

THE INFLUENCE OF TRAINING AND DEVELOPMENT ON EMPLOYEE PERFORMANCE AND INNOVATIVE WORK BEHAVIOR: THE MEDIATING ROLE OF JOB SATISFACTION AND THE MODERATING ROLE OF PSYCHOLOGICAL SAFETY

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ABSTRACT

Purpose: The influence of training and development on employee performance and innovative work behavior with job satisfaction as the mediating variable and psychological safety as the moderating variable are examined within this study. The study aims to explore the link between an organization's investment in employee development and the resulting performance and innovation in a positive work environment.

Research design: Quantitative cross sectional research design was used. Structured questionnaire measured on 7-point Likert scale was used to collect primary data from 197 respondents (employees). Collected data were analyzed with SPSS and PROCESS Macro Model 14. Descriptive statistics, correlation analysis, regression analysis, mediation analysis, moderation analysis and moderated mediation analysis were the statistical techniques used.

Findings: The findings indicate that training and development positively and significantly contributes to employees' performance and innovative work behavior. The relationships are partially mediated by job satisfaction, suggesting that training positively affects employee outcomes both directly and indirectly by boosting employee satisfaction. Additionally, the relationship between training and development and job satisfaction is significantly moderated by psychological safety, indicating that psychological safety is crucial for harnessing the full potential of training and development programs for enhancing job satisfaction. In summary, the model proposed had good explanatory power and empirical support.

The research underscores the need for continuous training and development programs and promoting job satisfaction and psychological safety in the workplace. The managers and the policy makers should develop environment that is conducive to learning, open communication and innovative behaviour in the workplace for better effectiveness of the organization and to ensure sustainable performance.

Originality/Value: The current study provides a contribution to the literature of human resource management and organizational behavior, by bringing together both employee performance and innovative work behavior in a single moderated mediation model. It also adds to the literature by showing how training and development practices can be even more effective under the action of job satisfaction as the mediator and psychological safety as the moderator.

Key Words: *Training and Development, Employee Performance, Innovative Work Behavior, Job Satisfaction and Psychological Safety.*

Introduction

Background of the Study

An organization's human capital quality and adaptability are the key factors in obtaining the competitive advantage in an uncertain global economy (Nda & Yazdani Fard, 2013). An analysis of the training and development (T&D) context showed that in a fast-changing world where technological disruptions are causing competency obsolescence, training has become a strategic imperative in achieving resilience and long term viability of organizations (Nwali & Adekunle, 2021). This strategic imperative is especially true in developing-economy settings, as the skills of available workers and the requirements of knowledge-based markets increasingly diverge and human resource management (HRM) systems are under greater pressure to manage businesses and be innovative at the same time (Aris et al., 2019).

T&D is an investment that takes place within an organization and employees learn knowledge and skills as well as positive attitudes to perform in their jobs and rise to the new challenges in their job (Armstrong, 2006; Nda & Yazdani Fard, 2013). In addition to gap filling, T&D has wider impacts within the organization: employees who feel that their companies are dedicated to their growth; they in turn respond with increased effort, loyalty and more-than-average effort (Harendra, 2025). Theoretically, this reciprocity is embedded in the Social Exchange Theory (SET) that states that employees' perceived organizational support results in their creation of normatively binding obligations to favor the organization in ways that involve more extensive job performance and more discretionary behaviors (Blau, 2017; Cropanzano & Mitchell, 2005).

Employee performance (EP) and innovative work behavior (IWB) have been objects of much research and are among the most important outcomes of interest to the sustainability of an organization. EP is a more basic construct of behavior seen as the means by which people

complete their assigned tasks and contribute to the goals of the organization (Campbell et al., 1993), while IWB is a more complex construct of self-initiated behavior that involves the intention to generate, promote and implement new ideas to improve the efficiency of the organization (Janssen, 2000; West & Farr, 1990). Cultivating IWB is one of the factors that make up adaptive capacity for an organization to reinvent processes, develop new services and proactively face market disruption (AlEssa & Durugbo, 2022; Kusumastuti et al., 2024).

But the connection from T&D investment to better performance and innovation is not a straightforward nor a direct one. Based on SET, a body of literature considers job satisfaction (JS) as the main psychological process that gives rise to the evaluation of organizational support and the eventual reciprocation (Khan et al., 2019). JS has been defined as "a pleasurable emotional state that ensues from an appraisal of one's work experience (Locke, 1976), and directly predicts task performance (Locke, 2008; Mustafa et al., 2021) and indirectly as an important antecedent of IWB as JS employees are more willing to take creative risks and engage in discretionary behaviour beyond their defined work scope (Bysted, 2013).

The organizational context in which the behaviours are performed is also extremely important. A shared sense that the work environment is safe for taking interpersonal risks without punishment or embarrassment (Edmondson, 1999) serves as an important contextual boundary condition called psychological safety (PS). In a creative and experiment-based culture, PS reduces the learning anxiety that hinders the creative expression and promotes the voice behavior of students (Jha, 2019; Miao et al., 2020). Thus, individual job satisfaction and collective psychological safety interact to contribute to the realisation of T&D investments in the form of measurable performance and innovative results (Mehmood et al., 2023; Ullah et al., 2023).

Although they have received increasing empirical attention both separately and simultaneously, a theorization of their simultaneous integration in a unified moderated mediation model, specifically in public-sector universities in developing economies, is underdeveloped. This study is trying to fill this gap in the study by taking into account the effect of T&D on EP and IWB with the mediation of JS and moderation of PS in the framework of public higher education of Pakistan.

Problem Statement

Although the T&D organizational outcome relationship has received a lot of research, there are enough empirical, theoretical, and contextual gaps that warrant the current research. Empirically speaking, although empirical studies like Harendra (2025) and Nda and Yazdani Fard (2013) have shown the positive impact of T&D upon employee performance, the findings of these studies have mostly been obtained from the private sector and developed economies. The effects of T&D on employee behaviors in Public Sector Higher Education Institutions in developing economies such as Pakistan are yet to be explored. Furthermore, the previous studies have defined the performance in a narrow sense and focused only on the result of the task which is in the form of work completion, without taking into account innovative work behavior as a conceptually different and strategic important work result (AlEssa & Durugbo, 2022; Srirahayu et al., 2023).

Existing studies mainly focused on T&D performance or T&D-IWB relationships in isolation, without considering the multiplicative effect of different psychological mechanisms in its sequence that link the organizational investment to the behavioral outcomes. While Khan et al. (2019) have proven that JS act as a mediator in the association between HR practice and performance in higher education and Kusumastuti et al. (2024) have confirmed that T&D has a positive impact on IWB through knowledge sharing, no study has positioned the JS in a single moderated mediation framework, both for EP and IWB. This represents a huge

theoretical gap as routine performance and extra-role innovation could be partially different psychological processes (Bysted, 2013; de Jong & Den Hartog, 2010).

Another gap is related to the role of organisational climate. Although Miao et al. (2020) and Jha (2019) reveal that psychological safety is a strong boundary condition of the effectiveness of HRM practices, its role as a boundary condition in the relationship between T&D and EP and T&D and IWB has been tested in very limited ways. Past research has focused on PS in the context of team performance or voice behaviors and the moderating effect in the training to performance and the training to innovation pathway has yet to be empirically examined (Vandekerckhof et al., 2017). As a result, organizations can invest in T&D programs with no consideration of the climatic conditions that can either make or break innovative returns from the investments.

A related issue is the "training transfer gap" where employees learn about knowledge management and/or specific skills in T&D but do not transfer these skills into job performances or innovation a phenomenon typical in the culture of developing countries, where hierarchical structures and a lack of psychological support mechanisms are dominant. Even in the presence of a supportive environment, employees can still be hesitant to share their ideas, while being unwilling to act in a discretionary manner. It can be concluded that all the above empirical, theoretical and contextual gaps justify the need for a study that can combine all of the above four theories into a single moderated mediation model and test it in a public higher education setting in developing country.

Research Objectives

The purpose of this study is to investigate the effects of T&D on EP and IWB with JS as a mediator and PS as a moderator among the public sector universities' employees in Pakistan.

SO1: To examine the direct effects of T&D on EP and IWB.

SO2: To assess the direct effect of T&D on JS.

SO3: To examine the direct effects of JS on EP and IWB.

SO4: To investigate the mediating role of JS in the relationships between T&D and both EP and IWB.

SO5: To examine the moderating role of PS in the relationships between T&D and both EP and IWB.

SO6: To test the conditional indirect effects of T&D on EP and IWB through JS, as moderated by PS (i.e., moderated mediation).

Literature Review

Return of investments to the human resources is not direct and it is not free from conditions. Although training and development (T&D) is an area that has received considerable empirical research on its positive impact on workforce performance, the psychological and contextual mechanisms that mediate and moderate T&D's impact on workforce performance are still not fully specified. This chapter builds upon the theoretical and empirical underpinnings of a moderated mediation model in which it is assumed T&D has direct and indirect effects on EP (through JS) which are potentially moderated by PS as a boundary condition. The synthesis of evidence from the HRM, organizational behavior and innovation literatures finds differences between the findings in empirical studies; and the six research hypotheses are obtained for testing by using PROCESS Macro Model 14. Finally, the chapter presents the theoretical, contextual and methodological implications of this study that are integrative in nature and distinguish this study from previous studies.

Training and Development and Employee Performance

One such relationship that has been consistently agreed upon is the T&D EP relationship. According to AMO theory, training can have a direct competency based effect by improving knowledge and skills that is necessary to perform the task better, and for SET, it has a motivational based effect where training perceived as an investment by the organization triggers a reciprocity performance effort. No

matter which context, the relationship is very robust as was documented by a large direct T&D and EP effect (beta = .685) in communications sector by Harendra (2025). This direct positive effect is further evidenced across the sectoral levels, in public administration (Bercu, 2017) and manufacturing (Nwali & Adekunle, 2021). While the direct pathway was found to be weakened when Siswanto (2024) added attitudinal controls, which may indicate potential full mediation in certain situations, the majority of evidence does support the existence of a direct pathway of T&D to EP that co exists with the satisfaction-mediated indirect pathway as AMO can independently serve an ability building pathway. The quantity of both pathways is estimated in this study.

H1: Training and development has a significant positive effect on employee performance.

Training and Development and Innovative Work Behavior

The underlying theory for the T&D→IWB relationship is the prediction of AMO that development programs should be designed in a way to develop the cognitive flexibility, self-efficacy and learning orientation required in the various stages of the innovation process (Aris et al., 2019; Akour et al., 2020). SET also believes that when investing in development, they not only commit to roles, but also commit to other discretionary creative inputs that make up IWB, which is also called recursive relationships (Kusumastuti et al., 2024). Evidence of the T&D-IWB relationship in the public sector is found in public-sector organizations in Indonesia (Kusumastuti et al., 2024) and Malaysia (Aris et al., 2019), where Akour et al. (2020) successfully demonstrates that the impact is stronger when training is more specifically innovation oriented. What is significant in this body of literature is that the positive impacts of T&D's IWB are more often reported in the literature in an indirect manner e.g. competency development, knowledge sharing, or satisfaction as opposed to just direct impacts. This indicates that there are two types of influences of T&D on IWB direct and indirect with direct T&D→IWB paths

accounting for only part of the total influence of T&D on IWB; the majority of the influence is indirect, going through intermediate psychological states. It is therefore crucial to indicate this indirect contribution via mediation analysis to provide an accurate estimate of the total IWB contribution of T&D.

H2: Training and development has a significant positive effect on innovative work behavior.

The Mediating Role of Job Satisfaction

The mediation of such T&D impacts on EP and IWB by JS is consistent with SET's sequential exchange logic; T&D investment brings about an affective appraisal (satisfaction) which in turn triggers countervailing behaviors in both the performance and innovation dimensions. Herzberg (1959) presents a similar argument with his motivator-hygiene theory as he proposes that professional development is an inside-out motivator that leads to active satisfaction as opposed to making hygiene-factor changes that just prevent dissatisfaction.

Both the T&D to JS as well as the JS to EP/IWB have been empirically evidenced in the literature. In the Pakistani HE context (Khan et al., 2019), indirect effects of HRM on EP contributed about 72 % of the total effects and the mediation of EP by satisfaction was found to be full. Siswanto (2024) obtained similar mediation that is specifically for T&D in a Service Sector sample and Rawashdeh et al. (2020) obtained the mediation of the satisfaction path in the various antecedent that is in the organization. For the IWB outcome, Bysted (2013) also set the JS → IWB direct link, while Dedahanov and Bozorov (2019) reported a significant direct link between Satisfaction and IWB even if the psychological safety is not considered, thus confirming the second link of the T&D→JS→IWB chain.

Partial mediation is expected in this study, aligned with the research results shown by Harendra (2025) and with the ability-building pathway of T&D that is independent to the satisfaction-mediated pathway and is expected to trigger a direct T&D→EP pathway as well. Both indirect effects are estimated with bootstrapped

confidence intervals with non-normality in sampling distributions using PROCESS Macro, Model 4) and generating bias-corrected estimates.

H3: Job satisfaction mediates the relationship between training and development and employee performance.

H4: Job satisfaction mediates the relationship between training and development and innovative work behavior.

The Moderating Role of Psychological Safety

The inclusion of psychological safety as a moderator of the T&D→EP and T&D→IWB pathways further enhances the mediation model to a conditional indirect effects model, the main theoretical novelty of this study. SET suggests that the extent of reciprocity (behavioural contribution) depends on the perceived levels of safety in the exchange environment: When a work environment is considered safe, reciprocity of behaviour in the form of satisfaction contributes to a greater extent of behaviour outside of the formal work role, specifically innovative and contextual behaviour; however, when an exchange environment is perceived as unsafe, even satisfied employees may only offer behaviour within their formal work role, as the interpersonal costs of creative exposure are too high against any perceived interpersonal relationships benefits (Edmondson, 1999; Miao et al., 2020). AMO's context enabler (psychological safety) adds complementary logic: with the skill and motivation level of T&D, psychological safety is the contextual enabler that allows the abilities and motivation to be behaviorally manifested in organizationally visible and creative ways. In the absence of this Opportunity enabler, Ability and Motivation gains are unexpressed: they don't go far enough to achieve their full potential in ways that aggregate mediation models systematically underestimate.

Empirically, Jha (2019) showed that PS is able to moderate a sequential mediated pathway in a similar structure design, and Miao et al. (2020) found that HRM practices only have innovative return when safety is high. Mehmood et al. (2023) have indeed found that safety deficits inhibit IWB, irrespective of capability levels, and

hence PS is a necessary not only facilitative condition for creative behavior expression. In particular, this moderating effect is hypothesized to work along the full indirect chain (T&D→JS→EP/IWB): psychological safety is expected to increase the strength of the relationship between the satisfaction induced by T&D and the innovative behavioral outcomes as well as performance. Using PROCESS Macro Model 14 (Hayes, 2018), the conditional indirect effects are simultaneously estimated at the low, high, and average levels of the moderator (psychological safety) and bootstrapped

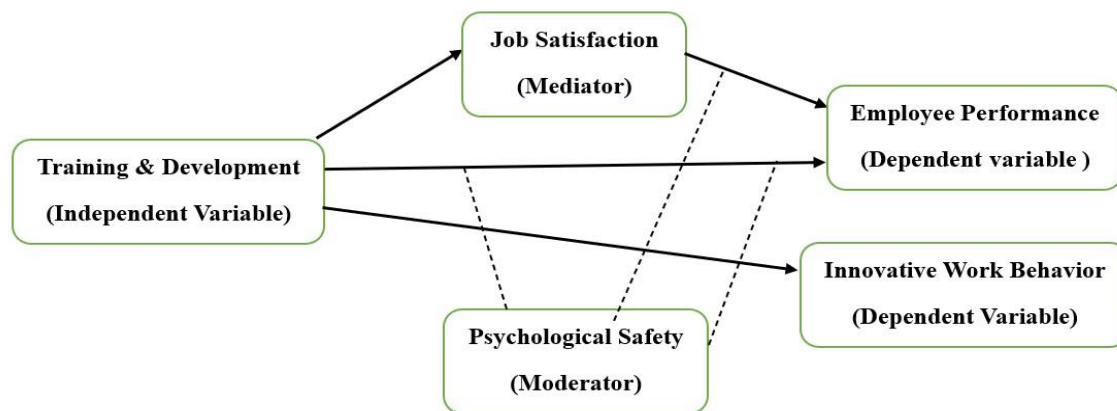
confidence intervals are used for the inference about the conditional indirect effect in the moderated mediation specification.

H5: Psychological safety moderates the indirect relationship between training and development and employee performance through job satisfaction, such that the indirect effect is stronger when psychological safety is high.

H6: Psychological safety moderates the indirect relationship between training and development and innovative work behavior through job satisfaction, such that the indirect effect is stronger when psychological safety is high.

Conceptual Framework

The conceptual framework shows the relationship between Training and development, Employee Performance, Innovative Work Behavior, Job satisfaction, and psychological Safety



Research Gap and Study Contribution

Although the literature has been rich of empirical advances, three gaps are identified and motivated the following inquiry. First, no attempt to date has been made to place JS in a single study as a mediator for both EP and IWB outcomes in a single moderated mediation model. The present studies have either considered T&D satisfaction performance chain (Khan et al., 2019; Siswanto, 2024) or the T&D and IWB relationship (Kusumastuti et al., 2024; Aris et al., 2019) separately assuming that both outcomes are conceptually identical in terms of the psychological processes involved. The current research aims to do this by fitting both pathways at once, which will enable us to estimate the differential role of JS as a mediator of the two types of outcome behavior.

Second, although psychological safety has been explored as a direct moderator of HRM effectiveness (Miao et al., 2020) and team performance (Jha, 2019), there have been no tests of its function as a boundary condition of mediated T&D pathways. This translates into a systematic gap in understanding of when the full behavioral returns from organizational T&D investments occur; a gap neither a direct-effect model nor a simple mediation design were able to address.

Finally, much of the available evidence comes from firms and developed economies where the unique pressures of public sector higher education institutions in developing nations such as Pakistan are still poorly understood as far as impacts on performance and innovation gains from T&D investments are concerned (Aris et al., 2019; Srirahayu et al., 2023). In the current

study, we aim to fill these gaps by utilizing a moderated mediation model and testing this model in the context of Pakistani public universities, where we use an integrated theory of SET, AMO Theory, and Psychological Safety Theory as the theoretical foundation for the measurement estimations using PROCESS Macro Model 14 with bootstrapped inference.

Methodology

Research Design

The design of the study was quantitative in nature, which was a cross sectional survey. The quantitative approach was suitable as it focuses on statistics to analyze relationships between measurable variables. The data were gathered from staffs of Afghan Wireless Communication Company (AWCC).

Population and Sampling

The population of the target group were those who are employed in AWCC irrespective of their position, whether managerial, administration or technical or operational.

Convenience and purposive sampling were used due to respondents' accessibility via online professional networks and organizations' contacts. The research included over 300 respondents, which is sufficient for regression, mediation, moderation analysis and PROCESS Macro.

Research Instrument and Measurement of Variables

The questionnaire items were derived from existing validated questionnaires. All items were assessed on a 7-point Likert scale (1 = Strongly Disagree - 7 = Strongly Agree).

The study included the following variables:

Variable	Type	Source
Training and Development	Independent Variable	Masood (2010)
Employee Performance	Dependent Variable	Masood (2010)
Innovative Work Behavior	Dependent Variable	Janssen (2000)
Job Satisfaction	Mediating Variable	Brayfield & Rothe (1951)
Psychological Safety	Moderating Variable	Detert & Burris (2007)

Results

Reliability Analysis of Scales Used:

Construct	No. of Items	Cronbach's Alpha	Mean	Variance	Std. Deviation
Training & Development	10	.880	57.4518	51.994	7.2107
Employee Performance	10	.858	58.1523	47.436	6.8874
Innovative Work Behavior	3	.790	17.6091	6.443	2.5384
Psychological Safety	3	.716	17.5076	4.068	2.0168
Job Satisfaction	5	.663	23.0508	6.967	2.6395

The reliability of all constructs was acceptable, with Cronbach's alpha value ranging from 0.663 to 0.880

Table 1: Respondents' Demographic Profile (N = 197)

Variable	Category	Frequency (n)	Percent (%)
Gender	Male	102	51.8
	Female	95	48.2
Age	20-25	49	24.9
	26-30	42	21.3
	31-35	78	39.6

	Over 40	28	14.2
Education Level	Bachelor's	49	24.9
	Master's	59	29.9
	MS/MPhil	89	45.2
Work Experience	< 1 year	58	29.4
	1-3 years	42	21.3
	4-6 years	67	34.0
	> 10 years	30	15.2
Job Position	Entry-level	48	24.4
	Mid-level	53	26.9
	Manager	55	27.9
	Senior management	41	20.8
Organization Sector	Public sector	45	22.8
	Private sector	65	33.0
	Semi-government	26	13.2

Variable	Category	Frequency (n)	Percent (%)
	NGO	61	31.0

Table 1 Shows the demographic profile of respondents.

Table 2: Correlation

		TD	EP	IWB	PS	JS
TD	Pearson Correlation	1				
	Sig. (1-tailed)					
	N	197				
EP	Pearson Correlation	.909**	1			
	Sig. (1-tailed)	.000				
	N	197	197			
IWB	Pearson Correlation	.877**	.863**	1		
	Sig. (1-tailed)	.000	.000			
	N	197	197	197		
PS	Pearson Correlation	.635**	.689**	.436**	1	
	Sig. (1-tailed)	.000	.000	.000		
	N	197	197	197	197	
JS	Pearson Correlation	.774**	.746**	.727**	.486**	1
	Sig. (1-tailed)	.000	.000	.000	.000	
	N	197	197	197	197	197

** . Correlation is significant at the 0.01 level (1-tailed).

The results show significant positive relationships among all variables. Training and

Development is strongly correlated with Employee Performance and Innovative Work Behavior, supporting the proposed hypotheses.

Regression Analysis

Regression analysis is tested to show the direct effects of Training and Development on

Employee Performance and Innovative Work Behavior, as well as the mediating role of Job Satisfaction and the moderating role of Psychological Safety.

Relationship Between Training & Development on Employee Performance

<i>Model</i>	<i>R</i>	<i>R²</i>	<i>Adjusted R²</i>	<i>F-value</i>	<i>Beta (β)</i>	<i>p-value</i>
TD → EP	.909	.826	.825	925.528	.909	.000

The results show that positive and significant relationship between Training and Development (TD) and Employee Performance (EP) is significant. The model accounted for 82.6% of variation of employee performance $R^2 = .826$; Adjusted $R^2 = .825$, which signifies the strong

goodness of fit. The overall model is statistically significant ($F = 925.528$ with $p < .001$). These findings confirm that effective training and development significantly enhance employee performance.

Relationship Between Training & Development on Innovative Work Behavior

<i>Model</i>	<i>R</i>	<i>R²</i>	<i>Adjusted R²</i>	<i>F-value</i>	<i>Beta (β)</i>	<i>p-value</i>
TD → IWB	.877	.769	.768	650.648	.877	.000

Training and Development has significant positive correlation with Innovative Work Behavior ($\beta = .877$, $p < .001$). The model has a good fit with the inclusion of 76.9% of the variance in IWB ($R^2 = .769$; Adjusted $R^2 = .768$).

The overall model is statistically significant with $F = 650.648$ and $p < .001$. This indicates training and development plays an important role in promoting employee innovation.

Mediating role of job satisfaction between training & development on employee performance

<i>Model / Relationship</i>	<i>Adjusted R²</i>	<i>F-value</i>	<i>Beta (β)</i>	<i>p-value</i>
TD → JS	.5996	291.980	.7743	.000
TD, JS → EP (TD)	.8304	474.944	.8274	.000
TD, JS → EP (JS)	.8304	474.944	.1052	.025

Results show that Training and Development (TD) has a significant positive influence on Job Satisfaction (JS) ($\beta = .7743$, $p < .001$). The model accounts for about 59.9% ($R^2 = .5996$).

When both Training and Development along with Job Satisfaction, jointly predict Employee Performance (EP). The model accounts for

83.0% of the variance in Employee Performance ($R^2 = .8304$). Job Satisfaction also positively and significantly impacts on the Employee Performance ($\beta = .1052$, $p = .025$). This means that higher job satisfaction is likely to result in better performance.

Mediating role of job satisfaction between training & development on Innovative work behavior

<i>Model / Relationship</i>	<i>Adjusted R²</i>	<i>F-value</i>	<i>Beta (β)</i>	<i>p-value</i>
TD → JS	.5996	291.980	.7743	.000
TD, JS → IWB (TD)	.7752	334.403	.7844	.000
TD, JS → IWB (JS)	.7752	334.403	.1198	.027

Results of the regression show that Training and Development (TD) has a positive and significant effect on Job Satisfaction (JS) ($p < .001$, $\beta = .7743$). The overall model is statistically significant ($F = 291.980$, $p < .001$) and is able to explain 59.9% of the variance in Job Satisfaction ($R^2 = .5996$).

When both Training and Development (T&D) and Job Satisfaction (JS) influence together on Innovative Work Behavior (IWB) significantly

($R^2 = .7752$; $F = 334.403$, $p < .001$). Results show that Training and Development is positively related to Innovative Work Behavior with a value of $\beta = .7844$, $p < .001$ and Job Satisfaction positively influences Innovative Work Behavior with a value of $\beta = .1198$, $p = .027$.

It's concluded that effective training and development practices lead to an increased job satisfaction and an increased innovative work behavior of employees.

Moderated mediation role of psychological safety between training & development on Employee performance

<i>Model / Relationship</i>	<i>R²</i>	<i>F-value</i>	<i>Beta (β)</i>	<i>p-value</i>
TD, PS, TD×PS → JS (moderation model)	.6606	125.230	TD = -1.5482	.000
			PS = -1.9149	.000
			TD×PS = .3599	.000
TD, JS → EP	.8304	474.944	TD = .7903	.000
			JS = .1372	.026

Results indicate that Training and Development (TD), Psychological Safety (PS) and the interaction between them are significant predictors of Job Satisfaction (JS) ($R^2 = .6606$; $F = 125.230$; $p < .001$). The important interaction term ($\beta = .3599$, $p < .001$) supports the interactions between TD and JS.

Furthermore, TD and JS significantly predict Employee Performance (EP) ($R^2 = .8304$; $F = 474.944$; $p < .001$). TD has a strong positive effect on EP ($\beta = .7903$, $p < .001$), while JS also shows a positive and significant effect ($\beta = .1372$, $p = .026$).

Moderated mediation role of psychological safety between training & development and Innovative work behavior

<i>Model / Relationship</i>	<i>Adjusted R²</i>	<i>F-value</i>	<i>Beta (β)</i>	<i>p-value</i>
TD, PS, TD×PS → JS	.6606	125.230	TD = -1.5482	.000
<i>Model / Relationship</i>	<i>Adjusted R²</i>	<i>F-value</i>	<i>Beta (β)</i>	<i>p-value</i>
			PS = -1.9149	.000
			TD×PS = .3599	.000
TD, JS → IWB	.7752	334.403	TD = .9205	.000
			JS = .1920	.027

Results indicate that TPB, PS and its interaction had a significant prediction of JS ($R^2 = .6606$; $F = 125.230$; $p < .001$). The important interaction

term ($\beta = .3599$, $p < .001$) supports the interactions between TD and JS.

Furthermore, TD and JS significantly predict Innovative Work Behavior (IWB) ($R^2 = .7752$; $F = 334.403$; $p < .001$). Training and Development has a strong positive effect on IWB ($\beta = .9205$, p

$< .001$) while Job Satisfaction is also positively and significantly affecting on IWB ($\beta = .1920$, $p = .027$).

Hypotheses Summary

Sr.	Hypotheses	Results
H1	Relationship Between Training & Development on Employee Performance	Accepted
H2	Relationship Between Training & Development on Innovative Work Behavior	Accepted
H3	Mediating role of job satisfaction between training & development on employee performance	Accepted
H4	Mediating role of job satisfaction between training & development on Innovative work behavior	Accepted
H5	Moderated mediation role of psychological safety between training & development on Employee performance	Accepted
H6	Moderated mediation role of psychological safety between training & development and Innovative work behavior	Accepted

Discussion and Conclusion

Findings

The findings of the study showed that the impact of Training and Development (T&D) on Employee Performance and Innovative Work Behavior is strong and significant. This indicates that those organizations that invest in employee training are more likely to see an increase in employee productivity and innovation. The results are congruent with the human capital theory which posits that investments in the skills of people will lead to better outcomes in the organisation.

Moreover, it was revealed that Job Satisfaction partially mediated the path between Training and

Development, and Employee Performance as well as between Training and Development, and Innovative Work Behavior. This means that not only does training have a direct impact on employee results, but it can also increase employee satisfaction, leading to even better results and innovation on the job. When employees feel good, they feel more motivated and are ready to attain the objectives of the organization.

Psychological Safety also was found to be a significant moderator in the relationship between Training and Development and Job Satisfaction. This suggests that the more

employees can voice ideas and concerns without consequences, the more positively the company training will impact employee satisfaction. This demonstrates the need to keep a positive and open culture within the organization.

The model as a whole fit well and suggests that the combined effects of training, satisfaction and psychological safety have a significant influence on employee performance and innovative behaviours.

Conclusion

From the findings of the study, it is concluded that Training and Development is one of the important factors that influences the Employee performance and Innovative Work Behavior of the organizations. The results support the hypothesis that the employees who are trained well tend to perform better and are more innovative.

Furthermore, Job Satisfaction is an important psychological mechanism to support the link between Training and Development and employee outcomes. Psychological Safety adds on to this relationship creating an environment where employees feel safe to contribute ideas and to learn from mistakes.

Thus, the integrated model obtained in this study is supported by empirical evidence and is able to explain to a high extent employee's performance

and innovation behaviour in the organizational context.

Results of this research have implications for managers and organisations. Constant and systematic Training and Development programmes should be pursued by organisations because it is an important factor that enhances workers' performance and innovation. Another important result of training programmes should be Job Satisfaction as satisfied employees are more likely to be productive and perform well towards the objectives of the organization. Managers should also foster a safe space for people to feel comfortable in expressing their concerns and ideas and making mistakes without punishment. Promote a culture of communication and regular feedback with leadership that will support learning, collaboration and innovation within the workplace. Overall, the organizations are encouraged to incorporate training and development programmes along with the employee welfare programmes, so as to make the training programme more effective and sustain good performance in the organization.

There are some limitations in the study. Firstly, data was gathered through a cross sectional design therefore causality could not be upheld. Second, self-reporting data was used and so it is possible that there may have been some response bias. Thirdly, the study was cross sectional, covering an organization limited in its scope, and may not be generalizable to other sectors or countries. Lastly, some variables were selected and others which might have an influence were not taken into consideration

Longitudinal designs should be considered in the future for better understanding causal relationships over a course of time. Mixed methods are also suggested to explore employee behaviours in greater depth. There is a need for further research with other factors like leadership style, organizational culture and employee engagement. Furthermore, comparative studies from one industry to another or one country to another can help in making the results more generalizable.

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