

THE IMPACT OF ORGANIZATIONAL SUPPORT AND EMPLOYEE CREATIVE SELF-EFFICACY ON INNOVATIVE WORK BEHAVIOR: A COMPARATIVE ANALYSIS BETWEEN PUBLIC AND PRIVATE HIGHER EDUCATION INSTITUTES

Ahmad Nadeem^{*1}, Syed Zulkifal²

¹BBA (HR) student Institute of Management Sciences Peshawar, Khyber Pakhtunkhwa, Pakistan

²Assistant Professor Institute of Management Sciences Peshawar, Khyber Pakhtunkhwa, Pakistan

¹42ahmadnadeem@gmail.com, ²zulkifal@imsciences.edu.pk

DOI: <https://doi.org/10.5281/zenodo.17241392>

Keywords

Innovative work behaviour, Creative self-efficacy, Leader-member exchange, Organization climate for innovation, Higher Educational Institutes.

Article History

Received: 17 June 2025

Accepted: 27 August 2025

Published: 08 September 2025

Copyright @Author

Corresponding Author: *

Ahmad Nadeem

Abstract

This study investigates how the organizational climate for innovation (OCI), creative self-efficacy (CSE), and leader-member exchange (LMX) affect innovative work behavior (IWB) among faculty members in selected higher education institutions in Peshawar, encompassing both public and private sectors. Grounded in social exchange theory, the research explores the relationship between organizational and individual factors and innovation within academic contexts. A quantitative research approach was employed, using a structured questionnaire to collect data from 214 faculty members at IMS (public) and CECOS (private). Data were analyzed using SPSS, applying statistical techniques such as reliability tests, correlation analysis, multiple regression, and independent samples t-tests. The results indicated that CSE had a strong positive impact on IWB, while LMX showed a modest influence. OCI did not significantly predict IWB. Additionally, IWB differed significantly between institutions, with private-sector faculty scoring higher than their public-sector counterparts. This research offers both theoretical and practical insights for fostering innovation among faculty in higher education institutions.

INTRODUCTION

In the changing environment of higher education, innovation has become not an option, but a need. The role of faculty members has changed, and they are now supposed to do more than the normal teaching and research roles to include curriculum development, digitalization, and advancement of the organization. The changes have put more emphasis on Innovative Work Behavior (IWB), which refers to the act of deliberately introducing and applying new concepts, procedures, or techniques to an organization. The Higher Education Institutions (HEIs) in the developing nations especially need to

use faculty innovation to enable both relevance and better performance.

In Pakistan, there is a two-dimensional reality to HEIs. Public universities are usually tied down with stiff bureaucracies, whereas the private institutions are fighting to survive within the competitive markets. Although the two environments are different, the two sectors depend on the academic staff to add their creativity to the development of the institutions. Faculty innovation, however, does not occur in a vacuum. It is shaped by a number of factors, such as organizational and psychological, which influence motivation, opportunity, and behavior.

One of these factors is called the Organizational Climate for Innovation (OCI) and measures how faculty view their institution in terms of encouragement toward creativity, independence, and risk-taking. An attractive innovation climate creates enthusiasm in the faculty to explore new instructional practices, areas of inquiry, and institutional projects (Volery & Tarabashkina, 2021). Simultaneously, Leader Member Exchange (LMX), which involves the quality of the relationship between the faculty and academic leadership, is another important factor. Faculty members are more likely to perform innovatory as the discretionary behavior when they realize that their supervisors support them and are trusting (Choi et al., 2021).

At the individual level, Creative Self-Efficacy (CSE), or belief in one having a creative ability, has also been associated consistently with greater levels of IWB. The faculty with the belief that they have a chance to creatively solve problems are more likely to take initiatives and persevere even in the face of problems (Han et al., 2022). Although these variables are significant, few studies have been conducted on the cumulative effects of the four variables in the Pakistani HEI context and particularly in public and private institutions, which vary regarding governance, autonomy, and availability of resources (Jamal et al., 2023; Susanti & Ardi, 2022).

The study addressed that gap by conducting research examining the influence of OCI, LMX, and CSE on IWB conducted among faculty at public and private universities in Peshawar with practical information on how to increase the rate of innovation in higher education.

Problem Statement

Although the policy and practice in the field of higher education have been experiencing a growing number of activities oriented on the development of innovation, one has to admit that innovation of the work behavior of faculty remains a challenging issue in several academic institutions in Pakistan. It is unclear what particular organizational and psychological factors are required or prevent such behaviors. Whereas quite a lot of research has been done on corporate environments with regard to factors encouraging innovation, these findings do not necessarily translate into academic institutions and

vice versa. Also, Pakistan has public and private HEIs that operate on rather different terms. A common problem in public institutions is low autonomy, having a bureaucratic organization, and being slow to change. Conversely, HEIs, which are privately owned, could be more flexible, although they undergo their own process of pressure to maintain innovation due to business needs and resource limitations. These contextual variations pose an implication that the drivers of IWB might not be held together as a constant across institutions, and this is where the comparative approach is necessary. Additionally, some studies have identified the individual contribution of OCI, LMX, and CSE in promoting innovation; however, there have been few integrative analyses on how they interact to cause IWB. The study aimed to fill this gap because it compared the effect of these aspects and discussed their differences in various forms of institutions.

Research Questions

1. How does the organizational climate for innovation influence faculty members' innovative work behavior?
2. How does the quality of Leader-Member Exchange relate to IWB in the academic context?
3. To what extent does creative self-efficacy predict innovative work behavior among faculty in higher education?
4. Are there significant differences in IWB and its antecedents between public and private higher education institutions?

Research Objectives

- To explore the effect of Organizational Climate for Innovation (OCI) on faculty members' Innovative Work Behavior (IWB).
- To examine the impact of Leader-Member Exchange (LMX) on IWB.
- To investigate the role of Creative Self-Efficacy (CSE) in shaping faculty members' IWB.
- To compare the relationships among OCI, LMX, CSE, and IWB across public and private HEIs in Peshawar.

Research Contribution

The proposed study has both theoretical and

practical contributions. Theoretically, it uses and expands on the current models of IWB by adding the organizational (OCI), relational (LMX), and psychological (CSE) predictors within the little-studied Pakistan higher education context. It also contributes towards knowing how these factors interact differently in public and private HEIs. In practice, the research has practical implications for academic leaders, policymakers, and university administrators. The insights on the main facilitators of faculty innovation can inform the decision-making process in terms of leadership development, culture, and the training of the faculty. The research also allowed targeted intervention to understand the specific constraints or opportunities of each sector, as it understands the differences between the two institutions. The study also fills a gap in the region since it offers the empirical evidence of the Pakistani HEIs, which contributes to an international debate about innovation in education.

Literature Review

Theoretical Framework and Hypothesis

The Social Exchange Theory (SET) is a theory that explained how mutual relationships within organizations encouraged employees to exhibit positive behaviors like IWB. According to this model, in a situation where employees feel like they are being treated well by leaders or themselves in institutions, the employees then feel obligated to give back in the form of discretionary service, such as innovation (Ijaz, 2022). Take the case of perceived organization support (POS): it, in itself, is a major improvement of IWB because it increases creativity among employees, which is exchange-based innovation behavior (Ijaz, 2022). Likewise, leader-member exchange (LMX) fosters trust and investment, which prompts a higher increase in innovation among employees (Choi et al., 2021). Such dynamics are particularly important in collectivist cultures, in which norms of reciprocity are more desirable (Mulligan et al., 2021; Susanti & Ardi, 2022).

The self-efficacy theory, which is informed by the psychological theories of Bandura, states that believing in your abilities is a strong behavioral motivation. The research in the various fields will reinforce CSE as a strong antecedent of IWB. According to (Tse et al., 2018), the employees whose level of CSE was high demonstrated innovative behavior, especially in the conditions of entrepreneurial leadership. At the academic level, (Han et al., 2022) demonstrated that CSE mediated the connection between supervisor support and such IWB phases as idea generation and implementation. On the same note, in the research by (Namono et al., 2022), CSE was discovered to be a stronger determinant of IWB as compared to creativity only in higher educational institutions. (Chung Nham et al., 2024) went further to include that psychological empowerment, which is associated with self-efficacy, reinforced person-organization fit in the facilitation of IWB. Overall, these results underscore that the creative ability is a necessary belief to transform support and autonomy into innovation.

According to the organizational climate theories, IWB is heavily affected by the common perceptions of the employees regarding their freedom, safety, and support. According to evidence presented by (Shanker et al., 2017), OCI directly forecasted IWB and mediated the effect it had on the performance of an organization. The study by (Volery & Tarabashkina, 2021) also established a supportive climate as one of the most predictive factors of the generation and implementation of ideas. In some studies, OCI is understood as an enhancer rather than as a predictor. The study of (Contreras et al., 2020) showed that OCI enhanced the impacts of leadership and absorptive capacity on IWB. Similarly, (Ergun et al., 2025) demonstrated that the strongest IWB was present among employees with high psychological empowerment and POS, which is an indication of positive climate.

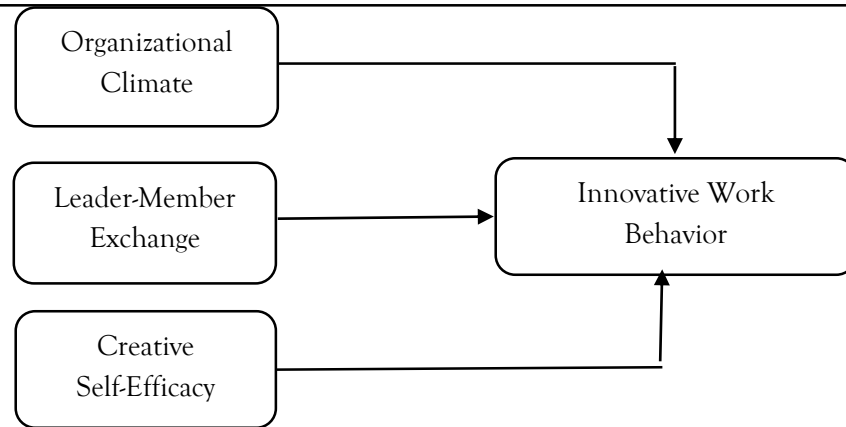


Figure 1 Conceptual Framework

Organizational Factors

Organizational Climate for Innovation (OCI)

Organizational Climate for Innovation (OCI) reflects shared views of employees on encouragement to be creative and experimental. It is always linked to more IWB with such constructs as autonomy, psychological safety, and risk tolerance (Shanker et al., 2017). According to (Shanker et al., 2017), in their research of Malaysian firms, OCI was a significant predictor of IWB and organizational performance, where IWB fully mediated the relationship. The dimensions that they found to be important include trust, freedom, and risk-taking.

A cross-national study by (Volery & Tarabashkina, 2021) supported it, arranging that the strong predictive power of OCI was clear during the stages of IWB. (Contreras et al., 2020) also noted OCI as a moderator in Latin America, whose effects increase the leadership and absorptive capacity of innovation. The same observations were made in (Ergun et al., 2025), wherein employees characterized by high perceived organizational support (POS), work engagement, and psychological empowerment matched with the top levels of IWB.

According to (Sriahayu et al., 2023), OCI can support IWB in education and in the projects of government organizations because innovation is usually seen as an extra-role expectation that needs to be addressed intentionally at the institutional level. In the academic setting, POS, which can be referred to as a component of OCI, was demonstrated by (Jamal et al., 2023) to affect IWB indirectly through thriving at work. In line with the research conducted by

(Susanti & Ardi, 2022), POS was also viewed as a mediating factor between digital transformational leadership and IWB.

(Lu et al., 2023) provided a different angle of discussion, as they demonstrated that in the case of the overqualified workers, high POS supported CSE and predetermined deviant innovation behavior. As it was identified by (Kearney, 2017), there was no direct connection between leadership and IWB, confirming the independent impact of OCI. In sum, these studies establish that OCI is a root environment that makes employee innovation behavior possible or improves it. Therefore:

H1: There is a positive interaction between Innovative Work Behavior and Organizational Climate for Innovation (OCI).

Leader-Member Exchange (LMX)

Leader-Member Exchange (LMX) is defined by the quality of relational exchanges between subordinates and leaders. Both of them, and both are essential to IWB, are encouraged through high LMX, which promotes a feeling of psychological safety and resource access (Choi et al., 2021). In their research, self-efficacy mediated the LMX-IWB connection fully as POS reinforced the relationship.

(Mulligan et al., 2021) was able to discover a serial mediation based on longitudinal data in Spain: LMX boosted mindfulness, and mindfulness increased work engagement, which culminated in IWB. (Han et

al., 2022) discovered that CSE was enhanced by autonomy and personal support by supervisors, which in turn positively affected the dimensions of IWB, such as idea implementation. Nonetheless, academic support had impairing effects on the generation of ideas, indicating that excessively instructional leadership can suppress creativity.

The contextual nature of LMX is further advocated by the findings of (Kearney, 2017), who reported poor performance of leadership in remote teams that relied on climate. Leadership effects were also discovered by (Contreras et al., 2020) to depend on absorptive capacity and OCI. (Tse et al., 2018) disclosed that the influence of CSE on IWB was enhanced by entrepreneurial leadership but not transformational leadership.

Overall, LMX causes IWB mainly by means of psychological mediation. It has a greater effect when combined with the influence of other climates and leadership patterns that encourage independence and initiative. Therefore:

H2: Leader-Member Exchange (LMX) positively influences Innovative Work Behavior.

Individual Factor

Creativity Self-Efficacy (CSE)

Self-efficacy theory is based on Creativity Self-Efficacy (CSE), that is, the perception of a person to create and introduce new ideas. It will always appear as a strong psychological facilitator of IWB in the fields of the public and the private, as well as the academic one (Namono et al., 2022; Tse et al., 2018).

With higher learning, CSE makes a greater contribution to the implementation of innovation as compared to creativity. When analyzing the role of high CSE, (Namono et al., 2022) came across the idea that faculty members with high CSE had higher possibilities to initiate, promote, and implement new ideas at all IWB levels. In another study by (Tse et al., 2018), it was established that high CSE was associated with a higher level of IWB, especially where entrepreneurial leadership positively influenced initiative and risk-taking. These results indicate that when one believes in his/her ability to create, he or she is able to continue innovating in unclear contexts. (Susanti & Ardi, 2022) viewed CSE as the best predictor of IWB in a school context when compared

to leadership or POS. But the POS mediated the leadership effect on IWB and did not show significant mediation between the CSE and the IWB, which brought forward the strong direct effect of CSE. In line with this, (Kearney, 2017) found that CSE was a form of IWB independent of leadership contact where workplace arrangements were distributed with limited leadership contact.

In their review of public organizations, (Srirahayu et al., 2023) also included CSE as a crucial antecedent on the personal level that allows innovation even in bureaucratic or inert surroundings. Indirectly, (Ergun et al., 2025) observed that empowered, confident groups of employees, which represented high CSE traits, had the highest IWB. Equally, although (Jamal et al., 2023) was primarily interested in POS and thriving, they define psychological vitality in terms that are substantially similar to fundamental aspects of self-efficacy.

The corroboration of these findings lends credence to the fact that CSE is not only a direct source of IWB but also an imperative agent of organizational and leadership impacts and the need for fostering self-belief combined with structural support. Therefore:

H3: Creative Self-Efficacy (CSE) is a good predictor of Innovative Work Behavior.

Integrated Conceptual Framework

Interdependence Between Variables

Current literature highlights more on the synergistic connections between Organizational Climate for Innovation (OCI), Leader-Member Exchange (LMX), and Creative Self-Efficacy (CSE) in developing IWB. OCI creates the base environment where psychological safety and innovation support are offered (Shanker et al., 2017). In this environment, good LMX relationships will enhance trust and independence, which contributes to innovative action (Choi et al., 2021). Nevertheless, the effect of LMX on IWB is massive under the conditions of a climate that favors experimentation (Contreras et al., 2020).

CSE is an interplay of individual attitude and situational chance. The staff having a strong CSE is more likely to take advantage of favorable environments and human leadership communications to promote innovation (Tse et al., 2018). According to (Han et al., 2022), the mediating

role of CSE in the connection between the support of the supervisor and various stages of the IWB, such as the implementation of the idea, was established. Similarly, (Namono et al., 2022) also indicated that CSE had a significant impact on enhancing innovation amongst the faculty, mostly in environments where the academic environment encouraged autonomy and ideation.

These variables operate in a mutually reinforcing way by the way that OCI promotes the trust required in high LMX, which increases CSE, which then generates IWB (Choi et al., 2021; Shanker et al., 2017; Tse et al., 2018). The triangular dynamic was described in the following way: Innovation behavior is the output of the combined organizational, relational, and psychological enablers.

Moderating and Mediating Effects

Investigated studies also disclose essential mediation and moderation processes. As an illustration, LMX had an effect on IWB through CSE, and POS moderated this association in (Choi et al., 2021), indicating that leadership is the most effective when perceived institutional support is available. The study conducted by (Jamal et al., 2023) revealed that the POS-to-IWB relationship was mediated by thriving at work, and (Han et al., 2022) established the role of various types of supervisor support working through CSE to affect various innovation behaviors.

These relationships were also mediated by entrepreneurial leadership (Tse et al., 2018), work engagement (Ergun et al., 2025), and mindfulness (Mulligan et al., 2021). Asymmetries were also pointed out by (Susanti & Ardi, 2022): leadership effects mediated by POS but not the ones with CSE, and thus, the psychological belief may act more directly. Taken together, the insights validate that IWB is the product of the complicated, stratified processes, with the organizational and interpersonal contexts prompting the internal CSE and engagement processes, which eventually result in innovation.

Contextual Limitations and Identified Gaps

Most research (Han et al., 2022; Namono et al., 2022) concentrated on either state universities (public universities) or institutions in the private sector (Susanti & Ardi, 2022), and comparative studies of the two types of higher education institutions (HEIs)

are scarce. In the absence of such comparisons, we may not even know how the governance, autonomy, or incentive system differentially affects IWB in the various sectors (Ergun et al., 2025; Jamal et al., 2023). The existing body of literature reviewed the individual or team dynamics, and those studies that focused on macro-institutional aspects, e.g., governance policies, performance assessment, or innovation incentives within HEIs, were rare (Srirahayu et al., 2023). (Jamal et al., 2023) made brief mentions about organizational support, whereas little to no attention was given to wider policy systems, which are essential in affecting the capacity of an institution to innovate.

Most articles focused on mediation and moderation mechanisms, although the models that were being studied were fragmented and sometimes linear (Choi et al., 2021; Han et al., 2022). Not many considered multiple or hierarchical pathways in which psychological factors (e.g., CSE) are combined with organizational context (Ergun et al., 2025; Shanker et al., 2017). The fact that such constructs as POS are simultaneously mediators and moderators deserve more conceptual clarification (Lu et al., 2023; Susanti & Ardi, 2022).

Methodology

Research Philosophy and Approach

The research adopts a positivist philosophy, which posits that reality is objective, observable, and measurable. In line with the same understanding, the study aims at investigating the interrelationships between variables impacting Innovative Work Behavior (IWB) among faculty members of higher education institutions. Positivism focuses on the use of quantitative data and data statistics and the objective interpretation of results. To do so, the correlational design of research is used to determine the type, magnitude, and direction of existing relationships between the independent variables Organizational Climate for Innovation (OCI), Leader-Member Exchange (LMX), and Creative Self-Efficacy (CSE), and the dependent variable IWB. This design can be applied to learn how these constructs interrelate in real-life academic settings without variable manipulation.

Research Type and Nature

This study falls under the category of basic research, whose purpose is to contribute to theoretical knowledge in the fields of organizational behavior and management of higher education. Although much research has been done on Innovative Work Behavior (IWB) at corporate and Western universities, there seems to be less literature on how IWB can be implemented in the Pakistani higher education institutions (HEIs). The research purpose bridges that gap by examining the effect of organizational and psychological variables on faculty innovation in both the government and private HEIs in Peshawar. The data collection and analysis using the quantitative research method utilized a large representative sample, making it objective, generalizable, and have statistical validity to test the hypothesis and make sound conclusions.

Population and Sampling Technique

Faculty members in both the public and the private higher educational institutions in Peshawar, Pakistan, are the target population. Faculty members were suitable participants in this research because they are the direct stakeholders in the academic innovation, teaching, research, and even institutional contributions. The total population of the faculty includes 306 faculty (i.e., 169 public and 137 private). The public population of '169' is reported here according to the HR department of IMSciences, and the private '137' is reported according to the Establishment department of CECOS. There was a stratified random sampling method that was used to ascertain that both sectors were represented, and the sample size was determined using the formula " $n = N / (1 + N * (e)^2)$ ", where 'n' refers to required sample size, 'N' refers to population size, and 'e' refers to margin of error. The original sample size included 220 respondents, of which 118 were a sample of a public HEI and 102 a sample of a private HEI.

Yet, at the data screening stage, six responses were excluded based on extreme outliers characterized by absolute Z-scores (± 3.0). Out of this, five were of the public and one of the private, showing a final sample of 214 faculties, 113 of the public and 101 of the private HEIs. This weighted distribution plays the same proportional representation in both sectors, making the results reliable and valid.

Data Collection and Measurement Scales

The paper used a self-administered survey deployed via Google Forms as well as physically distributed in some of the higher learning institutions in Peshawar. This hybrid approach helped engage more faculty members in the public as well as in the private sectors. A pilot study involving 22 subjects was used to measure clarity, and detect ambiguities, and determine internal consistency.

A six-item scale developed by de Jong and Den Hartog (2010) was employed to measure Innovative Work Behavior (IWB). It includes idea generation and idea implementation with a 5-point Likert scale whose values range from 1 (never) to 5 (always). Internal consistency was also high, as Cronbach alpha was 0.892 (pilot) and 0.837 (the full sample, N = 220).

Measuring an Organization Climate to Innovation (OCI) was based on three items in a scale devised by Scott and Bruce 1994 to consider institutional responsiveness, staff and development, and talent incentive. The magnitude of responses to questions was measured on a 7-point Likert scale, on which the reliability scores equaled 0.772 (pilot) and 0.807 (full sample).

The seven-item scale by Graen (1984), as used in measuring Leader-Member Exchange (LMX), assessed: mutual trust, communication and leadership support. The response formats were varied; however, they relied on mostly 5-point Likert-type scales with alpha = 0.903 (pilot) and alpha = 0.871 (entire sample).

A six-item scale developed by Karwowski (2011) was used to assess a Creative Self-Efficacy (CSE) that focuses on the belief of individuals to think creatively to solve a problem. The answers were measured at a 5-point scale (1 = Definitely Not to 5 = Definitely Yes) and Cronbach alpha was 0.896 (pilot) and 0.819 (full sample).

The use of all measurement tools had been previously tested in the sphere of organizational behavior research, which helps to achieve the content validity. Six cases with outliers were excluded in the screening of data, so reliability coefficients were recalculated on final sample (N = 214 list), and their new values are presented in the analysis part.

Data Analysis

SPSS was used in analysis of data to guarantee accuracy, consistency and validity. Descriptive statistics were used to address demographic profiles, and response patterns. The internal consistency of measurement scales was confirmed by recalculating Cronbach alpha to each of the variables. Correlation analysis helped to determine the correlations between Organizational Climate for Innovation (OCI), Leader-Member Exchange (LMX) and Creative Self-Efficacy (CSE) and Innovative Work Behavior (IWB), and

multiple regression was used to check the predictive significance of the independent variables in relation to IWB. All the analyses were done using composite scores that represented the constructs in a more consistent and theoretically sound way. Moreover, a t-test independent sample was used to compare the IWB levels among the faculty in the public and the private institutions of HEIs, consistent with comparative objective of the research. Collectively, these techniques provide a strong analysis of the hypotheses of the study.

Findings and Results

Table 1 Reliability Analysis (N = 214)

Construct	Source	Number of Items	Cronbach's Alpha (α)
Organizational Climate for Innovation (OCI)	De Jong & Den Hartog (2010)	3	0.808
Leader-Member Exchange (LMX)	Scott & Bruce (1994)	7	0.866
Creative Self-Efficacy (CSE)	Graen & Uhl-Bien (1995)	6	0.801
Innovative Work Behavior (IWB)	Tierney & Farmer (2002)	6	0.826

The final analysis of reliability was re-performed on a final data set of 214 respondents after excluding six outlier cases found in the data screening process. The internal consistency of the measurement scales employed in the study was evaluated with the help of Cronbach's alpha. All four constructs recorded Cronbach alpha values beyond the suggested level of 0.70, as indicated by Table 2, which are within

acceptable to high reliability. These findings validate that the items included in the scale that were to measure each construct were reliable and internally consistent to use in further statistical analysis. The reliability levels prove to be similar to the previous literature, and it proves the validity of the measurement tools adopted.

Table 2 Participant Profile

		Frequency	Percent	Valid %	Cumulative %
Valid	Lecturer	107	0.0	50.0	50.0
	Assistant Professor	38	0.0	17.8	67.8
	Associate Professor	13	0.0	6.1	73.8
	Professor	15	0.0	7.0	80.8
	Other	41	0.0	19.2	100.0
	Total	214	0.0	100.0	
Missing	System	1048346	100.0		
Total		1048560	100.0		

Faculty position was used to evaluate the demographic profile. The findings indicated that most of the respondents were lecturers (50.0%), followed by

assistant professors (17.8%), professors (7.0%), and associate professors (6.1%), and 19.2percent were in the other category, as indicated in Table 2. This

allocation is a representation of the teaching framework in the region's higher institutions. The four core constructs, namely, organizational climate for innovation (OCI), leader-member exchange (LMX), creative self-efficacy (CSE), and innovative work behavior (IWB), were all calculated using composite scores. Respondents demonstrated relatively high levels of creative self-efficacy ($M = 4.31$) and the positive impression of the organizational climate to be innovative ($M = 4.95$), as indicated in Table 3. The responses associated with leader-member exchange and innovative work behavior was moderately positive, with means of 3.44 and 3.47, respectively. The standard deviations showed that

variability in all the constructs was not beyond acceptability, and there was no presence of abnormalities in data. These findings indicate that faculty members rate themselves as creative, report a moderate degree of engagement in innovation, and labor in institutions that were intermediate in supporting innovation and enjoying functional leader-member relations.

Table 3 Descriptive Statistics Results for Composite Measures

Variable	Minimum	Maximum	Mean	Std Deviation
Organizational Climate for Innovation	1	7	4.95	1.31
Leader-Member Exchange	1.29	5	3.44	0.71
Creative Self-Efficacy	2.67	5	4.31	0.47
Innovative Work Behavior	1.17	5	3.47	0.69

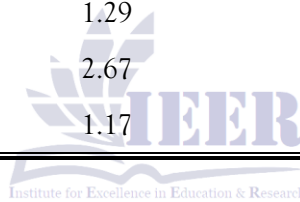


Table 4 Correlation Analysis Results

Variable	OCI	LMX	CSE	IWB
OCI	1			
LMX	.622**	1		
CSE	.192**	.226**	1	
IWB	0.108	.206**	.473**	1

In order to determine the strength and nature of relationships that exist between the study variables, Pearson correlation analysis was performed as shown in Table 4. Results indicated that there is a statistically significant strong positive relationship between OCI and LMX ($r = .622, p < .01$), and therefore the higher the quality in leader-member relationships, the more the recognition of a positive organizational climate. There was a moderate positive correlation value between LMX and CSE ($r = .226, p < .01$) and LMX and IWB ($r = .206, p < .01$) that indicated that a positive correlation between LMX and CSE is possible,

and a positive correlation that higher LMX can be associated with a positive effect on CSE and IWB. CSE had a moderate positive correlation with IWB ($r = .473, p < .01$), which was an indication that a person who feels sure of their ability in creativity has a high likelihood of having innovative behaviors. There also existed a weak positive significant correlation between OCI and CSE ($r = .192, p < .01$). Nevertheless, the interconnection between OCI and IWB is positive but not significant ($r = .108, p = .115$), which reveals that there is no strong indication of a direct relationship in the given data.

Table 5 Multiple Linear Regression Results

Predictor	B	SE B	β	t	Sig. (p)	VIF	Hypothesis Decision
Constant	0.32	0.4	-	0.806	0.421	-	-
Organizational Climate for Innovation (OCI)	-.037	0.04	-.070	-0.913	0.362	1.64	Not supported
Leader-Member Exchange (LMX)	0.14	0.08	0.15	1.895	0.059	1.66	Weak support
Creative Self-Efficacy (CSE)	0.66	0.09	0.45	7.298	< .001**	1.06	Supported

To investigate the moderating effects of Organizational Climate for Innovation (OCI), Leader-Member Exchange (LMX), and Creative Self-Efficacy (CSE) upon Innovative Work Behavior (IWB), a standard multiple linear regression analysis was performed. The collinearity statistics were within the acceptable limits, whereby the tolerance values exceeded 0.60 and VIF scores were below 1.70, and this indicated that the issue of multicollinearity was not a concern. The general model was found to be significant, $F(3, 210) = 21.708, p < .001$, and indicated that it had the ability to explain an approximate variance of IWB that is about 23.7 (R^2

$= .237, \text{Adjusted } R^2 = .226$). These findings reveal that there is a moderately strong goodness of fit between the model and the prediction of innovative behavior within the faculty.

Creative self-efficacy had a significant positive influence on IWB ($\beta = .453, p < .001$), as indicated in Table 5, leading to the support of H3. Leader-Member Exchange ($\beta = .147, p = .059$) was significant, although basically, it does not give much support to H2. Organizational Climate for Innovation ($\beta = -.070, p = .362$) was not a significant predictor of IWB, however, and consequently this analysis did not support H1.

Table 6 Group Statistics for IWB by Sector

Institution Type	N	Mean IWB	Std. Deviation
IMS (Public)	113	3.3466	0.65509
CECOS (Private)	101	3.6172	0.70771

The descriptive statistics of the IWB scores of the two groups are provided in Table 6. The mean IWB scores in private institutions (CECOS) ($M = 3.6172, SD = 0.70771$) were high in comparison to those of the public institutions (IMS) ($M = 3.3466, SD = 0.65509$).

Table 7 Independent Samples t-Test by Sector

Levene's Test for Equality of Variances		t-test for Equality of Means				95% Confidence Interval	
F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
0.074	0.786	-2.904	212	0.004	-0.27055	-0.45422	-0.08689

The independent samples t-test was used to test the statistical significance of the difference between the level of Innovative Work Behavior (IWB) of faculty members of the public and private higher education institutions, as shown in Table 7. The test of Levene showed that the assumptions of equal variances were fulfilled ($p = .786$). The outcome of the t-test indicated a statistically significant difference between the two groups ($t(212) = 2.90, p = .004$), meaning that the faculty at the private institutions depict high IWB as compared to those at the public institutions.

This result is consistent with the comparative aspect of the study, proving that the context of the institutions (public vs. private) has a contributing effect that is related to faculty involvement in innovation practices.

Discussion

This discussion provides an explanation of the findings of the statistical procedures, and it revolves around the connections between Organizational Climate for Innovation (OCI), Leader Member Exchange (LMX), Creative Self-Efficacy (CSE), and Innovative Work Behavior (IWB) along with its comparison in faculty in both the public and private sectors.

The first hypothesis was H1, that OCI has a positive impact on IWB. Nevertheless, the regression proved that there is no significant relationship, so this hypothesis was rejected ($\beta = -.070, p = .362$). This is an indication that positive organizational climate, even in such an institution as that of IMSciences, does not necessarily trigger innovation among faculty workers. This observation contradicts the existing literature that states OCI as a robust indicator of innovation, especially in an atmosphere, where psychological safety and resource availability are highly valued (Shanker et al., 2017; Volery & Tarabashkina, 2021). Even though IMSciences is a rather independent and innovative-focused state institute, the deficiency of meaningful affiliation might potentially mark the failure to acknowledge the relationship between institutional-level innovation project and individual faculty viewpoints. According to (Namono et al., 2022), OCI could influence IWB indirectly due to mediating factors, which include leadership quality and psychological engagement. Unless these initiatives are directly aligned to the faculty

expectations, the influence of OCI might not be that significant. Therefore, the non-acceptance of H1 is probably not the result of the lack of favorable climate, but either implementation gaps or lack of actual, faculty-level empowerment. Institutions need to make sure that innovation policies not only are good-designed but also are visible to academic personnel in their daily working environment.

The second hypothesis, H2, proposed that IWB would be positively affected by Leader-Member Exchange (LMX). The regression found a weak relationship between LMX and IWB, which was marginal only ($\beta = .147, p = .059$). To a certain extent, this is consistent with past research that placed a particular significance on leader-employee trust and communication in the development of innovative outcomes (Choi et al., 2021; Mulligan et al., 2021). The reason that there may have been a weak statistical impact in this study could be because of inconsistent leadership styles or variability across the departments. In the university setting, the role of leadership might be less evident than in business organizations, where autonomy may be greater. Therefore, even though the support of H2 was not entirely found, the marginal significance implies that LMX can also play a role in driving innovative behavior under some circumstances.

In H3, it was supposed that IWB would be positively predicted by Creative Self-Efficacy (CSE). The hypothesis was supported by a substantial positive correlation between CSE and IWB ($\beta = .453, p < .001$), according to the regression results. This result aligns with previous studies identifying CSE as a foundational psychological asset for innovation (Han et al., 2022). The phenomenon can be explained by the fact that when people are convinced of their creative possibilities, they tend to present new ideas and remain persistent despite any complications and spend time solving issues (Tse et al., 2018). Thus, H3 was completely confirmed, highlighting the critical value of personal belief in one's own creative potential as a source of innovative behavior.

Though it was not developed as a formal hypothesis, the study involved a comparative study to look at the variation in Innovative Work Behavior (IWB) among faculty workers in both the public and the private institutions. An independent samples t-test also indicated a significant difference, as the reported IWB

of the faculty in the private sector was higher than the faculty in the public sector ($p = .004$). This finding is also consistent with the findings of previous studies in that the private institutions tend to be more flexible and less bureaucratic than their public counterparts and have incentives that are performance-based and thus are more likely to lead to innovation (Susanti & Ardi, 2022). On the other hand, an administrative inability and lack of autonomy may be a factor affecting public institutions and restricting the authenticity of creative behavior, although organizational policy encourages such practices. The results illustrate the organizational situational factor impact on the faculty innovation and provide the idea that sector-specific approaches are necessary to facilitate innovative work behavior in the context of academia.

Conclusion

This paper discussed the effects of Organizational Climate for Innovation (OCI), Leader Member Exchange (LMX), and Creative Self-Efficacy (CSE) on Innovative Work Behavior (IWB) of faculty members working in public and private universities of Peshawar. The results identified that CSE significantly and positively influenced IWB, which indicated that personal belief in having the creative ability was a major determinant in fostering innovation in the academic professionals. LMX, on its part, displayed low evidence with respect to its role in IWB, suggesting that the leader relationship with faculty can be a predictor of innovation but not much as a predictor on its own. OCI did not have any significant influence on IWB, which agreed with the fact that the mere existence of supportive structures or policies may not be adequate in itself to induce innovation unless combined with other driving forces or enabling mechanisms. Additionally, the research indicated that there was a significant variation in IWB among the members of faculty in the public and private HEIs using an independent sample t-test, which means that institutional type was a moderating effect related to promoting innovation. The IWB scores were higher among the faculty at the private HEIs (CECOS) than among the faculty at the public HEIs (IMS), and it indicates that organizational culture and leadership are different in different sectors.

Internal consistency of all four constructs, estimated by Cronbach's alpha value, excluding the responses of outliers, was over the acceptable level of 0.80, which confirms the reliability of measurement instruments applied. Descriptive analysis also gave a clear representation of the mean trends of the faculty responses in all the variables. Altogether, the findings underscore the importance of helping the faculty become more innovative in college environments by strategically enhancing matrices of institutional support, developing superior leader-member exchanges, and giving members of the faculty the confidence that enables them to solve any problem in new and innovative ways. These observations are actually relevant to both theory and practice in the field of educational innovation and organizational behavior.

Theoretical Insights

The insights of this research help demonstrate the innovative work behavior in terms of Social Exchange Theory, according to which people demonstrate positive behavior to express gratitude for favorable conditions in the organization and in relations with others. The high levels of influence that the Creative Self-Efficacy (CSE) had on IWB confirm the emphasis on the theory regarding personal agency and perceived support. Although Leader Member Exchange (LMX) has been weakly supported, it has implications implying that, although indirectly, relational dynamics can bring about innovation. The insignificance of the Organizational Climate for Innovation (OCI) also implies that the perceived support structures may not necessarily trigger the reciprocal innovation in the complex institutional setups. On the whole, the study points to such individual psychological resources as self-efficacy as the aspect that might be more directly tied to emerging innovative behavior than the overall environmental factors, complicating the process of applying the Social Exchange Theory to academic circumstances.

Practical Implications

The study has a number of practical implications to be used by academic institutions that want to improve the innovative behavior of faculty. First, due to the robust effects of creative self-efficacy (CSE), training

and development initiatives that build creative confidence directly correlate to innovation. Trying new ways of teaching or conducting research can also help a faculty to build self-belief. Even though Leader-Member Exchange (LMX) was only marginally significant, the findings suggest that enhancing the supervisor-faculty relationship by way of better communication, recognition, and trust can nonetheless, if not significantly, affect innovation positively. The large disparity of IWB between the public and the private faculty also points to the necessity of the public sector to consider organizational barriers that can be proving as obstacles to innovations. It can involve bureaucratic process modification, affording independence, or adopting incentive systems that encourage creative inputs.

Limitations and Future Research

Although the study is very helpful, one should mention limitations. First, self-reported questionnaires were used in collecting the data, making it prone to the social desirability bias or overrepresentation of behavior. Second, the participants were restricted to faculty members of the chosen public and private institutions only in the Peshawar region, which can be a limitation concerning the generalizability of the study results to other regions and institutions. Third, even though the study considered reliability and outliers, it employed a cross-sectional design, hence preventing the identification of causality between variables. Fourth, even though there are two sub-dimensions in the IWB scale, it was considered as a single factor in the current study to simplify the analysis and enhance the usefulness of the construct. In future, researchers might conduct work on the basis of dimension-specific effects to understand the difference of how various factors affect the generation of ideas as well as implementation differently." Fifth, there was no reference to possible moderating or mediating variables, which can be organizational support practices or job roles, to further define the mechanisms that may determine a certain innovative behavior. Finally, this research only populates three independent variables and their influence on innovative work behavior. However, other constructs that can be relevant to our topic, like job satisfaction,

organizational justice, or transformational leadership, have been cut out in order to be more focused.

As future research, the current study can be enlarged to provide further variables, including organizational support practices, innovation leadership, or psychological empowerment as a mediator or moderator of innovative behavior. A bigger and geographically wider sample could be used to enhance the application of the generalization outside Peshawar. Longitudinal studies or mixed methods might provide a more detailed answer to the causal factors and lives behind faculty innovation. Lastly, to expand the knowledge base, it may be because they compare innovation behavior in various academic fields or non-school areas in future research.

Recommendations

According to the results, this conclusion is proposed: higher education institutions should give preference to activity aimed at increasing faculty creative self-efficacy. The professional development programs should aim at increasing the confidence of the faculty members that they are capable of producing original ideas and solving complicated problems. This could include creative thinking workshops, innovation labs, or forums that reward and recognize creative input in teaching and research.

Despite the fact that leader-member exchange displayed a rather insignificant contribution, institutions are recommended to think of enhancing supervisory ones. Academic leaders and heads of departments can be equipped with supportive leadership styles that enhance open communication conditions, trust, and personal appreciation. Such arising gains in the relationships can eventually affect the innovation process indirectly where they match goals of the institution. Since no substantial effect of the organizational climate variable is observed, universities (especially state-owned ones) are advised to consider the aspect of perception and implementation of innovation policies. This paper climate is not enough without the aid of practical solutions, such as resource access, experimentation freedom, and innovation flow.

Lastly, the huge variance in IWB among the faculty in the public and the private sectors shows the necessity of the need for the public universities to reconsider structural constraints. This could be done by reducing

bureaucracy, giving more academic freedom, and incorporating performance-based incentives that could create a more conducive environment for innovation.

REFERENCES

- Choi, W. S., Kang, S. W., & Choi, S. B. (2021). Innovative behavior in the workplace: an empirical study of moderated mediation model of self-efficacy, perceived organizational support, and leader-member exchange. *Behavioral Sciences*, *11*(182), 1–16. <https://doi.org/10.3390/bs11120182>
- Chung Nham, T., Nguyen-Viet, B., Phuc Dang, H., Vo Thi Sau, W., & Chi Minh City, H. (2024). Antecedents of innovative behaviour: the moderating role of psychological empowerment. In *Int. J. Work Innovation* (Vol. 5, Issue 2).
- Contreras, F., Juarez, F., Cuero Acosta, Y. A., Dornberger, U., Soria-Barreto, K., Corrales-Estrada, M., Ramos-Garza, C., Steizel, S., Portalanza, A., Jauregui, K., Iwashita da Silva, L., & Yshikawa Salusse, M. A. (2020). Critical factors for innovative work behaviour in Latin American firms: Test of an exploratory model. *Cogent Business and Management*, *7*(1), 1812926. <https://doi.org/10.1080/23311975.2020.1812926>
- Ergun, E., Tunca, S., Cetinkaya, G., & Balcioglu, Y. S. (2025). Exploring the Roles of Work Engagement, Psychological Empowerment, and Perceived Organizational Support in Innovative Work Behavior: A Latent Class Analysis for Sustainable Organizational Practices. *Sustainability (Switzerland)*, *17*(4). <https://doi.org/10.3390/su17041663>
- Han, J., Liu, N., & Wang, F. (2022). Graduate Students' Perceived Supervisor Support and Innovative Behavior in Research: The Mediation Effect of Creative Self-Efficacy. *Frontiers in Psychology*, *13*. <https://doi.org/10.3389/fpsyg.2022.875266>
- Ijaz, S. (2022). Impact of Organizational Support on Employee Creativity and Innovative Work Behavior: Mediation of Employee Creativity. *Pakistan Social Sciences Review*, *6*(IV). [https://doi.org/10.35484/pssr.2022\(6-iv\)05](https://doi.org/10.35484/pssr.2022(6-iv)05)
- Jamal, A., Begum, S., Alam, H., & Hussain, T. (2023). Impact of Perceived Organizational Support on Innovative Work Behavior and Burn out in Teachers: Thriving at Work as the Mediator. *Journal of Education and Educational Development*, *10*(2), 288–307. <https://doi.org/10.22555/joee.v10i2.815>
- Kearney, J. (2017). *An Investigation into the Associative Relationship Between Transformational Leadership and Innovative Working Behaviour, in Irish Technology Consulting Organisations*.
- Lu, L., Luo, T., & Zhang, Y. (2023). Perceived overqualification and deviant innovation behavior: The roles of creative self-efficacy and perceived organizational support. *Frontiers in Psychology*, *14*. <https://doi.org/10.3389/fpsyg.2023.967052>
- Mulligan, R., Ramos, J., Martín, P., & Zornoza, A. (2021). Inspiring innovation: The effects of leader-member exchange (lmx) on innovative behavior as mediated by mindfulness and work engagement. *Sustainability (Switzerland)*, *13*(10). <https://doi.org/10.3390/su13105409>
- Namono, R., Obanda, P. W., Ayebale, D., Isiagi, E., & Wofuma, G. (2022). Strategizing for innovative work behavior in higher education institutions: the role of creative self-efficacy. *Continuity & Resilience Review*, *4*(3), 249–266. <https://doi.org/10.1108/crr-03-2022-0005>
- Shanker, R., Bhanugopan, R., van der Heijden, B. I. J. M., & Farrell, M. (2017). Organizational climate for innovation and organizational performance: The mediating effect of innovative work behavior. *Journal of Vocational Behavior*, *100*, 67–77. <https://doi.org/10.1016/j.jvb.2017.02.004>
- Srirahayu, D. P., Ekowati, D., & Sridadi, A. R. (2023). Innovative work behavior in public organizations: A systematic literature review. *Heliyon*, *9*(2). <https://doi.org/10.1016/j.heliyon.2023.e13557>

- Susanti, & Ardi. (2022). The Effect of Digital Transformational Leadership, Creative Self-Efficacy on Innovative Behaviour Mediated by Perceived Organizational Support. *JiIP: Jurnal Ilmiah Ilmu Pendidikan*, 5(8), 3111-3120. <http://jiip.stkipyapisdmpu.ac.id>
- Tse, H., Newman, A., & Schwarz, G. (2018). The Effects of Employees' Creative Self-Efficacy on Innovative Behavior: The Role of Entrepreneurial Leadership (Accepted Version). In *Journal: Journal of Business Research*.
<https://www.sciencedirect.com/journal/journal-of-business-research/issues>
- Volery, T., & Tarabashkina, L. (2021). The impact of organisational support, employee creativity and work centrality on innovative work behaviour. In *Journal of Business Research* (Vol. 129).

