Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

LEADERSHIP INVOLVEMENT AND LEADERSHIP SELF-EFFICACY ON ACADEMIC PERFORMANCE AMONG UNDERGRADUATE PHARMACY STUDENTS

Nur Eliyah Husaini[1]
Nur Edlynn Shahirah Mohd Eddy Ratyal[2]
Sandra Maniam[3]
Aida Azlina Ali[4*]

[1] Department of Pharmacology & Life Sciences, Faculty of Pharmacy, Universiti Teknologi MARA (UiTM) Selangor Branch, 42300 Bandar Puncak Alam, Selangor, Malaysia.
(E-mail: nureliyahhusaini@gmail.com)
[2] Department of Pharmacology & Life Sciences, Faculty of Pharmacy, Universiti Teknologi MARA (UiTM) Selangor Branch, 42300 Bandar Puncak Alam, Selangor, Malaysia.
(E-mail: nuredlynn11@gmail.com)
[3] Department of Human Anatomy, Faculty of Medicine and Health Science, Universiti Putra Malaysia (UPM), 43400 Serdang, Selangor, Malaysia.
(E-mail: sandra@upm.edu.my)
[4] Department of Pharmacology & Life Sciences, Faculty of Pharmacy, Universiti Teknologi MARA (UiTM) Selangor Branch, 42300 Bandar Puncak Alam, Selangor, Malaysia.
(E-mail: aidaaz2790@uitm.edu.my)
* Corresponding Author's email: aidaaz2790@uitm.edu.my

Article history
Received date : 26-8-2024
Revised date : 27-8-2024
Accepted date : 28-9-2024
Published date : 30-9-2024

To cite this document:
Husaini, N. E., Mohd Eddy Ratyal, N. E. S., Maniam, S., & Ali, A. A. (2024). Leadership involvement and leadership self-efficacy on academic performance among undergraduate pharmacy students. *Journal of Islamic, Social, Economics and Development (JISED)*, 9 (66), 444 - 460

Abstract: *Fostering leadership is essential in pharmacy education, as it is a key step in enhancing professionalism within the field. However, leadership involvement may have an impact on learning performance. The goal of this research was to investigate the association between leadership involvement, leadership self-efficacy and academic performance among undergraduate pharmacy students. Undergraduate pharmacy students were asked to complete an electronic survey. Survey questions were based on cumulative grade point average (CGPA), leadership involvement, Leadership Self-Efficacy Scale (LSS). Descriptive statistics were used to analyze demographic data. The independent t-test and Chi-square test was used to look for associations when comparing variables. Two hundred and ninety-eight (298) students completed the survey. There is a significant difference in leadership self-efficacy (LSE) ($p < 0.001$) as were Leadership Opportunity (LO), Team Motivation (TM), Innovative Changes (IC) and Ethical Actions and Integrity (EI) ($p < 0.001$, $p < 0.001$, $p = 0.004$, $p = 0.001$, respectively) between pharmacy students who did and did not participate in leadership activities. It was found that there is no association between leadership involvement and CGPA ($p = 0.193$). It was also found that there is no association between LSE and CGPA ($p = 0.295$). There are no associations between the components in LSS (LO, TM, IC and EI) and CGPA ($p = 0.787$, $p = 0.442$, $p = 0.410$, $p = 0.250$, respectively). Educators may need to focus on other factors that*

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

influence academic performance, such as providing individualized support and feedback, promoting active learning strategies, and fostering a positive learning environment.

Keywords: *Pharmacy Education, Leadership, Self-Efficacy, Academic Performance*

Introduction

Leadership is important in various aspects of life, including professional development and personal growth. In 1993, Chemers proposed an Integrative Theory of Leadership, wherein a commonly accepted characterization of leadership among theorists and researchers asserts that it is a social influence process focused on a shared objective (Chemers, 2014). Leadership is a concept that has evolved over time, but it can be defined as the process of interactive influence that occurs when, in a given context, some people accept someone as their leader to achieve common goals (Silva, 2016).

Pharmacists need to possess the abilities to create and achieve shared goals, regardless of their work practice setting or role. After graduating, every student pharmacist will emerge as a leader in their unique manner, whether their leadership is derived from their official position or other forms of influence (Eddy et al., 2023). Traditionally, pharmacy schools have focused on pre-admission criteria for academic success to identify students that are more likely to graduate and become a competent pharmacist (Ho et al., 2014). While it is crucial to establish a solid understanding of biomedical, pharmaceutical, social, behavioural, administrative, and clinical sciences as the top priority when preparing pharmacy graduates, employers also seek graduates who possess a strong level of employability. This includes qualities such as self-awareness, leadership abilities, an entrepreneurial mindset, and professionalism (Fox & Sease, 2019). Exceptional leadership attributes are especially sought after in the fast-evolving healthcare landscape. Therefore, the early recognition of students displaying substantial leadership potential could enable a concentrated effort to nurture, support, and cultivate them as prospective leaders and catalysts of change (Fox & Sease, 2019).

Pharmacy education programs are recognizing the importance of developing leadership skills in their students. Leadership competencies that are important in pharmacy education include communication, teamwork, problem-solving, and decision-making (Dumont et al., 2019; Reed et al., 2019; Shah & Muzumdar, 2017). A recent systematic review on leadership in pharmacy education found variations in the definitions of leadership across articles, with some requiring formal leadership positions and others not. Only two leadership competencies were linked to specific knowledge areas, predominantly emphasizing interpersonal and self-management skills. Notably, only a small percentage (2.3%) of the articles assessed leadership effectiveness, and none evaluated leadership development. Among the remaining articles, the majority utilized behavioral-based tools to assess attributes conceptually associated with leadership, such as strengths and emotional intelligence, or employed self-assessments to determine the fulfilment of learning objectives in leadership courses (Fox & Sease, 2019). According to a study, leadership in pharmacy education includes fostering students to become leaders in their respective field, representing a vital progression in promoting professionalism. Pharmacy leaders are primarily motivated by the mission of the organization or activity, rather than their personal motivation (Shah & Muzumdar, 2017).

Pharmacy schools across the United States have acknowledged the growing significance of fostering leadership skills. In response, they have introduced diverse initiatives, such as new

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

leadership courses, elective series, retreat events, and extracurricular activities. As an example, the University of Minnesota's College of Pharmacy has introduced an elective series named "The Leadership in Pharmacy Course." This series is designed to educate students on leadership, change management, and the practical application of these skills (Ali et al., 2022). A leadership development program was offered to students in Arizona which consisted of a series of activities that address topics such as emotional intelligence, strengths-based leadership, team dysfunctions, and continuous leadership development. It was found that every participant either strongly agreed or agreed that their involvement in the program improved their leadership skills. Furthermore, most respondents rated each activity in the program as either beneficial or very beneficial (Buckley et al., 2020).

Materials and Methods

Research Approach and Design

In this study, a quantitative approach was employed. A cross-sectional research design was utilized to examine the relationship between different variables. The study involved collecting data from a sample population at a single point in time.

Target Population and Sample

Undergraduate pharmacy students were chosen as the target population in this research study. The sampling technique that was used in this study is stratified random sampling. The sample size was determined using Cochran's sample size formula for a finite population. The final calculated sample size was 253. The setting of the study was UiTM Puncak Alam, Selangor, Malaysia.

The data was extracted based on the following inclusion and exclusion criteria:

Inclusion criteria

- Faculty of Pharmacy UiTM Puncak Alam students
- First to fourth year students
- Undergraduate, taking Bachelor of Pharmacy

Exclusion criteria

- Unable to answer all questions

Research Instrument

In this research, a set of questionnaires divided into 3 sections was adapted and slightly modified from questionnaires used previously by another study (Bergen-Cico & Viscomi, 2012; Streb, 2009; Yoon et al., 2016). Different question-types, such as ranking, yes-no, Likert-scale and category were used in the questionnaire. The different sections of the questionnaire were:

- Section A: Demographic information
- Section B: Participation of co-curricular/leadership activities
- Section C: Leadership Self-Efficacy Scale (LSS) (28 items)

Ethical Approval

Prior to commencing the research, ethical approval was sought from UiTM Research Ethics Committee (REC) (REC (PH)/UG/115/2024 (MR)). The questionnaire was validated by lecturers who possess a deep understanding of the research topic, ensuring its validity and

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

appropriateness. Additionally, permission to adapt the questionnaire was sought from the author via email.

Ethical Considerations

Any information pertaining to personal student information, including email addresses were not collected to safeguard participant confidentiality. However, to ensure that each individual can only give one response to the Google Form, the form was set to “Restrict to users in Universiti Teknologi MARA and its trusted organizations” and "Limit to 1 response". The data collected were kept in a Google Drive which relies on Google account password for protection.

Data Collection Procedure

To facilitate data collection, the study employed Google Forms, a user-friendly online survey tool. Before the data collection period, a pilot study was conducted on a group of 37 respondents. The data from the pilot study were not included in the data analysis. Then, the reliability of the measurement instrument was assessed using Cronbach's alpha. Cronbach's alpha values were calculated for each scale, indicating satisfactory internal consistency reliability of 0.974, out of 28 questions in the survey.

The data collection period commenced from March 2024 until April 2024, spanning a total of 2 months. During this period, participants were invited to complete the survey that was distributed through instant online messaging platforms (e.g. WhatsApp, Telegram).

Data Analysis Procedure

The data collected through Google Forms were exported to Excel. Then, the Excel file was imported and analyzed by using Statistical Package for the Social Sciences (SPSS) IBM version 28 software. Results were presented as percentage or frequency to present categorical data such as the demographic characteristics. Meanwhile, continuous data will be demonstrated as mean ± standard deviation (SD). The α priori significance level was set at 0.05.

Appropriate statistical tests were conducted to investigate the relationships between pre-identified independent variables and dependent variables. The analysis of the questionnaire data went through an independent sample t-test to look for the significant differences between leadership involvement (participate/no participation) and leadership self-efficacy (LSE). The Likert data from the LSS was converted to categorical data. Then, a Chi-square test was used to investigate the relationship between LSS (disagree, neutral, agree) and pharmacy students’ academic performance (CGPA) (below 2.50, 2.50-2.99, 3.00-3.50, 3.50-4.00).

Results

Demographics

A total of 301 pharmacy students, out of a potential 740, took part in and finished the online survey for this study. This corresponds to a response rate of 40.6%. Out of the 301 survey respondents, 3 were under 18 years old, and their data was excluded from the results. Consequently, a sample size of 298 was used for all statistical analyses. The majority of the respondents who completed the surveys were female (85.9%), aged 19 to 25 years old (98.0%), and Malay (96.3%). The participants included 75 first-year students, 77 second-year students, 74 third-year students, and 72 fourth-year students. The demographics of the student pharmacist participants are presented in Table 1.

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

Table 1: The Demographics of the Student Pharmacist Participants (n=298)

Characteristics		n (%)
Gender		
	Female	256 (85.9)
	Male	42 (14.1)
Age		
	19-25	292 (98.0)
	26-30	6 (2.0)
Study Year		
	First year	75 (25.2)
	Second year	77 (25.8)
	Third year	74 (24.8)
	Fourth year	72 (24.2)
Ethnicity		
	Malay	287 (96.3)
	Others	11 (3.7)
CGPA		
	3.50 – 4.00	22 (7.4)
	3.00 – 3.49	162 (54.4)
	2.50 – 2.99	99 (33.2)
	Below 2.50	15 (5.0)

The study revealed that the majority of students, specifically 68.8% or 205 students, engage in co-curricular or leadership activities and the rest 31.1% or 93 students do not participate in co-curricular or leadership activities. The analysis of student participation in co-curricular activities shows that 48.3% (144 students) are involved in leadership activities, 21.8% (65 students) participate in athletics, 6% (18 students) are engaged in fine arts, and the rest are not involved in any co-curricular activities. Figure 1 shows that the majority of students who participate in leadership or co-curricular activities have a CGPA between 3.00 and 3.49. While in Figure 2, it shows that most of the students who participate in co-curricular or leadership activities have a “mid-level” involvement, attending 3 to 7 events in the previous semester.

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

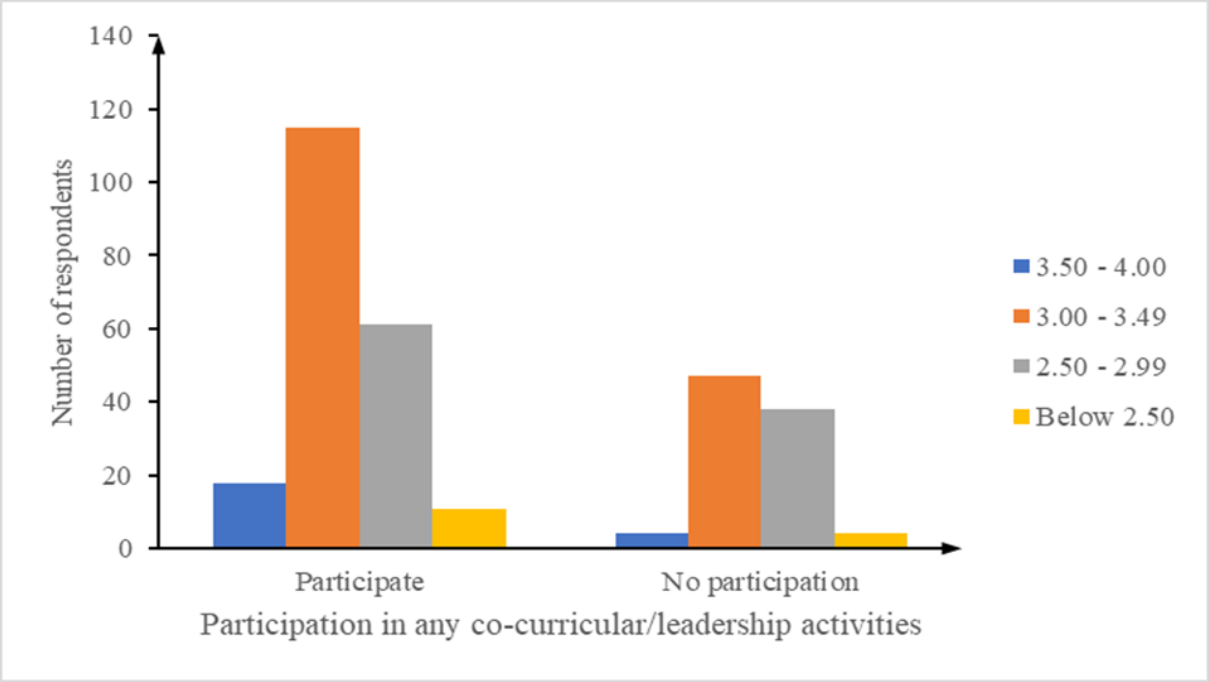


Figure 1: Number of Respondents Who Participate and Have No Participation in Any Co-Curricular/Leadership Activities by CGPA (n=298)

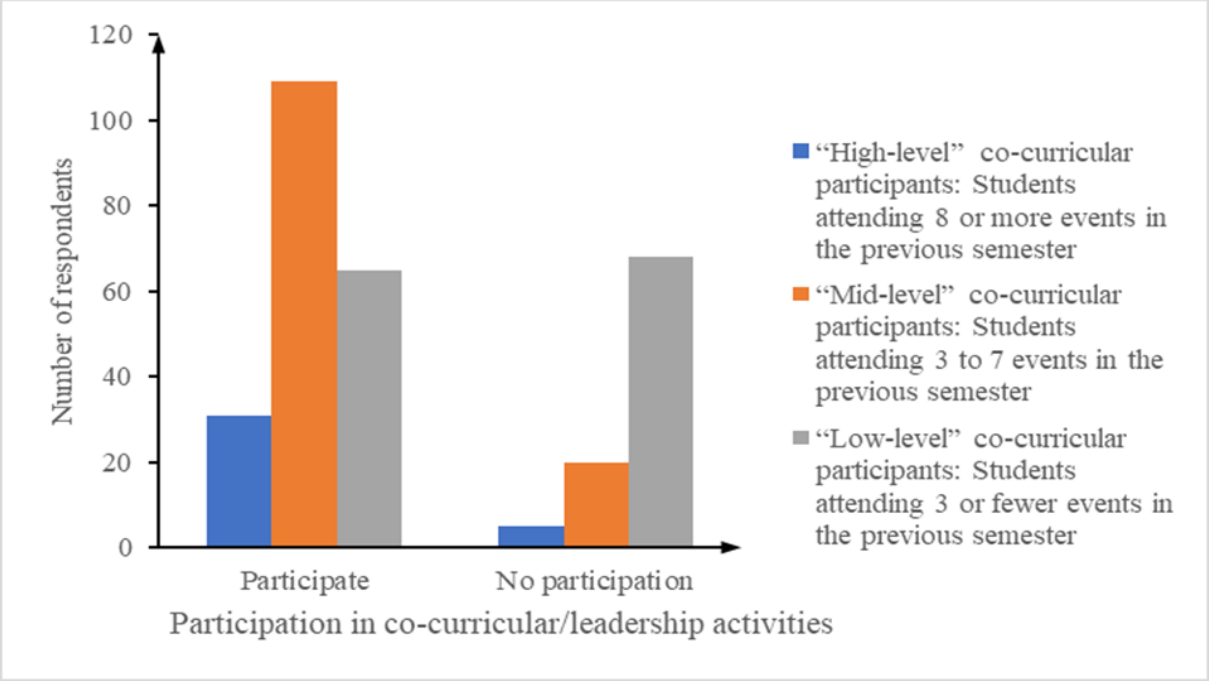


Figure 2: Number of Respondents Who Participate and Have No Participation in Any Co-Curricular/Leadership Activities by Level Co-Curricular or Leadership Engagement (n=298)

The frequency, percentage, mean and SD of students' responses to each Likert-type question are presented in Table 2. Majority of the students answered "Agree" and "Neutral" to all the questions. All items in the survey attained a mean score between 3.0 to 4.0 indicating that, on average, they have a neutral view on their LSE across all items.

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

Table 2: Students' Responses to Likert-Type Questions

Question	Rating, n (%)					Mean	SD
	1	2	3	4	5		
Leadership Opportunity (LO)							
1. I can attempt to develop my leadership skills.	1 (0.3)	5 (1.7)	73 (24.5)	175 (58.7)	44 (14.8)	3.86	0.687
2. I can strive to develop my leadership.	2 (0.7)	11 (3.7)	82 (27.5)	162 (54.4)	41 (13.8)	3.77	0.754
3. I can actively seek leadership opportunities in and out of the classroom.	2 (0.7)	20 (6.7)	96 (32.2)	143 (48.0)	37 (12.4)	3.65	0.808
4. I can exhibit leadership skills when necessary.	1 (0.3)	14 (4.7)	74 (24.8)	159 (53.4)	50 (16.8)	3.82	0.776
5. I can actively seek opportunities to demonstrate my leadership.	3 (1.0)	23 (7.7)	96 (32.2)	140 (47.0)	36 (12.1)	3.61	0.834
6. I can learn how to lead a team.	1 (0.3)	10 (3.4)	66 (22.1)	166 (55.7)	55 (18.5)	3.89	0.748
Team Motivation (TM)							
7. I can encourage my team members to think of new ways of doing things.	2 (0.7)	14 (4.7)	95 (31.9)	150 (50.3)	37 (12.4)	3.69	0.773
8. I can fulfil my responsibilities to my team members.	0 (0.0)	7 (2.3)	65 (21.8)	165 (55.4)	61 (20.5)	3.94	0.718
9. I can find several ways to motivate people on a team.	2 (0.7)	12 (4.0)	92 (30.9)	152 (51.0)	40 (13.4)	3.72	0.769
10. I can influence my team members to work together.	1 (0.3)	14 (4.7)	86 (28.9)	146 (49.0)	51 (17.1)	3.78	0.794
11. I can actively encourage others to solve problems.	1 (0.3)	18 (6.0)	90 (30.2)	144 (48.3)	45 (15.1)	3.72	0.805
12. I can encourage my team members to get involved in a project.	0 (0.0)	16 (5.4)	82 (27.5)	152 (51.0)	48 (16.1)	3.78	0.777
13. I can lead others to develop and apply their talents for the established goals.	1 (0.3)	20 (6.7)	95 (31.9)	148 (49.7)	34 (11.4)	3.65	0.782
14. I can develop plans for change that will take my team in important new directions.	3 (1.0)	18 (6.0)	94 (31.5)	145 (48.7)	38 (12.8)	3.66	0.814
15. I can influence others to be enthusiastic about working toward the established goals.	3 (1.0)	18 (6.0)	96 (32.2)	147 (49.3)	34 (11.4)	3.64	0.801
16. I can influence others to take positive action to further the team's reputation and interests.	2 (0.7)	17 (5.7)	90 (30.2)	147 (49.3)	42 (14.1)	3.70	0.804
Innovative Changes (IC)							
17. I can provide flexibility to enhance and encourage new thinking.	1 (0.3)	22 (7.4)	105 (35.2)	138 (46.3)	32 (10.7)	3.60	0.791
18. I can restructure and challenge the traditional methods of accomplishing a team goal.	1 (0.3)	31 (10.4)	116 (38.9)	122 (40.9)	28 (9.4)	3.49	0.817
19. I can explore ways to implement innovation for the team's benefit.	2 (0.7)	28 (9.4)	99 (33.2)	137 (46.0)	32 (10.7)	3.57	0.831
20. I can exhibit leadership to improve the effectiveness of the team.	0 (0.0)	22 (7.4)	80 (26.8)	157 (52.7)	39 (13.1)	3.71	0.784

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

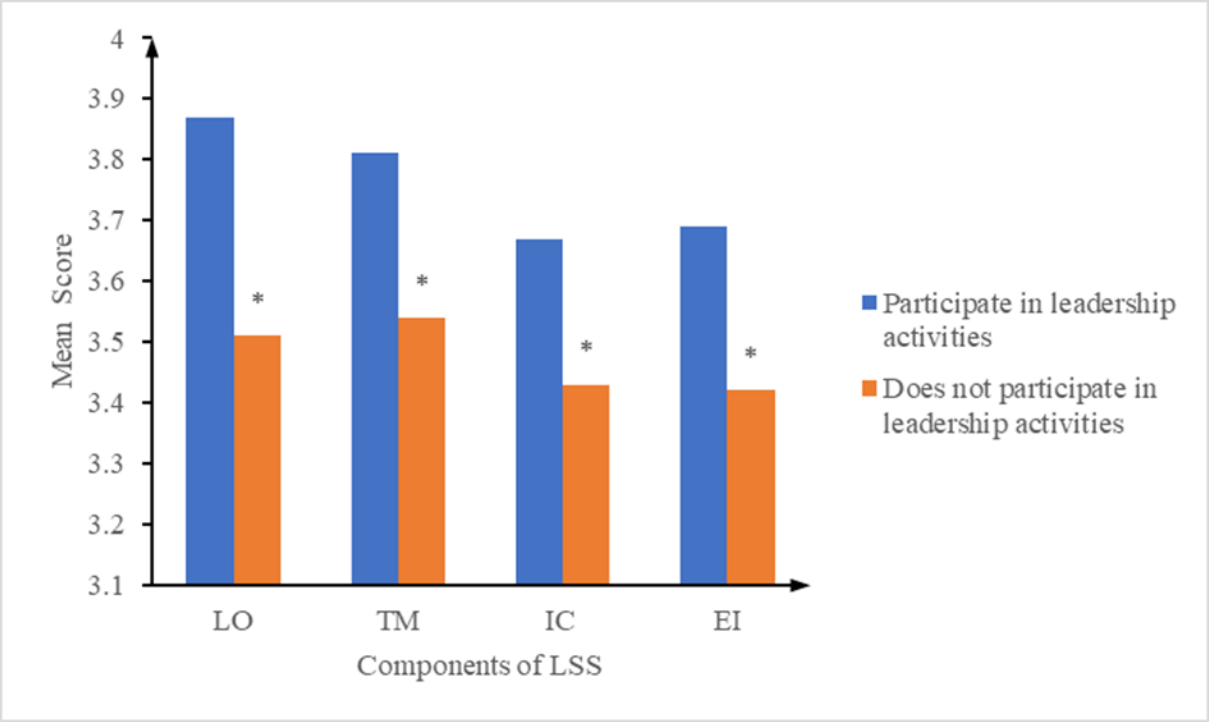
21. I can seek continuous improvement in the way that work gets done.	1 (0.3)	18 (6.0)	85 (28.5)	159 (53.4)	35 (11.7)	3.70	0.766
22. I can lead a team toward my vision for the team goals.	1 (0.3)	24 (8.1)	100 (33.6)	136 (45.6)	37 (12.4)	3.62	0.817
23. I can clearly visualize a project goal even when limited information is available.	1 (0.3)	27 (9.1)	114 (38.3)	124 (41.6)	32 (10.7)	3.53	0.817
24. I can seek innovative ways to improve the team performance.	0 (0.0)	28 (9.4)	96 (32.2)	144 (48.3)	30 (10.1)	3.59	0.796
Ethical Actions and Integrity (EI)							
25. I can apply different ethical frameworks to analyze a problem of my team.	3 (1.0)	17 (5.7)	102 (34.2)	146 (49.0)	30 (10.1)	3.61	0.784
26. I can take ownership of a project which I am involved in.	2 (0.7)	17 (5.7)	110 (36.9)	137 (46.0)	32 (10.7)	3.60	0.781
27. I can take responsibility for the success and failure of a project.	1 (0.3)	16 (5.4)	74 (24.8)	156 (52.3)	51 (17.1)	3.81	0.793
28. I can take responsibilities that are not assigned to me.	9 (3.0)	34 (11.4)	111 (37.2)	108 (36.2)	36 (12.1)	3.43	0.948

Likert ratings were 1 = Strongly Disagree, 2 = Disagree, 3 = Neutral, 4 = Agree, 5 = Strongly Agree.

Effect of Leadership Involvement on LSE

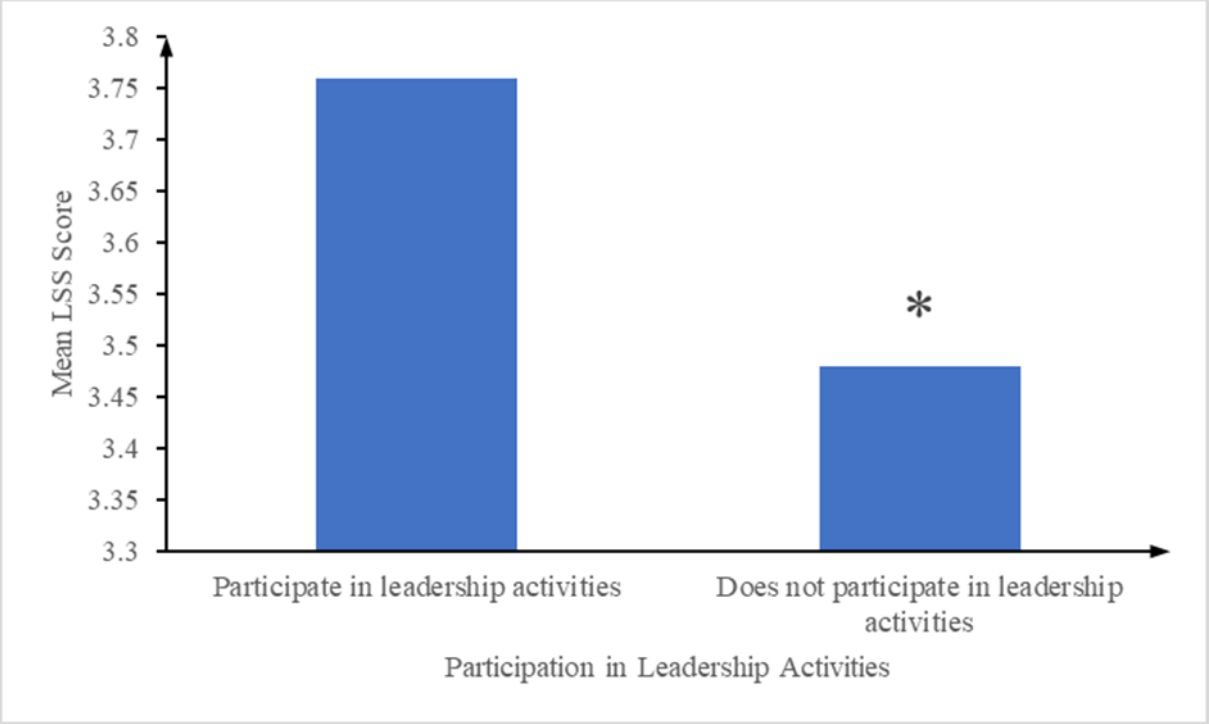
Based on Figure 3, those who participated in leadership activities have a mean of 3.87 for the LO component, 3.81 for the TM component, 3.67 for the IC component, and 3.69 for the EI component. In Figure 4, the overall LSS score of those who participated in leadership activities has a mean of 3.76 (SD = 0.57), which is higher compared to those who did not participate in leadership activities, who have a mean of 3.48 (SD = 0.56). Addressing the first research question, an independent t-test was conducted to compare LSE for pharmacy students who did and did not involve themselves in leadership activities. There is a significant difference in LSS score ($p < 0.001$) as were scores of LO, TM, IC and EI ($p < 0.001$, $p < 0.001$, $p = 0.004$, $p = 0.001$, respectively) between pharmacy students who did and did not participate in leadership activities. These results suggest that participation in leadership activities is associated with higher LSE. Specifically, students who participated in leadership activities have higher LSE compared to those who did not.

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636



*p < 0.05 *Analysis was done using independent t-test.

Figure 3: Comparison of Mean Score of LO, TM, IC, and EI between Those Who Participate and Does Not Participate in Leadership Activities



*p < 0.05 *Analysis was done using independent t-test.

Figure 4: Comparison of Mean LSS Score between Those Who Participate and Does Not Participate in Leadership Activities

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

Effect of LSE on CGPA

Figure 5 illustrates the mean Likert data for LO, TM, IC, and EI among different groups of students with different CGPA ranges. Students with a CGPA below 2.50 have the highest mean score for LO, TM, and IC. However, it was observed that students with a CGPA between 3.50 and 4.00 have the highest mean score of EI. Figure 6 shows that pharmacy students with a CGPA below 2.50 have the highest overall mean LSS score, while those with a CGPA between 3.50 and 4.00 have the second highest overall mean LSS score.

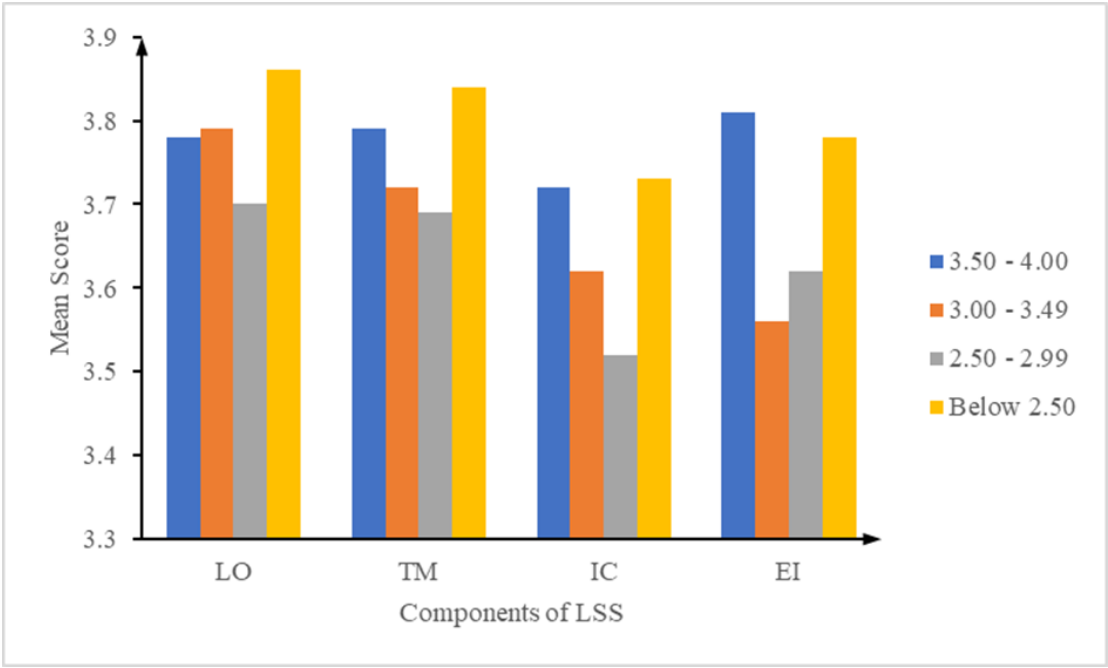


Figure 5: Comparison of Mean Score of LO, TM, IC, and EI between Different Groups of Students with Different CGPA Ranges

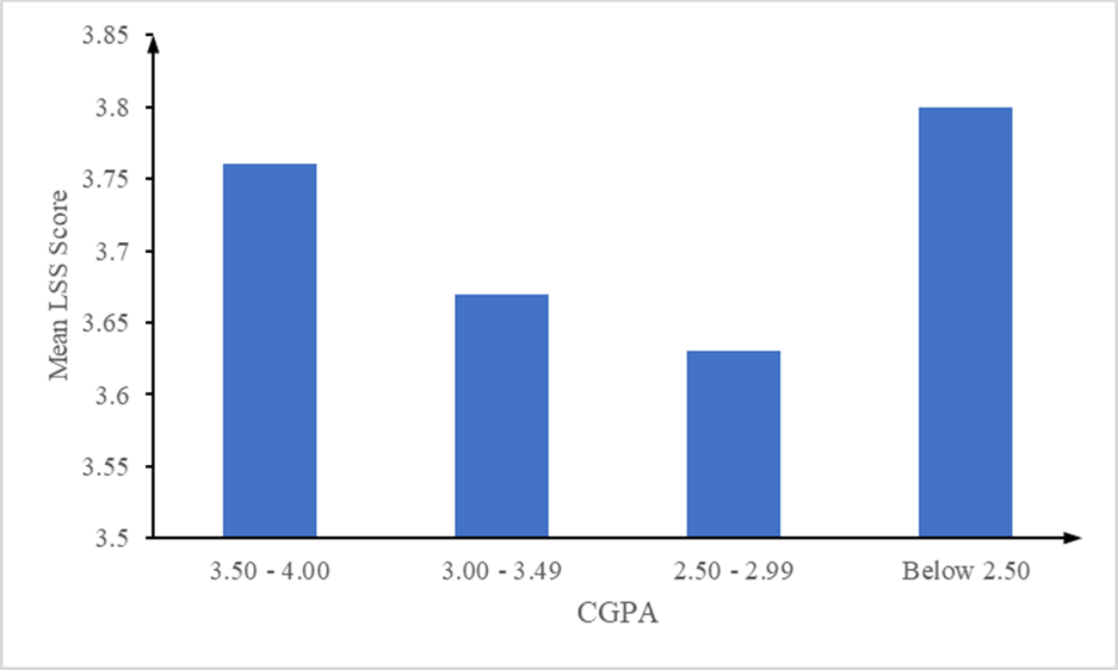


Figure 6: Comparison of Mean LSS Score between Different Groups of Students with Different CGPA Ranges

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

The Likert data from the LSS was converted to categorical data. Then, a Chi-square test was used to investigate the relationship between leadership involvement (participate and no participation), LSS (disagree, neutral, agree), and LSS components (LO, TM, IC and EI) with pharmacy students' academic performance (below 2.50, 2.50-2.99, 3.00-3.50, 3.50-4.00). It was found that there is no association between leadership involvement and CGPA (p = 0.193). This shows that being involved in leadership roles does not influence the academic performance of the students, as measured by their CGPA. It was also found that there is no association between LSS and CGPA (p = 0.295). There are no associations between the components in LSS (LO, TM, IC and EI) and CGPA (p = 0.787, p = 0.442, p = 0.410, p = 0.250, respectively). This means that how competent students feel about their leadership skills does not affect their academic performance. The associations of leadership involvement, LSS, and LSS components (LO, TM, IC and EI) with CGPA are presented in Table 3.

Table 3: The Associations of Leadership Involvement, LSS, and LSS Components (LO, TM, IC And EI) with CGPA

Variable	CGPA, n (%)				Total, n (%)	P-value*
	3.50-4.00	3.00-3.49	2.50-2.99	Below 2.50		
Leadership Involvement						0.193
Participate	18 (8.8)	115 (56.1)	61 (29.8)	11 (5.3)	205 (100)	
No participation	4 (4.3)	47 (50.5)	38 (40.9)	4 (4.3)	93 (100)	
LSS						0.295
Agree	7 (10.1)	39 (56.5)	17 (24.6)	6 (8.7)	69 (100)	
Neutral	13 (7.2)	93 (51.7)	66 (36.7)	8 (4.4)	180 (100)	
Disagree	2 (4.1)	30 (61.2)	16 (32.7)	1 (2.0)	49 (100)	
LSS Components						
LO						0.787
Agree	5 (8.1)	36 (58.1)	17 (27.4)	4 (6.4)	62 (100)	
Neutral	12 (6.5)	98 (53.3)	64 (34.8)	10 (5.4)	184 (100)	
Disagree	5 (9.6)	28 (53.8)	18 (34.6)	1 (2.0)	52 (100)	
TM						0.442
Agree	6 (8.6)	44 (62.8)	16 (22.9)	4 (5.7)	70 (100)	
Neutral	12 (6.8)	88 (50.3)	67 (38.3)	8 (4.6)	175 (100)	
Disagree	4 (7.5)	30 (56.6)	16 (30.2)	3 (5.7)	53 (100)	
IC						0.410
Agree	7 (14.0)	29 (58.0)	11 (22.0)	3 (6.0)	50 (100)	
Neutral	10 (6.0)	89 (53.0)	60 (35.7)	9 (5.3)	168 (100)	
Disagree	5 (6.2)	44 (55.0)	28 (35.0)	3 (3.8)	80 (100)	
EI						0.250
Agree	5 (11.9)	23 (54.8)	11 (26.2)	3 (7.1)	42 (100)	
Neutral	13 (7.5)	85 (49.4)	66 (38.4)	8 (4.7)	172 (100)	
Disagree	4 (4.8)	54 (64.3)	22 (26.1)	4 (4.8)	84 (100)	

*Analysis was done using Chi-square test.

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

Discussion

Leadership is crucial in the field of pharmacy for several reasons. Pharmacy leaders drive innovation and manage change within healthcare organizations, ensuring they meet the evolving needs of patients. Strong leadership ensures the delivery of high-quality pharmaceutical care. Additionally, leadership skills are vital for pharmacy students as they prepare for careers in various healthcare settings, such as community pharmacies and hospitals (Ali et al., 2024; DeChant, 2022). Pharmacy students who possess high levels of LSE are more likely to be confident in their abilities (Eddy et al., 2023), take on leadership roles, and develop the skills necessary to excel in their future careers (Egan et al., 2020; Jung et al., 2020). This confidence boost can also lead to increased motivation, persistence, and resilience in the face of challenges, ultimately enhancing their overall academic and professional performance. Furthermore, pharmacy students with high LSE are better equipped to navigate the dynamic and ever-changing healthcare landscape, making them more effective and competent healthcare professionals.

Other co-curricular activities other than leadership activities such as athletics and fine arts are also included as leadership involvement as they can enhance students' leadership skills (Afalla, 2020). Previous research found that the most effective for developing leadership skills in student pharmacists were extracurricular activities and hands-on learning experiences (Eddy et al., 2023). College students' leadership encompasses a range of comprehensive skills that are closely tied to various extracurricular athletic and sport activities (Cotterill & Fransen, 2021; Jiang & Espeso, 2023). These activities provide a platform to explore and develop these skills, thereby enhancing students' leadership capabilities. Active participation in such activities equips students with the ability to smoothly transition into society. It offers opportunities for self-challenge, potential exploration, and the cultivation of perseverance and courage. Additionally, it helps foster strong convictions, self-confidence, and a resilient and determined character in college students (Jiang & Espeso, 2023). In a previous study, it was found that fine arts participation had a significant influence on leadership ability; the more years' experience a student had in fine arts training, the more developed his or her leadership skills (Coleman, 2012). Another study also found that fine art programs built participants' competencies specific to leadership, as well as self-reported LSE (Burge, 2015).

The overall mean LSS score of those who participated in leadership activities is higher compared to those who did not participate in leadership activities. Besides, those who participated in leadership activities have higher mean score of LO, TM, IC and EI. The study reveals a statistically significant difference in LSE among pharmacy students who engaged in leadership activities and those who did not. This disparity indicates that involvement in leadership activities is linked to higher levels of LSE. Specifically, students who participated in leadership activities exhibited higher LSE compared to those who did not participate. This suggests that leadership activities have a positive impact on students' confidence in their leadership abilities.

The findings of this study underscore the significance of leadership activities in fostering LSE. This is in agreement with the position of previous studies, where there is a connection between participation in leadership or extracurricular activities and increased leadership efficacy at university (Griffiths et al., 2021; Leupold et al., 2020). Additionally, respondents involved in multiple extracurricular activities exhibited higher self-efficacy within the university setting compared to those who participated in only one activity or none at all (Griffiths et al., 2021). The findings from a previous study indicate that peer leadership experiences significantly

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

enhanced respondents' management and planning skills, sense of belonging and contribution to their educational institution, creative problem-solving abilities, and appreciation of diversity. These aspects of personal and professional development saw the most positive changes (Meer et al., 2019). Another previous research found the positive impact of leadership development programs on students. Many participants believed that these programs equipped them with the necessary tools to become successful leaders in their organizations and future leadership positions. The program goals were seen as effectively achieved, as students reported gaining a deeper understanding of themselves as leaders, learning conflict resolution skills, developing relationships, and becoming mentors to other emerging leaders (Chesnut & Tran-Johnson, 2013). Findings indicate that students' involvement in shorter-term or moderate-term activities, such as leadership conferences, retreats, lecture or workshop series, courses, or positional leadership training, is positively linked to their leadership efficacy (Soria et al., 2020). These studies collectively highlight the multiple benefits of engaging in leadership activities and development programs. Leadership activities positively impact students' LSE by teaching them to lead, enhance teamwork skills (de Prada Creo et al., 2021; Krı et al., 2021; Shaharuddin et al., 2022; Siddiky, 2020), become innovative and creative (Mogul et al., 2020), and uphold ethical standards (Newstead et al., 2020). Overall, the enhancement of soft skills, self-efficacy, and personal growth is evident.

It was found that there is no association between leadership involvement and CGPA. This shows that being involved in leadership roles does not influence the academic performance of the students, as measured by their CGPA. Previous work on leadership roles' effect on academic performance and progression have found that academic performance benefited least from students' engagement in peer leadership roles, although these were still rated positively (Chesnut & Tran-Johnson, 2013). Other factors may influence active collaborative learning and student participation of an individual including engagement with peers and teachers, social presence, and the use of social media, thereby affecting learning performance (Qureshi et al., 2023). A study investigating the impact of leadership roles in school-based educational clubs on students' development and academic performance reported that students' responses did not directly mention improvements in academic studies. However, the diverse skills and qualities they highlighted indicate that participating in clubs can have an indirect positive impact (El Morabit, 2024).

It was also found that there is no association between LSE and CGPA. There are also no associations between the components in LSS (LO, TM, IC and EI) and CGPA. Previous studies have found the same findings. This is in agreement with the position of another study who investigated about student's success through LSE. Similarly, LSE has no influence on a student's college CGPA (Nguyen, 2016). This means that how competent students feel about their leadership skills does not affect their academic performance. This lack of correlation suggests that LSE may not be a direct determinant of academic performance among pharmacy students. Instead, other factors such as individual differences in learning styles, motivation, and prior knowledge may play a more significant role in determining academic performance (Yorra, 2014). Student pharmacists recognized that both the education system and personal factors such as stress, higher conscientiousness, academic resilience, and grit impact their wellbeing (Babal et al., 2020; Chisholm-Burns et al., 2021). Academic performance is related to factors such as physical health, psychological health, and the environment (Chattu et al., 2020).

This finding contradicts many previous studies, indicating a need for further research to explore other potential influencing factors. The latest study's results indicate a positive relationship

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

between self-leadership and academic success among university students (Phillips, 2022). Those who exhibit higher levels of self-leadership traits, such as setting personal goals, rewarding themselves, and engaging in positive self-talk, generally attain better academic results (Zakir et al., 2023). A study suggests that taking on a leadership role can boost academic performance both immediately and over time (Deng et al., 2020). While holding a leadership position may reduce the amount of time available for studying, it increases learning autonomy, which ultimately has a greater positive impact on academic performance. Another study found that student leaders gained positive experiences such as leadership, communication, and interpersonal skills, but their overall academic performance declined. This suggests that student leaders might struggle to effectively balance their leadership responsibilities with their academic work (Kumaku, 2021).

Conclusion

Leadership self-efficacy is a critical attribute for pharmacy students, as it significantly influences their capacity to lead teams, make informed decisions, and provide quality patient care. High levels of leadership self-efficacy contribute to students' confidence, motivation, and resilience, essential traits for excelling in their academic and professional careers. The study's findings highlight the positive association between participation in leadership activities and enhanced leadership self-efficacy among pharmacy students. Future studies could build on these findings by examining the specific leadership activities that are most effective in boosting leadership self-efficacy among pharmacy students.

However, the study also reveals no significant relationship between leadership self-efficacy and academic performance (CGPA) among pharmacy students. Therefore, while fostering leadership self-efficacy is essential for professional development, it may not directly impact academic performance. Educators may need to focus on other factors that influence academic performance, such as providing individualized support and feedback, promoting active learning strategies, and fostering a positive learning environment.

The strong link between leadership self-efficacy and the ability to lead teams, make decisions, and deliver quality patient care underscores the importance of incorporating leadership training into pharmacy education. The lack of a significant relationship between leadership self-efficacy and CGPA suggests that professional skills development and academic performance might require different approaches. The findings highlight the need for a dual approach in pharmacy education, focusing separately on professional skill development and academic success. Future studies could investigate the impact of leadership roles on other aspects of student development, such as social skills, mental health, and career readiness.

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

References

Afalla, B. (2020). Blending Extracurricular Activities with Academic Performance: Pain or Gain? *Humanities and Social Sciences Reviews*.

Ali, M., Alsreaya, A., Alqarzi, A., Alzahrani, Y., Alhomood, I., Alruhaimi, A., Hijri, A., Mobarki, A., Najie, M., & Mashyakhi, M. (2024). Exploring the effectiveness of pharmacy curriculum in Saudi Arabia in developing leadership skills among pharmacy students from their perspective: A mixed-methods study. *Saudi Pharmaceutical Journal*, *32*(4), 1-7.

Ali, R., Alnaimi, S. J., Abdulrhim, S., & Mraiche, F. (2022). Developing leadership skills in pharmacy education. *Medical Science Educator*, *32*(2), 533-538.

Babal, J. C., Abraham, O., Webber, S., Watterson, T., Moua, P., & Chen, J. (2020). Student Pharmacist Perspectives on Factors That Influence Wellbeing During Pharmacy School. *American Journal of Pharmaceutical Education*, *84*(9), 1240-1250.

Bergen-Cico, D., & Viscomi, J. (2012). Exploring the association between campus co-curricular involvement and academic achievement. *Journal of college student retention: Research, theory & practice*, *14*(3), 329-343.

Buckley, K., Bowman, B., Raney, E., Afolabi, T., Fettkether, R. M., Larson, S., Tennant, S., & Goodlet, K. J. (2020). Enhancing the emotional intelligence of student leaders within an accelerated pharmacy program. *American Journal of Pharmaceutical Education*, *84*(11), 1476-1481.

Burge, B. (2015). *High school students' participation in fine arts programs and perceived leadership self-efficacy* Walden University].

Chattu, V. K., Sahu, P. K., Seedial, N., Seecharan, G., Seepersad, A., Seunarine, M., Sieunarine, S., Seymour, K., Simboo, S., & Singh, A. (2020). An Exploratory Study of Quality of Life and Its Relationship with Academic Performance among Students in Medical and Other Health Professions. *Medical Sciences*, *8*(23), 1-10.

Chemers, M. (2014). *An Integrative Theory of Leadership*. Psychology Press. https://doi.org/10.4324/9781315805726

Chesnut, R., & Tran-Johnson, J. (2013). Impact of a student leadership development program. *American Journal of Pharmaceutical Education*, *77*(10), 1-9.

Chisholm-Burns, M. A., Berg-Poppe, P., Spivey, C. A., Karges-Brown, J., & Pithan, A. (2021). Systematic review of noncognitive factors influence on health professions students' academic performance. *Advances in Health Sciences Education*, *26*, 1373–1445.

Coleman, R. T. (2012). *Fine arts training and leadership skill development* University of Phoenix].

Cotterill, S. T., & Fransen, K. (2021). Leadership development in sports teams. In *Essentials of Exercise and Sport Psychology: An Open Access Textbook* (pp. 588-612). ociety for Transparency, Openness, and Replication in Kinesiology.

de Prada Creo, E., Mareque, M., & Portela-Pino, I. (2021). The acquisition of teamwork skills in university students through extra-curricular activities. *Education+ Training*, *63*(2), 165-181.

DeChant, L. (2022). *Developing collaborative leaders in healthcare: Exploring an interprofessional team-based model of leadership development in an academic health system*. Teachers College, Columbia University.

Deng, W., Li, X., Wu, H., & Xu, G. (2020). Student leadership and academic performance. *China Economic Review*, *60*, 1-65.

Dumont, Z., Sobotka, J., & MacKinnon, N. J. (2019). Leadership training for pharmacists. *Canadian Pharmacists Journal: CPJ*, *152*(2), 75.

Eddy, E., Gubbins, P. O., & Cillessen, L. (2023). Future leaders in pharmacy (FLIP): Student perceptions of leadership development within pharmacy school. *Currents in Pharmacy*

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

Teaching and Learning, *15*(11), 943-949.

Egan, J., McBrayer, J. S., Tolman, S., & Wells, P. (2020). Exploring alumni valuation of an undergraduate leadership program. *Journal of Leadership Education*, *19*(4), 68-86.

El Morabit, N. (2024). Navigating Leadership: Examining the Impact of Leadership Roles in School-based Educational Clubs on Students' Development and Academic Performance. *Middle East Journal of Scientific Publishing*, *6*(3), 473-495.

Fox, L. M., & Sease, J. M. (2019). Impact of co-curricular involvement on academic success of pharmacy students. *Currents in Pharmacy Teaching and Learning*, *11*(5), 461-468.

Griffiths, T.-L., Dickinson, J., & Day, C. J. (2021). Exploring the relationship between extracurricular activities and student self-efficacy within university. *Journal of Further and Higher Education*, *45*(9), 1294-1309.

Ho, M.-J., Chan, E., Fan-Havard, P., Thompson, C., & Hess, J. M. (2014). The effects of leadership involvement and part-time employment on pharmacy student academic performance. *Pharmacy Education*, *14*.

Jiang, J., & Espeso, L. A. (2023). Research on the Relationship between College Students' Leadership Ability and Participation in Extracurricular Sports Activities. *The Educational Review, USA*, *7*(4), 531-535.

Jung, H., Park, K. H., Min, Y. H., & Ji, E. (2020). The effectiveness of interprofessional education programs for medical, nursing, and pharmacy students. *Korean journal of medical education*, *32*(2), 131.

Krı, F., Scott, S., & Scott, D. E. (2021). A thematic literature review about academic leadership development: Exploring and comparing Latin American with non-Latin American leadership literature. *Research in Educational Administration and Leadership*, *6*(2), 378-430.

Kumaku, I. M. (2021). *The interplay between leadership roles and academic performance: views of 'student leaders' of the University of Cape Coast* University of Cape Coast].

Leupold, C., Lopina, E., & Skloot, E. (2020). An examination of leadership development and other experiential activities on student resilience and leadership efficacy. *Journal of Leadership Education*, *19*(1), 53-68.

Meer, J. v. d., Skalicky, J., & Speed, H. (2019). "I didn't just want a degree": Students' perceptions about benefits from participation in student leadership programmes. *Journal of Leadership Education*, *18*(1), 25-44.

Mogul, A., Laughlin, E., & Lynch, S. (2020). A co-curricular activity to introduce pharmacy students to the concepts of innovation and entrepreneurship. *American Journal of Pharmaceutical Education*, *84*(8), 1077-1084.

Newstead, T., Dawkins, S., Macklin, R., & Martin, A. (2020). The virtues project: An approach to developing good leaders. *Journal of Business Ethics*, *167*, 605-622.

Nguyen, D. (2016). Student success through leadership self-efficacy: A comparison of international and domestic students. *Journal of International Students*, *6*(4), 829-856.

Phillips, B. S. (2022). *Leadership Self-efficacy of Students Participating in On-Campus Leadership Programming* Georgia Southern University].

Qureshi, M. A., Khaskheli, A., Qureshi, J. A., Raza, S. A., & Yousufi, S. Q. (2023). Factors affecting students' learning performance through collaborative learning and engagement. *Interactive Learning Environments*, *31*(4), 2371-2391.

Reed, B. N., Klutts, A. M., & Mattingly II, T. J. (2019). A systematic review of leadership definitions, competencies, and assessment methods in pharmacy education. *American Journal of Pharmaceutical Education*, *83*(9), 1873-1885.

Shah, S., & Muzumdar, J. (2017). An overview of "leadership" in pharmacy education. *Rho Chi Post*, *7*(2), 1.

Volume: 9 Issues: 66 [September, 2024] pp. 444 - 460
Journal of Islamic, Social, Economics and Development (JISED)
eISSN: 0128-1755
Journal website: www.jised.com
DOI: 10.55573/JISED.096636

Shaharuddin, N. B., Jamaludin, A. R., Jamil, S. M., Liyana, N., & Zakaria, N. A. M. S. (2022). Benefits of co-curricular activities amongst students. *Jurnal Teknikal & Kajian Sosial (UTEKS)*, *20*(2), 1-13.

Siddiky, M. R. (2020). Examining the linkage between students' participation in co-curricular activities and their soft skill development. *Journal of Educational Sciences*, *4*(3), 511-528.

Silva, A. (2016). What is leadership? *Journal of business studies quarterly*, *8*(1), 1.

Soria, K. M., Kaste, K., Diekemper, K. M., Blamo, M., Belrose, M. R., & Brazelton, G. B. (2020). Enriching College Students' Leadership Efficacy. *Journal of Leadership Education*, *19*(4), 87-98.

Streb, A. G. (2009). *A study of the association between high school student participation in co-curricular activities and academic achievement*. University of Missouri-Saint Louis.

Yoon, S. Y., Imbrie, P., & Reed, T. K. (2016). Development of the leadership self-efficacy scale for engineering students. 2016 ASEE Annual Conference & Exposition,

Yorra, M. L. (2014). Self-efficacy and self-esteem in third-year pharmacy students. *American Journal of Pharmaceutical Education*, *78*(7), 1-5.

Zakir, S., Khan, S., & Siraj, D. (2023). Relationship between Self-Leadership and Academic Performance of Students: Empirical Evidence from Public Sector Universities in AJ&K. *Pakistan Journal of Humanities and Social Sciences*, *11*(4), 4598-4604.