

The Role of Academic Self-Efficacy in Predicting Need for Knowledge among Postgraduate Students

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Abstract

The need for knowledge is a crucial psychological factor affecting student achievement. Revealing graduate students' need for knowledge and its influencing factors is essential for academic success. This study was designed with the specific aim of uncovering the role of the need for knowledge in shaping the academic self-efficacy of graduate students at the College of Education at King Faisal University. It used the comparative predictive correlational description approach, and the researcher used two scales (academic self-efficacy—Need for knowledge) to collect data from 243 male and female students in the postgraduate stage of the College of Education at King Faisal University. The study found a high need for knowledge and academic self-efficacy. Age (46-55) was a significant factor, while gender and department were not. Older students (46-55) had higher academic self-efficacy. The need for knowledge predicted academic self-efficacy among graduate students. The study highlighted high cognitive engagement and academic self-efficacy among students. Cognitive skills were the most influential factor for academic self-efficacy, followed by academic behavior.

Keywords: *Academic Self-Efficacy, Need for Knowledge, Postgraduate Students, Education*

INTRODUCTION

The need for knowledge is an essential psychological concept affecting students' academic achievement. Given the role of graduate students in advancing society scientifically through their research and studies, revealing the level of graduate students' need for knowledge and the factors affecting it is considered of great importance in Student achievement. (Eltayeb et al. 2019). In this context, the need for knowledge is linked to academic success and performance, as students with high levels of need for knowledge tend to use deep learning strategies that increase understanding and achieve better performance on academic tasks (Jaljal et al., 2021). asserts Bandura that learning results from the interplay of environmental, behavioural, and personal factors, termed "triadic mutual determination." Environmental factors, such as social norms, impact performance. Behavioural factors involve the skills needed, while personal factors encompass an individual's expectations, attitudes, and beliefs (Smothers, 2018). According to Coutinho (2006), the need for knowledge is usually related to academic performance and tasks, as curricula and coursework require mental effort to understand the educational content, thus increasing academic achievement. In this context, Bandura's theory further highlights that self-efficacy significantly influences an individual's engagement in an activity. Successes enhance self-efficacy, while failures undermine it, especially initially. High self-efficacy leads individuals to attribute failures to effort or external factors, whereas low self-efficacy attributes failures to personal inadequacies. Moreover, low academic self-efficacy can impede coursework completion and graduation (Prescott, 2017). Moreover, Johansson and Ölund (2017) argue that knowledge is a fundamental human need that can be fulfilled through internal goal-directed behaviour. Therefore, the individual does not need to request the satisfaction of this need from the outside world. Academic self-efficacy is one of the factors influencing aspects of personality, as it reflects the individual's beliefs in his ability to achieve specific goals and success in performing tasks (Bandura, 1994) and expresses the individual's personal belief in his skills and effectiveness in producing specific behaviour. Academic self-efficacy is essential to learners' success, as it affects learning paths and influences learners' choices (Malkoc & Mutlu, 2018). Furthermore, academic self-efficacy consistently predicts academic success by optimizing an individual's academic abilities to achieve the desired performance (Frag, 2021). In line with this,

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Satici and Can (2016) indicate that students' confidence in their abilities to accomplish academic tasks increases their mental efforts during the educational process. Students with high academic self-efficacy continuously try to achieve those academic tasks and do not give up easily. In parallel, Al-Shammari and Rashwan (2016) describe cognitive dissonance theory, which asserts that cognitive dissonance occurs when conflicting stimuli disrupt an individual's cognitive structure, leading to actions aimed at restoring balance and achieving cognitive consistency, resulting in feelings of pleasure and satisfaction. Given these insights, this study explores the predictive relationship between academic self-efficacy and the need for knowledge among graduate students. The following questions will define the study problem

What is the level of both (Need for knowledge and academic self-efficacy) among graduate students at the College of Education at King Faisal University?

Are there statistically significant differences between the average scores on the Need for Knowledge scale among graduate students at the College due to the variables (age, gender, department)?

Are there statistically significant differences between the average scores of students on the academic self-efficacy scale among graduate students at the College of Education at King Faisal University due to the variable (age, gender, department)?

Does the Need for knowledge contribute to predicting academic self-efficacy among graduate students at the College of Education at King Faisal University?

LITERATURE REVIEW

Academic Self-Efficacy

The concept of academic self-efficacy dates back to the 1970s of the last century when it was presented by the scientist Bandura within the framework of his cognitive and social learning theory. In his definition of this concept, Bandura considered academic self-efficacy to be an individual's beliefs about his ability to carry out work and tasks effectively and efficiently (Bandura, 1997). Expanding on Bandura's framework, Mokhamer (2014) defines academic self-efficacy as a university student's awareness of their ability to perform specific academic tasks effectively, persistently, and confidently while overcoming obstacles and controlling academic events. Furthermore, Hassanein and Abdel Wahid (2020) define academic self-efficacy as an individual's judgments or expectations regarding their performance in uncertain situations. These expectations influence the choice of activities undertaken in various academic courses and the effort exerted. Similarly, Hasban (2021) argues that students' belief and confidence in their ability to deal with academic requirements and their capabilities to face challenges enable them to achieve their goals successfully.

Further, Arslantas (2021) refines the concept of academic self-efficacy as the beliefs and attitudes students have about their capacity to succeed academically. This includes their confidence in performing academic tasks and possessing the necessary skills. Academic self-efficacy is a crucial factor influencing students' academic achievement.

Need for Knowledge

Al-Sarmini and Abu Ghazal (2022) define the Need for knowledge as a student's self-motivation that enhances involvement in academic tasks and cognitive activities, driving effort, perseverance, deep thinking, and enjoyment, viewing these activities as challenges rather than burdens. Building on this, Al-Qurashi and Al-Sharaida (2020) stated that the concept of the Need for knowledge appeared in Murray's classification of needs in 1953, as it works to organize and direct processes. Cognitive is the Need to search for questions and reach facts, satisfy curiosity, love of knowledge, and the Need to read. Furthermore, Hui and You (2023) describe the Need for knowledge as a cognitive motivation factor, emphasizing its role in stimulating engagement in cognitive activities. Similarly, Cacioppo and Petty (1982) define it as a tendency to engage in and derive enjoyment from cognitive tasks and activities. As mentioned, Mahrous (2007) stated that the concept of the Need for knowledge, as Murray, encompasses observing, questioning, exploring, researching, obtaining facts, satisfying curiosity, and seeking information through reading and listening.

Additionally, Von Stumm and Ackerman (2013) describe the Need for knowledge as an intrinsic motivator for complex tasks and an investment trait. This trait enhances cognitive balance and influences how individuals utilize their cognitive resources. In a related view, Buqai (2013) defines the Need for knowledge as the individual's desire to participate in and enjoy cognitive activities. This enjoyment is achieved by applying complex cognitive processes that help understand and improve performance. Lastly, Grass et al. (2023) characterizes the Need for knowledge as cognitive engagement and persistence in mental challenges. They note that this trait involves the enjoyment of cognitive challenges and helps individuals adopt adaptive perspectives in difficult situations.

Previous research underscores the need for knowledge to influence achievement, garnering significant attention in academic studies. In this context, the study by Aldhmoor and Al-Alwan (2011) found that academic self-efficacy levels differed by gender, with females exhibiting higher levels. In addition, Kamel and Alziq (2015) found a moderate level of academic self-efficacy among University of Jordan students, but there were no significant differences based on academic level or gender. Similarly, Abdel Hamid (2017) found a positive correlation between perceived self-efficacy and the quality of academic life among postgraduate students, with no effects from variables such as type, specialization, or degree. In contrast, Alersan (2017) found a moderate level of academic self-efficacy among University of Hail students, with higher levels in females and advanced academic levels.

Further exploring this, Mutlaq (2019) found that university students generally exhibit high academic self-efficacy. Meanwhile, Al-Dahamsha (2019) found that secondary school students exhibited average levels of psychological empowerment, self-efficacy, and achievement motivation. The study revealed no gender differences in self-efficacy. Additionally, Svartdal et al. (2021) found that academic self-efficacy among University of Norway students was moderate to high and that study skills and habits contribute to building this efficiency. As the study results showed, Abo-Allymoun and Al-Rabie (2022) found that Yarmouk University students exhibited average academic self-efficacy. Lastly, Al-Qurashi (2022) found that secondary school students in Taif exhibited high academic self-efficacy.

On the other hand, Studies on the Need for knowledge reveal various insights into its role and influence across different contexts. The study by Johansson and Ölund (2017) found that there is a negative relationship between anxiety and the Need for knowledge, and significant gender-based differences exist in the Need for knowledge., favouring males. In a related study, Al-Qurashi and Al-Sharaida (2020) found that the Need for knowledge and self-efficacy among Umm Al-Qura University students was moderate, with variations based on academic specialization favouring scientific disciplines. Furthermore, the study's findings revealed the possibility of predicting the Need for knowledge based on self-efficacy. Expanding on these findings, Jaljal et al. (2021) found a strong desire for knowledge among postgraduate students at Kafre Elsheikh University's Faculty of Education, with a positive correlation between academic integration and the Need for knowledge. Similarly, Asiri et al. (2022) found that the level of Need for knowledge is above average for students at King Abdulaziz University. No significant differences were observed based on specialization or gender.

METHODOLOGY

The study sample

Participation in the study was voluntary and random. Participants were recruited through an online questionnaire. The sample consisted of (243) male and female postgraduate students at the College of Education at King Faisal University. The students are characterized by several characteristics: age, gender, and department, as follows:

Table 1. shows the distribution of study individuals according to their demographic characteristics:

Variables	Categories	Duplicates	Percentage
The age	25-35 years old	143	58.8
	36-45 years old	79	32.5
	46-55 years old	21	8.6
Gender	male	106	43.6
	feminine	137	56.4

Department	physical education	35	14.4
	Special Education	46	18.9
	Art education	10	4.1
	Education and psychology	67	27.6
	Educational leadership	52	21.4
	Curricula, teaching methods, and educational techniques	33	13.6
Total		243	100.0

It is clear from Table No. (1) there are (143) students (58.8%) who are (25-35 years old), while there are (21) students (8.6%) who are (46-55 years old). Age and Gender: There are (137) members of the study sample, with a percentage of (56.4%), while there are (106) members of the study sample, with a percentage of (43.6%) males, and the department, there are (67) members of the study, with a percentage (27.6%) in the Department of Education and Psychology, while there were (10) members of the study (4.1%) in the Department of Art Education.

Instruments

Academic Self-Efficacy Scale

Prepared by Al-Qurashi (2022), the scale in its final form consists of (32) statements distributed over five dimensions (cognitive skills (statements 1 to 8) - previous experiences of success and failure (statements 9 to 14) - academic context (Statements 15 to 20) - academic behaviour (statements 21 to 26) - organization and time management (statements 27 to 32). The scale was built in a Likert manner by placing five responses (alternatives) in front of each phrase of the scale. Correcting it by giving a score for each response ranging from (1 - 5), a score that varies in order according to the type of phrase (positive-negative), as the scale includes (10) negative phrases, which are (6-7-10-13-14-18-20). -25-31-32), and therefore, the lowest grade that a student can obtain is (32), and the maximum grade is (160).

Internal Consistency Validity of the Scale

The academic self-efficacy scale's internal consistency was validated using the Pearson Correlation Coefficient by correlating the scores of each statement with the total scale score in a sample of 30 students.

Table 2. shows the correlation coefficients of the academic self-efficacy scale statements with the total score for each dimension.

Cognitive skills		Previous experiences of success and failure		Academic context		Academic behavior		Organization and time management	
Phrase	Correlation coefficient	Phrase	Correlation coefficient	Phrase	Correlation coefficient	Phrase	Correlation coefficient	Phrase	Correlation coefficient
1	.685**	9	.527**	15	.735**	21	.631**	27	.518**
2	.584**	10	.696**	16	.771**	22	.666**	28	.716**
3	.602**	11	.681**	17	.758**	23	.617**	29	.515**
4	.692**	12	.661**	18	.570**	24	.588**	30	.553**
5	.683**	13	.532**	19	.591**	25	.701**	31	.597**
6	.545**	14	.654**	20	.601**	26	.592**	32	.618**
7	.553**	-	-	-	-	-	-	-	-
8	.611**	-	-	-	-	-	-	-	-
.774**		.749**		.675**		.714**		.796**	

** p at 0.01

It is clear from Table No. (2) All correlation coefficients between statements in the academic self-efficacy scale and their respective dimension total scores and the overall scale score were statistically significant at the 0.01 level. Correlation coefficients for the dimensions ranged from 0.675 to 0.796, indicating solid correlations suitable for the instrument's application in the current study.

Reliability of Academic Self-efficacy Scale

The researchers assessed the reliability of the academic self-efficacy scale using Cronbach's alpha coefficient and Table No. (3) displays the stability coefficients for the study tool axes as follows:

Dimensions	Number of phrases	stability coefficients
Cognitive skills	8	0.765
Previous experiences of success and failure	6	0.728
Academic context	6	0.745
Academic behavior	6	0.77
Organization and time management	6	0.779
The total score on the scale	32	0.850

Table 3. Cronbach's alpha coefficient is used to measure the reliability of the academic self-efficacy scale.

Table No. (3) shows that the academic self-efficacy scale has acceptable statistical stability. The overall stability coefficient (alpha) value reached (0.850), and the reliability coefficient values for the Dimensions scale ranged between (0.728 and .0779), which is a reasonable degree of stability. It can be trusted when applying the current study instrument.

Need for Knowledge Scale

Prepared by Cacioppo and Petty (1982), who Arabized and adapted it to the Arab environment, Jaradat and Al-Ali (2010), and the scale in its final form consists of (18) statements that came in one axis, and the scale was built in the usual Likert method, by placing five Responses (alternatives) in front of each statement of the scale are corrected by giving a score for each response ranging from (1 - 5) that varies in order according to the type of statement (positive-negative), as the scale includes (7) negative statements, which are (6). -9-11-12-15-16-18). Accordingly, the minimum grade that a student can obtain is (18), and the maximum grade is (90).

Internal Consistency Validity of The Scale

The internal consistency of the Need for Knowledge scale was confirmed using the Pearson Correlation Coefficient with a survey sample of 30 students. It calculated correlations between each statement's score and the total scale score.

Table 4. shows the correlation coefficients of Need for Knowledge scale statements with the scale's total score.

Phrase	Correlation coefficient	Phrase	Correlation coefficient
1	.645**	10	.621**
2	.561**	11	.662**
3	.674**	12	.645**
4	.623**	13	.689**
5	.597**	14	.616**
6	.594**	15	.593**
7	.707**	16	.773**
8	.571**	17	.712**
9	.599**	18	.701**

** p at 0.01

By reviewing Table No. (2), it is clear that all correlation coefficients between the phrases of the need for knowledge scale and the total scale score were statistically significant at the level (0.01). The values of these coefficients ranged between (0.571 and 0.773), and they are all good correlation coefficients that confirm confidence in applying the current study tool.

Reliability of Need for Knowledge Scale

The researchers measured the stability of the Need for Knowledge scale using the reliability coefficient (Cronbach's alpha), and Table No. (5) shows the scale's stability coefficients.

Table 5. Cronbach's alpha coefficient to measure the reliability of the Need for Knowledge scale.

Need for knowledge scale	Number of phrases	stability coefficients
	18	0.807

Table No. (5) clearly shows that the need for a knowledge scale demonstrates statistically acceptable stability, with an overall reliability coefficient (alpha) of 0.807. This level of reliability is sufficient to ensure confidence in the study tool's application.

Statistical Methods used in the Study

Several pertinent statistical methods were employed, namely

Frequencies and percentages identified study sample characteristics.

The Pearson correlation coefficient assessed the study tool's internal consistency validity.

the Cronbach's Alpha coefficient to calculate the scale's reliability coefficient

The user (One-Sample T-test) was used to identify the need for knowledge and academic self-efficacy.

and the Kruskal-Wallis test was used to identify differences according to the two variables (age and department).

The (independent Sample T-test) was used to identify differences according to the Type variable.

Simple regression was used to analyze predicting academic self-efficacy from knowledge needs among College of Education postgraduates.

DISCUSSION OF THE STUDY RESULTS

The first question: What is the level of both (Need for knowledge and academic self-efficacy) among graduate students at the College of Education at King Faisal University?

To assess the levels of Need for knowledge and academic self-efficacy among postgraduate students at King Faisal University's College of Education, a One-Sample T-Test was conducted.

Table 6. shows the results of a one-sample t-test to determine the level of Need for knowledge Among graduate students at the College of Education.

the number	Arithmetic mean	Standard deviation	Hypothetical meaning	T value	Significance level
243	67.43	7.16	54	29.231	0.001

It is clear from Table No. (6) shows that postgraduate students at King Faisal University's College of Education exhibit a high need for knowledge, with a mean of 67.43 and a standard deviation of 7.16, compared to the hypothesized mean of 54.0. The calculated t-value was 29.231, indicating a statistically significant difference between the students' mean scores and the hypothesized mean (0.001). This finding aligns with Jaljal et al. (2021), who reported similarly high levels of need for knowledge among Graduate University College of Education students. In contrast, it differs from Al-Qurashi and Al-Sharaida's (2020) study, which found an average level of need for knowledge among graduate students at a College of Education, and from Asiri et al.'s (2022) study at King Abdulaziz University, which reported an above-average level of need for knowledge among postgraduate students in Jeddah.

Table 7. shows the results of a one-sample t-test to determine the level of academic self-efficacy in Academic studies among graduate students at the College of Education

Dimensions	the number	Arithmetic mean	Standard deviation	Hypothetical mean	T value	Significance level
Cognitive skills	243	32.21	3.6	24	39.855	0.001
Previous experiences of success and failure	243	25.12	3.4	18	32.653	0.001
Academic context	243	23.19	2.79	18	28.949	0.001
Academic behavior	243	25.77	2.64	18	45.957	0.001
Organization and time management	243	23.91	3.63	18	25.349	0.001
Total	243	131.2	11.99	96	45.757	0.001

It is clear from Table No. (7) shows that postgraduate students at King Faisal University's College of Education demonstrated high academic self-efficacy (mean = 131.20, SD = 11.99) compared to the hypothesized mean (96.0). The t-value was 45.757 ($p < 0.001$), indicating significant differences between students' mean grades and the hypothesized mean. Cognitive skills ranked highest (mean = 32.21, SD = 3.60), followed by Academic behaviour (mean = 25.77, SD = 2.64), Previous experiences of success and failure (mean = 25.12, SD = 3.40), Organization and time management (mean = 23.91, SD = 3.63), and Academic context dimensions (mean = 23.19, SD = 2.79).

The study's findings aligned with Mutlaq's (2019) study at Al-Stansiriya University, Svartdal et al.'s (2021) study at the University of Norway, and Al-Qurashi's (2022) study in Taif, all reporting high academic self-efficacy levels. However, the study differed from Kamel and Alziq's (2015) study at the University of Jordan and Alersan's (2017) study at Hail University, reporting average levels. Additionally, the study diverged from Al-Dahamsha's (2019) findings among secondary school students and Abo-Allymoun and Al-Rabie's (2022) findings among Yarmouk University students, which also indicated average levels of academic self-efficacy.

The second question: Are there statistically significant differences between the average scores on the Need for Knowledge scale among graduate students at the College due to the variables (age, gender, department)?

Differences According to The Age Variable

To identify the differences in the level of Need for knowledge among postgraduate students at the College of Education at King Faisal University according to the variable of age. The Kruskal-Wallis test was used, as shown in the following table

Table 8. shows the results of the Kruskal-Wallis test for differences in the level of Need for knowledge among Postgraduate students at the College of Education at King Faisal University according to the age variable.

the age	the number	Average rank	value (H)	DF	Significance level
25-35	143	112.14	7.894	2	0.019
36-45	79	132.4			
46-55	21	150.0			

It is clear from Table No. (8) Statistically significant differences (0.05) in Need for knowledge exist among King Faisal University's College of Education postgraduate students based on age, favouring those aged (55-46), with an average rank of 150.0. Older students show higher scores for Need for knowledge.

Differences according to the Gender Variable

The Kruskal-Wallis test, based on dependent Sample T-Tese Need for knowledge differences by gender among postgraduate students at King Faisal University's College of Education, is depicted in the table below.

Table 9. shows the t-test results for two independent samples for differences in the level of Need for knowledge Among postgraduate students at the College of Education according to the Gender variable.

Gender	the number	Arithmetic mean	Standard deviation	T value	Significance level
male	106	67.32	6.51	0.205	0.838
feminine	136	67.51	7.65		

It is clear from Table No. (9) No statistically significant differences were found in the Need for knowledge among King Faisal University's College of Education postgraduate students based on gender (0.838), indicating no statistical significance. This suggests a similarity in Need for knowledge levels between male and female students. This finding aligns with Asiri et al.'s (2022) study at King Abdulaziz University, Jeddah. However, it differs from Johansson and Ölund's (2017) study, which found significant gender-based differences favouring males in Saudi University students' knowledge needs.

Differences according to the Department Variable

The Kruskal-Wallis test was used to assess the Need for knowledge differences among postgraduate students in the King Faisal University's College of Education department.

Table 10. shows the results of the Kruskal-Wallis test for differences in the level of Need for knowledge among Postgraduate students at the College of Education according to the variable Department.

Department	the number	Average rank	value (H)	DF	Significance level
physical education	35	127.67	1.840	5	0.871
Special Education	46	114.85			
Art education	10	121.55			
Education and Psychology	67	121.49			
Educational leadership	52	130.24			
Curriculum and Instruction	33	114.14			

It is clear from Table No. (10) No statistically significant differences were found in the Need for knowledge among postgraduate students at King Faisal University's College of Education based on the Department variable, with a significance level of (0.871), which indicates a convergence in the level of Need for knowledge among postgraduate students.

The third question: Are there statistically significant differences between the average scores of students on the academic self-efficacy scale among graduate students at the College of Education at King Faisal University due to the variable (age, gender, department)?

Differences according to the Age Variable

The Kruskal-Wallis test was used to examine academic self-efficacy differences among College of Education postgraduate students by age, serving as a key analytical tool in our research, as shown in the following table.

Table 11. shows the results of the Kruskal-Wallis test for differences in the level of academic self-efficacy among Postgraduate students at the College of Education according to the variable age.

Dimensions	the age	the number	Average rank	value (H)	DF	Significance level
Cognitive skills	25-35	143	114.97	4.322	2	0.115
	36-45	79	128.79			
	46-55	21	144.31			
Previous experiences of success and failure	25-35	143	110.40	17.244	2	0.001
	36-45	79	128.61			
	46-55	21	176.12			
Academic context	25-35	143	108.14	13.892	2	0.001
	36-45	79	143.36			
	46-55	21	136.05			
Academic behavior	25-35	143	114.97	6.810	2	0.033

	36-45	79	125.57			
	46-55	21	156.48			
Organization and time management	25-35	143	117.60	9.822	2	0.007
	36-45	79	117.79			
	46-55	21	167.76			
	25-35	143	110.64			
Total marks	36-45	79	131.00	13.078	2	0.001
	46-55	21	165.48			

Table No. (11) reveals a significant finding: there were no statistically significant differences in the cognitive skills of postgraduate students at King Faisal University's College of Education based on the age variable. This finding, with a significance level of (0.115), underscores the importance of our research, indicating a convergence in cognitive skills across age groups.

While the results in Table No. (11) showed that there are statistically significant differences at the level of (0.05) in the total score of academic self-efficacy and its sub-dimensions of (previous experiences of success and failure - academic context - academic behaviour - organization and time management) among study students. Graduate Studies at the College of Education at King Faisal University, according to the age variable, in favour of the Age group (46-55 years old) with an average rank of (176.12) for the dimension of previous experiences of success and failure and an average rank of (156.48) for academic behaviour, and an average rank of (167.76) for organization and time management, and with an average Rank (165.48) for the overall academic self-efficacy score, and the previous result indicates that students in the age groups (46-55) have a higher level of self-efficacy about each of (previous experiences of success and failure - academic behaviour - organization and time management).

Statistically significant differences at the 0.01 level were found in the academic context among postgraduate students at the College of Education, favouring the age group (36-45) with an average rank of 143.36, indicating higher academic context levels in this age group.

Differences Depending on the Gender Variable

An Independent Sample T-Test was used to compare academic self-efficacy levels among male and female postgraduate students at the College of Education.

Table 12. The t-test results for two independent samples were used to determine differences in academic self-efficacy among graduate students at the College of Education according to the gender variable.

Dimensions	Gender	the number	Arithmetic mean	Standard deviation	T value	Significance level
Cognitive skills	male	106	32.98	3.46	0.870	0.385
	feminine	137	33.39	3.71		
Previous experiences of success and failure	male	106	24.79	3.58	1.321	0.188
	feminine	137	25.37	3.24		
Academic context	male	106	23.30	3.00	0.572	0.568
	feminine	137	23.09	2.63		
Academic behavior	male	106	25.70	2.36	0.392	0.695
	feminine	137	25.83	2.84		
Organization and time management	male	106	23.64	3.33	1.011	0.313
	feminine	137	24.12	3.85		
Total marks	male	106	130.42	11.92	0.894	0.372
	feminine	137	131.80	12.05		

It is clear from Table No. (12) No statistically significant differences were found in academic self-efficacy scores among postgraduate students at the College of Education, King Faisal University, based on gender (p-values: Total Score = 0.372, Cognitive Skills = 0.385, Previous Experiences = 0.188, Academic Context = 0.568, Academic Behavior = 0.695, Organization and Time Management = 0.313). This indicates a convergence in academic self-efficacy levels between male and female students. The current study aligns with Kamel and Alziq (2015) and Abdel Hamid (2017), finding no significant gender differences in academic self-efficacy among the

University of Jordan and postgraduate students, respectively. It contrasts with Aldhmoor and Al-Alwan (2011), showing significant differences favouring females in tenth-grade students in Irbid. It also differs from Alersan (2017), who found substantial gender differences favouring females at the University of Hail.

Differences According to the Department Variable

Based on their Department, the Kruskal-Wallis test was used to compare academic self-efficacy levels among postgraduate students at the College of Education, King Faisal Department.

Table 13. shows the results of the Kruskal-Wallis test for differences in the level of academic self-efficacy among postgraduate students at the College of Education according to the variable Department.

Dimensions	Department	the number	Average rank	value (H)	DF	Significance level
Cognitive skills	physical education	35	106.59	5.288	5	0.382
	Special Education	46	122.54			
	Art education	10	127.15			
	Education and Psychology	67	132.59			
	Educational leadership	52	127.33			
Previous experiences of success and failure	Curriculum and Instruction	33	106.14	18.865	5	0.002
	physical education	35	129.99			
	Special Education	46	86.04			
	Art education	10	97.65			
	Education and Psychology	67	133.37			
Academic context	Educational leadership	52	139.41	9.018	5	0.108
	Curriculum and Instruction	33	120.52			
	physical education	35	97.56			
	Special Education	46	108.63			
	Art education	10	127.80			
Academic behavior	Education and Psychology	67	134.43	10.641	5	0.059
	Educational leadership	52	129.91			
	Curriculum and Instruction	33	127.11			
	physical education	35	117.79			
	Special Education	46	114.49			
Organization and time management	Art education	10	161.65	8.114	5	0.150
	Education and Psychology	67	125.06			
	Educational leadership	52	136.16			
	Curriculum and Instruction	33	96.39			
	physical education	35	107.77			
Total marks	Special Education	46	102.34	9.838	5	0.080
	Art education	10	139.20			
	Education and Psychology	67	133.81			
	Educational leadership	52	128.71			
	Curriculum and Instruction	33	124.73			
	physical education	35	108.07			
	Special Education	46	102.83			
	Art education	10	130.70			
	Education and Psychology	67	134.02			
	Educational leadership	52	136.97			
	Curriculum and Instruction	33	112.86			

It is clear from Table No. (13) indicates no statistically significant differences in the Total Scores of academic self-efficacy and its sub-dimensions (Cognitive skills, Academic context, Academic behaviour, Organization, and time management) among postgraduate students at King Faisal University's College of Education based on the Department variable. The significance levels for the dimensions were (0.382, 0.108, 0.059, 0.150) respectively, and for the total score (0.080), all of which exceed 0.05, indicating no statistical significance. This suggests a similarity in academic self-efficacy levels among graduate students at the College of Education, King Faisal University, regardless of their departments.

While the results in Table No. Indicates significant differences in success and failure experiences among King Faisal University's College of Education postgraduates, depending on the variable Department, in favour of Department Educational Leadership students with an average rank of (139.41), indicating greater prior experiences of success and failure.

The third question: Does the Need for knowledge contribute to predicting academic self-efficacy among graduate students at the College of Education at King Faisal University?

Table 14. Simple Regression analysis of the extent to which academic self-efficacy can be predicted through the Need for knowledge among postgraduate students at the College of Education.

Future variable (Need for knowledge)	(academic self-efficacy) Dependent variable				
	B value	Standard error	Beta values	T values	Moral level
Constant	71.931	6.225		11.555	0.001
Need for knowledge Total marks	0.879	0.092	0.525	9.574	0.001
0.276= The coefficient of determination	0.525 = Correlation coefficient		0.001=Its level of significance		91.654 = F value

Table No. (14) clearly shows that the multiple regression analysis model between the Need for knowledge (independent variable) and academic self-efficacy (dependent variable) is highly statistically significant. The "F" test value (91.654) and its significance level (0.001), which is less than $\alpha = 0.05$, indicate the validity of the model for predicting the dependent variable values. The correlation coefficient (0.525) confirms a statistically significant positive correlation between the Need for knowledge and academic self-efficacy.

The coefficient of determination R² (0.276) indicates that the Need for knowledge as an independent variable is responsible for explaining approximately (27.6%) of the variance in the level of academic self-efficacy among graduate students at the College of Education at King Faisal University and the rest of the percentage is due to factors Other.

In Table No. (14), the statistical analysis reveals a significant impact of the Need for knowledge on academic self-efficacy among King Faisal University's College of Education postgraduate students, with a t-value of 0.9574 and a significance level of 0.001. This indicates that variations in the Need for knowledge substantially influence academic self-efficacy. Additionally, this finding aligns with Al-Qurashi and Al-Sharaida's (2020) study, which demonstrated the predictive relationship between the Need for knowledge and academic self-efficacy among Umm Al-Qura University students.

CONCLUSION

The results indicated that the students displayed a high level of cognitive engagement and a strong belief in their academic abilities.

When examining academic self-efficacy, cognitive skills emerged as the most influential factor, underscoring their paramount importance. Academic behaviour followed, with previous experiences of success and failure, organization and time management, and academic context also playing significant roles, albeit to a lesser extent.

Analyzing demographic factors, the study found that age had a noticeable impact on the Need for knowledge. Students between the ages of 46 and 55 exhibited higher cognitive engagement levels than other age groups. However, no significant differences were observed based on gender or department of study.

Regarding academic self-efficacy, age differences were once again apparent. Older students, notably those aged 46 to 55, demonstrated higher overall academic self-efficacy, specifically in the dimensions of previous experiences of success and failure and academic context. Students in the age group of 36 to 45 also showed differences in the academic context dimension.

It's worth noting that gender and department of study did not significantly influence academic self-efficacy, except for the influence of previous experiences of success and failure on students in the Educational Leadership Department, where higher levels were observed.

Furthermore, the study revealed that academic self-efficacy among postgraduate students at the College of Education could be predicted based on the Need for knowledge.

Study Recommendations

In light of the results reached, the researcher recommends the following:

1. Enhancing the level of need for knowledge among postgraduate students at the College of Education at King Faisal University.
2. Providing training programs to enhance students' academic self-efficacy.
3. It is imperative to conduct a study that addresses the need for knowledge and its relationship to academic pressures among graduate students.
4. Conducting a study examining academic self-efficacy and its relationship to social intelligence among graduate students.

Data Availability

The data presented in this study are available upon request from the corresponding author. The data are not publicly available due to the potential inclusion of sensitive information about individuals or entities. Confidentiality agreements or privacy regulations prevent their public disclosure.

Ethical Declaration

This study was conducted by the ethical principles and guidelines for research involving human participants. Informed consent was obtained. Participants were informed about the purpose of the study, the procedures involved, and their right to withdraw at any time without penalty. Confidentiality and anonymity of participants' responses were ensured throughout the research process.

Conflict of Interest Declaration

Conflict of interest as a single author, I would like to confirm that there are no known conflicts of interest associated with this publication and that the study declares no known competing financial interests or personal relationships that could have influenced the work reported in this paper.

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