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Exploring the Role of Authentic Leadership in Shaping Innovation and Adaptability in Higher Education: The Influence of Psychological Capital and Sector Type

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Abstract: Objectives: This research examines the influence of authentic leadership on innovative work behavior (IWB) and adaptive performance (AP) within academic staff at Jordanian higher education institutions (HEIs). It also examines the mediating function of psychological capital (PsyCap) and the influence of sector type (public versus private) on these interactions. **Methodology:** A quantitative methodology was employed, involving 422 academic staff from 26 public and private higher education institutions in Jordan, selected through a cluster sampling technique. The data were collected utilizing validated instruments for authentic leadership, innovative work behavior (IWB), adaptive performance (AP), and psychological capital (PsyCap). We used SmartPLS to do partial least squares structural equation modelling (PLS-SEM) to look at the measurement and structural models. SPSS 26 was employed for descriptive and comparative analyses, such as t-tests and ANOVA. **Results:** The results show that AL greatly improves both IWB and AP. PsyCap was identified as a mediating factor in these relationships, underscoring its essential function as a psychological resource. However, the moderating effect of sector type was not statistically significant, suggesting that the impact of authentic leadership on innovation and adaptability does not differ markedly between public and private higher education institutions. Practical Implications: **Conclusions:** The results demonstrate how important it is for HEIs to cultivate authentic leadership in order to increase PsyCap, which in turn fosters faculty innovative work behavior and adaptability. **Recommendations:** The results will be beneficial to policymakers and university administrators who wish to enhance faculty involvement and organizational effectiveness.

Keywords: Adaptive Performance, Authentic Leadership, Innovative Work Behavior, Psychological Capital, Quality Education, Higher Education Institution.

استكشاف دور القيادة الأصيلة في تشكيل الابتكار والقدرة على التكيف في التعليم العالي: تأثير رأس المال النفسي ونوع القطاع

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ملخص: الأهداف: تبحث هذه الدراسة في تأثير القيادة الأصيلة على سلوك العمل الابتكاري والأداء التكيفي لدى الأكاديميين في مؤسسات التعليم العالي الأردنية. كما تبحث في الدور الوسيط لرأس المال النفسي (PsyCap) وكيف يؤثر نوع القطاع (عام أم خاص) على هذه التفاعلات. **المنهج:** استُخدم نهج كمي، حيث تم اختيار 422 عضوًا أكاديميًا من 26 مؤسسة تعليم عالٍ أردنية حكومية وخاصة باستخدام استراتيجية العينة العنقودية. جُمعت البيانات باستخدام مقاييس مُعتمدة للقيادة الأصيلة، وسلوك العمل الابتكاري، والأداء التكيفي، ورأس المال النفسي.(PsyCap). استُخدمت نمذجة المعادلات الهيكلية الجزئية للمربعات الصغرى (PLS-SEM) عبر SmartPLS لتقييم نماذج القياس والنماذج الهيكلية، بينما أُجريت تحليلات وصفية ومقارنة، بما في ذلك اختبار t وتحليل التباين(ANOVA)، باستخدام برنامج SPSS 26. **أهم النتائج:** تُظهر النتائج أن القيادة الأصيلة تُعزز بشكل كبير كلاً من سلوك العمل الابتكاري والأداء التكيفي. كما تبيّن أن رأس المال النفسي (PsyCap) يؤدي دورًا وسيطًا في هذه العلاقات. ومع ذلك، لم يكن التأثير المُعَدِّل لنوع القطاع ذا دلالة إحصائية، مما يُشير إلى أن تأثير القيادة الأصيلة على الابتكار والقدرة على التكيف لا يختلف اختلافًا جوهريًا بين مؤسسات التعليم العالي العامة والخاصة. **الاستنتاجات:** تُظهر النتائج مدى أهمية تطوير القيادة الأصيلة في مؤسسات التعليم العالي من أجل تعزيز رأس المال النفسي، الذي بدوره يعزز سلوك العمل الابتكاري والقدرة على التكيف لدى أعضاء هيئة التدريس. **التوصيات:** يمكن لصانعي السياسات ومديري الجامعات الاستفادة من نتائج هذه الدراسة لتعزيز مشاركة أعضاء هيئة التدريس وتحسين الفاعلية المؤسسية.

الكلمات المفتاحية: رأس المال النفسي، الأداء التكيفي، سلوك العمل الابتكاري، القيادة الأصيلة، جودة التعليم، مؤسسات التعليم العالي.

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Introduction

During the last three decades, Leadership research has evolved from typical, leader-centric approaches to more collaborative and interactive approaches that emphasize the constantly changing relationship among leaders and followers (Solinger *et al*., 2020). Authentic leadership (AL) has developed as an essential concept. Among the new leadership paradigms, Authentic Leadership (AL) has emerged as an important construct with emphasis on authentic self-expression by leaders and on actions reflecting values (Gardner *et al*., 2011; Gardner *et al*., 2021). Thus, enhancing innovation, flexibility, and cooperation is especially important in the rapidly changing higher education environment (Hsieh & Wang, 2015). Adaptation to technological, curricular, and organizational changes is particularly crucial in higher education institutions (HEIs) for faculty members.

There is an increasing recognition of the positive outcomes of AL. However, there is still a crucial knowledge gap regarding how authentic leadership works in specific institutional environments, especially those with complex power relations and assumed institutional politics, such as the public sector, (Asif *et al*., 2025). While PsyCap as a mediator, and sector type as a moderator, the theory building concerning AL's transformative, servant, and ethical dimensions (Avolio & Gardner, 2005) for the constructs of IWB and AP is still in its infancy. The IWB is the idea development, diffusion, and implementation phase of organizational success (Lambriex-Schmitz *et al*., 2020). AP is the capacity of workers to adjust to and handle the organization's shifting needs, thereby supporting competitiveness and continuous development within institutions. Both AP and IWB are connected because AP facilitates IWB and, conversely, IWB necessitates AP (Wahyudi Rahman *et al*., 2020). In the academic sector, both are crucial for maintaining competitiveness and continuous improvement within an institution.

Psychological capital (PsyCap) consists of positive psychological attributes like hope and optimism, resilience, and self-efficacy, and it positively affects motivation, behavior, and performance (Baig *et al*., 2021; Burhanuddin *et al*., 2019). Within higher education, low psychological capital correlates with psychological strain, maladaptive resilience, little innovation primarily due to unsupportive leadership (Mohidat & Al-Anqara, 2024). Authentic leaders foster PsyCap by building trust, transparency, and ethical consistency, creating a psychologically safe space, and adaptive positive innovation behavior follows. While innovation and adaptability literature has focused on corporate settings, relevant literature on HEIs focuses on academic staff. PsyCap, IWB, and AP, and the institutional sector's moderating influence remain underexplored (Cortés-Denia *et al*., 2023; Jacobsen, 2021). Based on Social Exchange Theory (SET) (Blau, 1964; Cropanzano & Mitchell, 2005), authentic leaders establish innovation and adaptability particularly with PsyCap employees, reciprocal trust and supportive networks (Jia *et al*., 2022). The organizational standards and societal influences described, including social and institutional frameworks, politics and cultural attitudes, help define the contextual and cultural influences on the effectiveness of leadership (Zhang *et al*., 2021). In the context of higher education institutions (HEIs), the leadership imperative for stimulating innovation and flexibility is of growing importance, especially in addressing digital transformation and competition on a global scale (Schulze & Pinkow, 2020). Nonetheless, there is a scarcity of empirical evidence on AL

and how it nurtures IWB and AP through PsyCap in educational environments (Kaya & Karatepe, 2020; Jang, 2022).

HEIs are expected to contribute significantly to national innovation efforts. To provide students with transferable skills across industries, faculty and staff need to be creative. However, due to a lack of institutional leadership and support, they usually have trouble doing so.

Objectives and contribution of the Study

Considering the lack of literature on this topic from Jordan, and particularly in Jordanian HEIs, this study has significance since it offers a governmental perspective on which strategies might need to be developed that could result in increased academic staff innovation and institutional performance. The absence of an internationally accepted scale for evaluating IWB in schools is proof that more research is required (Lambriex-Schmitz *et al*., 2020). Investigating the effects of AL on academic staff members' innovative work **behavior** (IWB) and adaptive performance (AP) at Jordanian HEIs is the main goal of the current study. Additionally, the study investigates how psychological capital (PsyCap) mediates the relationship between AL and both AP and IWB. By addressing these objectives, the research aims to offer evidence-based viewpoints on how leadership practices and psychological resources could be applied to encourage innovation and adaptability in the educational sector.

Literature Review

Authentic Leadership and Psychological Capital

The philosophy of AL emphasizes psychological capital which influences work attitudes and behaviors, particularly in the service sectors (Grudić Kvasić *et al*., 2021). Adil and Kamal (2019) examined the influence of PsyCap and AL using the JD-R model and found it was linked with work engagement, quantitative overload, and emotional well-being in Pakistani university scholars. In the same way, Niswaty *et al*. (2021) demonstrated that AL significantly influenced the self-development and PsyCap of public sector employees' mental health and behavior in Indonesia. Accordingly, below hypothesis is presented:

H1. AL has a positive effect on PsyCap in public and private HEIs in Jordan.

Authentic Leadership and Innovation Work Behavior

The concept IWB refers to an individual's capability to attain and apply new ideas, methods, or solutions. Self-competence is needed to meet demands from within and from the external world. One of the major external factors affecting IWB is recognized to be leadership (Li & Zheng, 2014).

When justice and inclusiveness are there in decisions that way, there is confidence and trust, one feels valued and tends to perform innovatively. This is also in line with what Guo (2022) observed where fair policies are crucial in enhancing job satisfaction and creativity. Internalized moral orientation: Leader acts in accordance with his/her deeply help moral principles. It is these leaders who take ethical decisions, not just for themselves, but also for their followers to emulate. Novitasari *et al*. (2021) established that moral leadership characteristics stimulate innovative behavior. The next hypothesis is proposed in view of the body of recent literature:

H2. AL has a positive effect on IWB in public and private HEIs in Jordan.

Psychological Capital and Innovative Work Behavior

PsyCap, which includes self-efficacy, optimism, hope, and resilience, is widely acknowledged as a motivator for innovative work behavior (IWB). Individuals with high

self-efficacy exhibit proactive and intelligent conduct, allowing them to tackle novel and difficult activities (Mishra *et al*., 2019). When confronted with a dilemma, optimistic people maintain a positive attitude and seek other solutions (Rego *et al*., 2012). Ambitious personnel actively seek new ideas and examine problems from several perspectives (Mishra *et al*., 2019). Resilience is especially crucial when tasks necessitate prolonged effort and high productivity. According to Brunetto *et al*. (2022), managers can increase the psychological resources of Street Level Bureaucrats (SLBs) in order to boost their innovative potential. They suggest the following hypothesis based on the above arguments:

H3. PsyCap has a positive impact on IWB in public and private higher education institutions in Jordan.

Psychological Capital and Adaptive Performance

Adaptive performance (AP) is a dimension work performance method that distinguishes from task performance and individual behavior inside an organization (Han & Wiliam, 2008). Qurrahtulain *et al*. (2022) demonstrate that leadership support for adaptive performance benefits from inclusiveness because it fosters high-quality connections, which significantly enhances happy feelings. Individuals with psychological capital typically have an internal drive to grow and advance. Previous study has shown that psychological capital influences more than just employee opinions. Ghashghaeizadeh *et al*. (2018) investigated AP of nurses in Iranian hospitals using PsyCap and spiritual intelligence. They argued that because PsyCap and spiritual intelligence can expect AP in nurses, supervisors of medical clinics must devise ways to increase these two factors.

Given these results, the following hypothesis is suggested:

H4. PsyCap has a positive impact on adaptive performance (AP) in public and private higher education institutions in Jordan

Authentic Leadership Style and Adaptive Performance

Kleynhans *et al*. (2021) found that leaders' relational transparency, self-awareness, and balanced processing behavior had a substantial impact on organizational effectiveness. Leaders should adopt authentic practices to establish an open culture and good, trusting connections with their staff (Koon & Ho, 2021). Furthermore, developing authenticity improves employee well-being and contributes to long-term and authentic organizational success (Almutairi, 2024).

H5. Authentic leadership (AL) has a positive effect on adaptive performance (AP) in public and private higher education institutions in Jordan.

Mediating Role of Psychological Capital

Psychological capital (PsyCap), which comprises self-efficacy, hope, optimism, and resilience, represents an important psychological resource that enhances employees' attitudes and behaviors. Authentic leaders foster PsyCap by building trust, transparency, and ethical consistency, creating a psychologically safe environment that encourages positive work outcomes (Jang, 2022; Rego *et al*., 2012). Employees with higher levels of PsyCap are more likely to demonstrate innovative work behavior and adapt effectively to changing work demands (Ghashghaeizadeh *et al*., 2018; Brunetto *et al*., 2022). Furthermore, Daraba *et al*. (2021) found that employees' perceptions of authentic leadership influenced performance directly and indirectly through PsyCap. Therefore, PsyCap may serve as an underlying mechanism through which authentic leadership enhances innovative work behavior and adaptive performance among academic staff in higher

education institutions.

H6. PsyCap mediates the relationship between AL and IWB in public and private higher education institutions in Jordan.

H7. PsyCap mediates the relationship between AL and AP in public and private higher education institutions in Jordan.

HEIs Sector Type, Authentic Leadership Style, AP and IWB

Authentic leadership is viewed in educational institutions as the most truthful, beneficial, transparent, and ethical model. AL has demonstrated the importance of promoting efficient organisational practices in the context of education. According to research, authentic leadership can have an impact on employee participation, academic enthusiasm, extra-role behaviours, trust, intrinsic motivational needs, and performance in an educational setting (Srivastava & Dhar, 2019). Saeed and Ali (2019) found that the relationship between authentic leadership attributes and the management of the learning environment was stronger in private institutions than in public institutions. Similarly, Cortés-Denia *et al*. (2023) reported that AL had a stronger influence employees' vigor in private organizations than in public ones. Grobler (2023) further found that employees in the private sector are more conscious of leadership than those in the public sector. It was also discovered that the perceived cultures of both sectors vary strongly, and the cultural types connect to their views of leadership. According to the above, the below hypotheses are presented:

H8: HEIs sector moderates the relationship between AL and IWB in public and private higher education institutions in Jordan.

H9: HEIs sector moderates the relationship between AL and adaptive performance in public and private higher education institutions in Jordan.

Methodology

Sample and Procedure

Surveys were utilized in this study to collect empirical data from academic staff who work at 10 public Jordanian higher education institutions and sixteen private HEIs (i.e., Madaba American University, Irbid National University, Middle East University, Isra University) that located in the north, central, and south of the kingdom. The study population consisted of (7,429) faculty staff from public universities and (3,491) faculty staff from private universities. This study used cluster sampling method to collect data. Data collection was conducted from late September 2023 to May 1, 2024, all questionnaires were sent by email to the participants. To ensure participants' privacy, the survey was designed to delink responses from respondents' e-mail addresses. Out of the 700 distributed questionnaires, 511 were returned, 67 questionnaires were deemed unusable as they either did not fulfill the data collection criteria or were returned empty.

Research Instrument

A five-point Likert scale was employed, with 1 indicating "strongly disagree" and 5 indicating "strongly agree." Each concept was evaluated using a number of indicators.

Authentic Leadership: The construct, which consists of the basic characteristics of balanced processing, internalized moral viewpoint, relational transparency, and self-awareness, is measured using sixteen items adapted from Neider and Schriesheim (2011).

Psychological Capital: The construct is measured via twelve items adapted from Luthans *et al*. (2007) (self-efficacy, hope, optimism, and resiliency).

Innovative Work Behavior: For the objectives of this study, De Jong and Den Hartog's (2010) 10-item scale was adapted to include opportunity exploration, idea generating, concept advocacy, and idea

implementation.

Adaptive performance: Nineteen items for the job adaptability inventory are adapted from Charbonnier-Voirin and Roussel (2012). The measure includes nineteen items in five domains (Handling emergencies and unpredictable situations, Handling work stress, solving problems creatively, Learning, demonstrating interpersonal adaptability).

Validity and Reliability of the Study Instrument

Five academic and managerial specialists were consulted in order to evaluate the questionnaire's validity. A five-point scale was used for each item, with "Totally Unsuitable" (1) to "Totally Suitable" (5) being the extremes. Expert consensus was used to determine each item's % validity. The findings, which are summed up in appendix A, indicate that the overall validity was 92%, with the validity ratings of the individual items ranging from 80% to 100%. This suggests that the instrument may be deemed adequate for use in this study and that the questionnaire items were very suitable for assessing the constructs of AP, IWB, AL, and PsyCap.

Pilot research with 30 respondents was carried out to evaluate reliability. The setting and goal of the research were known to the participants. In accordance with accepted standards, the Cronbach's alpha coefficient was used to assess internal consistency; a value of 0.7 or greater is deemed acceptable (Hair *et al*., 1998). Strong reliability was found across all questionnaire dimensions, as indicated by the reliability coefficients for each construct, which varied from 0.710 to 0.905 as presented in Appendix B.

Common Method Bias (Harman's single-factor test)

Common method bias (CMB), defined as variance resulting from the measuring method rather than the actual constructs being tested (Podsakoff *et al*., 2003), has the potential to impact the accuracy of study results. The findings suggested that common method variance was not a major concern because the first unrotated element only explained 20.324% of the total variance, which is much less than the commonly accepted cutoff of 50%.

Results

Measurement Model

To confirm the validity and reliability of the constructs, a measuring model was validated prior to testing the structural linkages. Factor loadings, CR, and α were used to verify reliability, and AVE, Fornell-Larcker, and HTMT criteria were used to assess convergent and discriminant validity.

All items and sub-constructs exhibited factor loadings above the recommended threshold of 0.60, from 0.681 (IMP2) to 0.958 (IC2). These results show that each of the indicators are highly associated with their underlying factor, and hence demonstrate acceptable item reliability. After unidimensionality was established, the reliability of each construct was assessed using AVE (average variance extracted), CR (composite reliability), and Cronbach's ά. The AVE value, which indicates the amount of variance in the indicators explained by the latent construct (Hair *et al*., 1998), exceeded the recommended threshold of 0.50 cut-off point. (2006), ranging from 0.612 (for IMP) up to 0.915 (IC), substantiate that convergent validity was established. Composite reliability estimates reflecting the internal consistency of the construct indicators were greater than an acceptable minimum value of 0.60 (Bagozzi & Yi, 1988), ranging from 0.759 for Resilience (RS) to 0.946 for AL, indicating a high level of construct-reliability. Similarly, the values of Cronbach's alpha, which measures how free from measurement error the constructs are and was above 0.70 as predefined by Nunnally and Bernstein (1994), were in a range

between 0.751 (RS) and 0.946 (AL).

Fornell-Larcker Criterion

Table 3, represents the results of Fornell-Larcker criterion to assess the discriminant validity of the measurement model for the hypothesized variables.

Table (3): Results of Fornell-Larcker Criterion.

	AL	AP	IWB	PC
Authentic Leadership (AL)	0.928			
Adaptive Performance (AP)	0.43	0.878		
Innovative Work Behavior (IWB)	0.485	0.457	0.858	
Psychological Capital (PC)	0.433	0.479	0.598	0.848

Discriminant validity was confirmed using the Fornell–Larcker criterion (Table 3), where the square root of the AVE for each construct was greater than its inter-construct correlations, satisfying the standard rule (Fornell & Larcker, 1981).

The robustness of the measurement model for further structural analysis was established by these indicators, which offered compelling proof of construct reliability, convergent validity, and discriminant validity.

HTMT Discriminant Criteria

Table 4, shows the findings of HTMT discriminant criteria in order to measure the discriminant validity of the measurement model for the hypothesized variables.

Table (4): Results of HTMT Discriminant Criteria.

	AL	AP	IWB	PC
Authentic Leadership (AL)				
Adaptive Performance (AP)	0.46			
Innovative Work Behavior (IWB)	0.534	0.499		
Psychological Capital (PC)	0.476	0.531	0.679	

With values ranging from 0.476 (between AL and PC) to 0.679 (between IWB and PC), Table 4 shows that all of the HTMT values between the hypothesized constructs fell below the recommended cutoff of 0.90. These findings meet the criteria established by Henseler *et al.* (2015).

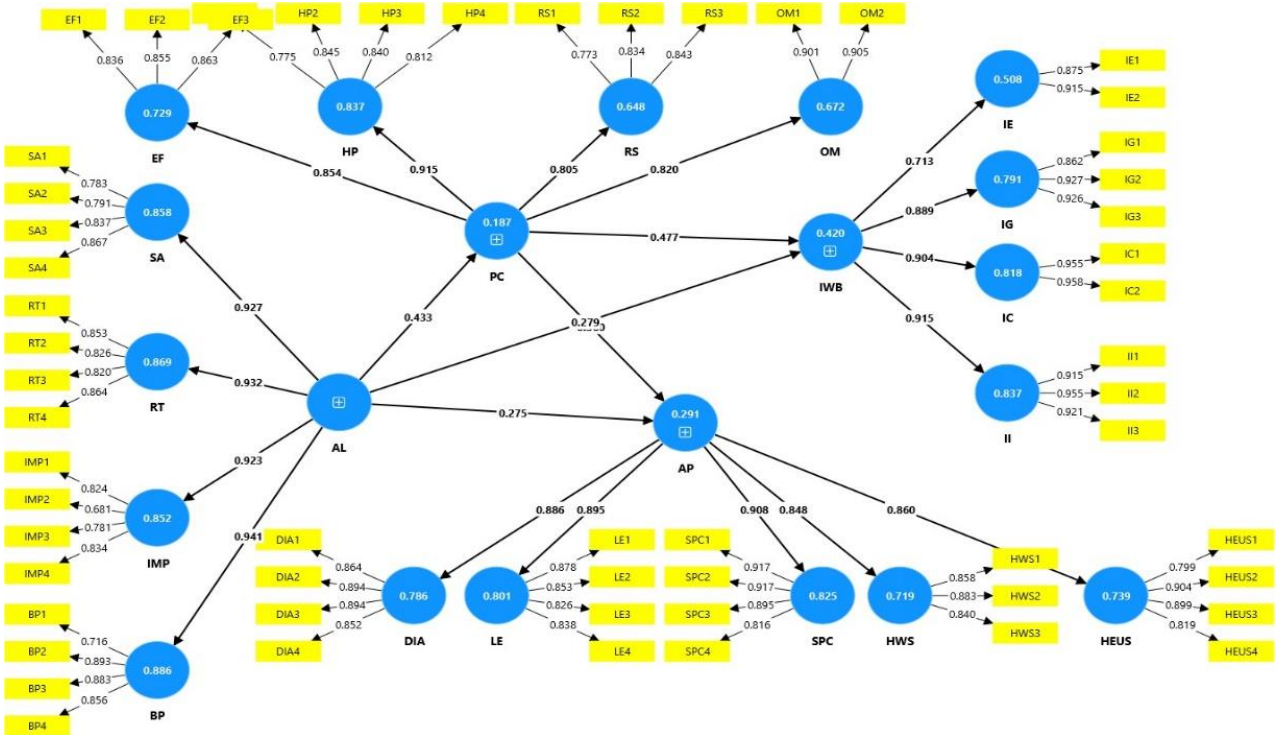

Figure (3): Measurement Model with Standardized Factor Loadings.

Structural Model

The coefficients of determination (R^2) for Psychological Capital (PC), Innovative Work Behavior (IWB), and Adaptive Performance (AP) were 0.187, 0.420, and 0.291, showing moderate to significant explanatory power. For example, roughly 42% of IWB variation was clarified by its predictors, AL and PsyCap. The model's predictive performance was proven by Q^2 values of 0.523 (PC), 0.560 (IWB), and 0.744 (AP). Furthermore, A satisfactory overall model fit was indicated by the standardized root mean square residual (SRMR), which was 0.054, falling within the acceptable threshold (≤ 0.08).

Examining Causal Effect Hypotheses

The causal relationships among the study constructs were assessed using path analysis. Table 5 presents the results of the direct effect hypotheses, with all constructs evaluated for statistical significance, effect size, and multicollinearity.

Table (5): Results of Examining Causal Effect Hypotheses.

Relationship	Path Coefficient (β)	Standard Deviation	t	p	95% LL-CI	95% UL-CI	f^2	VIF	Hypothesis Result
AL→PsyCap	0.433***	0.041	10.627	0	0.349	0.509	0.23	1	H1+) Supported
AL→IWB	0.279***	0.045	6.161	0	0.19	0.366	0.109	1.23	H2+) Supported
PsyCap→IWB	0.477***	0.046	10.282	0	0.383	0.566	0.319	1.23	H3+) Supported
PsyCap→AP	0.36***	0.074	4.841	0	0.211	0.502	0.149	1.23	H4+) Supported
AL→AP	0.275***	0.056	4.926	0	0.166	0.385	0.086	1.23	H5+) Supported

*p< 0.05 , **p< 0.01, ***p< 0.001

The following section discusses the results of path analysis in relation to the causal effect hypotheses:

H1) AL has a positive effect on PsyCap: In the expected outcome of PsyCap, its probability of obtaining a t-value that is as large as 10.627 in absolute value is 0.000 for AL. There are no intervals that span a zero, and the regression weight is statistically different from zero at the 0.001 level. There was a positive correlation, as indicated by the standard path coefficient of 0.433. The medium effect size was indicated by the f2 of 0.23. The VIF was 1.000, which was below the 3.3 threshold and showed no signs of collinearity. With β = 0.433, 95%LL-CI = 0.349, 95%UL-CI = 0.509, t = 10.627, p < 0.001, f2 = 0.23, and VIF = 1.000, these findings showed that H1 is supported.

H2: AL → IWB: AL has a 0.000 chance to yield a t-value of 6.161 in absolute value when predicting Innovative Work Behavior (IWB). The regression weight differs significantly from zero at the 0.001 level, with no intervals straddling 0. The standard path coefficient (0.279) indicated a positive association. The f2 value was 0.109, indicating a small effect size. The VIF was 1.23, less than the threshold of 3.3, and there was no collinearity detected. The data show that H2 is supported: β = 0.279, 95%LL-CI = 0.190, 95%UL-CI = 0.366, t = 6.161, p < 0.001, f2 = 0.109, VIF = 1.23.

H3: PsyCap → IWB: In the prediction of (IWB), the likelihood of obtaining a t-value as high as 10.282 in absolute value is 0.000 for PsyCap. There are no intervals that span a zero, and the regression weight is statistically different from zero at the 0.001 level. The association was positive, as indicated by the standard path coefficient of 0.477. A substantial effect size was indicated by the f2 of 0.319. The VIF was 1.23, which was below the 3.3 criterion and showed no signs of collinearity. β = 0.477, 95%LL-CI = 0.383, 95%UL-CI = 0.566, t = 10.282, p < 0.001, f2 = 0.319, and VIF = 1.23 showed that H3 is supported.

H4: PsyCap → AP: In the estimation of (AP), the probabilities of obtaining a t-value as great as 4.841 in absolute value is 0.000 for PsyCap. There are no intervals that span a zero, and the regression weight is statistically different from

zero at the 0.001 level. The association was positive, as indicated by the standard path coefficient of 0.360. The effect magnitude was minimal, as indicated by the f2 of 0.149. The VIF was 1.23, which was below the 3.3 criterion and showed no signs of collinearity. With β = 0.360, 95%LL-CI = 0.211, 95%UL-CI = 0.502, t = 4.841, p < 0.001, f2 = 0.149, and VIF = 1.23, these findings showed that H4 is supported.

H5: AL → AP: According to Table 5, there is a 0.000 probability that Authentic Leadership (AL) will predict Adaptive Performance (AP) with a t-value as high as 4.926 in absolute value. There are no intervals that span a zero, and the regression weight is statistically different from zero at the 0.001 level. The association was positive, as indicated by the standard path coefficient of 0.275. Which was below the 3.3 criterion and showed no signs of collinearity. With β = 0.275, 95%LL-CI = 0.166, 95%UL-CI = 0.385, t = 4.926, p < 0.001, f2 = 0.086, and VIF = 1.23.

Mediation Effect Hypotheses

The mediating role of psychological capital (PsyCap) in the relationships between authentic leadership (AL) and the outcome variables, innovative work behavior (IWB) and adaptive performance (AP), was examined using mediation analysis. Specifically, the indirect effects of AL on IWB and AP through PsyCap were assessed to test hypotheses H6 and H7. The results are presented in Table 6

Table (6): Results of Examining Mediation Effect Hypotheses.

Path: IV→M→DV	Path Coefficient (β)	Standard Deviation	T-value	P-value	Hypothesis Result
AL→PC→IWB					
Indirect Effect of AL on IWB through PC (path bc)	0.206***	0.029	7.080	0	H6) Supported / Partial Mediation
AL→PC→AP					
Indirect Effect of AL on AP through PC (path bc)	0.156***	0.038	4.131	0	H7) Supported / Partial Mediation

*p< 0.05, **p< 0.01, ***p< 0.001;

Table 6 shows that AL showed a major effect on AP (β = 0.430, t = 8.894, p < 0.001) and IWB (β = 0.485, t = 11.618, p < 0.001). After correcting for PsyCap, the direct effects remained significant (IWB: β = 0.279, t = 6.161; AP: β = 0.275, t = 4.926, both p < 0.001). PsyCap significantly impacted IWB (β = 0.477, t = 10.282, p < 0.001) and AP (β = 0.360, t = 4.841, p < 0.001), while AL positively influenced PsyCap (β = 0.433, t = 10.627, p < 0.001). Both IWB (β = 0.206, t = 7.080, p < 0.001) and AP (β = 0.156, t = 4.131, p < 0.001) showed significant indirect effects of AL via PsyCap, suggesting that PsyCap partially mediates the relationships between AL and the two outcome variables.

Examining Moderation Effect Hypotheses

In this study, the moderation effects of HEIs Sector (HS) as moderating variable on the effects of AL as independent variables (IV) on Innovative Work Behavior (IWB) and Adaptive Performance (AP) as dependent variables (DVs) were examined (i.e., H8 and H9 respectively).

Table (7): Results of Two-Way Interaction Analysis for Moderation by HEIs Sector (HS).

Interaction Term	β	Standard Deviation (SD)	t-value	p-value	Hypothesis Result
AL × HS → IWB	0.003	0.086	0.032	0.974	H8: Rejected
AL × HS → AP	0.174	0.101	1.725	0.085	H9: Rejected

Note: p < 0.05 indicates significance.

H8) HEIs Sector (HS) moderates the relationship between AL and IWB.: Using a two-way interaction model, the moderating effect of the (HEI) sector on the link between IWB and AL was investigated. The non-significant interaction effect (AL × HS) (β = –0.003, p = 0.974) indicates that the sector type has no bearing on the relationship between AL and IWB.

Hypothesis H8 was thus not supported.

H9) HEIs Sector (HS) moderates the relationship between AL and AP: With a p-value of 0.085, over the 0.05 level, the Two-Way Interaction results showed that the interaction between AL* HEIs Sector (HS) and AP was not statistically significant ($\beta = 0.174$, $t = 1.725$, $p = 0.085$). The outcomes of the Two-Way Interaction showed that H9 is not supported;

Discussion

The outcomes of this study give empirical support for the importance of AL in improving PsyCap in Jordanian universities. The findings showed a noticeable and strong connection between AL and psychological capital which confirms H1. The supporting results were reported by Abbas *et al*. (2022), Soares and Lopes (2020), and Srivastava & Dhar (2019).

Where they noted the impact of AL concerning essential psychological resources in higher learning. Besides, Al-Jaradat *et al*. (2020) studied the impact and presence of AL in Jordanian HEIs, while Novitasari *et al*. (2021) and Rego *et al*. (2012) showed the strong predictive impact of AL on PsyCap. The current study appears to argue that AL positively influences the development of PsyCap within academic institutions regardless of the country and culture context. The study also verified Hypothesis 2 which postulated a statistically significant positive impact of authentic leadership on innovative work behavior among scholarly staff in Jordanian universities. This finding illustrates how authentic leadership fosters an environment that encourages IWB. Academic staff and university administrators in Jordan must take action, according to a recent study by Al-Jaradat *et al*. (2020). The findings indicated that PsyCap and AP across Jordanian HEIs had a statistically significant connection. According to Mutonyi (2021), and Luo *et al*. (2021), psychological capital is a significant predictor of adaptive performance, which is consistent with the findings of previous research investigations. These include resilience, hope, optimism, and confidence. These all contribute to psychological capital, which gives employees the mental toughness they need to overcome changing or novel situations. This finding is in line with earlier studies showing that those with higher psychological capital are more resilient due to their internal competencies and ability to bounce back from setbacks (Paek *et al*., 2015). By using these traits, the employees of Jordanian HEIs will be able to stay flexible and productive in evolving learning environments. Consequently, psychological capital is a valuable human resource that improves adaptive behavior and the institution's ability to adapt to change. The current study's results confirmed that AL and AP have a statistically significant positive association.

This is in line with previous research by Kim and Yoon (2021), who found that Korean public institution employees shared this correlation. Additionally, this study shows that authentic leaders support AP by creating a psychologically safe environment founded on autonomy and trust. Evidence supports Kaya and Karatepe's (2020) claim that AL empowers team members through independent decision-making and flexibility. Employees in these trust-based cultures are able to respond to situations more effectively by acting more freely and aggressively. The findings of the present study support the idea that PsyCap acts as a positive mediator between AL and IWB. Employee PsyCap was identified as a key variable in determining the effect of AL on innovation in the public and private higher education sectors in Jordan. These findings indicate that PsyCap partially mediates the relationship between AL and IWB. These findings are comparable with prior studies in service-oriented industries (Novitasari *et al*., 2021; Zhang *et al*., 2024).

AL fosters a safe psychological work climate through the demonstration of moral action,

openness, and consistency, consequently increasing employees' self-efficacy, hope, optimism, and resilience. These psychological capital components therefore enable employees to accept creative thinking and initiative-taking. The current study hypothesized that authentic leadership increases adaptive performance through PsyCap 's mediating role, and it was verified that psychological capital strongly mediated the effect of AL on AP among Jordanian public and private HEIs. This finding is consistent with Daraba *et al*. (2021). The results further confirmed that psychological capital significantly mediates the relationship between authentic leadership and adaptive performance among academic staff in Jordanian HEIs, in addition, sector type was not found to significantly influence the relationships between authentic leadership, innovative work behavior, and adaptive performance, suggesting that authentic leadership exerts a relatively consistent effect across public and private HEIs in Jordan. These findings imply that leadership style and individual psychological resources may be more influential determinants of innovation and adaptability than institutional sector differences, supporting the argument of Jamali *et al*. (2022) that similarities in organizational culture and operations may reduce the impact of sectoral differences on leadership outcomes.

Conclusion

In summary, most of the proposed hypotheses in this study were supported, except for the moderation hypotheses related to sector type. The results of the study indicate that AL and psychological capital significantly affect innovative work behavior and AL positively affects innovative work behavior and adaptive performance among academic staff in Jordanian public and private HEIs. These findings show that when AL approaches are used, staff in higher education institutions demonstrate long-term commitment and engagement. This study emphasizes the fundamental role of reciprocal interactions between university management and staff, as framed by Social Exchange Theory. In educational settings, the elements of PsyCap—hope, optimism, resilience, and self-efficacy—allow for the development of creativity and adaptability. Even though creating these beneficial relationships may be difficult, the current study makes a substantial contribution to the literature on leadership and human resources by experimentally examining the perspectives of academic staff in Jordanian HEIs.

Limitations and Directions for Future Research

This study has a number of limitations that point to areas that require further investigation. First, the cross-sectional research design limits the ability to draw conclusions about causality over time. Second, the study was carried out in Jordan's HE environment. The results might have been impacted by institutional and cultural factors in Jordan. Lastly, although the study controlled for basic demographic and institutional characteristics, it did not investigate their moderating effects. Future studies could examine the possible moderating effects of organisational support, ownership structure, or knowledge management strategies on the association between PsyCap, AL, and employee behaviors like adaptability and IWB.

Disclosure Statement

- **Ethical approval and consent to participate*:*** This study was conducted in accordance with ethical standards. Informed consent was obtained from all participants prior to their inclusion in the study.
- **Availability of data and materials*:*** All data materials related to this study are available from the corresponding author upon reasonable request.
- **Author contribution*:*** Enas AlZoubi designed the study, collected, and analyzed the data. Dr. Kartinah Ayupp_and Dr. Rusli Ahmad supervised the research, contributed to

manuscript revisions, and guided the development of the final version. All authors have read and approved the final manuscript.

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