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Psychological capital as a predictor of perceived self-efficacy among Al-Quds Open University students

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ABSTRACT

This study examines how the components of psychological capital—hope, resilience, optimism, and self-efficacy—predict perceived self-efficacy among students at Al-Quds Open University in Palestine. A correlational predictive design was used, and data were collected from a convenience sample of 222 students at the Ramallah and Al-Bireh branch during the summer semester of the 2023/2024 academic year. The Psychological Capital Scale and the Perceived Self-Efficacy Scale, both with acceptable validity and reliability, were applied. The results showed high levels of psychological capital (M = 4.12, SD = 0.47) and perceived self-efficacy (M = 3.86, SD = 0.44). There were significant gender differences in perceived self-efficacy in favor of females, while no significant differences were found based on faculty or academic level. Regression analysis indicated that hope, resilience, and optimism were significant predictors of perceived self-efficacy, explaining 32.2% of its variance, whereas the self-efficacy component of psychological capital was not a significant predictor. These findings highlight the importance of developing positive psychological resources, especially hope, resilience, and optimism, to improve students' self-efficacy. It is recommended that counseling and educational programs include interventions that strengthen these resources to support students' motivation, adaptability, and well-being in open learning environments.

1. Introduction

In the evolving landscape of higher education, it is now more crucial than ever to understand the psychological aspects of student success in this rapidly changing world. Psychological capital (PsyCap) is one of the positive psychological concepts that is gaining increasing popularity in educational research. It is a particularly powerful framework for comprehending student outcomes and well-being (Luthans et al., 2006; Fu and Weng, 2022). Originally conceptualized by Luthans et al. (2006), PsyCap is a higher-order construct that consists of four separate but related state-like positive psychological resources: optimism (positive attributional style regarding future success), self-efficacy (confidence in one's ability to accomplish particular tasks), resilience (ability to bounce back from adversity), and hope (willpower and way power for goal achievement) (Luthans et al., 2006; Luthans and Youssef-Morgan, 2017).

Theoretically, PsyCap is important because it is different from more fixed personality traits in that it is flexible and state-like. This developmental feature makes PsyCap a potentially adaptable tool that can be improved with focused interventions, which makes it especially pertinent in educational settings where development and growth are the main goals (Avey et al., 2011; Mathews, 2022). A thorough framework for comprehending how these constructive psychological resources work in a synergistic way to affect a range of academic and personal outcomes among university students is offered by the HERO model (Hope, Self-Efficacy, Resilience, and Optimism) (Luthans et al., 2011).

Perceived self-efficacy (PSE) took a special place in psychological sciences, which Albert Bandura defined as a person's confidence in their ability to carry out the actions required to achieve performance outcomes (Bandura, 1997). Despite Self-efficacy being one of the four components of PsyCap, it is an important outcome variable that influences academic achievement, perseverance, and

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overall student success (Schunk and Pajares, 2009). This dual function raises an interesting theoretical and empirical query: how much perceived self-efficacy is predicted by the larger constellation of PsyCap resources outside of its intrinsic inclusion in the construct?

This predictive link is theoretically based on interdependence among positive psychological resources. Hope provides you with the ability to think and the desire to perform tasks that have the potential to make you more self-assured. Optimism gives you positive expectations that support your faith in yourself. Resilience, or the potential to bounce back from a negative situation, may be able to strengthen self-efficacy by demonstrating to individuals that they are able to cope with adverse situations (Masten, 2001). Consideration of these interdependent associations, then, can make PsyCap a good predictor of self-efficacy perception in particular domains.

In recent history, there is considerable empirical evidence that perceived self-efficacy and PsyCap are predictive within the academic setting. Longitudinal studies report that academic self-efficacy and PsyCap serve as mediators between prior learning experiences and current learning participation of first-year college students, suggesting predictive as well as causal relations (Chen et al., 2023). Cross-sectional studies on representative samples of universities have consistently found positive correlations between PsyCap and various conceptions of self-efficacy, including academic self-efficacy, occupational self-efficacy, and domain-specific efficacy beliefs (Terry et al., 2020). PsyCap positively influences academic engagement, which in turn enhances academic performance. Higher PsyCap leads to increased student engagement, partially mediating the relationship between PsyCap and academic success (Amera et al., 2025). A systematic review highlighted that PsyCap is linked to various academic outcomes, including performance, stress management, and intrinsic motivation, suggesting its critical role in educational settings (Li et al., 2023).

The COVID-19 pandemic offered a never-before-seen context to understand such relationships in times of increased distress and ambiguity. Research from a few nations at that time indicated that students with more PsyCap demonstrated better mental well-being, superior study adjustment, and higher satisfaction, with PsyCap being a strong predictor of various positive student outcomes (Datu and Valdez, 2019). Results verify the strength of the PsyCap-self-efficacy relationship with diverse cultural conditions and with stressful situations.

Furthermore, intervention studies have shown that promoting PsyCap through targeted programs can lead to improvement of perceived self-efficacy belief and related academic achievement outcomes (Dello Russo and Stoykova, 2015). This set of findings supports theoretically that PsyCap can be a modifiable resource that can potentially influence students' beliefs in their ability to attain academic achievement. Despite the increasing amount of evidence substantiating the association between PsyCap and perceived self-efficacy, significant gaps still exist within the scholarly literature. Primarily, a substantial portion of the current research is grounded in cross-sectional methodologies, which constrain our capacity to draw causal conclusions regarding the predictive relationship. Although certain longitudinal studies have been conducted, there is a pressing need for more rigorous longitudinal and experimental frameworks to delineate the directional characteristics of this relationship and its temporal dynamics.

Moreover, it is necessary to carry out further context-specific studies that examine these relationships in particular educational environments and cultural settings. Most of the existing studies have occurred in Western education environments, leaving few studies from Middle Eastern universities and open learning environments (Udayanga and Weerasinghe, 2019). This shortage is particularly significant due to the unique characteristics of open universities, which often serve heterogeneous student populations with diverse educational backgrounds, ages, and personal circumstances.

Thirdly, it is necessary to discuss psychometric considerations in connection with measuring PsyCap in different student populations. A wide number of studies developed concerns related to PsyCap scales' factor structure and measurement invariance across different cultural and linguistic groups, suggesting a need for careful validation in specific settings (Dawkins et al., 2013; Lorenz et al., 2016).

Al-Quds Open University (QOU) represents a unique educational study context to explore the relationship between PsyCap and perceived self-efficacy. It is one of the largest Middle Eastern open universities that serves a diverse student population characterized by different ages, academic experiences, and living conditions. Although the open learning system with its focus on flexibility and self-directed learning might set certain demands on students' psychic capacities and belief in their perceived self-efficacy, it might also foster these abilities in students.

Students who attend open university systems present individual challenges, including the need for additional self-regulation abilities, minimal face-to-face interaction with instructors and other peers, and the need to balance academic responsibilities with family and working commitments (Moore and Kearsley, 2012). This study examines the relationship between psychological capital and perceived self-efficacy among QOU students, specifically in the Palestinian context. It provides empirical support for the connection between psychological capital and self-efficacy with an analysis of these relationships in the context of open university education. This study contributes to a better understanding of positive psychological resources in the educational context with theoretical implications for policy development and applied practice.

This study emphasizes psychological capital, which includes self-efficacy, optimism, hope, and resilience, and how these components affect students' perceived self-efficacy at QOU. Accordingly, the study seeks to address the following research questions:

1. What is the level of psychological capital among Al-Quds Open University students?
2. What is the level of perceived self-efficacy among Al-Quds Open University students?
3. Are there statistically significant differences in psychological capital among Al-Quds Open University students attributed to gender, academic level, and faculty?
4. Are there statistically significant differences at $\alpha < .05$ in perceived self-efficacy among Al-Quds Open University students attributed to gender, academic level, and faculty?
5. To what extent can psychological capital components predict perceived self-efficacy among Al-Quds Open University students?

This investigation involves a subject that is distinguished by its innovative and critical nature in theoretical and practical contexts. From a theoretical perspective, it scrutinizes the influence of psychological capital on the perceived self-efficacy among students at QOU, thereby augmenting the existing body of knowledge and establishing a robust foundation for subsequent related inquiries. In a practical sense, the research delves into the predictive correlation between these variables, which may assist practitioners in formulating suitable psychological interventions and counseling programs tailored to university students navigating a pivotal transitional phase in human development, specifically the early youth stage. The students' perceptions of self-efficacy alongside their personal attributes constitute significant factors that facilitate their psychosocial adjustment during this developmental period.

2. Methods and procedure

The study employed a predictive correlational design to examine the relationship between psychological capital and perceived self-efficacy and to assess the extent to which psychological capital predicts perceived self-efficacy beyond demographic and academic variables.

The study population comprised all students enrolled at QOU, Ramallah and Al-Bireh Branch, one of the university's largest branches, during the summer semester of the 2023/2024 academic year. A convenience sampling method was employed, resulting in a total of 222 participants. A post hoc statistical power analysis was conducted following Cohen's (1988) procedures for multiple regression and using the framework implemented in G*Power 3.1 (Faul et al., 2009). Based on the final regression model explaining 32.2% of the variance in perceived self-efficacy ($R^2 = 0.322$), the corresponding effect size was large ($f^2 = 0.475$). With an alpha level of 0.05, three predictors, and a total sample size of 222, the achieved statistical power exceeded 0.99. This indicates that the study had more than adequate sensitivity to detect meaningful predictive effects and minimizes the likelihood of Type II error. Table 1 shows the distribution of the participants according to the variables (gender, academic level, and faculty).

Table 1: Distribution of the study sample according to demographic variables

Variable	Category	Frequency	Percentage (%)
Gender	Male	48	21.6
	Female	174	78.4
	Total	222	100.0
Academic level	Preparatory–first year	29	13.1
	Second year	48	21.6
	Third year and above	145	65.3
	Total	222	100.0
Faculty	Scientific	124	55.9
	Humanities	98	44.1
	Total	222	100.0

2.1. Instruments

Two instruments were used in this study. The Psychological Capital Scale was adapted from López-Guerra et al. (2023) and translated into Arabic. The Psychological Capital (PsyCap) scale was utilized in this study to assess the level of psychological capital among students at Al-Quds Open University. The original version of the instrument comprised 12 items distributed across four dimensions: self-efficacy, hope, optimism, and resilience.

Face validity was evaluated by submitting the initial Arabic translation of the scale to a panel of eight experts in psychological counseling and educational sciences from Palestinian universities. The panel reviewed the accuracy of the translation and the content validity of the items, providing feedback on the suitability of each item for its intended dimension, the clarity of wording, overall relevance, and recommendations for adding, revising, or removing items where necessary. Based on the experts' feedback (achieving ≥80% agreement), some modifications were made, and the scale retained a total of 12 items, classified into four dimensions: self-efficacy (3 items), hope (4 items), resilience (3 items), and optimism (2 items).

Construct validity was examined using a pilot sample of 30 students. To assess the validity, Pearson correlation coefficients were used, as shown in Table 2. Table 2 indicates that the correlation coefficients between the PsyCap items and their respective dimensions ranged from 0.65 to 0.89, while correlations between the items and the total scale score ranged from 0.52 to 0.71. All correlations were statistically significant ($p < 0.01$), and each item exceeded the acceptable threshold of 0.30. Accordingly, all items were retained, resulting in a final scale comprising 12 items across four dimensions. The internal consistency of the scale

was supported by Cronbach's alpha coefficients for the individual domains, which ranged from 0.72 to 0.73, while the overall Cronbach's alpha for the total scale was 0.83, indicating satisfactory reliability and suitability for use with the main study sample. The finalized version of the instrument consisted of 12 positively worded items distributed across four domains: self-efficacy (three items), hope (four items), resilience (three items), and optimism (two items).

Table 2: Results of the values of the correlation coefficients of the psychological capital scale

Dimension	Item	Item–dimension correlation	Item–total correlation	Cronbach's α
Self-efficacy	SE1	0.83**	0.60**	0.544
	SE2	0.79**	0.60**	
	SE3	0.68**	0.52**	
Hope	H1	0.65**	0.57**	0.852
	H2	0.78**	0.66**	
	H3	0.78**	0.71**	
	H4	0.75**	0.64**	
Resilience	R1	0.68**	0.46**	0.756
	R2	0.67**	0.57**	
	R3	0.78**	0.58**	
Optimism	O1	0.89**	0.66**	0.714
	O2	0.89**	0.61**	

**: p < .01

To measure self-efficacy, a scale was developed based on a review of relevant literature and previously validated instruments of Schwarzer et al. (1997), which was developed to fit the Palestinian context. The primary version of the scale included 20 items. The face validity was confirmed by doing the same steps of the previous scale, by expert reviewers (≥ 80% agreement), with no modification recommended, the scale was retained in its original form, 20 items. To assess the construct validity, the scale was applied to a pilot sample from the university. Pearson's correlation coefficient was calculated, resulting in the deletion of two items due to low correlation values (less than 0.20), as presented in Table 3.

Table 3: Values of correlation coefficients of the perceived self-efficacy scale

Item no.	Total correlation	Item no.	Total correlation
1	-0.067	11	0.37**
2	0.53**	12	0.10
3	0.72**	13	0.44**
4	0.70**	14	0.50**
5	0.45**	15	0.70**
6	0.60**	16	0.55**
7	0.54**	17	0.70**
8	0.45**	18	0.47**
9	0.49**	19	0.44**
10	0.41**	20	0.31**

**: p < .01

To estimate the internal consistency reliability of the PSE scale, Cronbach's alpha equation was used for the pilot sample (n = 30). The scale was 0.836, indicating satisfactory internal consistency. The final version of the scale consisted of 18 items, including some reverse-coded items. All items for the two scales were measured on a five-point Likert scale, where "strongly agree" was scored as five, "agree" as four, "neutral" as three, "disagree" as two, and strongly disagree" as one. Positive orientation items were scored directly, while the negative worded items were scored in reverse. To assess the average responses of the participants, the range of the response categories was calculated by subtracting the lowest score from the highest score (5-1) and dividing it by three (4/3=1.33). which means that the mean score was classified as follows: low (less than 2.33), medium (between 2.34 and 3.67), and high (between 3.68 and 5).

Data were analyzed using SPSS 27. Descriptive statistics (means, standard deviations, frequencies, percentages) were computed to examine the levels of the study variables. Inferential statistics included t-tests and one-way ANOVA to explore demographic differences, Pearson's correlation to assess the relationships between variables, and multiple regression analysis to test the predictive ability of PsyCap for PSE beyond demographic and academic factors.

3. Results and discussion

3.1. Results of the first question

What is the level of psychological capital among Al-Quds Open University students? Arithmetic means and standard deviations were calculated to answer this question. Table 4 reveals that the overall level of psychological capital among students was high (M = 4.12, SD = 0.47). Among its dimensions, optimism ranked highest (M = 4.16, SD = 0.73), followed by self-efficacy (M = 4.16, SD = 0.56), resilience (M = 4.15, SD = 0.55), and hope, which scored lowest (M = 4.05, SD = 0.59).

Table 4: Results of means and standard deviation of the PsyCap

Rank	Dimension	Mean	SD	Level
1	Optimism	4.16	0.73	High
2	Self-Efficacy	4.16	0.57	High
3	Resilience	4.15	0.56	High
4	Hope	4.05	0.59	High
	Psychological capital (total)	4.12	0.47	High

The high overall level of psychological capital observed among Al-Quds Open University students suggests that many possess substantial personal resources for coping with academic demands in a distance-learning environment. According to the PsyCap framework, such resources, particularly optimism and resilience, support sustained motivation and adaptive functioning under conditions of uncertainty (Luthans and Youssef-Morgan, 2017). Similar patterns have been reported in studies of university populations engaged in self-directed or non-traditional learning pathways, where psychological strengths are often mobilized to manage competing work, family, and study responsibilities (Martínez et al., 2019).

The relatively lower ranking of hope warrants closer attention. Hope theory emphasizes goal-directed agency and pathway thinking as central to sustained academic engagement (Snyder, 2002). In the Palestinian context, structural constraints, political instability, and restricted employment opportunities may complicate long-term educational and career planning, even among students who remain optimistic and resilient in their day-to-day functioning. This pattern highlights the potential value of counseling and student-development programs that specifically target goal clarification and strategic planning, while continuing to reinforce existing strengths in resilience and optimism.

3.2. Results of the second question

What is the level of perceived self-efficacy among Al-Quds Open University students? Arithmetic means and standard deviations were calculated to answer this question. Table 5 reveals that the overall level of PSE among students was assessed as high (M = 3.86, SD = 0.44). Means of the answers came in between (4.37-2.78). The item "I strive to reach a prestigious position in society" exhibits the highest level (M = 4.37, SD = 0.7), while the item "My colleagues underestimate my professional abilities" came last and in the middle level (M = 2.78, SD = 1.27).

The generally high level of perceived self-efficacy among Al-Quds Open University students suggests that many view themselves as capable of managing academic challenges, regulating emotions, and pursuing long-term goals. From a social-cognitive perspective, such beliefs are central to sustained effort, adaptive coping, and academic persistence (Bandura, 1997). The prominence of items reflecting ambition, emotional control, and goal orientation is consistent with research showing that students with stronger efficacy beliefs are more likely to engage deeply in learning activities and persist when confronted with difficulties (Schunk and DiBenedetto, 2020).

Table 5: Results of means and standard deviation of the perceived self-efficacy scale

Rank	Item	Mean	SD	Level
1	I strive to reach a prestigious position in society	4.37	.699	High
2	A person must control their emotions in situations that require it	4.31	.680	High
3	I have many ambitions that I will achieve	4.25	.665	High
4	I trust my abilities to deal efficiently with unexpected events	4.19	.720	High
5	I can play different roles in life	4.14	.737	High
6	I can think practically when I am in a dilemma	4.08	.734	High
7	I can solve the problems I face	4.05	.666	High
8	I can take on many responsibilities	4.04	.802	High
9	I can efficiently handle life's new developments	4.04	.723	High
10	I deal with all obstacles I face	4.03	.751	High
11	I can set appropriate plans to achieve my hopes	4.03	.739	High
12	I maintain my balance in difficult situations	3.96	.809	High
13	My colleagues turn to me to solve their problems	3.86	.825	High
14	I deal seriously with others	3.72	.846	High
15	I find it difficult to adapt to new developments	3.30	1.022	Moderate
16	I find it difficult to stop anyone at their limits	3.14	1.192	Moderate
17	I find it difficult to reach my goals	3.12	1.133	Moderate
18	My colleagues underestimate my professional abilities	2.78	1.268	Moderate
	Perceived self-efficacy (total)	3.86	0.44	High

At the same time, moderate endorsement of items related to adaptability and perceived professional recognition points to possible contextual constraints shaping students' self-appraisals. Rapid technological changes in distance education, shifting labor-market expectations, and sociopolitical pressures may undermine students' sense of control in interpersonal or occupational domains, even when academic confidence remains relatively strong. Prior work has similarly linked environmental uncertainty and institutional change to fluctuations in students' perceived agency and adjustment (Yusuf, 2011).

Taken together, these findings indicate that while QOU students demonstrate a solid foundation of self-efficacy that can support engagement and perseverance, targeted institutional interventions may further strengthen adaptive and interpersonal confidence. Mentoring programs, communication-skills training, and workshops focused on coping with change could enhance students' perceived competence across evolving academic and professional contexts. Such initiatives align with evidence showing that self-efficacy is a key predictor of persistence, emotional stability, and educational attainment (Caprara et al., 2008).

3.3. Results of the third question

The third research question examined whether psychological capital (PsyCap) differed significantly among Al-Quds Open University students by gender,

academic level, and faculty. Table 6 shows small differences in mean scores across these groups, but the three-way ANOVA in Table 7 indicates that only faculty had a statistically significant effect on PsyCap ($F = 4.053$, $p = 0.045$). Gender ($F = 0.017$, $p = 0.896$) and academic level ($F = 2.498$, $p = 0.085$) did not differ significantly at the $\alpha < 0.05$ level.

Table 6: Means and standard deviations of PsyCap among the QOU students

Variables	Categories	Mean	Standard deviation
Gender	Male	4.08	0.53
	Female	4.13	0.45
Academic level	Preparatory and first year	3.89	0.56
	Second year	4.10	0.48
	Third year and above	4.17	0.44
Faculty	Scientific	4.07	0.46
	Humanistic	4.18	0.47

Table 7: Results of the three-way ANOVA for psychological capital among QOU students

Variance source	Sum of squares	Degree of freedom	Mean squares	Calculated F	P-value
Gender	0.003	1	0.003	0.017	0.896
Academic Level	0.977	2	0.489	2.498	0.085
Faculty	0.793	1	0.793	4.053	0.045
Error	41.071	210	0.191		
Total	43.834	221			

The absence of gender differences in psychological capital supports the view that PsyCap represents a malleable set of psychological resources shaped more by learning experiences and environmental conditions than by demographic characteristics. Prior research has similarly reported minimal or inconsistent gender effects, emphasizing that hope, efficacy, resilience, and optimism function as developable capacities rather than fixed traits (Avey et al., 2011). The lack of statistically significant variation across academic levels suggests relative stability in students' psychological capital throughout their university trajectory. Although modest increases with academic progression are theoretically plausible—given growing mastery experiences and academic socialization—shared institutional conditions and comparable academic stressors may constrain differentiation across cohorts. Longitudinal designs would be required to determine whether PsyCap meaningfully evolves over time in open-university contexts.

By contrast, the observed difference between faculties points to the potential influence of disciplinary cultures on students' psychological resources. Humanistic programs often emphasize reflection, dialogue, and meaning-making, which may foster components of PsyCap such as hope and adaptive coping. In contrast, the performance-oriented demands of scientific programs may prioritize technical mastery, potentially shaping students' psychological profiles in different ways. Similar discipline-based patterns in psychosocial development have been reported in higher-education research, though evidence remains mixed and context dependent.

Taken together, these findings indicate that psychological capital among QOU students is broadly robust and evenly distributed, with only limited variation across demographic categories. This pattern reinforces conceptualizations of PsyCap as relatively stable yet open to development through educational interventions, underscoring the value of institution-wide programs rather than narrowly targeted demographic initiatives.

3.4. Results of the fourth question

Are there statistically significant differences at $\alpha < 0.05$ in perceived self-efficacy among QOU students attributed to gender, academic level, and faculty? To answer this question, the mean and standard deviations were calculated. The results are presented in Table 8, which reveals that there are differences. A three-way analysis of variance (3-way ANOVA) was conducted to determine the significance of these differences, as shown in Table 9.

Table 8: Means and standard deviations of perceived self-efficacy among QOU students

Variables	Categories	Mean	SD
Gender	Male	3.69	0.415
	Female	3.84	0.354
Academic level	Preparatory and first year	3.70	0.426
	Second year	3.81	0.382
	Third year and above	3.84	0.352
Faculty	Scientific	3.77	0.357
	Humanistic	3.87	0.382

Table 9: Results of the three-way ANOVA for perceived self-efficacy among QOU students

Variance source	Sum of squares	Degree of freedom	Mean squares	F	P-value
Gender	0.656	1	00.656	4.950	0.027*
Academic level	0.304	2	0.152	1.147	0.320
Faculty	0.370	1	0.370	2.787	0.097
Error	25.845	195	0.133		
Total	19502.054	221			

*: $p < .05$

The finding that perceived self-efficacy differed by gender but not by academic level or faculty highlights the selective influence of demographic factors on students' self-belief within the QOU context. Drawing on social-cognitive theory, gender differences in self-efficacy are often shaped by socialization patterns, feedback from instructors and peers, and differential access to mastery experiences rather than by ability alone (Bandura, 1997; Pajares, 2002). The higher self-efficacy reported by female students may reflect growing educational participation, motivational engagement, and adaptive self-regulatory strategies in Palestinian higher-education settings, as well as institutional practices that support persistence in open-learning environments.

The absence of variation across academic levels suggests that students' efficacy beliefs may stabilize early in their university experience, possibly due to consistent pedagogical structures and assessment practices across years of study. Likewise, the lack of faculty-based differences indicates that disciplinary contexts at QOU may exert less influence on students' confidence than shared institutional demands associated with distance education and sociopolitical constraints. Longitudinal research would be valuable for clarifying whether self-efficacy trajectories change over time as students accumulate mastery experiences.

From an applied perspective, the observed gender pattern underscores the importance of targeted support initiatives. While female students appear to enter or maintain higher levels of academic confidence, mentoring and skill-building programs could be particularly beneficial for students who report lower efficacy in managing academic or interpersonal challenges. Such interventions are consistent with extensive evidence demonstrating that self-efficacy is a malleable psychological resource that can be strengthened through structured educational practices (Bandura, 1997; Pajares, 2002).

3.5. Results of the fifth question

To what extent can psychological capital components predict PSE among QOU students? To measure the extent to which the components of positive psychological capital contribute to predicting PSE among students of QOU, a Stepwise Multiple Regression analysis was conducted using the stepwise entry method. Table 10 illustrates the results.

Table 10: Results of stepwise multiple regression analysis to determine the contribution of positive psychological capital dimensions in predicting self-efficacy among students of QOU

Model	Predictor	B	Standard error	β	t	p	R	R^2	Adjusted R^2
1	Constant	2.393	0.179		13.369	<0.001	0.488	0.238	0.235
1	Hope	0.362	0.044	0.488	8.291	<0.001			
2	Constant	1.953	0.204		9.568	<0.001	0.540	0.291	0.285
2	Hope	0.240	0.052	0.323	4.616	<0.001			
2	Resilience	0.225	0.056	0.284	4.057	<0.001			
3	Constant	1.796	0.206		8.710	<0.001	0.568	0.322	0.313
3	Hope	0.183	0.054	0.246	3.383	<0.001			
3	Resilience	0.195	0.055	0.246	3.534	<0.001			
3	Optimism	0.123	0.039	0.204	3.149	0.002			

B: Unstandardized regression coefficient; β: Standardized regression coefficient; R: Multiple correlation coefficient; R^2: Coefficient of determination; Adjusted R^2: Adjusted coefficient of determination; Model 1 included Hope only; Model 2 included Hope and Resilience; Model 3 included Hope, Resilience, and Optimism; All regression models were statistically significant at $p < .001$

The results of the stepwise multiple regression analysis in Table 10 revealed a significant contribution of the dimensions of positive psychological capital in predicting PSE among students of QOU. In particular, the aggregated dimensions of Hope, Resilience, and Optimism were responsible for 32.2% of the variance identified in students' self-efficacy levels, thereby indicating a moderate level of predictive capacity. For the dimension of Self-efficacy (as a component of psychological capital), it did not significantly contribute to predicting the level of PSE. It is worth noting that the Variance Inflation Factor (VIF) values for the six predictive models were low, indicating the absence of multicollinearity problems (i.e., no strong correlations among the predictors). This suggests that the students' general self-efficacy beliefs are more strongly influenced by other positive psychological resources rather than their self-perceived capabilities alone. The regression model focused exclusively on psychological capital dimensions in line with theory-driven modeling approaches, which prioritize proximal psychological predictors over distal demographic factors (Bandura, 1997). Based on these results, the regression equation for predicting the PSE can be written as follows: $\hat{y}= 1.796 + 0.183x1 + 0.195x2 + 0.123x3$, where $\hat{y}$ = is the perceived self-efficacy and x_1 is hope, x_2 is resilience, and x_3 is optimism. This mathematical representation demonstrates that an elevation of one unit in Hope, Resilience, or Optimism is associated with a favorable increase in self-efficacy by 0.183, 0.195, and 0.123 units, respectively. The equation rigorously quantifies these relationships, clarifying that progressive improvements in these dimensions of psychological capital promote associated increases in PSE.

The finding that Hope is the most influential predictor aligns with Snyder's (2002) conceptualization, which emphasizes the role of goal-directed motivation and pathways thinking in fostering self-beliefs and adaptive functioning Similarly, the notable impact of Resilience corroborates existing literature indicating that individuals possessing the ability to rebound from adversities and sustain determination are more

inclined to attain elevated levels of self-efficacy (Avey et al., 2011) Optimism, although slightly less predictive than Hope and Resilience, also plays a critical role by shaping students' expectations of positive outcomes.

The prominence of hope within the model is particularly consistent with hope theory, which emphasizes agency and pathways thinking as foundations for confidence in managing academic demands (Snyder, 2002). In the Palestinian open-university context—where students frequently navigate employment pressures, restricted mobility, and political uncertainty—such motivational and coping resources may be especially consequential for sustaining academic engagement and confidence.

The absence of an independent contribution from the PsyCap self-efficacy facet likely reflects conceptual overlap with the outcome variable itself, suggesting that broader psychological resources exert stronger incremental influence on students' global efficacy judgments. Prior conceptual and empirical work has similarly noted that hope, resilience, and optimism often account for unique variance in functional outcomes beyond efficacy-related components within PsyCap composites (Luthans and Youssef-Morgan, 2017).

Taken together, the model highlights practical directions for intervention. Programs that strengthen goal-setting skills, resilience under stress, and optimistic explanatory styles may produce measurable improvements in students' perceived academic competence—an implication consistent with evidence that psychological capital can be enhanced through structured developmental initiatives.

This study, while providing valuable insights into the predictive relationship between psychological capital (PsyCap) and perceived self-efficacy (PSE) among Al-Quds Open University students, is subject to several limitations. First, the use of convenience sampling from a single university branch may have introduced bias and underrepresented certain subgroups, limiting the generalizability of the findings. Future research should employ randomized or stratified sampling across multiple sites to improve representativeness. Second, the cross-sectional design precludes causal interpretation, as data were collected at a single time point, preventing examination of temporal dynamics and leaving associations potentially influenced by unmeasured confounders. Longitudinal designs are recommended to examine temporal dynamics and establish causal relationships. Third, reliance on self-report questionnaires may have introduced social desirability and response biases. Multi-method assessments, including observational or objective measures, should complement self-report questionnaires. Although the instruments demonstrated acceptable reliability and face validity, future studies could strengthen construct validity and cultural robustness by incorporating confirmatory factor analysis (CFA), tests of measurement invariance across gender and academic disciplines, and multi-method assessments such as observational or objective measures.

A limitation of this study is the exclusion of demographic variables (e.g., age, gender, employment status) from the regression models. Psychological capital theory frames hope, resilience, and optimism as proximal determinants of efficacy beliefs, with demographics as more distal factors (Bandura, 1997). Future studies could examine potential indirect or moderating effects of demographics using hierarchical regression or structural equation modeling.

4. Conclusion

The results of this study present the significance of cultivating healthy positive PsyCap, more particularly hope, resilience, and optimism, to build the self-efficacy of university students. Academic programs, for instance, workshops and counselling programs designed for cultivating such PsyCap, can elevate students' motivation, academic achievement, and overall well-being. Strengthening students' confidence in their professional competence and adaptability may further empower them to cope effectively with the evolving challenges of academic and social life, ultimately promoting their psychological well-being and long-term success.

List of abbreviations

B	Unstandardized regression coefficient
CFA	Confirmatory factor analysis
f^2	Effect size
G*Power	Statistical power analysis software
H1–H4	Hope items 1–4
HERO	Hope, self-efficacy, resilience, and optimism
M	Mean
n	Sample size
O1–O2	Optimism items 1–2
PSE	Perceived self-efficacy
PsyCap	Psychological capital
QOU	Al-Quds Open University
R1–R3	Resilience items 1–3
SD	Standard deviation
SE1–SE3	Self-efficacy items 1–3
SPSS	Statistical Package for the Social Sciences
VIF	Variance inflation factor
α	Alpha level (level of statistical significance)
β	Standardized regression coefficient

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Compliance with ethical standards

Ethical considerations

This study adhered to established ethical research standards. Participation was voluntary, and informed consent was obtained from all participants

prior to data collection. The anonymity and confidentiality of all respondents were strictly maintained throughout the research process, and no personally identifiable information was collected.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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