

# **Effects of Authentic Leadership on Innovative Work Behavior: Psychological Capital as Mediator and Organizational Unfairness as Moderator in Pakistani Public Sector Organizations**

**Kamran Khan**

*Department of Management Sciences, Al-Hamd Islamic University Islamabad, Pakistan.*  
[phdmanagement.hrm@gmail.com](mailto:phdmanagement.hrm@gmail.com)

**Zartashia Kynat Javid**

*Department of Applied Psychology, Government College University Faisalabad, Pakistan.*

**Abida Ajid Ali**

*Department of Applied Psychology, Government College University Faisalabad, Pakistan.*  
[abidaajid@gcuf.edu.pk](mailto:abidaajid@gcuf.edu.pk)

*Corresponding: zartashiakynat@gcuf.edu.pk*

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<b>ARTICLE INFO</b>	<b>ABSTRACT</b>
<p><i>Article History:</i> Received: 30 Jul, 2024 Revised: 05 Sep, 2024 Accepted: 18 Sep, 2024 Available Online: 19 Sep, 2024</p> <p>DOI: <a href="https://doi.org/10.56536/ijmres.v14i3.666">https://doi.org/10.56536/ijmres.v14i3.666</a></p> <hr/> <p><i>Keywords:</i></p> <p>Authentic Leadership, Innovative Work Behavior, Organizational Unfairness, Public Sector Organizations, Psychological Capital.</p> <p><i>JEL Classification:</i></p> <p>D91, G 41, H 12, H 75,</p>	<p>The purpose of this research is to determine the effects of authentic leadership on innovative work behavior (IWB) in the context of Pakistan's public sector organizations, with the mediating effect of psychological capital and moderation by organizational unfairness. This study adopted a quantitative research design and questionnaires were used to collect data from 314 respondents from public sector organization, and the data were analyzed using Partial Least Squares Structural Equation Modeling (PLS-SEM) technique. The outcomes show that the degree of authentic leadership has a positive impact on the level of IWB. As in the case of psychological capital, it is effective in mediating this relationship, thus underlining the significance of leaders supporting self-efficacy, hope, resilience, and optimism among the workforce to enhance innovation. Furthermore, the organizational unfairness to a great extent moderates the relationship between authentic leadership and IWB, the role of the right environment in encouraging employees' innovation. This research fills the gap in the literature by describing and explaining authentic leadership and innovation in the context of the public sector organizations. The managerial implications stress the significance of the leadership development initiatives aimed at strengthening the authentic leadership in organizations and creating the supportive environment that would help improve creativity and organizational performance.</p>

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## **INTRODUCTION**

Currently, the private sector controls more than 77% of Pakistan's commercial banking industry, 100% of the textile and telecommunications industry, and a sizeable portion of the cement, sugar, auto, and fertilizer industries (ADB, 2008). Merely 3.3% of the companies polled stated they had innovated in the previous three years, with innovation being defined as a company launching new or enhanced goods or services (Khan & Viganola, 2023). Organizations Pakistan's governmental and commercial sectors are crucial to the socioeconomic advancement of the

nation. The private sector promotes economic growth, innovation, and competitiveness whereas the public sector concentrates on infrastructure development and the provision of public services. Working together, these sectors can achieve sustainable growth and raise the standard of living for the population.

People that exhibit authentic leadership behave themselves in a way that is true to their true selves—that is, in an authentic, sincere, and real manner. It is asserted that true leaders are in the greatest position to encourage their followers to trust them, be devoted, and do good work (Pratt, 2023). According to earlier research, companies require leaders who can inspire staff members to exhibit positive behaviors that uphold stability and benefit the company, particularly when those attributes aren't explicitly mentioned in job descriptions. (Yamak & Eyupoglu, 2021). The emergence of genuine leadership places emphasis on the cultivation of authenticity, which is grounded in organizational behavior, ethics, positive psychology, and leadership. Scholars and professionals interested in how leaders affect knowledge-sharing, positive organizational behavior, and worker performance in organizations have taken notice of this strategy (Younas et al., 2023).

Organizations encounter challenges in a global market that is competitive (Ahmad et al., 2021). According to Hu et al. (2018), proactive personality and artistic behavior are highly influenced by authentic leadership. Defined authentic leadership as "A leadership style that prioritizes open communication of information necessary to make effective and efficient decisions while accepting follower's efforts" (Niu et al., 2018). According to previous research, advanced work behavior is when worker efforts to support originality, provide renewed ideas, and invent in order to meet organizational objectives (Mubarak et al., 2021). Previous research looked at personality qualities (Hu et al., 2018), employer leadership (Khan et al., 2022), leader-associate interchange (Zuberi & Khattak, 2021), and behavior related to the innovative work (Li et al., 2016) as they relate to behavioral context.

In the setting of the banking industry, Yamak and Eyupoglu (2021) discovered a strong impact of authentic leadership on creative work behavior. Mubarak et al. (2021) contended that a proactive personality and innovative work conduct are positively correlated. Furthermore, Hu et al. (2018) propose that in demand to investigate advanced working behavior in various industries, forthcoming researchers could consider pre-emptive personality and work arrangement as mediators.

Because each of the four positive psychological states—hope, efficacy, resilience, and optimism—improves performance and general well-being, they are together referred to as psychological capital. These states have a bigger combined influence than they do separately. Psychological capital can be developed by individuals to improve their own performance or by employers to improve organizational performance across teams and the workforce (Luthans et al., 2007). Enhancing employee performance is also influenced by variables like quality of life (Javaid et al., 2023), workforce characteristics (Khan & Javaid, 2023), and dispute resolution (Ali et al., 2024).

Through the Resource-Based View (RBV) perspective, Ali and Kausar (2022) investigated the relationship between organizational sustainability and innovation in Pakistan's manufacturing industry. The mediating role of continuous improvement and the moderating role of Industry 4.0 were also examined in their study. An extensive and direct relationship between innovation and organizational sustainability was found in data gathered from 322 companies.

The personal and family wellness of employees may be negatively impacted by organizational injustice (Okechukwu et al., 2014). Workers on low wages may encounter many forms of workplace injustice (Kristen et al., 2015). Due to their lower pay, which violates their fundamental human rights, they find it impossible to meet their basic requirements (Ayub, 2019). Employee well-being may decline due to unfair behavior (Javaid et al., 2023). They may also experience various forms of distributive, procedural, and interactional injustice, all of which have the potential to negatively impact their wellbeing in a variety of ways. For instance, it can make it more difficult for non-managerial service staff to meet the different demands outlined by Maslow (1943).

If Islamic organizations, such as Islamic banks and other commercial institutions, or corporate entities that assert that they are implementing Islamic principles in their workplace and commercial operations, engage in organizational injustice with their employees, this could be a far more serious issue (Ayub, 2019). Nevertheless, prior studies that demonstrate how inequitable relationships, processes, and resource allocation within businesses hinder non-managerial service personnel from meeting their diverse life demands have not addressed this issue. Thus, the chief goal of this study is to examine how non-managerial Islamic banking employees perceive or feel injustice and how it obstructs their ability to meet different demands in life.

This study enlarges significantly to the body of information in the field. First, by examining its effects on IWB in the understudied setting of Pakistan's public sector, it broadens our knowledge of real leadership. Secondly, it emphasizes the pivotal function of psychological capital as an intermediary, providing perspectives on how managers might cultivate a creative workplace by

supporting staff members' psychological capital. Thirdly, the research adds organizational unfairness to the discussion of contextual elements that could either support or undermine the effect of genuine leadership on creativity. By addressing these shortcomings, the study offers insightful recommendations for managers and policymakers in the public sector, highlighting the significance of developing genuine leadership and a welcoming workplace environment to spur innovation and enhance output.

## **LITERATURE REVIEW**

With an emphasis on the function of innovation climate, Korcu et al.'s study from 2023 investigated how workers' innovative work behavior in healthcare (hospital, etc.) contexts was impacted by transformational and authentic leadership methods. The outcomes of the investigation presented that both types of leadership had an impact on creative work practices, but that the

impact of authentic leadership was greater, especially when considering the direct and indirect effects through the innovation climate. This implies that, as opposed to transformational leadership alone, encouraging real leadership among healthcare managers may be more successful in encouraging creativity among staff members.

Zareh and Arshad (2022) concluded that genuine leadership influences individuals directly and has a major role in how employees behave. The innovative work habits of employees are shaped by their creative self-efficacy, which is heavily impacted by genuine leadership. Furthermore, mastery goal orientation may have an impact on the link between creative self-efficacy and genuine leadership. The indirect impact of authentic leadership on employee outcomes is further theorized to be moderated by mastery goal orientation through creative self-efficacy. Consequently, effective leadership improves the performance of the organization (Jabeen et al., 2024).

### *H1- Authentic leadership is positively related to innovative work behavior*

According to the rationale for why psychological capital benefits from authentic leadership, leaders who are authentic may experience synergistic impacts on a number of psychological capital capacities. For instance, when real leaders help their staff members grow in their logic of self-efficacy, hope, and hopefulness, they also give them more psychological resources that enable them to overcome setbacks, challenges, and failures. Employees may be able to maintain or restore their self-efficacy following a setback if an authentic leader fosters resilience and optimism. People who are upbeat, hopeful, and confident in their abilities may be more resilient. The Genuine leaders' psychological strengths have the potential to enhance the total PsyCap of their personnel through impurity effects (Ilies et al., 2005; Norman et al., 2005). Organizational injustice was

presented as a moderating element that might either strengthen or weaken this link, and it emphasized the critical mediating function that psychological capital plays in creating a creative work environment (Mehmood et al., 2023).

### *H-2 Authentic leadership has positively associated with psychological capital*

According to the Novitasari and colleagues, (2020) psychological capital also turns as a moderator in the relationship between creative work practices and authentic leadership. According to the investigation's findings, innovative work behavior is positively and significantly impacted by psychological capital and an authentic leadership style. The relationship between a creative work style and a genuine leadership style is mediated by psychological capital.

There hasn't been much discussion of the function psychological capital plays in helping true leaders inspire their followers. According to Luthans et al. (2007), Avey et al. (2009), Walumbwa et al. (2010), and Norman et al. (2010), psychological capital is a term used to describe a person's positive psychological development and is defined by four essential components: resilience (the capacity to persevere through difficulties and overcome setbacks) and efficacy (the assurance to take on and devote effort to challenging tasks). Studies indicate that including psychological capital into the analysis of leadership and positive behavioral outcomes, like organizational

citizenship behavior (OCB), can result in a more comprehensive approach (Gardner et al., 2005; Luthans et al., 2007). As noted by George (2015), genuine leaders motivate their people by exhibiting a strong dedication to in delivering ethical excellence.

### *H3- Psychological Capital has positively mediated between Authentic Leadership and Innovative Work Behavior*

When it comes to the effects of authentic leadership on individual work performance, effective and authentic leaders are critical to the development of their team members' Psychological Capital (PsyCap) (Avey, 2014). Higher levels of PsyCap are linked to inventive behavior (Brunetto et al., 2020) and openness to change (Avey et al., 2008). PsyCap refers to psychological attributes that help workers handle stress. The relationship between authentic leadership and PsyCap is emphasized by Cerne et al. (2013), Avey et al. (2008), and Brunetto et al. (2020) as a crucial, but frequently disregarded, factor in public sector research that may be essential to fostering a "innovation- enabling culture," as proposed by Demircioglu and Van der Wal (2022). Notwithstanding the intricacy of nonprofit organizations (NPOs) hired to deliver social services; the authors claim that no prior research has examined the combined effect of these variables.

### *H4a- Organizational unfairness may reduce the positive effects of authentic leadership on Psychological Capital*

Because it lowers worker stress and is linked to higher performance levels (Luthans & Youssef-Morgan, 2017) and better patient safety outcomes (Xerri et al., 2023), psychological capital is especially significant. Strong authentic leadership behaviors have been found to be positively connected with high Psychological Capital in public sector workers, according to prior research (Adendorff et al., 2021). It has also been discovered that working remotely improves psychological well-being (Fatima et al., 2024). The Conservation of Resources (COR) theory states that genuine leaders are more likely to offer the support networks that increase workers' resources. Thus, we expect comparable results for staff members of nonprofit organizations (NPOs) who provide the public with social and health services.

Niesen et al. (2018) examine the relationship between idea generations—components of innovative work behavior—and both quantitative and qualitative job insecurity. Furthermore, they contend that these unfavorable interactions are mediated by psychological contract breaches. The idea generation is adversely impacted by both kinds of employment instability. Contrary to what we had anticipated, there was an equally substantial correlation between the two types of employment insecurity and indication of generation.

Ramamoorthy et al. (2005) showed a study to discover the factors influencing innovative work behavior (IWB) within Irish manufacturing organizations. They developed a comprehensive model that integrated concepts from psychological contract theory, job design, and organizational justice literature. Additionally, pay and job autonomy indirectly impacted IWB through the mediation of psychological contract. The organizational procedures such as meritocracy, equity

perceptions, and practical justice perceptions influenced IWB indirectly via psychological contract mediation.

*H4b Organizational unfairness may decline the positive link of Psychological Capital and Innovative Work Behavior*

While most studies on job insecurity concentrate on the detrimental repercussions of this issue, research on innovative work behavior (IWB) frequently focuses only on the factors that encourage employees to be more innovative. It looks at threat rigidity theory and social exchange theory as mediating factors for the association between IWB and job insecurity (Niesen et al., 2014).

## RESEARCH METHODOLOGY

### *Research Design*

In this research, the research design used was quantitative to analyze the effect of authentic leadership on innovative work behavior (IWB) in public sector organizations of Pakistan. The study employed the use of structured questionnaires to obtain data from the respondents.

### *Sample*

The population for this study was the employees of the banking sector organizations in Pakistan. From the survey, a total of 314 respondents were obtained. The sample was obtained through convenience sampling to capture a wide cross section of employees from the public organizations.

### **Measures**

**Authentic leadership:** is unhurried by Authentic Leadership Questionnaire (ALQ) by Walumbwa et al. developed in (2008) for measuring of employees' perceptions of their respective leader in organizational setting. The sixteen items in this questionnaire address four different aspects: relational transparency, internal moral perspective, balanced processing, and self-awareness. The true Leadership Questionnaire (ALQ) is a credible and trustworthy instrument that evaluates how followers view true leadership in a variety of settings, cultures, and nations. Respondents are requested to score their answers using a seven-point Likert-type scale, with 1 denoting "strongly disagree" and 7 representing "strongly agree." Sample items include: "My leader's actions reflect their core values" and "My leader does not prioritize their own viewpoint at the expense of others."

**Innovative Work Behavior:** innovative work behaviors were measured by using nine items adapted from De Jong and De Jong (2010) on a 7-point unipolar Likert-type response scale ranging from 1 (never) to 7 (always). The sample of the item included "In relation to your job, how often do you wonder how things can be improved? "

**Psychological Capital:** The role of psychological capital was examined by adopting 12 items scale of Psychological capital from Luthans et al. (2007). The sample of the questionnaire includes “I am confident that I could deal efficiently with unexpected events.”

**Organizational Unfairness:** Organizational unfairness is measured on a four-item scale developed by Bizer (2020), with the item "I get really frustrated when the world seems unfair."

### *Procedure*

To this end, this study adopted a quantitative research design in order to assess the influence of authentic leadership on innovative work behaviour in the context of Pakistan’s public sector organisations. The participants were 314 employees. The data were collected by using an authentic leadership, psychological capital, innovative Organisational climate, and innovative work behaviour instruments self-administered questionnaires. Pilot study proved that the items on the generated questionnaire are reliable and unambiguous. To analyze the data PLS-SEM with SmartPLS software was used. To establish reliability and validity of the measurement model the analysis was carried out followed by testing of the first structural model direct and indirect effects.

## **RESULT AND DISCUSSION**

This research was carried out to examine the effects of authentic leadership on innovative work behaviors by the mediating role of psychological capital. Further the moderation role of organizational unfairness has been seen for its negative role as psychological capital and innovative work behaviors have been declined in presence of unfair organizational practices. Collected data was analyzed.

**Table 1: Results of Descriptive Statistics**

Items/Constructs	No.	Mean	S.D	kurtosis	Skewness	p value
AL1	1	2.667	1.123	-0.582	0.22	
AL2	2	2.53	1.154	-0.87	0.281	
AL3	3	2.459	1.313	-0.728	0.608	
AL4	4	2.563	1.27	-0.84	0.415	
AL5	5	2.328	1.224	-0.632	0.576	
AL6	6	2.388	1.342	-0.889	0.577	
AL7	7	2.568	1.287	-1.014	0.367	
AL8	8	2.716	1.345	-1.126	0.218	
AL9	9	2.596	1.268	-1.041	0.229	
AL10	10	2.514	1.271	-0.874	0.412	
AL11	11	2.59	1.155	-0.647	0.25	
AL12	12	2.454	1.153	-0.706	0.362	
AL13	13	2.738	1.283	-0.959	0.251	
AL14	14	2.743	1.176	-0.761	0.166	
AL15	15	2.71	1.106	-0.482	0.105	

AL16	16	2.76	1.153	-0.665	0.158	
Authentic Leadership	17	2.583	0.749	-0.344	0.039	0.016
IWB1	18	3.175	1.336	-1.088	-0.116	
IWB2	19	3.317	1.354	-1.206	-0.18	
IWB3	20	3.158	1.331	-1.086	-0.098	
IWB4	21	3.273	1.215	-1.021	-0.041	
IWB5	22	3.284	1.304	-1.072	-0.272	
IWB6	23	2.962	1.225	-0.94	0.199	
IWB7	24	3.519	1.309	-0.941	-0.469	
IWB8	25	3.279	1.299	-1.062	-0.274	
IWB9	26	3.295	1.359	-1.211	-0.167	
Innovative Work Behaviors	27	3.257	0.966	-0.471	-0.06	0.000
PC1	28	3.891	1.326	-0.72	-0.79	
PC2	29	3.268	1.441	-1.325	-0.191	
PC3	30	4.164	1.185	-0.245	-1.076	
PC4	31	3.175	1.446	-1.331	-0.09	
PC5	32	3.59	1.347	-1.155	-0.383	
PC6	33	4.208	1.116	0.033	-1.108	
PC7	34	3.306	1.439	-1.304	-0.217	
PC8	35	3.186	1.386	-1.322	0.035	
PC9	36	2.093	1.222	-0.331	0.943	
PC10	37	2.656	1.231	-0.944	0.398	
PC11	38	2.743	1.18	-0.872	0.35	
PC12	39	3.246	1.347	-1.181	-0.24	
Psychological Capital	40	3.294	0.687	-0.281	-0.241	0.017
OU1	41	3.689	1.628	-1.202	0.13	
OU2	42	4.104	1.738	-1.27	-0.362	
OU3	43	3.661	1.776	-1.349	-0.032	
OU4	44	3.5	1.699	-1.221	0.102	
Organizational Unfairness	45	3.794	1.033	-0.056	0.256	0.006

Note: SD = Standard Deviation, AL=Authentic Leadership, IWB=Innovative Work Behavior, PC=Psychological Capital, OU=Organizational Unfairness

On Smart PLS software into two phases. In the first phase measurement of outer model was assessed by examining convergent and divergent validity by running PLS-Algorithm approach. In the second phase hypothesis was tested by adopting process macro technique by Andrew Hayes (2013) by examining the mediating and moderating effect of the variable in multiple relations between independent and dependent variables.



The Table 1 explained the mean, S.D, Skewness and Kurtosis values by examining the descriptive statistics and initial analysis of the present study. This study revealed that: (1) The participants had a high level of resilience in total ( $M \pm SD = 137.994 \pm 57.297$ . Skewness=0.608 is max positive for authentic leadership and -0.06 min for innovative work behaviors, and Kurtosis= -3.349. the level of p values of all constructs <0.045 of the level of significance of the study.

This study revealed that all pairs of variables had a statistically significant positive correlation between authentic leadership and innovative work behaviors. The items of psychological capital are mostly positively correlated in between the authentic leadership and innovative work behaviors. Further the organizational unfairness negatively correlated with the authentic leadership, psychological capital and innovative work behaviors.

### Measurement of the Model

The measurement of the outer model is important step for initial analysis. This has examined through convergent and discriminant validity of the constructs. Convergent validity was examined by observing composite reliability, Cronbach alpha values and average variance extracted of the constructs. Jöreskog's (1971) criteria of internal consistency values between 0.60 and 0.70 is considered good," values between 0.70 and 0.90 range from "satisfactory to good, but values greater than 0.95 are considered problematic (Diamantopoulos et al., 2012). Other criteria of internal consistency were seen in assessment of Cronbach's alpha, which is more related to as conservative approach (Hayes., & Coutts, 2020). Acceptable values of Cronbach's alpha in general rule explained the range of constructs values between 0.6 and 0.7 and values 0.8 or higher are considered good. But values range higher range 0.95 generally not considered fit for measuring the internal consistency of the constructs (Ursachi et al., 2015).

**Table 2: Construct Reliability and Validity**

Constructs	Cronbach's alpha	Composite reliability	AVE
Authentic leadership	0.919	0.901	0.671
Psychological Capital	0.842	0.831	0.509
Innovative Work Behaviors	0.716	0.789	0.501
Organizational Unfairness	0.906	0.899	0.674

CR=Composite reliability>0.7, AVE=Average variance extracted>0.5

The average variance extracted (AVE) metric has also used to determine the convergent validity of each construct. In this step, square the loadings and compute the mean values of each construct were observed. The acceptable range of AVE is 0.50 or greater, which shows the describes at least 50 percent of the variance of its items in the construct (Hair et al., 2021). Table 2 of the study shows the one-by-one values of composite reliability, which are higher than 0.7 and values of Cronbach's alpha are also higher than 0.7 which best describe the internal consistency of the construct. Secondly it also presents the values of average variance extracted (AVE), Which are greater than 0.50 and establish the good convergent reliability of the data.

**Table 3: Discriminant Validity**

Constructs	Mean	S.D	AL	IWB	PC	OU
AL	6.15	1.24	0.939			
IWB	4.61	1.52	0.798	0.667		
PC	8.60	1.56	0.436	0.287	0.455	
AL*OU *IWB	3.24	1.86	2.334	0.087	0.105	
AL*OU *PC	6.41	1.92	0.079	0.015	0.016	0.018
OU *PC*IWB	5.11	1.34	0.009	0.005	0.004	0.001

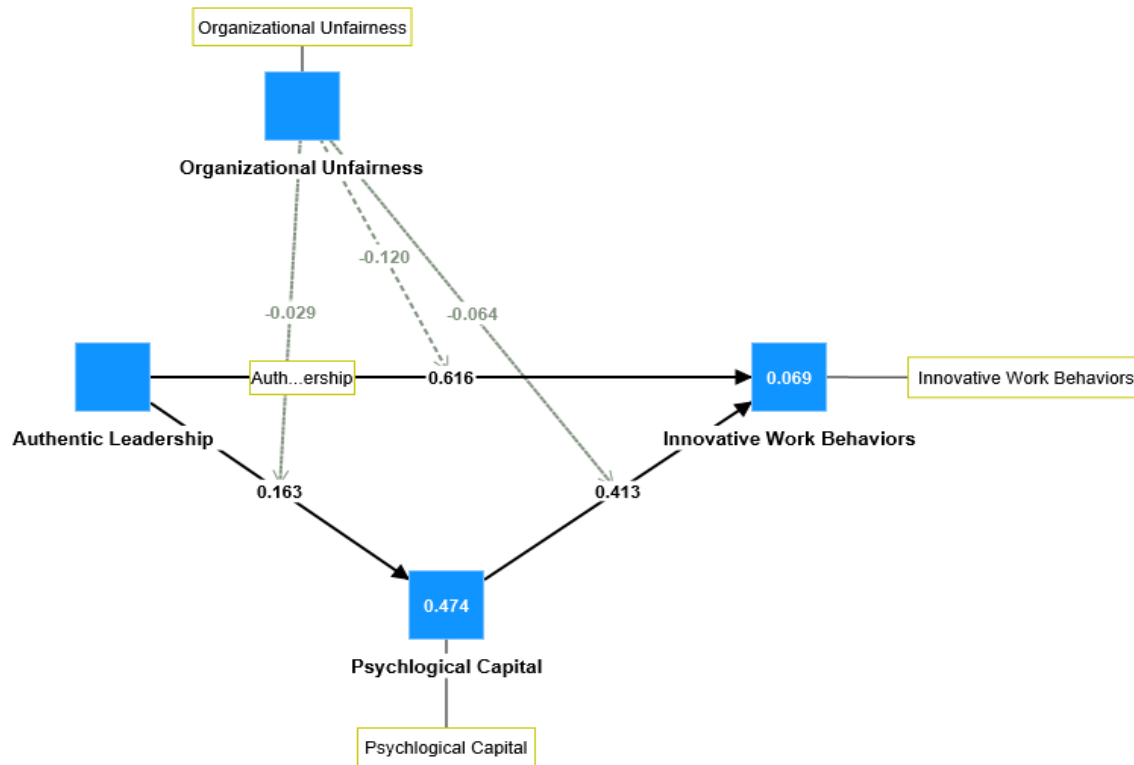
AL=Authentic Leader, IWB=Innovative work behaviors, PC=Psychological Capital, OU=Organizational unfairness, CA= Cronbach's alpha, CR=Composite reliability, AVE= Average Variance Extracted,  $t > 1.96$ ,  $p < 0.045$ , DV=Discriminant Validity, Fornell and Larcker (1981)

The next step is to examine the divergent validity or discriminant, which indicates the distinct and different position of each construct from the other related constructs. Traditionally, criteria of discriminant validity suggested by Fornell and Larcker (1981) is used for assessing the discriminant validity. In these criteria share value of all constructs should be less than the above-stated diagonal value of below stated values. The present study has adopted this criterion for model assessment. Table 3 shows that distinct position of each contract by presenting the higher diagonal values of each construct from the below related items and setting the divergent reliability to a significant level.

### Assessment of Structural Model & Hypotheses Testing

The assessment of the hypothesis was done through the process macro technique suggested by (Andrew Hayes, 2012). The current study has adopted the model no 4 for examining the mediation as well as moderation effects in between independent and dependent variable. The process macro technique allows seeing the conditional effect of one variable on another variable by intervening role of third or fourth interaction of related variables. It estimates the impacts of X on Y at a specific point (or points) along the mediator as well as moderator and determining whether or not this effect is significant. The 95% confidence intervals (CIs) were used to determine the statistical significance of simple moderations (Hayes, 2012).

The technique of process macro was used by running Bootstrapping step in Smart-PLS software version 4.0. running the bootstrapping, the effects of authentic leadership on innovative work behaviors was seen by the mediating role of psychological capital. Further the moderating effects of organizational unfairness was assessed with bootstrapping 5000 resample analysis for the interaction effects proposed by (Hayes, 2018).



**Figure 1: Path Coefficient of Variables**

The path diagram describes the direct positive relationship between authentic leadership and innovative work behaviors. Psychological capital positively mediates the relation between authentic leadership and innovative work behaviors, and organizational unfairness weakens the relationship between independent and dependent variables as well as in the mediator.

**Table 4**  
**Hypotheses Testing**

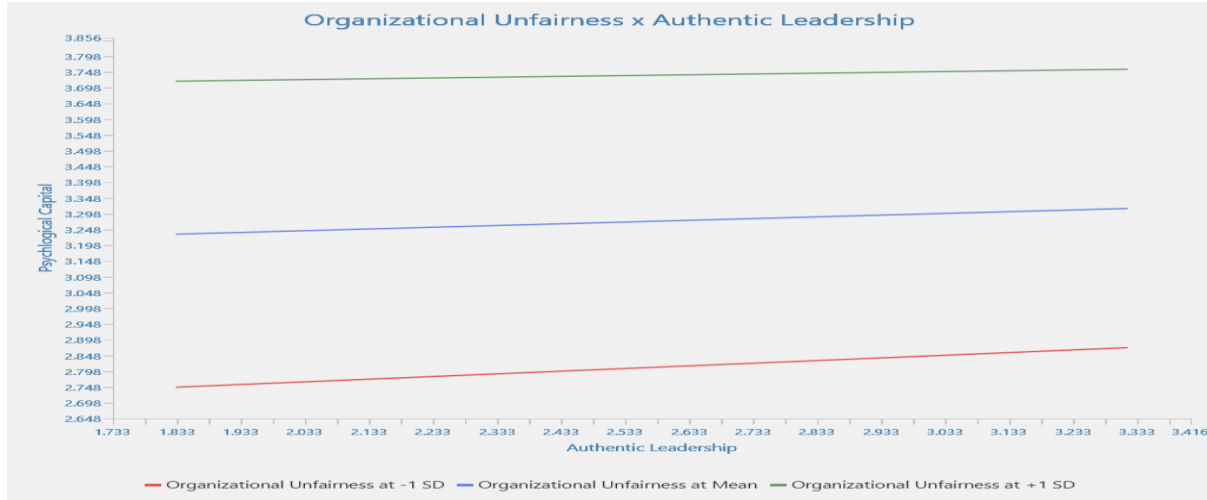
Hypotheses	Independent Variable	Mediator	Dependent Variable	Moderator	$\beta$	T statistics	P values	Decision
H1	AL	.....	IWB	.....	0.616	5.237	0.023	Accepted
H2	AL	PC	.....	.....	0.163	8.316	0.000	Accepted
H3	AL	PC	IWB	.....	0.413	8.002	0.005	Accepted
H4	AL	.....	IWB	OU	-0.120	7.649	0.008	Accepted
H4a	AL	PC	.....	OU	-0.029	2.413	0.001	Accepted
H4b	.....	PC	IWB	OU	-0.064	4.013	0.031	Accepted

AL=Authentic Leader, IWB=Innovative work behaviors, PC=Psychological Capital, OU=Organizational unfairness, CA= Cronbach's alpha, CR=Composite reliability, AVE= Average Variance Extracted,  $t > 1.96$ ,  $p < 0.045$

Table 4 presents the direct and indirect effects of the study variables. The effects of authentic leadership on innovative work behaviors ( $\beta = 0.616$ ;  $t = 5.237$ ,  $p < 0.045$ ) The interaction of authentic leadership with psychological capital is ( $\beta = 0.163$ ;  $t = 8.316$ ,  $p < 0.045$ ), which also supports the second hypotheses. The intervening role of psychological capital between authentic leader and innovative work behaviors is also positive and support the H3 ( $\beta = 0.413$ ;  $t = 8.002$ ,  $p < 0.045$ ), which indicates the positive mediation of psychological capital between authentic leader and innovative work behaviors. The moderation effects of perceived organizational support explain that this has weaken the effects of authentic leadership on innovative work behaviors i.e. ( $\beta = -0.120$ ;  $t = 7.649$ ,  $p < 0.045$ ), it has also declined the positive interaction of authentic leadership and psychological capital ( $\beta = -0.029$ ;  $t = 2.413$ ,  $p < 0.045$ ) and with innovative work behaviors ( $\beta = -0.064$ ;  $t = 4.013$ ,  $p < 0.045$ ) and fully support the moderation hypothesis of the study.

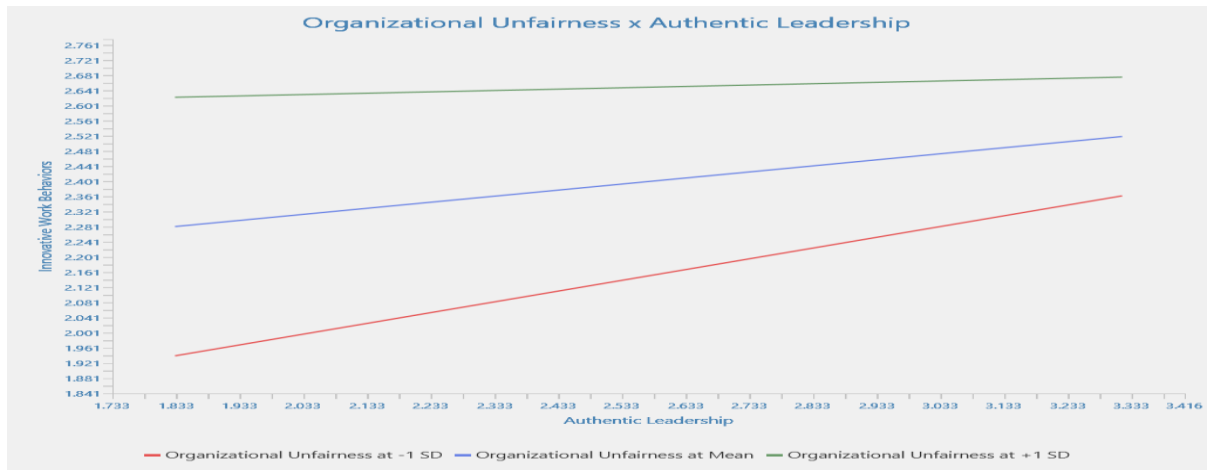
**Moderation slope**

The moderation slope was shown and drawn in Fig. 2, verifying the interaction term (AL x OU) effects on IWB, which explains that when the organizational unfairness is higher, the effects of authentic leadership are weaken on innovative work behaviors, and employees having less psychological capital.



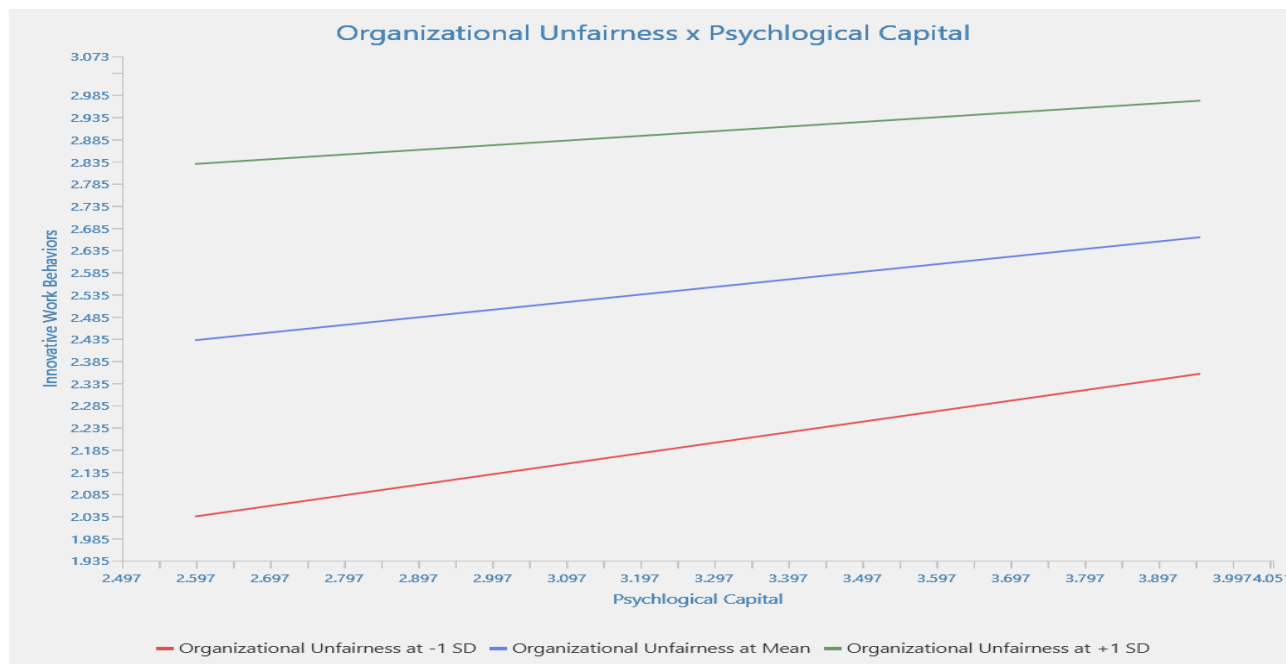
**Figure 2: Moderating Role of Organizational Unfairness With IL\*IWE**

Organizational unfairness negatively moderates the relationship between authentic leadership and innovative work behaviors.



**Figure 3: Moderating Role of Organizational Unfairness With IL\*PC**

Organizational unfairness negatively moderates the relationship between authentic leadership and psychological capital.



**Figure 4 Moderating Role of Organizational Unfairness with PC\*IWE**

Organizational unfairness negatively moderates the relationship between innovative work behaviors and psychological capital.

**Discussion**

The first hypothesis of the study was part of the main research question which hypothesized an improvement in innovative work behaviour due to authentic leadership. Thus, authentic leadership that entails self-awareness, relational transparency, balanced processing, and internalization of the moral perspective creates an environment that encourages innovative WB. In the study done by Korku et al. (2023), it was observed that in the health sectors, creative work practice depended on authentic leadership and revealed even stronger effects than those of transformational leadership if one considers direct and indirect effects via the innovation climate. In the same regard, Yasin et al. (2024) evidenced that authentic leadership improves career competence with the moderation of tacit knowledge sharing and employee service innovative behavior.

The second hypothesis was postulated to establish that psychological capital PsyCap mediates the relationship of authentic leadership with innovative work behavior. Referring to the experience of Brunetto et al. (2024) it can be stated that the leadership promotes the formation of an ‘innovation-enabling culture’ as it increases PsyCap among employees that work under the leader. In this analysis, the results demonstrated that authentic leadership explained more than one fifth of the amount of variation in PsyCap, and explained a rather considerable extent of the employees’ IWB

along with their age, as well as acceptance of change. Moral injury affects wellbeing (Javaid et al., 2024). According to Durrah et al. (2024), the balanced processing dimension of the authentic leadership is statistically linked to vitality and learning, which are two fundamental aspects of well-being at work and, in turn, enhances innovative work behaviour. Besides, based on the statistical analysis, Kafeel et al. (2024) revealed that authenticity positively influences flow at work as well as IWB, while the control variable of creative self-efficacy moderated this association and flow as the mediator variable.

The third hypothesis proposed that there is an interaction influence of perceptions of organizational unfairness which mediate the existing relationship of authentic leadership and psychological assets. It was also found that organizational unfairness moderates the relationship between the positive outcomes of authentic leadership and PsyCap. In identifying this relationship, several control variables were considered in this study. These include Self-interested organizational procedures exert negative affect on both PsyCap and innovative work behaviour when the positive impact of authentic leadership is weakened. Niesen and his colleagues also elaborated that job insecurity has a detrimental influence on the innovative behaviours due to the psychological contract breach. This means that, there is need to ensure that there is organizational fairness as it helps to sustain the positive leadership and the psychological resources. Such research outcomes point towards the specification of a positive and fair environment at the place of work to support innovation; and the moderator role of PsyCap in the innovation process. More specifically, Gojny-Zbierowska (2024) also provided further evidence that while leaders' Psy Cap can overcome organizations' deficits in POJ, the moderating effect of organisational justice in the cross-over effect of Psy Cap from leaders to followers.

The fourth hypothesis stated that there is a notable interactive relationship between authentic leadership and innovative work behaviour through a climate for innovation. Scally-Juknevičienė (2024) opined that an innovative organisational climate can act as a moderator between the effect of implicit leadership on innovative work behaviour, however, employee-manager trust could not significantly act as a moderator. The results stated that authentic leadership directly affects the innovation climate in organisations, and consequently, the innovation work behaviours of employees.

The 4b hypothesis was about psychological mediation effect safety in the connection between sincere (authentic) leadership and innovative work behavior. Leaders influence performance (Ramzan et al., 2023). Mindfulness fosters environmental identity (Javaid et al., 2024). Durukan et al. (2024) stressed that the contextual factor of psychological safety, as it was found to moderate connection between the antecedent of authentic leadership and the outcome of turnover intention. The findings implied that by putting into practice effective work environment and by attaining basic psychological safety would diminish individual turnover intention which also gives emphasis on how an environment free of ambiguity and fairly conducted may prove to yield positive results.

## CONCLUSION AND POLICY IMPLICATION

The implication of the study is very important for both theory and practice. For organizations, the show results indicate that it is crucial to support the development of authentic leadership and psychological capital to promote the innovation related work behavior. Also, the satisfaction of organizational justice is important for enhancing the favorable impact of leadership and psychological resources.

However, there are still some drawbacks in this study. The findings derived from the cross-sectional design are restricted because it is not possible to establish causality. Future research might involve collecting data with a longitudinal research design because the current studies' designs limit the ability to determine causality. Also, the study was based on a definite cultural and organizational background, which may be another drawback of the investigation. This study also calls for more research in other clinical contexts to replicate and build on these findings.

To sum it up, our research should underpin the importance of the authentic leadership in encouraging innovative work behavior by improving psychological capital. But, as it was expected, the direct relationship between the level of authentic leadership exhibited by managers and the level of psychological capital of the employees is conditioned by the perceived levels of procedural justice within an organization. The case of effecting organizational fairness is therefore critical to maximizing the value of authentic leadership and psychological capital to influence innovation. Thus, it is possible to state that the results of this study advance the understanding of leadership, psychological capital, and innovation in the field of management research and practice.

This study's goals were mostly accomplished. The study effectively ascertained the influences of genuine leadership on innovative work behavior (IWB) in Pakistan's public sector establishments, verifying that genuine leadership has a favorable effect on IWB. The study also successfully illustrated psychological capital's mediating function, demonstrating how it improves workers' self-efficacy, hope, resilience, and optimism, strengthening the bond between authentic leadership and IWB. Furthermore, the study's goal of analyzing the moderating effect of organizational unfairness was accomplished, as it was discovered to have a significant impact on the relationship between authentic leadership and IWB. Depending on how far the organizational environment is, this influence can either help or hinder innovation. By focusing on these areas, the study closed a vacuum in the literature and offered insightful advice on organizational management and leadership development.



## REFERENCES

- ADB. (2008). *Private sector assessment: Pakistan*.  
<https://www.adb.org/sites/default/files/institutional-document/32216/private-sector-assessment.pdf>
- Adendorff, G., Dick, T., Xerri, M., & Brunetto, Y. (2021). Does the talk match the walk for Australian local government employees: The link between leadership and employee well-being. *Australian Journal of Public Administration*, 80(4), 769–789.  
<https://doi.org/10.1111/1467-8500.12425>
- Ali, K., & Kausar, N. (2022). Enhancing organizational sustainability through innovation and continuous improvement in the context of Pakistan: Moderating effect of Industry 4.0. *International Journal of Management Research and Emerging Sciences*, 12(4).
- Ali, A. A., Mahmood, K., Javaid, Z. K., & Athar, M. (2024). Conflict resolution, psychological well-being, and marital satisfaction among spouses of working people. *Pakistan Journal of Law, Analysis and Wisdom*, 3(2), 183–191.
- Avey, J. B. (2014). The left side of psychological capital: New evidence on the antecedents of PsyCap. *Journal of Leadership & Organizational Studies*, 21(2), 141–149.  
<https://doi.org/10.1177/1548051813486055>
- Avey, J. B., Luthans, F., & Jensen, S. M. (2009). Psychological capital: A positive resource for combating employee stress and turnover. *Human Resource Management*, 48(5), 677–693.  
<https://doi.org/10.1002/hrm.20237>
- Avey, J. B., Wernsing, T. S., & Luthans, F. (2008). Can positive employees help positive organizational change? Impact of psychological capital and emotions on relevant attitudes and behaviors. *The Journal of Applied Behavioral Science*, 44(1), 48–70.  
<https://doi.org/10.1177/0021886308315771>
- Ayub, M. (2019). Islamic bankers to have the prior right to justice and fair treatment. *Journal of Islamic Business and Management*, 9(1). <https://doi.org/10.26501/jibm.v9i1.291>
- Azeem, M., Ahmed, M., Haider, S., & Sajjad, M. (2021). Expanding competitive advantage through organizational culture, knowledge sharing, and organizational innovation. *Technology in Society*, 66, 101635. <https://doi.org/10.1016/j.techsoc.2021.101635>
- Bizer, G. Y. (2020). Who's bothered by an unfair world? The emotional response to unfairness scale. *Personality and Individual Differences*, 159, 109882.  
<https://doi.org/10.1016/j.paid.2020.109882>
- Brunetto, Y., & Beattie, R. (2020). Changing role of HRM in the public sector. *Public Management Review*, 22(1), 1–5. <https://doi.org/10.1080/14719037.2019.1660719>
- Brunetto, Y., Kominis, G., & Ashton-Sayers, J. (2024). Authentic leadership, psychological capital, acceptance of change, and innovative work behavior in non-profit organisations. *Australian Journal of Public Administration*, 83(1), 69–87. <https://doi.org/10.1111/1467-8500.12453>

- Černe, M., Jaklič, M., & Škerlavaj, M. (2013). Authentic leadership, creativity, and innovation: A multilevel perspective. *Leadership*, 9(1), 63–85.  
<https://doi.org/10.1177/1742715012440514>
- De Jong, J., & Den Hartog, D. (2010). Measuring innovative work behavior. *Creativity and Innovation Management*, 19(1), 23–36. <https://doi.org/10.1111/j.1467-8691.2010.00547.x>
- Demircioglu, M. A., & Van der Wal, Z. (2022). Leadership and innovation: What's the story? The relationship between leadership support level and innovation target. *Public Management Review*, 24(8), 1289–1311. <https://doi.org/10.1080/14719037.2021.1902463>
- Diamantopoulos, A., Sarstedt, M., Fuchs, C., Wilczynski, P., & Kaiser, S. (2012). Guidelines for choosing between multi-item and single-item scales for construct measurement: A predictive validity perspective. *Journal of the Academy of Marketing Science*, 40, 434–449. <https://doi.org/10.1007/s11747-011-0261-6>
- Durrah, O., Charbatji, O., Chaudhary, M., & Alsubaey, F. (2024). Authentic leadership behaviors and thriving at work: Empirical evidence from the information technology industry in Australia. *Psychological Reports*, 127(4), 1911–1940.  
<https://doi.org/10.1177/00332941221098056>
- Durukan, M. H., Kibaroglu, G. G., & Basım, H. N. (2024). The mediating effect of psychological safety on the relationship between authentic leadership and turnover intention. *Middle East Journal of Management*, 11(4), 357–381.  
<https://doi.org/10.1504/MEJM.2024.126234>
- Fatima, H., Javaid, Z. K., Arshad, Z., Ashraf, M., & Batool, H. (2024). A systematic review on the impact of remote work on employee engagement. *Bulletin of Business and Economics (BBE)*, 13(2), 117–126. <https://doi.org/10.61506/01.00306>
- Fornell, C., & Larcker, D. F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, 25(2), 186–192.  
<https://doi.org/10.1177/002224378102500202>
- George, L. A. M. (2015). *Authentic leadership and its effects on organizational citizenship behaviour in a provincial government department in the Western Cape*. [Master's thesis, University of Cape Town].
- Gojny-Zbierowska, M. (2024). When there is no justice, we need an old HERO: The trickle-down effect of psychological capital and the moderating role of organizational justice and leaders' age. *Frontiers in Psychology*, 15, 1256721.  
<https://doi.org/10.3389/fpsyg.2024.1256721>
- Hair, J. F. Jr., Hult, G. T. M., Ringle, C. M., Sarstedt, M., Danks, N. P., Ray, S., & Ray, S. (2021). Evaluation of reflective measurement models. In *Partial least squares structural equation modeling (PLS-SEM) using R: A workbook* (pp. 75–90).
- Hayes, A. F. (2012). *PROCESS: A versatile computational tool for observed variable mediation, moderation, and conditional process modeling*.

- Hayes, A. F. (2018). Partial, conditional, and moderated mediation: Quantification, inference, and interpretation. *Communication Monographs*, 85(1), 4–40. <https://doi.org/10.1080/03637751.2017.1352100>
- Hayes, A. F., & Coutts, J. J. (2020). Use omega rather than Cronbach's alpha for estimating reliability. *Communication Methods and Measures*, 14(1), 1–24. <https://doi.org/10.1080/19312458.2020.1718629>
- Hayes, A. F., & Scharkow, M. (2013). The relative trustworthiness of inferential tests of the indirect effect in statistical mediation analysis: Does method really matter? *Psychological Science*, 24(10), 1918–1927. <https://doi.org/10.1177/0956797613480984>
- Hu, Y., & Kim, H. J. (2018). Positive and negative eWOM motivations and hotel customers' eWOM behavior: Does personality matter? *International Journal of Hospitality Management*, 75, 27–37. <https://doi.org/10.1016/j.ijhm.2018.03.002>
- Hu, Y., Wu, X., Zong, Z., Xiao, Y., Maguire, P., Qu, F., & Wang, D. (2018). Authentic leadership and proactive behavior: The role of psychological capital and compassion at work. *Frontiers in Psychology*, 9, 2470. <https://doi.org/10.3389/fpsyg.2018.02470>
- Ilies, R., Morgeson, F. P., & Nahrgang, J. D. (2005). Authentic leadership and eudaemonic well-being: Understanding leader–follower outcomes. *The Leadership Quarterly*, 16(3), 373–394. <https://doi.org/10.1016/j.leaqua.2005.03.002>
- Islam, T., Zulfiqar, I., Aftab, H., Alkharabsheh, O. H. M., & Shahid, M. K. (2024). Testing the waters! The role of ethical leadership towards innovative work behavior through psychosocial well-being and perceived organizational support. *Journal of Organizational Change Management*.
- Jabeen, R., Mehmood, S., Ahmed, M., Ghani, T., Javaid, Z. K., & Popp, J. (2024). The role of green HRM on environmental performance: Mediating role of green ambidexterity and green behavior and moderating role of responsible leadership. *Journal of Chinese Human Resources Management*, 15(2), 70-90. <https://doi.org/10.47297/wspchrmWSP2040-800504.20241502>
- Javaid, Z. K., Fatima, S., Sehar, & Sohail, M. F. (2024). Correlates and dimensionality of moral injury in combat veterans around the globe: A systematic review. *Pakistan Journal of Law, Analysis and Wisdom*, 3(5), 93–129.
- Javaid, Z. K., Khan, K., Kamran, M., & Aslam, S. (2024). Influence of mindfulness on environmental satisfaction among young adults: Mediating role of environmental identity. *Environment and Social Psychology*, 9(9), 2937. <https://doi.org/10.59429/esp.v9i9.2937>
- Javaid, Z. K., Mahmood, K., & Ali, A. A. (2023). Mediating role of mindfulness between quality of life and workplace stress among working women. *Journal of Workplace Behavior*, 4(1), 68-80.
- Javaid, Z. K., Khan, K., & Anjum, A. R. (2023b). Antecedents of employee well-being: Review of organizations in Pakistan. *ESIC Market*, 54(3), e313.
- Jöreskog, K. G. (1971). Statistical analysis of sets of congeneric tests. *Psychometrika*, 36(2), 109–133. <https://doi.org/10.1007/BF02291393>

- Kafeel, L., Khan, M. M., & Ahmed, S. S. (2024). Authentically flown to innovation: Authentically triggered innovative work behavior through flow at work with moderating role of creative self-efficacy. *International Journal of Innovation Science*, 16(3), 463-481.
- Khan, K., & Javid, Z. K. (2023). Analyzing employee performance through workforce diversity management: Role of workforce diversity characteristics. *Foundation University Journal of Business & Economics*, 8(2), 85-101.
- Khan, M. M., Mubarik, M. S., Islam, T., Rehman, A., Ahmed, S. S., Khan, E., & Sohail, F. (2022). How servant leadership triggers innovative work behavior: Exploring the sequential mediating role of psychological empowerment and job crafting. *European Journal of Innovation Management*, 25(4), 1037-1055.
- Khan, R., & Viganola, D. (2023, June 22). Pakistan's private sector: Going into the nuts and bolts. *Financial Times*. <https://blogs.worldbank.org/en/endpovertyinsouthasia/pakistans-private-sector-going-nuts-and-bolts>
- Kristen, E., Banuelos, B., & Urban, D. (2015). Workplace violence and harassment of low-wage workers. *Berkeley Journal of Employment & Labor Law*, 36, 169.
- Li, M., & Hsu, C. H. (2016). A review of employee innovative behavior in services. *International Journal of Contemporary Hospitality Management*, 28(12), 2820-2841. <https://doi.org/10.1108/IJCHM-02-2015-0070>
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Psychological capital: Measurement and relationship with performance and job satisfaction. *Personnel Psychology*, 60, 541-572. <https://doi.org/10.1111/j.1744-6570.2007.00083.x>
- Luthans, F., & Youssef-Morgan, C. M. (2017). Psychological capital: An evidence-based positive approach. *Annual Review of Organizational Psychology and Organizational Behavior*, 4(1), 339-366. <https://doi.org/10.1146/annurev-orgpsych-032516-113108>
- Luthans, F., Youssef, C. M., & Avolio, B. J. (2007). Psychological capital: Investing and developing positive organizational behavior. *Positive Organizational Behavior*, 1(2), 9-24. <https://doi.org/10.4135/9781483388926.n2>
- Maslow, A. H. (1943). A theory of human motivation. *Psychological Review*, 50, 370-396. <https://doi.org/10.1037/h0054346>
- Mubarik, M., Raja Mohd Rasi, R. Z., Mubarak, M. F., & Ashraf, R. (2021). Impact of blockchain technology on green supply chain practices: Evidence from an emerging economy. *Management of Environmental Quality: An International Journal*, 32(5), 1023-1039. <https://doi.org/10.1108/MEQ-06-2020-0091>
- Mehmood, S., Jabeen, R., Khan, M. A., Khan, M. A., Gavurova, B., & Oláh, J. (2023). Impact of despotic leadership and workplace incivility on innovative work behavior of employees: Application of mediation-moderation model. *Heliyon*, 9(9). <https://doi.org/10.1016/j.heliyon.2023.e20068>
- Niazi, Z. Z., & Arshad, F. (2022). Authentic leadership and innovative work behavior: Mediating role of creative self-efficacy and buffering effect of mastery goal orientation. *RADS Journal of Business Management*, 4(1), 13-29.

- Niesen, W., Van Hootehem, A., Battistelli, A., & De Witte, H. (2014). The relationship between job insecurity and innovative work behavior: Exploring the mediating role of social exchange and threat rigidity. *European Journal of Work and Organizational Psychology*, 23(5), 731-743. <https://doi.org/10.1080/1359432X.2013.805654>
- Niesen, W., Van Hootehem, A., Vander Elst, T., Battistelli, A., & De Witte, H. (2018). Job insecurity and innovative work behaviour: A psychological contract perspective. *Psychologica Belgica*, 57(4), 174. <https://doi.org/10.5334/pb.465>
- Niu, W., Yuan, Q., Qian, S., & Liu, Z. (2018). Authentic leadership and employee job behaviors: The mediating role of relational and organizational identification and the moderating role of LMX. *Current Psychology*, 37, 982-994. <https://doi.org/10.1007/s12144-017-9655-3>
- Norman, L. D., Donelan, K., Buerhaus, P. I., Willis, G., Williams, M., Ulrich, B., & Dittus, R. (2005). The older nurse in the workplace: Does age matter? *Nursing Economics*, 23(6), 282-289.
- Norman, S. M., Avolio, B. J., & Luthans, F. (2010). The impact of positivity and transparency on trust in leaders and their perceived effectiveness. *The Leadership Quarterly*, 21(3), 350-364. <https://doi.org/10.1016/j.leaqua.2010.03.002>
- Novitasari, D., Siswanto, E., Purwanto, A., & Fahmi, K. (2020). Authentic leadership and innovation: What is the role of psychological capital? *International Journal of Social and Management Studies*, 1(1), 1-21.
- Okechukwu, C. A., Souza, K., Davis, K. D., & De Castro, A. B. (2014). Discrimination, harassment, abuse, and bullying in the workplace: Contribution of workplace injustice to occupational health disparities. *American Journal of Industrial Medicine*, 57(5), 573-586. <https://doi.org/10.1002/ajim.22268>
- Ramzan, M., Javaid, Z. K., & Khan, M. A. (2023). Psychological discursiveness in the language use of Imran Khan's speech on national issues. *Global Language Review*, 8(2), 214-225. [https://doi.org/10.31703/glr.2023\(VIII-II\).19](https://doi.org/10.31703/glr.2023(VIII-II).19)
- Rcademy. (2024). Difference between public and private sector. Retrieved from <https://rcademy.com/difference-between-public-and-private-sector/>
- Scally-Juknevičienė, E. (2024). The impact of authentic leadership on innovative work behavior through the mediating role of employee-manager trust and organizational innovation climate (Doctoral dissertation, Vilniaus universitetas).
- Ursachi, G., Horodnic, I. A., & Zait, A. (2015). How reliable are measurement scales? External factors with indirect influence on reliability estimators. *Procedia Economics and Finance*, 20, 679-686. [https://doi.org/10.1016/S2212-5671\(15\)00155-4](https://doi.org/10.1016/S2212-5671(15)00155-4)
- Walumbwa, F. O., Peterson, S. J., Avolio, B. J., & Hartnell, C. A. (2010). An investigation of the relationships among leader and follower psychological capital, service climate, and job performance. *Personnel Psychology*, 63(4), 937-963. <https://doi.org/10.1111/j.1744-6570.2010.01184.x>

- Walumbwa, F. O., Avolio, B. J., Gardner, W. L., Wernsing, T. S., & Peterson, S. J. (2008). Authentic leadership: Development and validation of a theory-based measure. *Journal of Management*, 34(1), 89-126. <https://doi.org/10.1177/0149206307308913>
- Xerri, M. J., Cozens, R., & Brunetto, Y. (2023). Catching emotions: The moderating role of emotional contagion between leader-member exchange, psychological capital, and employee well-being. *Personnel Review*, 52(7), 1823-1841. <https://doi.org/10.1108/PR-12-2021-0528>
- Yamak, O. U., & Eyupoglu, S. Z. (2021). Authentic leadership and service innovative behavior: Mediating role of proactive personality. *SAGE Open*, 11(1), Article 2158244021989629. <https://doi.org/10.1177/2158244021989629>
- Yasin, R., Ribeiro, N., Atif, M., & Ali, A. (2024). Authentic leadership: A source of tacit knowledge sharing and career competence in the service sector. *Leadership & Organization Development Journal*.
- Younas, A., Majeed, N., & Hassan, Z. (2023). Effect of authentic leadership on academicians' performance through the lens of positive organizational behavior and knowledge sharing behavior. *International Journal of Management Research and Emerging Sciences*, 13(1).
- Zuberi, M. A., & Khattak, A. (2021). Impact of proactive personality and leader-member exchange on innovative work behavior: A job design perspective. *International Journal of Innovation Science*, 13(5), 664-683. <https://doi.org/10.1108/IJIS-05-2020-0072>