended threshold of 0.08, indicating a good model fit, while the NFI value of 0.918 exceeds the acceptable benchmark of 0.90, suggesting that the proposed model adequately fits the observed data. The RMS Theta value of 0.098 is below the recommended limit of 0.12, further confirming the quality of the reflective measurement model. In addition, the discrepancy measures ($d_ULS = 0.874$ and $d_G = 0.512$) satisfy the recommended criteria, indicating no significant model misspecification. The coefficient of determination (R^2) reveals that training and development practices explain 58.2% of the variance in employee engagement, whereas training and development practices together with employee engagement explain 64.7% of the variance in employee performance, indicating moderate explanatory power. Furthermore, the Q^2 values of 0.401 for employee engagement and 0.456 for employee performance are greater than zero, confirming that the model possesses satisfactory predictive relevance. Overall, these findings indicate that the proposed PLS-SEM model exhibits acceptable model fit, moderate explanatory power, and good predictive capability, thereby supporting its suitability for hypothesis testing. These results are consistent with the guidelines proposed by Hair et al. (2019) and Sarstedt et al. (2014) for evaluating structural models in PLS-SEM.

Table 4. Structural Model Summary

Hypothesis	Structural Path	Path Coefficient (β)	t-value	p-value	Decision
H1	Training and Development Practices $\rightarrow$ Employee Performance	0.33	6.21	< 0.001	Supported
H2	Training and Development Practices $\rightarrow$ Employee Engagement	0.76	18.55	< 0.001	Supported
H3	Employee Engagement $\rightarrow$ Employee Performance	0.49	8.93	< 0.001	Supported
H4	Training and Development Practices $\rightarrow$ Employee Engagement $\rightarrow$ Employee Performance (Indirect Effect)	0.37	7.48	< 0.001	Supported

Source: Primary Data

Table 4 presents the results of the structural model analysis. The findings reveal that Training and Development Practices have a significant positive effect on Employee Performance ($\beta = 0.328$, $t = 6.214$, $p < 0.001$), thereby supporting H1. This indicates that effective training and development initiatives directly enhance employees' work performance in private hospitals. Similarly, Training and Development Practices exert a strong positive influence on Employee Engagement ($\beta = 0.763$, $t = 18.547$, $p < 0.001$), providing strong support for H2 and suggesting that employees become more engaged when organizations invest in their professional development. The results further demonstrate that Employee Engagement significantly improves Employee Performance ($\beta = 0.487$, $t = 8.926$, $p < 0.001$), confirming H3. Moreover, the indirect effect of Training and Development Practices on Employee Performance through Employee Engagement is statistically significant ($\beta = 0.372$, $t = 7.483$, $p < 0.001$), supporting H4. The significance of both the direct and indirect effects indicates partial mediation, suggesting that training and development improve employee performance both directly and indirectly by enhancing employee engagement. Overall, the structural model confirms the proposed theoretical framework and highlights employee

engagement as an important mechanism through which training and development practices translate into improved employee performance. These findings are consistent with previous studies by Sendawula et al. (2018), Arwab et al. (2023), and Hair et al. (2019), which emphasize the effectiveness of training initiatives in fostering employee engagement and improving organizational performance.

Discussion

The results of this research indicate that training and development have a positive impact on employee performance in private hospitals, underlining the necessity of continuous development of the employees in the health care industry. Well-trained employees tend to be more knowledgeable, skilful and competent in their work. The findings also show that employee training and development positively affect employee engagement, suggesting that the investment of the organization in employee training leads to higher psychological belongingness, interest, and commitment to their job. Furthermore, employee engagement can have a tremendous impact on employee performance, indicating that engaged employees are more likely to be committed to providing quality healthcare services and to making the organization successful. The significant indirect effect confirms that employee engagement partially mediates the relationship between training and development practices and employee performance. The results suggest that training programs not only help development of technical competencies of the employees, but also help in increasing the engagement of the employees; which further contributes to improving the job performance of the employees. The findings support the tenets of Social Exchange Theory, which suggests that employees will return to an organisation the level of investment that has been made in them, by increasing their engagement and work performance (Sendawula et al., 2018; Fletcher et al., 2018; Hair et al., 2019).

The results are in line with a number of previous empirical investigations in health care and other service industries. Employee engagement was reported to link between training and employee performance in health sector (Sendawula et al., 2018) and found to be one of the important mechanisms that helps in the improvement of task performance (Arwab et al., 2023). Likewise, Chaudhry et al., (2017) showed that employee engagement is a mediator between training and development and organizational performance; Aldoghan (2021) found that work engagement mediates the relationship between HRM practices and service recovery performance. The positive effect of employee engagement on employee performance is also confirmed by Arslan and Roudaki (2019), Hasan et al. (2023) and Şanlıöz et al. (2023) who stated that employees with high employee engagement scores are more likely to perform well in the healthcare sector. Hence, the present study added on the existing literature by giving the empirical evidences from the private hospitals located in Tiruchirappalli which indicates that employee engagement is one of the important psychological mechanisms which relates the training and development practices with higher performance of the employees. Based on the results of the study, the hospital administrator must not only invest in continuous training activities, but also build a supportive work environment to build staff engagement and maximize the effectiveness of human resource development activities and improve organizational performance.

Implications

This study's results have implications for theory and practice in healthcare HRM. From a theoretical perspective, this study contributes to the current HRM body of knowledge by providing evidence of the direct link between training and development practices and employee performance and the evidence of employee engagement as a key mediator. The study reinforces the tenets of SET, as it has shown that when organizations invest in employees' development, employees invest in the organization by showing greater engagement and high productivity. From a practical perspective, the results indicate that, to ensure the long-term success of private hospital management, training and development should be treated as strategic investments rather than as a standard organizational practice. Career development opportunities, career pathways, continuous competency-based training programs, and supportive work environments, which include opportunities to participate in learning activities, should be provided in hospitals. Private hospitals can use this to boost employees' skills and morale, leading to better patient care, satisfaction, and overall efficiency.

Conclusion

This study aimed to investigate the relationship between training and development practices and employee performance of private hospitals with the mediating variable of employees' engagement. The findings showed that the training and development practices significantly affect the employee performance directly and indirectly, via employee engagement. Moreover, employee engagement proved to be a strong predictor of employee performance, suggesting that employee who is psychologically engaged will more likely show high level of commitment, productivity and service quality. The mediation analysis showed that training and development programs have an indirect impact on the performance outcomes, with employee engagement as the mediator. The study findings indicate that the implementation of good training and development programmes and the adoption of strategies that would increase employee engagement is crucial for increasing the performance of employees in private hospitals and making the organization successful. The results of this study would add to the existing literature on HRM and have implications for human resource development strategies in the healthcare sector to enhance employee skills and ensure that they maintain a competitive edge.

Future Research Directions

This study helps to better understand the relationships between training and development practices, employee engagement, and employee performance, however there are some opportunities for future research. Further research could build on this study by incorporating other mediators, such as employee job satisfaction, organizational commitment, psychological empowerment, or organizational learning as factors to explain employee performance more fully. The researchers can also study moderating factors like leadership style, organizational culture, work environment or technological readiness to gain insights into the circumstances where training and development works best. Longitudinal research designs would be able to better establish causation than would cross sectional studies and comparative studies of public hospital facilities with other hospital facilities or between different geographical areas would improve the generalizability of the findings. Furthermore, mixed methods studies in the future can be conducted using a combination of quantitative surveys and qualitative interviews to better understand individual employees' perceptions of the effectiveness and engagement of their training in healthcare organizations.

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