Cognitive and Environmental Factors Influencing Behavioral Patterns Among Student Leaders

Jeanica A. Licong

Graduate School Holy Cross of Davao College

DOI: https://doi.org/10.51584/IJRIAS.2026.11050197

Received: 17 May 2026; Accepted: 22 May 2026; Published: 15 June 2026

ABSTRACT

Student leader behavioral patterns are increasingly inconsistent. This study aimed to examine the influence of cognitive factors and environmental factors among student leaders was verified. Diagnostic research design, total enumeration sampling, survey technique, and multiple linear regression analysis are the methods used in this study. The data collected from 200 student leaders showed that both determinants significantly influenced the criterion, partly support the Social Cognitive Theory. Future research may include 43% of unexplained variance in student leader behavioral patterns, while one-on-one coaching sessions guided by faculty mentors to improve behavioral patterns is suggested.

Keywords: Cognitive, environmental factors, behavioral patterns, student leaders

INTRODUCTION

The Problem and Its Scope

Student leaders' behavioral patterns are increasingly inconsistent, with even knowledgeable leaders demonstrating deterioration in leadership behaviors over time. Globally, student leadership is regarded as a vital component of educational development; however, inconsistencies in behavioral patterns hinder effective leadership outcomes and student governance systems (Wright et al., 2023).

In the United States, studies have documented that student leaders often struggle with inconsistent behavioral patterns when institutional leadership programs fail to meet expectations, highlighting a pressing issue in higher education (Phillips et al., 2023).

Similarly, in South Africa, research has established that student leaders exhibit instability in behavioral patterns related to discipline management and classroom dynamics, which weakens leadership effectiveness in educational institutions (Lumadi, 2025). In the European context, behavioral inconsistency among student leaders has also been identified as a critical area of concern, particularly in relation to leadership performance and governance practices (Lima et al., 2024).

In the Philippine setting, studies have revealed that student leaders often experience problems in their behavioral patterns, reflecting a broader and systematic issue in urban educational environments (Marigmen et al., 2024). Declining participation in student organizations has also been reported, where inconsistent engagement among student leaders is linked to observable irregularities in their behavioral patterns (Dedicatoria et al., 2023). Furthermore, student leaders continue to struggle in sustaining consistent leadership maturity, as gaps within institutional systems are associated with unstable behavioral manifestations (Mangarin & Tajon, 2024).

The persistence of these inconsistent behavioral patterns may lead to severe consequences for both the leaders and their respective academic communities. Without a clear understanding of these inconsistent behavioral patterns, student leaders may continue to experience difficulties in fulfilling their roles effectively, thereby affecting student governance and organizational performance.

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume XI Issue V May 2026

Significance of the Study

This study is significant because it examines the behavioral patterns of student leaders as a vital factor in achieving SDG 4 (Quality Education). By fostering stability, motivation, and adaptability, it emphasizes how student leadership supports growth and development while contributing to inclusive and equitable education.

In the Philippine context, the findings can support the Department of Education's goal of producing holistically and globally competitive learners by strengthening leadership capacities and cultivating values of responsibility, collaboration, and resilience.

At the institutional level, the results are valuable to Holy Cross of Davao College in creating more effective programs that strengthen leadership capacities and ensure student leaders are equipped to manage responsibilities effectively, aligned with its commitment to excellence, service, and holistic formation, thereby contributing to improved learning outcomes and sustainability.

Statement of the Problem

It was aimed in this study to examine the significant of the influence of cognitive and environmental factors as determinants of behavioral patterns of student leaders. Specifically, the following objectives were pursued.

1. To determine the levels of cognitive factors indicated by knowledge, expectations, and attitudes; environmental factors indicated by social norms, leadership support and resources and role models and mentors; and the behavioral patterns indicated by skills, self-efficacy and academic engagement, among student leaders.
2. To determine the significance of the correlation between cognitive factors and behavioral patterns; environmental factors and the behavioral patterns among student leaders.
3. To determine the significance of the individual and combined influence of cognitive factors, environmental factors on behavioral patterns among student leaders.

Hypothesis

H_{o1}: Cognitive Factors and Environmental Factors have no significant correlation with Behavioral Patterns among Student Leaders

H_{o2}: Cognitive Factors and Environmental Factors have no significant individual and combined influence among student leaders.

THEORETICAL AND CONCEPTUAL FRAMEWORK

This study is anchored on the Social Cognitive Theory (SCT) by Albert Bandura (1986), which posits that human functioning is shaped by the interaction of personal, behavioral, and environmental factors. The theory emphasizes that behavior and outcomes result from the dynamic interplay of these components, where individuals both influence and are influence by their environment.

In this study, cognitive factors, indicated by knowledge, expectations, and attitudes represents personal factor stand for the cognitive foundations act for leadership navigation (Daly et. al., 2025). The environmental factors, indicated by social norms, leadership support and resources, and role models and mentors, stands for the external social regulators as stated in the theory (Darmawan & Gardi, 2024).

Finally, behavioral patterns, indicated by skills, academic engagement, and self -efficacy, represents human function as the outcome of proactive student leadership navigation (Wong & Liem, 2022). The behavioral factor as a component of the theory was excluded in this study. Hence, this study was partly anchored in the theory.

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume XI Issue V May 2026

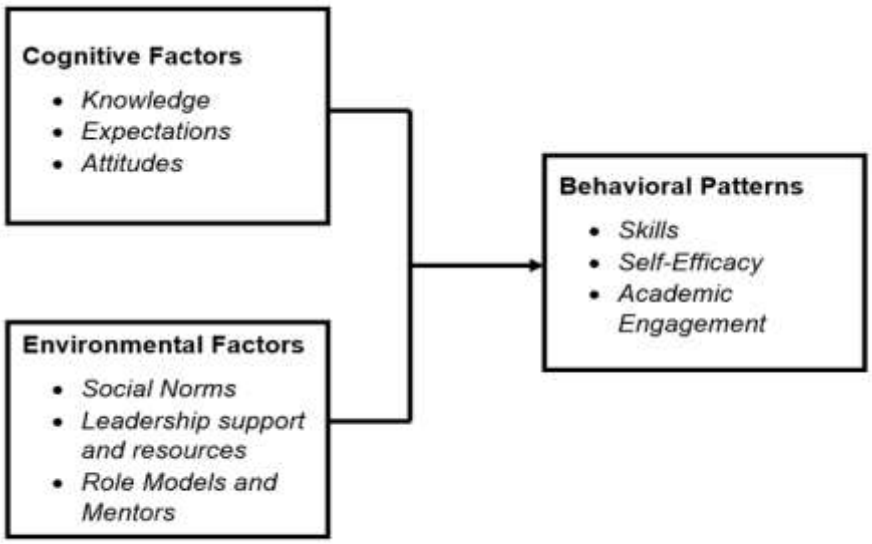

Figure 1. Conceptual Framework of the Study

METHODOLOGY

Included in this chapter are the research design, locale of the study, sample and sampling technique, data gathering technique, and ethical consideration.

Research Design

This study employed diagnostic research design. It focuses on systematically identifying the root causes of problems and analyzing contributing factors, complementing traditional research that merely describes phenomena by offering actionable solutions (Velu, 2023).

It is applied in contexts where problem clarification is essential before interventions can be implemented, such as education and organizational development, detect underlying causes of systemic issues in learning difficulties in education, ensuring that interventions are evidence-based (Riaz et al., 2023). Its advantages emphasize on enabling researchers to identify student learning difficulties through data, thereby offering actionable recommendations for improvement (Sailer et al., 2023).

Locale of the Study

The study was conducted in 5 public Junior High and Senior High schools of San Isidro District, Davao del Norte, under the supervision of the Department of Education in Davao del Norte, Philippines. The educational setting highlights how local policies empower the student leaders, which serves as their official voice. This body advocates for student welfare, plans student-centered activities, and nurtures leadership and citizenship skills among student leaders in San Isidro district.

Sample and Sampling Technique

A total of 200 student leaders who were all enrolled in Junior High and Senior High schools within the district during school year (SY) 2025-2026, and presently hold positions as student leaders. They come from five various school and are still minors. They were selected because they serve as a critical foundation for leadership in the school. This study employed total enumeration sampling technique.

Total enumeration sampling is a non-probability technique that involves every individual within a specific, manageable population, effectively serving as a census to eliminate sampling bias (Garganera, 2023). It is primarily applied in focused settings to ensure a high-precision, comprehensive dataset that accurately reflects the entire target group without the need for statistical estimation (Memon et al., 2025).

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume XI Issue V May 2026

Data Gathering Technique

The survey technique was used gathering data. A survey is a structured method of collecting information directly from respondents through standardized instruments such as questionnaires or interviews, ensuring comparability of responses across participants (Sukmawati et al.,2023). It is applied when researchers need to obtain data from a large population efficiently, particularly in education and social sciences, where surveys capture perceptions, attitudes, and behaviors in a systematic manner (Raghunathan, 2023). This technique offers advantages such as reaching large and diverse populations, producing quantifiable results, and supporting replicability through standardized procedures (Oranga & Matere, 2025).

Three adapted and modified survey questionnaires were used. The first instrument, the Student Engagement in Schools Questionnaire was adapted from the study of Hart et. al., (2011). It consists of 12 items designed to assess the level of cognitive factors among student leaders which includes three key indicators: knowledge, expectations, attitudes, achieving a Cronbach alpha of 0.974. The second instrument measured environmental factors and was adapted from Kimura et. al., (2022). It is composed of 12 items intended to capture the environmental factors including social norms, leadership support and resources, and role model and mentors, with a Cronbach's alpha of 0.971. The third instrument, which assessed behavioral patterns of student leaders was also adapted from Hart et.al (2011). It includes 12 items focusing on factors on their behavioral patterns, with a Cronbach's alpha of 0.912.

Data Analysis Technique

In this study, the data analysis techniques used were descriptive, correlation, and multiple linear regression analyses. Descriptive analysis helps organize and summarize large amounts of data, making it easier for researchers to understand real-world patterns while saving time, no matter the situation or field of study (Costa, 2024). In this study, the mean and standard deviation statistical tools were used. Moreover, the correlation analysis examines the strength and direction of the relationship between how two continuous variables (Rizk, 2023). The Pearson Product- moment correlation statistical tool was used. Lastly, multiple linear regression analysis, examine the relationship between one dependent variable and several independent variables simultaneously. Provides coefficients that quantify relationships, offering actionable insights for decision-making in educational research (Preacher & Hayes, 2023). Unstandardized Beta coefficients and standardized beta coefficients were used to determine the magnitude and direction of the relationship between the independent variables and the dependent variable guided by Cohen (1988) and Hair et. al. (2019) to support prediction and theory testing.

The matrix containing the scale, descriptive level and corresponding interpretation for each variable in this study is presented, specifically used to describe cognitive factors, environmental factors and behavioral patterns of student leaders.

Scale	**Level**	**Cognitive Factors**	**Environmental Factors**	**Behavioral Pattern**
1.00-1.74	Very Low	Very Weak	Very Poor	Very Poor
1.75-2.49	Low	Weak	Poor	Poor
2.50-3.25	High	Strong	Good	Good
3.26-4.00	Very High	Very Strong	Very Good	Very Good

To measure and interpret the standard deviation, the following standard scheme is followed. Standard Deviation Value Ranges and Interpretation

Range	Description	Interpretation
SD≤0.50	High Consistent Responses	Strong and uniform perception
SD= 0.51-1.00	Moderate Consistent Responses	Acceptable consistency

SD= 1.01-1.50	Low Consistent Responses	Differing views or experiences
SD>1.50	Very Low Consistent Responses	High variability and lack of consensus

In this study, the significance of the correlation is tested at 0.05 confidence level. The following is the standard measure for the interpretation scale of r-value, the following:

Computed r	**Descriptive Interpretation**
+/-1.00	Perfect Correlation
Between +/-0.75- +/-0.99	High Correlation
Between +/-0.51- +/-0.74	Moderately high correlation
Between +/-0.31- +/-0.50	Moderately low correlation
Between +/-0.01- +/-0.30	Low correlation
0.0	No correlation

In terms of Scale of Beta (β) Coefficient Strength, the following scheme, as proposed by Cohen (1988) and Hair et al. (2019), was used:

B Value Range	**Predictive Strength**
±0.00- ±0.09	Very Weak
±0.10- ±0.29	Weak
±0.30- ±0.49	Moderate
±0.50 - ± 0.69	Strong
±0.70 and above	Very Strong

Ethical Considerations

The study adhered to strict ethical standards in conducting research with student council officers and leaders. Informed consent was obtained from all participants prior to data collection, ensuring their voluntary involvement, the right to withdraw at any time, and the complete confidentiality of their responses, alongside with informed assents of the child after the study had been explained in a manner suited to their level of understanding, to ensure voluntary participation. The research instruments were subjected to validation and reliability testing to ensure the accuracy and credibility of the findings.

Formal permission was secured from the Department of Education, Division of Davao del Norte, to carry out the study in public schools under its jurisdiction, ensuring data collection occurred during breaks or spare time to avoid disrupting class hours. Additionally, the research proposal was reviewed and approved by the Society of Moral Integrity and Legal Ethics (SMILE), confirming compliance with ethical, legal, and moral research principles.

RESULTS

Included in this chapter are the descriptive, correlation, and regression tabular presentation, and the corresponding analysis and interpretation of statistical results. This chapter is ended with the summary of findings.

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume XI Issue V May 2026

Descriptive Results

Table 1 is descriptive table. It contains the variables namely, cognitive factors, environmental factors, and behavioral patterns with their respective indicators. It also includes the sample size, computed means, standard deviations, and the corresponding descriptive interpretations.

Table 1. Descriptive Analysis Results

Variables	SD	Mean	Descriptive Level
Cognitive Factors (IV_1)	**0.411**	**3.413**	**Very High**
knowledge	0.547	3.355	Very High
expectations	0.467	3.434	Very High
attitudes	0.463	3.450	Very High
Environmental Factors (IV_2)	**0.458**	**3.275**	**Very High**
social norms	0.529	3.310	Very High
leadership support and resources	0.545	3.320	Very High
role models and mentors	0.592	3.196	High
Behavioral Patterns (DV)	**0.482**	**3.302**	**Very High**
skills	0.545	3.193	High
self-efficacy	0.541	3.346	Very High
academic engagement	0.558	3.368	Very High

Specifically, Table 1 shows that the cognitive factors variable obtained a mean score 3.413, described as very high. This indicates that student leaders possess high level of cognitive competence. All indicators are likewise described as very high. The standard deviation of 0.41, described as highly consistent responses, indicates a strong and uniform perception.

Furthermore, environmental factors variable had a mean of 3.28, described as very high. It denotes that respondents feel a strong support system. All indicators are likewise described as very high except for the role models and mentors, described as high. The standard deviation of 0.458, described as highly consistent responses, denotes a strong and uniform perception.

Moreover, behavioral patterns variable had a mean score of 3.302, described as very high. It signifies that respondents exhibit strong behavior alignment with their responsibilities. All indicators are described as very high, except for skills, described as high. A standard deviation of 0.482, described as highly consistent responses, indicates a strong and uniform perception among respondents.

Cognitive factors, environmental factors, and behavioral patterns among student leaders were all interpreted at a very high descriptive level, indicating strong intellectual competence, supportive conditions, and consistently aligned leadership behaviors across the variables.

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume XI Issue V May 2026

Correlation Results

Table 2 shows a correlation table. It contains the criterion and determinant variables. It also included the r-values, p-value, decision on H_o and its corresponding interpretation.

	Behavioral Patterns (DV)			
	r	**p-value**	**Decision on Ho @ 0.05 level of significance**	**Interpretation**
Cognitive Factors (IV_1)	0.605	$p < 0.001$	Reject Ho	Significant
Environmental Factors (IV_2)	0.733	$p < 0.001$	Reject Ho	Significant

Specifically, Table 2 shows that the correlation between cognitive factors and behavioral patterns variables yielded a p-value of 0.001. Such value is less than the 0.05 level of significance. Hence, the null hypothesis was rejected. Indicating a statistically significant correlation between variables mentioned. The corresponding r-value of 0.605 indicates moderately high. This implies that as cognitive factors increases, their behavioral patterns also tend to improve.

On the other hand, the correlation between environmental factors and behavioral patterns variables yielded a p-value of 0.001. Such value is less than the 0.05 level of significance. Hence, the null hypothesis was rejected. Denotes a statistically significant correlation between variables cited. The corresponding r-value of 0.733 represents a high correlation. This implies that when environmental factors changes, their behavioral patterns also changes.

Both cognitive and environmental factors are significantly related to the behavioral patterns of student leaders, with environmental factors exerting a stronger influence than cognitive factors.

Regression Analysis

Table 3 presents regression table. It contained the factors, and the criterion variable, unstandardized and standardized beta coefficients, standard error, t-value, significance, decision on null hypothesis, and interpretation.

	Behavioral Patterns (DV)						
	Unstandardized Coefficients		**Standardized Coefficients**				
	B	**Std. Error**	**Beta**	**t**	**p value**	**Decision on Ho**	**Interpretation**
Constant	0.353	0.196		1.796	0.074		
Cognitive Factors (IV_1)	0.273	0.071	0.233	3.850	$p<0.001$	Reject Ho	Significant
Environmental Factors (IV_2)	0.615	0.064	0.585	9.660	$p<0.001$	Reject Ho	Significant

Specifically, Table 3 shows that the influence of cognitive factors variable have a standardized beta coefficient of 0.233. It indicates that the strength of the influence of the cognitive factors on the criterion variable is moderate. The corresponding p-value of 0.001, which is less than the 0.05 level of significance, the null hypothesis was rejected. It signifies that the influence of cognitive factors on behavioral patterns

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume XI Issue V May 2026

among student leaders is positive and statistically significant. This implies that for every unit change in cognitive factors, there is a corresponding 0.233 unit change in behavioral patterns among student leaders. Moreover, the environmental factors variable obtained a standardized beta coefficient of 0.585. It indicates that the strength of the influence of environmental factors is strong. The corresponding p-value of 0.001 is 0.05 level of significance, leading to the rejection of the null hypothesis. It denotes that the environmental factors on behavioral patterns variable among student leaders is positively and statistically significant. This implies that for every unit change in environmental factors, there is a corresponding 0.585 unit change behavioral patterns among student leaders

The table also shows an R-squared value of 0.57. It indicates that the strength of the collective influence of the determinant variable is strong. The corresponding p-value of 0.001 is less than the 0.05 level of significance. Hence, the null hypothesis was rejected. It denotes that the combined influence of cognitive factors and environmental factors on behavioral patterns of student leaders is statistically significant. This implies for every unit change in the combine influence of the determinant variables, there is a corresponding 0.57 unit change in the criterion variable.

Both cognitive and environmental factors significantly influence the behavioral patterns of student leaders, with cognition exerting a moderate effect and environment a stronger impact, while their combined influence explains a substantial proportion of the variance in leadership behaviors.

Summary of Findings

1. Cognitive factors and environmental factors significantly correlate with behavioral patterns.
2. Cognitive factors and environmental factors have significant individual and combined influence on behavioral patterns of student leaders.

DISCUSSIONS

The finding, conclusion, and recommendation are presented in this chapter.

Cognitive, Environmental Factors and Behavioral Patterns among Student Leaders

The study reveals that both cognitive and environmental factors are significantly correlated with behavioral patterns among student leaders. The finding affirms the cognitive dispositions directly shape how student leaders navigate their roles (Dedicatoria et al., 2023). In addition, the current finding supports Bulosan (2025), who reported that leadership enhances performance by fostering critical thinking and supportive mentors, thereby validating the reciprocal influence of environmental functions in leadership contexts, reinforcing the connection between these variables. Likewise, the current finding supports the finding of Aquino (2025) explaining that in leadership involvement within supportive institutional framework fosters essential behavioral patterns such as self-discipline and organizational management.

Conversely, this current finding contradicts Garcia (2024), who found that even when student leaders possess positive attitudes and high expectations, restrictive institutional policies can neutralize these internal dispositions, leading to a behavioral standstill. Similarly, Zhao et al., (2024) who pointed out that social norms in highly competitive settings can sometimes force leaders into defensive behavioral patterns that contradict their social norms and knowledge.

Behavioral Patterns Among Student Leaders as Influenced by Cognitive and Environmental Factors

The finding of this study indicates that both cognitive and environmental factors, have a significant individual and combined influence on the behavioral patterns among student leaders. This finding supports Villanueva & Santos (2024) who pointed out the idea that when student leaders possess high self-regulation (cognitive) and operate within a high-trust organizational climate (environmental), they exhibit significantly greater levels of proactive behavioral engagement). Similarly, this current finding also aligns with the idea that, leadership effectiveness is not a standalone trait but a product of the “person-environment fit,” where

ISSN No. 2454-6194 | DOI: 10.51584/IJRIAS |Volume XI Issue V May 2026

cognitive resilience and institutional support mechanisms interact to stabilize behavioral performance under pressure (Dela Cruz,2023).

However, the finding negates the study of Li et al. (2023), who found that cognitive dispositions and environmental conditions do not always jointly influence behavioral outcomes, as some students may maintain consistent engagement regardless of contextual support.

CONCLUSION

Based on the findings, it was concluded the individual and combined influence of cognitive and environmental factors on behavioral patterns among student leaders is significant. Hence, the Social Cognitive Theory which posits that human functioning is shaped by the interaction of personal, behavioral, and environmental factors, was partly supported.

RECOMMENDATIONS

Based on the conclusion, the following are recommended:

1. Future research may include additional variables beyond those examined in this study to account for the remaining 43% of unexplained variance in student leaders' behavioral patterns.
2. The school administrators, policymakers, and teachers may strengthen and improve institutional support structures by establishing structured mentorship programs and one-on-one coaching sessions guided by faculty mentors.

REFERENCES

1. Aquino, J. (2025). Institutional frameworks and student leadership: A behavioral analysis. Educational Leadership Review.
2. Bandura, A. (1986). Social foundations of thought and action: A social cognitive theory. Prentice-Hall, Inc.
3. Bulosan, M. (2025). The role of mentorship in enhancing leadership performance among students. Journal of Academic Governance.
4. Cohen, J. (1988). Statistical power analysis for the behavioral sciences (2nd ed.). Lawrence Erlbaum Associates.
5. Costa, L. (2024). Descriptive statistics in modern educational research. Academic Press.
6. Daly, R., Smith, K., & Jones, T. (2025). Cognitive foundations of leadership navigation. Higher Education Quarterly.
7. Darmawan, A., & Gardi, B. (2024). Environmental regulators and student leadership development. Journal of Social Sciences and Education.
8. Dedicatoria, R., et al. (2023). Declining participation and behavioral irregularities in student organizations. Philippine Journal of Student Affairs.
9. Dela Cruz, F. (2023). The person-environment fit: Stabilizing leadership performance. Manila University Press.
10. Garganera, M. (2023). Total enumeration sampling in focused institutional research. Research Methods Today.
11. Garcia, S. (2024). Institutional restrictions and the neutralization of leadership dispositions. Education Policy Journal.
12. Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). Multivariate data analysis (8th ed.). Cengage Learning.
13. Hart, D. J., et al. (2011). Student engagement in schools questionnaire (SESQ): Technical report. Educational Testing Service.
14. Kimura, T., et al. (2022). Measuring environmental factors in educational leadership: Instrument development and validation. International Journal of Educational Research.
15. Li, X., Wang, Y., & Chen, H. (2023). The independence of leadership engagement from contextual support. Journal of Behavioral Studies.

16. Lima, P., et al. (2024). Behavioral inconsistency and governance practices in European student leadership. European Educational Research Journal.
17. Lumadi, M. W. (2025). Discipline management and behavioral instability in South African schools. African Journal of Pedagogy.
18. Mangarin, J., & Tajon, L. (2024). Institutional gaps and leadership maturity among Filipino students. Davao Research Journal.
19. Marigmen, C., et al. (2024). Behavioral patterns of student leaders in urban educational environments. Philippine Education Review.
20. Memon, N., et al. (2025). Census-based sampling techniques in social science research. Journal of Quantitative Analysis.
21. Oranga, J., & Matere, A. (2025). Survey techniques for large-scale educational assessments. Global Research Methods.
22. Phillips, L., et al. (2023). Institutional program failures and student leadership in the United States. American Journal of Higher Education.
23. Preacher, K. J., & Hayes, A. F. (2023). Multiple linear regression in educational settings. Statistical Methods for Education.
24. Raghunathan, T. (2023). Survey methodology in the social sciences. Wiley.
25. Riaz, A., et al. (2023). Diagnostic research design: Identifying root causes in education. Journal of Educational Inquiry.
26. Rizk, G. (2023). Understanding Pearson correlation in behavioral data. Statistical Science Today.
27. Sailer, M., et al. (2023). Actionable recommendations through diagnostic data. Learning and Instruction Review.
28. Sukmawati, D., et al. (2023). Standardized instruments in survey research. International Journal of Research Methodology.
29. Velu, S. (2023). Root cause analysis and diagnostic design in organizational development. Business Research Quarterly.
30. Villanueva, E., & Santos, M. (2024). Self-regulation and organizational climate in student leadership. Journal of Applied Psychology in Education.
31. Wong, B., & Liem, G. A. (2022). Proactive leadership navigation and academic engagement. Contemporary Educational Psychology.
32. Wright, S., et al. (2023). Global trends in student leadership and behavioral inconsistencies. International Journal of Leadership in Education.
33. Zhao, Y., et al. (2024). Defensive behavioral patterns in competitive leadership environments. Journal of Global Education.