

The impact of Transformational Leadership on Innovative Work Behavior, the Mediating Role of Employee Engagement and Psychological Capital in Karachi Hospitals

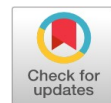
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Abstract: This study investigates how TL processes affect IWB in healthcare systems, particularly hospitals, and how PsyCap and EE function as mediators. Based on the responses of 187 various hospital managers in Karachi, it was found that TL influences IWB indirectly via PsyCap and EE. We employed a quantitative research strategy for this study. Cross-sectional sampling, convenience sampling, and SEM-PLS analysis make up the methodology. The total number of participants was 187 in which 67 (35.8%) were females and 120 (64.2%) were males. If the p Values are less than 0.05 and/or the t statistic value is more significant than 1.96, the hypothesis can be accepted (Hair & Alamer, 2022). The results of the path coefficient test showing that EE has a positive significant impact on IWB as the p value is (0.027 < 0.05). PsyCap has a positive significant impact on IWB as the p value is (0.016 < 0.05). TL has a positive significant impact on EE as the p -value is (0.000 < 0.05). TL has a positive significant impact on IWB as the p -value is (0.001 < 0.05). TL has a positive significant impact on PsyCap as the p -value is (0.000 < 0.05). The sample size of this study was small, and the results may not be generalizable, future studies may increase the sample size to improve the reliability of the results. This study only used hospitals in Karachi; future research may broaden its scope to include other areas. Furthermore, the current study employed a cross-sectional design. Future researchers should use a longitudinal design that collects data at multiple time points to increase the credibility of the findings. Future studies should include additional mediating variables such as Thrive at Work, Customer Engagement, and Mind Effect to deepen our understanding of the various leadership styles and their effects on healthcare.

Keywords: Innovative Work Behavior (IWB), Transformational Leadership (TL), Employee Engagement (EE), Psychological Capital (PsyCap)

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INTRODUCTION

Businesses must be able to innovate swiftly to be profitable and ahead of the competition. (Afsar et al., 2019). This is especially vital in today's fast-changing market, where new products and services are continually being presented. Employee innovative work behaviors (IWBs) are a major source of creativity and may be critical to an organization's success. (Gupta, 2020; Mansoor et al., 2021).

"IWB encompasses all individual behaviors that begin to produce, implement and use new ideas to improve the organization" (Afsar et al., 2020; Groelj et al., 2020). For many companies in the corporate world, innovation is the most vital component. Similarly, previous research indicates that organizational innovation occurs only when people adopt IWBs. Employees develop, promote, and implement creative ideas that form the basis for organizational innovations. (Amankwaa et al., 2019). Many of the theories, paradigms, and models used in implementation research of the assessed barriers and promoters to their adoption, stress the importance of leadership in adopting new healthcare practices (Nilsen, 2020). Job performance is impacted by leadership. TL is the capacity to get people working together toward common objectives.

The Kouzes and Posner leadership practice model is composed of five fundamental practices: challenging the process, igniting a shared vision, inspiring others to act, paving the way, and fostering the heart. TL is innovative and open to change, adaptation, and innovation (Sammur & Scicluna, 2020). Additionally, studies show that TL enhances worker performance in challenging circumstances. This is so that resources can be managed and directed in challenging environments, where it is the most effective leadership style (LaRocca & Groves, 2022). "In engagement, people participate and express themselves physically, cognitively, and emotionally through role

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enactments," writes Kahn (1990) in their essay "Conditional psychological dimensions of personal engagement and disengagement at work."

Because different authors have defined and assessed the phrase differently since its inception, there is currently little global consensus. EE is a catch-all term for a wide range of positive employee attitudes, including enthusiasm for their work and organization, involvement, and contribution to the company's success. Because a company's human capital is its most asset, leaders often struggle to pinpoint the factors that might increase or decrease engagement. Particularly in service-oriented businesses, employees who feel emotionally connected, loyal, and productive offer better customer service (Carter & Baghurst, 2014; Keith, 2010; Ziauddin et al., 2010).

Disengaged employees can have a negative influence on organizational performance due to absenteeism, lack of engagement, poor customer service, and unfavorable attitudes toward coworkers (Carter & Baghurst, 2014). As a result, leaders must establish a strong, morally based corporate culture in which they lead by service and collaborate with their followers to achieve organizational goals without imposing authoritarian control. The terms EE and TL share some similarities, such as the fact that both express employees' emotional attachment to their company. This suggests that TL might affect EE favorably.

Good psychology is one of the factors that contribute to EE. This is supported by a prior study, which found that psychological elements, such as PsyCap, influence work engagement (Niswaty et al., 2021). PsyCap, or positive psychological state of adaptation, is characterized by self-efficacy, or confidence in one's capacity to succeed concerning task challenges, and is then followed by optimism, perseverance, and optimism for success, which together build resilience toward success (Luthans et al., 2007).

Employees who assume full responsibility for their jobs while remaining in a positive psychological state will encourage a productive and harmonious relationship between work and employee behavior. Another vital component in boosting EE is leadership. A useful study found that the corporate leader's role is critical to raising EE. Pratama and Rivai (2021). A few studies have been done to investigate the relationship between PsyCap and IWB (Lei et al., 2020).

Problem Statement

In today's world, the environment is rapidly changing due to technological advances, making it difficult to achieve maximum employee engagement. In this rapidly changing environment, managing employee engagement is a complex issue. This issue exists due to increased leadership challenges, as observed in COVID-19. PsyCap, Innovative Work Behavior, and Transformational Leadership (TL) are just a few of the many potential resources that can have a direct impact on work outcomes. According to the researchers, these readily available tools can act as a buffer between employee work engagement and behavioral outcomes (Shantz et al., 2016).

The purpose of this study is to determine how EE and PsyCap influence the relationship between TL and creative behavior at work, as well as to describe how TL impacts and inspires EE in this rapidly changing environment to achieve organizational success and goals. PsyCap was used as a mediator variable in a previous study on the effect of TL on creative work behaviors in ICT organizations (Febita & Desiana, 2021). The current study, on the other hand, investigates the role of EE and PsyCap in mediating the relationship between TL and IWB in several Karachi hospitals.

Research Objectives

- To show the impact of TL on IWB, EE & PsyCap in hospitals.
- To show the impact of EE & PsyCap on IWB in hospitals.
- To explore EE & PsyCap mediates the relationship of TL and IWB.

Research Questions

Based on the objectives of the present research, this research attempts to address the following research questions:

- What is the impact of TL, EE & PsyCap on IWB in hospitals?
- What is the mediating role of EE & PsyCap between TL and IWB?

LITERATURE REVIEW

Innovative Work Behavior (IWB)

According to De Jong (2007), IWB is people's attitudes toward the creation of novel ideas, products, and methods that benefit the employing company. According to De Jong and Den Hartog, (2007), the distinction between business concepts that are creative and traditional highlights the significance of organizational culture and top management support. To maintain a competitive advantage in highly competitive environments, businesses must innovate. To achieve organizational success and gain a competitive advantage, organizations benefit from innovation. To increase creativity, businesses need to motivate employees to use innovative work methods. (Mazilan et al., 2015). It is difficult to produce ideas that are practical, creative, initiative-taking, realistic, and practicable, making it difficult to develop innovative work habits. Besides, authoritative individuals' vulnerability, risk, and obstruction add to the intricacy of the inventive flows (De Jong & Den Hartog, 2010).

Transformational Leadership (TL)

Since Burns' original work, TL has become one of the most well-known theories and methods for organizational behavior and leadership (Burns, 1978). (Hansen & Pihl-Thingvad, 2019) TL is distinguished as a manager who concentrates on upcoming adjustments in subordinates' attitudes, beliefs, values, behavior, emotions, and needs (Bass & Riggio, 2006).

TL emphasizes motivating and influencing the attitudes and behaviors of its followers, as opposed to transactional leadership, which focuses on the exchange of procedures and labor incentives between leaders and followers (Khan & Khan, 2019). Transformational leaders use four different strategies to motivate their followers: idealized influence, inspiring motivation, intellectual stimulation, and interpersonal interaction. The capacity of leaders to significantly impact their followers is known as an idealized influence. Leaders serve as role models by exemplifying their vision through their actions (Wright et al., 2012).

Employee Engagement (EE)

The term "commitment" was first proposed by Kahn in his 1990 paper "Psychological Conditions of Personal Involvement and Disengagement at Work" (Kahn, 1990), who noted that "with commitment, people use and express themselves' physically, intellectually, and emotionally throughout role performances. Employee engagement (EE) is a physical and psychological link between employees and the company by connecting people's personal goals with the organization's vision, it raises individual productivity and, as a result, corporate productivity (Bakker & Albrecht, 2018).

An engaged employee has an emotional connection to the organization's mission and vision, which determines the person's adherence to its objectives (Schaufeli & Bakker, 2004). A committed employee contributes to the reputation and value of the company by working with a forward-thinking viewpoint. Companies create environments that promote and reward EE, and motivated employees expect their employers to fully support them. Companies build well-equipped plans with people who connect employees' aspirations with the organization's goals. EE is an effective strategy for reducing employee burnout and disengagement by encouraging positive emotions and moral behavior at work.

Psychological Capital (PsyCap)

PsyCap is a mental health condition that can develop over time. People with PsyCap have lofty expectations for themselves and a strong belief in their abilities. This can help them be more resilient in the face of adversity. Similarly, Luthans et al (2007) explain in their research PsyCap's four sub-constructs. (a): Self-efficacy is the belief that one can successfully use the motivation and cognitive resources required to complete a specific task in any situation (Luthans, 2002a, 2002b). (b): Hope, Workers with high self-efficacy choose difficult tasks and use motivating resources to achieve their goals (Rego et al., 2010). (c): Resilience is the ability to deal with and recover from meaningful change, uncertainty, failure, hardship, and increased responsibility (Luthans, 2002a).

Resilient workers are more likely to look for new opportunities to gain experience and grow (Luthans et al., 2007; Rego et al., 2010). based on a shared conception of effective paths (determined purpose, willpower) and agency (determined purpose, willpower).

(d): Optimistic employees believe in their ability to complete tasks and set new goals. Optimism can be defined

as a person's expectation of a favorable outcome or a positive causal attribution for future success (Luthans et al., 2007; Luthans & Youssef-Morgan, 2017). Optimistic employees are more likely to take on difficult tasks and maintain a cheerful outlook even in tricky situations (Luthans, 2002b; Luthans et al., 2008). These four psychological components best meet the inclusion requirements for an overarching concept, PsyCap, according to Luthans et al. (2007).

Relationship between (TL) and (IWB)

At our company, TL has had a significant impact on IWB through four varied factors: inspirational motivation, intellectual stimulation, personal interest, and idealized influence (Günzel - Jensen et al., 2018). TL theory says that leaders' behavior at work can influence employees' performance through several methods. Inspiring leaders make their workplaces meaningful and empower their employees to think critically and produce innovative solutions to challenges (Moynihan et al., 2012). This stimulates followers to "think outside the box" and find creative solutions to achieve the goals set by their leaders (Khan & Khan, 2019).

Although transformational leaders can delegate some process management to their team members, they must exercise caution to avoid overly criticizing innovative ideas and to limit their participation in the creative and interactive work process (Bass & Riggio, 2006).

Role model followers can help them create a vision, a sense of mission, goals, and lofty expectations to increase their innate motivation to achieve their goals (Jensen & Bro, 2018). Because followers who are intrinsically motivated are more likely to seek out novel solutions to issues, experts contend that idealized influence fosters workplace innovation and creativity (Shin & Zhou, 2003).

The first theory is as follows, considering both theoretical and empirical data:

H1: TL is positively related to followers' IWB.

Relationship between TL and EE

TLs boost employee engagement. As a result, numerous studies have discovered that TL significantly and favorably affects EE (Amor et al., 2020). EE refers to task-related attitudes and behaviors that support successful workplace outcomes. According to Schaufeli et al. (2002), work involvement was broken down into three categories: "power," "commitment," and "enhancement" However, very few studies have examined how TL can improve EE during organizational transition.

To increase their EE and commitment to the change process, transformational leaders inspire and engage their followers to participate in the organizational change process (KumarBasu, 2015). Faupel and Suess discovered a significant and positive relationship between TL and EE in the context of organizational transformation in 2019. Furthermore, it is discovered that TL increases workers' commitment to change in Bangladesh's banking sector. As a result, the second premise is as follows:

H2: TL positively related to EE.

Relationship between TL & PsyCap

A person's overall psychological health, or PsyCap, is broken down into four categories. These characteristics include resilience, hope, optimism, and self-efficacy (Luthans et al., 2007). The best reasons for raising the four PsyCap criteria are those associated with TL (Schuckert et al., 2018). Because transformational leaders have an impact on their beliefs, values, and goals, their followers' PsyCap may change (Y. Wang et al., 2018). Schuckert et al. claims that TL significantly and favorably impacted PsyCap (2018). As a result, the following is the third hypothesis of this study:

H3: TL has a positive and significant effect on the PsyCap of employees.

Relationship between EE & IWB

An engaged person is excited about their work and willing to be creative and imaginative in their job performance. It is an indication of a positive mentality when people are prepared to go beyond their professional obligations (Schaufeli et al., 2002). Evaluation and the results revealed a significant amount of diversity in innovative behavior (37.7%) (Slten & Mehmetoglu, 2011). According to the most recent research on workers' creative behaviors in the

workplace, the findings of a study utilizing both qualitative and quantitative methodologies revealed that innovative behaviors had a big effect on engaged employees. Employees that exhibit creative behaviors create new methods to assist clients or deliver the maximum degree of happiness to them (J. De Jong & Den Hartog, 2008). As a result, the fourth hypothesis is:

H4: EE has a positive and significant effect on the IWB.

Relationship between PsyCap & IWB

High self-efficacy individuals are highly intelligent, initiative-takers, and eager to take on challenging and novel tasks (Mishra et al., 2019). Optimistic people do not give up easily and continue to be upbeat despite adversity. As a result, they will seek out novel solutions to problems and seize every opportunity (Rego et al., 2012). Ambitious people consider opportunities and problems from various angles and look for novel solutions (Mishra et al., 2019). When performing tasks that require sustained effort while maintaining high efficiency, resilience is particularly crucial. According to Mishra et al. (2017), PsyCap has a positive and significant effect on creative work behavior. This is important because employee well-being may affect their innovative behavior. Brunetto et al. (2020) showed that managers can improve Street Level Bureaucrat (SLBs) propensity for innovative behavior by enhancing their psychological resources. Therefore, the fifth argument is as follows:

H5: PsyCap has a positive and significant effect on IWB.

EE mediates the relationship between TL and IWB
 From the role of H4, the sixth hypothesis is shown as:

H6: EE mediates the relationship between TL and IWB

PsyCap mediates the relationship between TL and IWB
 From the role of H5 the seventh hypothesis is shown as:

H7: PsyCap mediates the relationship between TL and IWB

Summary of Literature Review

Table 1: Summary of Literature Review

Construct	Definition	Source
Innovative work behavior (IWB)	IWB was defined as people’s attitudes toward the creation of novel practices, concepts, and goods that benefit the employing company by De Jong (2007).	De Jong (2007)
Transformational Leadership (TL)	TL is characterized as a leader who focuses on future changes in attitudes, beliefs, values, behavior, emotions, and subordinate requirements.	De Jong (2007)
Employee Engagement (EE)	Kahn first used the word "engagement" in his 1990 article, "Psychological Conditions of Personal Engagement and Disengagement at Work." He wrote that "in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances."	(Kahn, 1990)
Psychological Capital (PsyCap)	PsyCap is a positive psychological state that occurs during individual development and is characterized by self-efficacy, or the belief in one’s capacity to succeed concerning task challenges, followed by an upbeat outlook, perseverance, and optimism for success, thereby fostering resilience toward success.	(Luthans et al., 2007).

Conceptual Framework

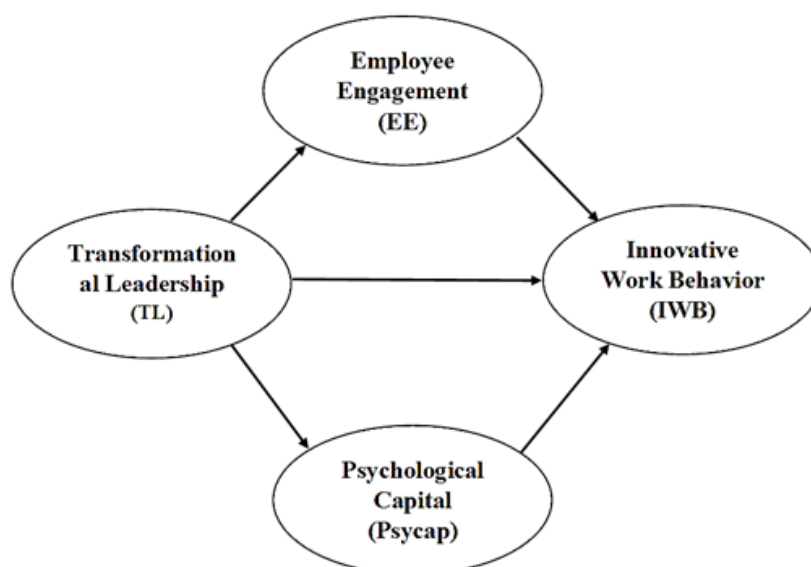


Figure 1: Conceptual Framework

RESEARCH METHODOLOGY

Research Approach & Type

We used a quantitative research approach for this study. The data was gathered through online surveys. On the one hand, online data collection was chosen because it is a practical way to collect data. Second, when compared to manual distribution, the response rate is frequently higher. As a result, using an online survey to collect responses proved to be the best option.

Research Design

The cross-sectional study, which employed a deliberate sampling technique, was conducted at various hospitals in Karachi. The target audience consisted of health managers from Karachi's hospitals, NGOs, and other health-related sectors with a range of managerial backgrounds.

Research Population

Using the prevalence sample size calculation formula, a sample size of 205 participants was chosen to ensure a 95% confidence level that the true value is within 5% of the measured or collected value. We distributed 800 questionnaires to senior managers, middle managers, and lower managers, but 187 participants were sampled through emails and WhatsApp, a social media application, using a non-probability convenience sampling technique.

Sample Size & Sampling Technique

A nonprobability practical sampling technique was used in this study. Participants received a brief explanation of the questionnaire before giving their written consent.

Research Instrument

An in-person validated questionnaire with two sections was used to collect the data. In the first section, managers were evaluated on their capacity for Transformational Leadership (TL), employee engagement (EE), psychological capital (PsyCap), and innovative work behavior (IWB), while participant demographics were examined in the second section. A 5-point Likert scale, with 5 being the strongest agreement and 1 being the strongest disagreement, was used to evaluate the response (strongly disagree). Five sample items from the Multifactor Leadership Questionnaire were used to gauge TL in this study (MLQ). Employee Engagement (EE) was evaluated using the ISA engagement scale with 9 questions developed and validated by (Soane et al., 2012), and PsyCap was assessed using the 12 items of PCQ 12 presented by Janssen, according to (Bass & Avolio, 1996, 2001; LUTHANS, 2007).

Table 2: Summary of Research Instrument

Variable	Authors/Source	No. of Items	Likert Scale
TL	Bass and Avolio (1996)	5	1 = SD 5 = SA
IWB	Janssen (2001)	12	1= SD 5 = SA
EE	Soane et al. (2012)	9	1= SD 5 = SA
PsyCap	LUTHANS et al. (2007)	12	1= SD 5 = SA

Data Collection

The data was collected through online software by creating a Google form. The link to the form was submitted through social media platforms. 187 responses were collected all the data was included as the form has the option of being required and there is no chance of a half-filled or incomplete form being submitted.

Data Analyses Method

We used Structural Equation Modeling (SEM) by using Smart PLS version 4 2022 to assess the connections between different constructs in our research model. SEM is different from other apps that use covariance-based methods, like B. AMOS, because it uses a variance-based technique that is less sensitive to sample size. In this study, we looked at the relationship between TL, IWB, EE, and PsyCap. This analysis allowed us to examine the validity and reliability of each construct before evaluating potential links.

RESULTS

Respondent Profile

Table 3: Respondent Profile

		Frequency	Percentage
Age	21 to 30	154	82.4%
	31 to 40	25	13.4%
	41 to 50	6	3.2%
	50 & above	2	1.1%
Gender	Female	67	35.8%
	Male	120	64.2%
Marital Status	Single	133	71.1
	Married	54	28.9
Education	Up to Intermediate	12	6.4%
	Graduate	88	47.1%
	Masters	60	32.1%
	Doctoral	27	14.4%
Job Level	Top Management Chief Executive Officer (CEO), Vice President (VP)	16	8.6%
	Middle Management (Regional Manager, Plant manager, Senior Manager)	35	18.7%
	First-line Management (Supervisor, Assistant Man- ager, Deputy Manager, Manager)	136	72.7%
Experience in Years	0-2	94	50.3%
	2-4	50	26.7%
	4-8	28	15%
	8-12	15	8%

Table 3 showed that the total number of participants was 187 of which 154 (82.4%) were up to 21 to 30 years, 25 (13.4%) were between 31 to 40 years, 6 (3.2%) were 41 to 50, 2 (1.1%) were in between 50 & above years. 67 (35.8%) were females and 120 (64.2%) were males. 133 (71.1%) were Single and 54 (28.9%) were married. The

education qualifications of respective participants are Up to Intermediate 12 (6.4%), Graduates 88 (47.1%), Masters 60 (32.1%) and Doctoral 27 (14.4%). According to Job level Top Management Chief Executive officer (CEO), Vice President (VP) were 16 (8.6%), Middle Management (Regional Manager, Plant manager, Senior Manager) were 35 (18.7%), and First line Management (Supervisor, Assistant Manager, Deputy Manager, Manager) were 136 (72.7%). Working experience of participants 94 (50.3) between 0 to 2 years, 50 (26.7) between 2 to 4 years, 28 (15%) between 4 to 8 years, and 15 (8%) between 8 to 12 years.

Reliability Analyses

Table 4: Summary of Reliability Analyses

Construct/Variable	Cronbach's Alpha	No. of Items
Employee Engagement (EE)	0.918	9
Innovative work behavior (IWB)	0.913	12
Psychological Capital (PsyCap)	0.932	12
Transformational Leadership (TL)	0.853	5

Table 4 demonstrated that all variables had Cronbach's alpha coefficients that were higher than the suggested cutoff point of 0.70 (Hair & Alamer, 2022). All the variables in the model have achieved a reliability of above 70%, which is acceptable. The table above shows that TL has the least reliability of 85.3% and PsyCap has the highest reliability of 93.2%. IWB has reliability of 91.3%, compared to EE's reliability of 91.8%.

Discriminant Validity through HTMT

This metric indicates the conceptual separation of the construct from the other constructs in the study. Consequently, the model's theoretical foundations are all one-dimensional (measures a distinct concept with only a minor amount of overlap in variances). The Heterotrait-Monotrait Ratio (HTMT) of the correlations is the suggested metric for discriminant validity.

When compared to the variance of other constructs, a construct's ability to explain the variance in its indicators is measured by the HTMT ratio. If there are plausible commonalities across the construct indicators, the researcher can use a more liberal cutoff value.90 instead of the cautious cutoff value of HTMT.85 (Hair Jr et al., 2021). It is possible to conclude from the test results that the study model satisfies all the criteria, indicating that it has strong discriminant validity.

Table 5: Heterotrait-monotrait Ratio (HTMT)

Variables	Heterotrait-monotrait ratio (HTMT)
IWB <-> EE	0.742
PsyCap <-> EE	0.852
PsyCap <-> IWB	0.735
TL <-> EE	0.833
TL <-> IWB	0.778
TL <-> PsyCap	0.812

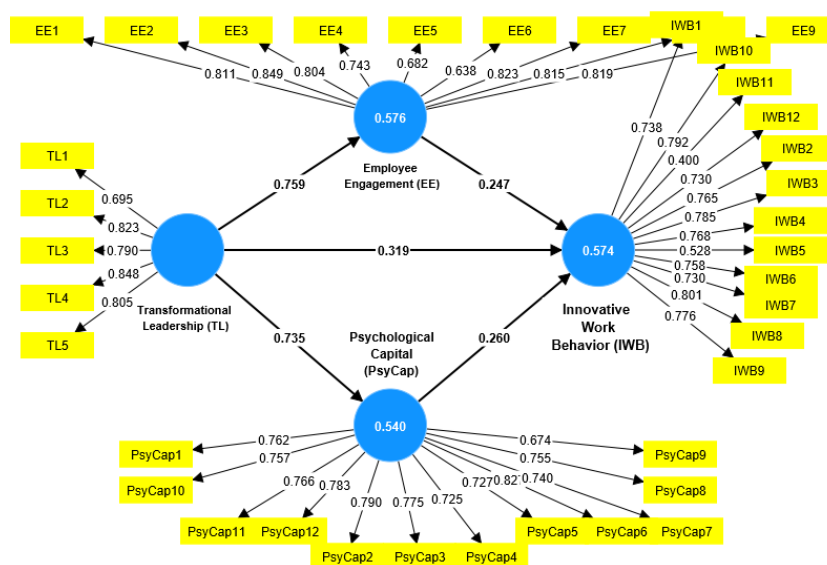


Figure 2: Path Analysis

Table 6: Hypothesis Testing Using Path Analysis

Variables	Original sample	Sample mean	S.D	t statistics	p Values	Results
EE -> IWB	0.247	0.239	0.112	2.208	0.027	Accepted
PsyCap -> IWB	0.260	0.271	0.108	2.418	0.016	Accepted
TL -> EE	0.759	0.760	0.041	18.515	0.000	Accepted
TL -> IWB	0.319	0.318	0.095	3.357	0.001	Accepted
TL -> PsyCap	0.735	0.736	0.052	14.229	0.000	Accepted

In SmartPLS 4 2022, the inner model test includes hypothesis testing and is executed using the bootstrapping method. Hypothesis testing is used to determine whether the variables have a direct or indirect relationship. The bootstrapping calculation will generate T Statistics and P Values for each relationship or path. This hypothesis will be evaluated with a significance level of 0.05.

If the *p* Values are less than 0.05 and/or the *t* statistic value is more significant than 1.96, the hypothesis can be accepted. (Hair & Alamer, 2022). The results of the path coefficient test are presented in Table 5 showing that EE has a positive significant impact on IWB as the *p*-value is (0.027 < 0.05). PsyCap has a positive significant impact on IWB as the *p*-value is (0.016 < 0.05). TL has a positive significant impact on EE as the *p*-value is (0.000 < 0.05). TL has a positive significant impact on IWB as the *p*-value is (0.001 < 0.05). TL has a positive significant impact on PsyCap as the *p*-value is (0.000 < 0.05).

H1: TL is positively related to followers' IWB.

Table 5 shows that TL has a positive significant impact on IWB as the *p*-value is (0.001 < 0.05).

H2: TL positively related to EE.

Table 5 shows that TL has a positive significant impact on EE as the *p*-value is (0.000 < 0.05).

H3: TL has a positive and significant effect on the PsyCap of employees.

Table 5 shows that TL has a positive significant impact on PsyCap as the *p*-value is (0.000 < 0.05).

H4: EE has a positive and significant effect on the IWB.

Table 5 shows that EE has a positive significant impact on IWB as the *p*-value is (0.027 < 0.05).

H5: PsyCap has a positive and significant effect on IWB.

Table 5 shows that PsyCap has a positive significant impact on IWB as the *p*-value is (0.016 < 0.05).

Table 7: Mediation Analysis Using PLS-SEM

Variables	Original Sample (O)	Sample Mean (M)	Standard deviation (STDEV)	t statistics	p values
TL -> PsyCap -> IWB	0.191	0.200	0.080	2.380	0.017
TL -> EE -> IWB	0.187	0.182	0.087	2.149	0.032

To evaluate H6 and 7, a simple mediation technique has been used. Mediation can either result in partial mediation or full mediation. If the direct effect and indirect effect both are significant, it would be partial mediation which means that the hypothesis is mediating partially. Based on the statistical analysis, table 6 showed that TL (0.191, $p < 0.10$) significantly and positively affects IWB with the partial mediation PsyCap (Baron & Kenny, 1986). Similarly, TL positively and significantly affect IWB with the partial mediation of EE (0.187, $p < 0.10$) (Baron & Kenny, 1986).

H6: EE mediates the relationship between TL & IWB

H7: PsyCap mediates the relationship of TL & IWB

Table 8: Summary of Hypotheses Testing

Hypothesis	Result
H1: TL is positively related to followers' IWB.	Accepted
H2: TL positively related to EE.	Accepted
H3: TL has a positive and significant effect on the PsyCap of employees.	Accepted
H4: EE has a positive and significant effect on the IWB.	Accepted
H5: PsyCap has a positive and significant effect on IWB.	Accepted
H6: EE mediates the relationship between TL and IWB.	Accepted
H7: PsyCap mediates the relationship between TL and IWB.	Accepted

DISCUSSION

This study developed and evaluated a mediation model that considered the roles of TL and PsyCap to better understand what motivates workers in the healthcare industry, particularly in hospitals. Using TL theory as a foundation, this study demonstrated that TL has a direct and beneficial effect on productive work behavior. Despite claims made by public administration researchers that TL is linked to attitudes and behaviors such as organizational citizenship behavior, performance, and job satisfaction, there has been little research on the relationship between TL and productive work behavior in hospitals (Bottomley et al., 2016).

TL is Positively related to Followers' IWB

In the current study, the first hypothesis that TL style would be positively correlated with IWB was confirmed. Many varied factors have an impact on innovation in organizations, and the results of this study also demonstrate that EE mediates the link between TL and workers' IWB. The potential of the followers is also being developed by transformational leaders so that they can become independent and capable of making their own decisions (Wang et al., 2018).

TL Positively Related to EE

Table 5 provides the basis for this knowledge. It shows that the relationship between the two constructs has a T Statistics value of 18.515, higher than 1.96, and a p -Value of 0.000, lower than 0.05. Positive coefficient values indicate a positive direction for the relationship. Therefore, it can be said that the TL variable significantly and positively affects EE. This conclusion supports earlier studies' findings that TL significantly affects work effectiveness (Amor et al., 2020, Nguyen, 2020). This implies that EE will be higher the more broadly and effectively the TL style is applied within the hospital setting. EE will be significantly impacted by TL who acts as an ideal role model for a leader by inspiring and motivating followers, stimulating, and promoting creativity, and providing support and guidance.

TL has a Positive and Significant Effect on the PsyCap of Employees

The premise that transformative leadership inspires followers to be optimistic is supported by earlier research and theories. Yukl (2002) asserts that followers' optimism rises when they have faith in the leader. When leaders act with optimism, conviction, and confidence and show many positive aspects of their vision, their followers also become more upbeat (Paarlberg & Lavigna, 2010; Yukl, 2002). The contagion theory proposes that followers unintentionally mimic the attitudes, emotional expressions, and behaviors of their leaders, whether these are positive or negative. As a result, when leaders demonstrate optimism, followers will inherently and naturally emulate them (Tims et al., 2011). Furthermore, it is claimed that followers of transformational leaders who are regarded as excellent role models are happier people (Northouse, 2016). As a result of this discussion, TL has a positive impact on PsyCap.

EE has a Positive and Significant Effect on the IWB

The research findings predicted that EE would positively affect IWB among millennial workers in the service sector. This judgment is supported by earlier research (Imam et al., 2021; Mansoor et al., 2021). Similar findings were made by (Al-Ajlouni, 2020) and (Gemeda & Lee, 2020), who both emphasized the significance of EE in assisting employees' IWBs. Additionally, our data demonstrate that EE positively affects IWB in hospitals and plays a mediating role between TL and IWB there, as would be expected.

PsyCap has a Positive and Significant Effect on IWB

Given that IWB is related to PsyCap (self-efficacy, resilience, optimism, and hope), it is hypothesized that TL empowers followers to have elevated levels of PsyCap, which causes IWB. Our research indicates that PsyCap has a favorable impact on IWB. By demonstrating This research advances our understanding of PsyCap's role as a mediator between TL and IWB. According to the established model, IWB occurs at work because of transformational leaders' impact on the psychological capacities of their followers. Little attention has been paid to TL as a PsyCap predictor.

An internalized moral perspective, self-awareness, transparency, and balanced processing are all traits that authentic leaders are said to foster in their followers, which is why PsyCap is primarily influenced by such leaders (Rego et al., 2012). PsyCap has also infrequently been considered as a mediator of the link between TL and its results.

RECOMMENDATIONS AND CONCLUSION

Limitations & Recommendations of the Research

The current study, like other social science studies, has some limitations that may compel researchers to conduct additional research in the future. Future studies may increase the sample size to improve the reliability of the results because the sample size for this study was small and the results may not be generalizable. This study only used hospitals in Karachi; future studies may broaden their scope to include hospitals in other regions. A cross-sectional design was also used in the current study.

To increase the credibility of the findings, future researchers should use a longitudinal design that collects data at multiple time points. The effect of TL on IWB was investigated in this study using the mediating effects of EE and PsyCap. Future research should consider additional mediating factors like Thrive at Work, Customer Engagement, and Mind Effect to further our understanding of the various leadership styles and their impacts on healthcare.

Future Research

Concerning the limitations mentioned in the previous section, future researchers can conduct the same study with different cities in Pakistan so that generalizability can be achieved. The study conducted in a single city in a single context can never be applied to the entire population thus limiting the generalizability. The same study may be conducted in the future in other developing cities so that results can be compared and there can be an addition to the empirical literature as well. Studies conducted in different contexts will be a valuable addition to the empirical literature. In the future, researchers may work with a larger sample size to ensure that the findings can be generalized to the entire population. Because of several factors, the results of smaller sample sizes cannot be

generalized to the entire population.

To account for factors that change over time, future researchers may also try to collect data using time series analysis. Researchers may also focus on other aspects of health in various cities. Only information from the hospital sector was used in this study. The other sectors can employ future researchers. Future studies may also investigate different leadership philosophies aside from TL. Future studies on the connection between creative work behavior and leadership may examine additional prevalent leadership philosophies in Pakistan. 2017 (Nohe & Hertel). Because gender influences how people behave when it comes to innovative work practices, future researchers should consider gender as a moderator. Gender can thus significantly moderate the relationship between leadership and creative work behavior. Given the obvious differences in male and female personality traits, gender has a significant impact on how leadership styles are formed (Allen & Jang, 2016).

Conclusion

This study examines the direct or indirect effects of TL & IWB on work effectiveness through EE mediation. According to the study's findings, TL & IWB have a significant and favorable impact on hospitals through EE mediation. EE serves as a part of the mediation between endogenous and exogenous constructs in this study. This finding implies that implementing a clear and consistent TL policy will improve employee productivity, either directly or indirectly through higher EE. Additionally, this management approach promotes staff loyalty and attachment to the company. It helps boost worker morale and PsyCap, which in turn promotes a rise in productivity.

Based on these findings, the Hospitals must increase the objectivity and consistency of putting IWB policies into practice to improve work effectiveness and generate the most tax revenue. To improve work effectiveness, the TL style must also be expanded. The results of this study also point to the necessity of conducting additional research using a wider variety of research objects, particularly in public sector organizations. Additionally, given that PsyCap is a recent hospital policy, it is still uncommon to find quantitative research on this variable. To improve the body of literature, research involving this variable is required. The PsyCap also demonstrates some partial mediation between TL and IWB.

REFERENCES

- Afsar, B., Al-Ghazali, B. M., Cheema, S., & Javed, F. (2020). Cultural intelligence and innovative work behavior: The role of work engagement and interpersonal trust. *European Journal of Innovation Management*, 24(4), 1082–1109. <https://doi.org/10.1108/ejim-01-2020-0008>
- Afsar, B., Masood, M., & Umrani, W. A. (2019). The role of job crafting and knowledge sharing on the effect of transformational leadership on innovative work behavior. *Personnel Review*, 48(5), 1186–1208. <https://doi.org/10.1108/PR-04-2018-0133>
- Al-Ajlouni, M. I. (2020). Can high-performance work systems (HPWS) promote organizational innovation? Employee perspective-taking, engagement, and creativity in a moderated mediation model. *Employee Relations: The International Journal*, 43(2), 373–397. <https://doi.org/10.1108/ER-09-2019-0369>
- Bakker, A. B., & Albrecht, S. (2018). Work engagement: Current trends. *Career Development International*, 23(1), 4–11. <https://doi.org/10.1108/CDI-11-2017-0207>
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173. <https://doi.org/10.1037/0022-3514.51.6.1173>
- Bottomley, P., Mostafa, A. M. S., Gould-Williams, J. S., & León-Cázares, F. (2016). The Impact of Transformational Leadership on Organizational Citizenship Behaviours: The Contingent Role of Public Service Motivation. *British Journal of Management*, 27(2), 390–405. <https://doi.org/10.1111/1467-8551.12108>
- Burns, J. (1978). Transformational leadership. New York, NY: Harper & Row.
- Brunetto, Y., Saheli, N., Dick, T., & Nelson, S. (2022). Psychosocial safety climate, psychological capital, healthcare SLBs' wellbeing and innovative behaviour during the COVID 19 pandemic. *Public Performance & Management Review*, 45(4), 751-772. <https://doi.org/10.1080/15309576.2021.1918189>

- Carter, D., & Baghurst, T. (2014). The influence of servant leadership on restaurant employee engagement. *Journal of Business Ethics*, 124, 453-464. <https://doi.org/10.1007/s10551-013-1882-0>
- Faupel, S., & Süß, S. (2019). The effect of transformational leadership on employees during organizational change—an empirical analysis. *Journal of Change Management*, 19(3), 145-166. <https://doi.org/10.1080/14697017.2018.1447006>
- Gemeda, H. K., & Lee, J. (2020). Leadership styles, work engagement and outcomes among information and communications technology professionals: A cross-national study. *Heliyon*, 6(4), e03699. <https://doi.org/10.1016/j.heliyon.2020.e03699>
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027. <https://doi.org/10.1016/j.rmal.2022.100027>
- Hair Jr, J. F. (2021). Next-generation prediction metrics for composite-based PLS-SEM. *Industrial Management & Data Systems*, 121(1), 5–11. <https://doi.org/10.1108/IMDS-08-2020-0505>
- Hansen, J. A., & Pihl-Thingvad, S. (2019). Managing employee innovative behaviour through transformational and transactional leadership styles. *Public Management Review*, 21(6), 918-944. <https://doi.org/10.1080/14719037.2018.1544272>
- Jensen, U. T., & Bro, L. L. (2018). How Transformational Leadership Supports Intrinsic Motivation and Public Service Motivation: The Mediating Role of Basic Need Satisfaction. *The American Review of Public Administration*, 48(6), 535–549. <https://doi.org/10.1177/0275074017699470>
- Kahn, W. A. (1990). Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal*, 33(4), 692-724. <https://doi.org/10.2307/256287>
- Khan, N. A., & Khan, A. N. (2019). What followers are saying about transformational leaders fostering employee innovation via organizational learning, knowledge sharing, and social media use in public organizations? *Government Information Quarterly*, 36(4), 101391. <https://doi.org/10.1016/j.giq.2019.07.003>
- Kim, Y. J., & Kim, J. (2020). Does negative feedback benefit (or harm) recipient creativity? The role of the direction of feedback flow. *Academy of Management Journal*, 63(2), 584-612. <https://doi.org/10.5465/amj.2016.1196>
- LaRocca, M. A., & Groves, K. S. (2022). Transformational Leadership in Extreme Contexts: Associations with Posttraumatic Growth and Self-Efficacy Among Combat Veterans. *Armed Forces & Society*, 48(4), 849-871. <https://doi.org/10.1177/0095327X211030610>
- Lei, H., Leaungkhamma, L., & Le, P. B. (2020). How transformational leadership facilitates innovation capability: The mediating role of employees' psychological capital. *Leadership & Organization Development Journal*, 41(4), 481-499. <https://doi.org/10.1108/LODJ-06-2019-0245>
- Luthans, F. (2002a). Positive organizational behavior: Developing and managing psychological strengths. *Academy of Management Perspectives*, 16(1), 57–72. <https://doi.org/10.5465/ame.2002.6640181>
- Luthans, F. (2002b). The need for and meaning of positive organizational behavior. *Journal of Organizational Behavior*, 23(6), 695–706. <https://doi.org/10.1002/job.165>
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60(3), 541-572. <https://doi.org/10.1111/j.1744-6570.2007.00083.x>
- Luthans, F., Norman, S. M., Avolio, B. J., & Avey, J. B. (2008). The mediating role of psychological capital in the supportive organizational climate—Employee performance relationship. *Journal of Organizational Behavior*, 29(2), 219–238. <https://doi.org/10.1002/job.507>
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2006). *Psychological capital: Developing the human competitive edge*. New York, NY: Oxford Academic. <https://doi.org/10.1093/acprof:oso/9780195187526.001.0001>
- Luthans, F., Youssef, C. M., & Rawski, S. L. (2011). A tale of two paradigms: The impact of psychological capital and reinforcing feedback on problem solving and innovation. *Journal of Organizational Behavior Management*, 31(4), 333-350. <https://doi.org/10.1080/01608061.2011.619421>

- Luthans, F., & Youssef-Morgan, C. M. (2017). Psychological capital: An evidence-based positive approach. *Annual review of organizational psychology and organizational behavior*, 4, 339-366. <https://doi.org/10.1146/annurev-orgpsych-032516-113324>
- Mansoor, A., Farrukh, M., Wu, Y., & Abdul Wahab, S. (2021). Does inclusive leadership incite innovative work behavior?. *Human Systems Management*, 40(1), 93-102. <https://doi.org/10.3233/HSM-200972>
- Mazilan, F. I., Tahir, L. M., & Yusof, S. M. (2015). *Transformational leadership and innovation: A meta-analysis*. 269.
- Mansoor, A., Farrukh, M., Wu, Y., & Abdul Wahab, S. (2021). Does inclusive leadership incite innovative work behavior?. *Human Systems Management*, 40(1), 93-102. <https://doi.org/10.1017/jmo.2017.23>
- Monje-Amor, A., Vázquez, J. P. A., & Faña, J. A. (2020). Transformational leadership and work engagement: Exploring the mediating role of structural empowerment. *European Management Journal*, 38(1), 169-178. <https://doi.org/10.1016/j.emj.2019.06.007>
- Moynihan, D. P., Pandey, S. K., & Wright, B. E. (2012). Setting the Table: How Transformational Leadership Fosters Performance Information Use. *Journal of Public Administration Research and Theory*, 22(1), 143–164. <https://doi.org/10.1093/jopart/mur024>
- Nguyen, D. L. (2020). Mediating the role of psychological empowerment between transformational leadership and employee engagement. *Management Science Letters*, 4039–4044. <https://doi.org/10.5267/j.msl.2020.7.005>
- Nilsen, P. (2020). Overview of theories, models, and frameworks in implementation science. In *Handbook on Implementation Science* (pp. 8–31). Edward Elgar Publishing.
- Niswaty, R., Wirawan, H., Akib, H., Saggaf, M. S., & Daraba, D. (2021). Investigating the effect of authentic leadership and employees' psychological capital on work engagement: evidence from Indonesia. *Heliyon*, 7(5). <https://doi.org/10.1016/j.heliyon.2021.e06992>
- Nohe, C., & Hertel, G. (2017). Transformational leadership and organizational citizenship behavior: A meta-analytic test of underlying mechanisms. *Frontiers in Psychology*, 8, 1364. <https://doi.org/10.3389/fpsyg.2017.01364>
- Rasool, S. F., Samma, M., Anjum, A., Munir, M., & Khan, T. M. (2019). Relationship between modern human resource management practices and organizational innovation: Empirical Investigation from banking sector of China. *International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies*, 10, 1–11.
- Rego, A., Marques, C., Leal, S., Sousa, F., & Pina e Cunha, M. (2010). Psychological capital and performance of Portuguese civil servants: Exploring neutralizers in the context of an appraisal system. *The International Journal of Human Resource Management*, 21(9), 1531–1552. <https://doi.org/10.1080/09585192.2010.488459>
- Sammur, R., & Scicluna, A. (2020). Nurses' and nurse managers' perceived transformational leadership behavioural practices: A survey. *Leadership in Health Services*, 33(4), 385-396. <https://doi.org/10.1108/LHS-01-2020-0002>
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25(3), 293–315. <https://doi.org/10.1002/job.248>
- Schuckert, M., Kim, T. T., Paek, S., & Lee, G. (2018). Motivate to innovate: How authentic and transformational leaders influence employees' psychological capital and service innovation behavior. *International Journal of Contemporary Hospitality Management*, 30(2), 776-796. <https://doi.org/10.1108/IJCHM-05-2016-0282>
- Shin, S. J., & Zhou, J. (2003). Transformational leadership, conservation, and creativity: Evidence from Korea. *Academy of Management Journal*, 46(6), 703–714.
- Soane, E., Truss, C., Alfes, K., Shantz, A., Rees, C., & Gatenby, M. (2012). Development and application of a new measure of employee engagement: The ISA Engagement Scale. *Human Resource Development International*, 15(5), 529–547.

- Wang, Y., Zheng, Y., & Zhu, Y. (2018). How transformational leadership influences employee voice behavior: The roles of psychological capital and organizational identification. *Social Behavior and Personality: An International Journal*, 46(2), 313-321. <https://doi.org/10.2224/sbp.6619>
- Wright, B. E., Moynihan, D. P., & Pandey, S. K. (2012). Pulling the Levers: Transformational Leadership, Public Service Motivation, and Mission Valence. *Public Administration Review*, 72(2), 206–215. <https://doi.org/10.1111/j.1540-6210.2011.02496.x>
- Ziauddin, I., Khan, M., Jam, F., & Hijazi, S. (2010). The impacts of employees' job stress on organizational commitment. *European Journal of Social Sciences*, 13(4), 617-622.