

Student Institutional Loyalty: A Structural Model Based on Astin's Theory of Student Involvement

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ABSTRACT

This study investigated the factors influencing institutional loyalty among incoming first-year college students, focusing on the mediating role of student satisfaction, guided by the Student Involvement Theory. Employing a quantitative, descriptive-correlational design with Structural Equation Modeling (SEM), the research surveyed Grade 12 Senior High School students in a private institution in Cagayan de Oro City, Philippines, who intended to enroll in its undergraduate programs for the Academic Year 2024–2025. The study used stratified random sampling to ensure proportional representation of students from different strands (e.g., STEM, HUMSS, ABM, and TVL), with a minimum sample of 200 respondents selected to guarantee that variations across academic tracks were adequately represented. The findings revealed that while academic involvement did not indirectly and significantly influence institutional loyalty, its effect could be mediated by other variables, underscoring the complexity of student attachment. Conversely, student involvement in non-academic activities demonstrated a significant positive effect on institutional loyalty, with student satisfaction playing a partial mediating role in this relationship. This highlighted the importance of social engagement in fostering a sense of belonging and commitment to the institution, which in turn enhanced loyalty. This indicated that their influence on loyalty was realized primarily through enhancing students' satisfaction with their educational experiences. The model demonstrated acceptable fit indices, supporting the hypothesized relationships. This research addressed a gap in Philippine educational literature by examining pre-college loyalty intentions and offered valuable insights for higher education institutions to develop early retention strategies and engagement programs that prioritized academic involvement and cultivated student satisfaction. Future research might be directed toward exploring other factors that could mediate the indirect effects from academic and non-academic involvement towards institutional loyalty. Understanding these dimensions could offer a more comprehensive picture of what encouraged students to remain committed to their academic institution.

Keywords: Student institutional loyalty, Academic involvement, Social involvement, Student satisfaction, Structural Equation Modeling (SEM)

INTRODUCTION

The senior high school to college transition was recognized as an acute time in a student's educational journey. As students entered higher education, allegiance to their institution took on increased importance as it affected persistence, campus satisfaction, and long-term commitment to the school. Institutional commitment, often reflected in intentions to enroll, recommend the school, and join campus events, carried major implications for student retention rates, alumni network growth, and a school's overall reputation. In the competitive higher education landscape of the time, understanding what drove the loyalty intentions of incoming college students was crucial for school administrators and student affairs teams.

Several factors were known to influence student loyalty, with particular emphasis on students past academic and social experiences during senior high school. As these students prepared to move on to college, the academic and extracurricular activities they became involved in shaped their expectations and preferences for their college experience. Positive participation-built satisfaction and shaped opinions about future schools, making students more likely to commit to, enroll in, and remain loyal to a particular institution.

This study proposed integrating academic involvement, social involvement, and satisfaction into a single framework based on Astin's theory. By exploring the direct and indirect relationships between these factors, the research sought to determine which types of engagement most strongly predicted satisfaction and loyalty intentions in senior high school students selecting their future college. This approach combined theory and data to better understand student loyalty before college.

The study employed Structural Equation Modeling (SEM) to examine both direct and mediating effects, providing a thorough look at how academic and social engagement influenced satisfaction and, ultimately, loyalty intentions. SEM's ability to handle complex models with multiple variables made it a strong and appropriate method for this kind of research, offering a validated way to analyze how involvement, satisfaction, and loyalty interacted.

This study sought to identify the factors that shaped incoming first-year college students' loyalty intentions, guided by Astin's Student Involvement Theory. By analyzing academic and social involvement, satisfaction, and loyalty intentions, the research aimed to provide useful insights to help colleges improve recruitment, engagement, and early retention initiatives. It addressed a notable gap in Philippine educational research and contributed to ongoing discussions about student loyalty in the country's higher education system.

This study was guided by Astin's Theory of Student Involvement (1984), which posited that the amount of physical and psychological energy a student devoted to their academic experience was directly related to learning, development, and institutional loyalty. Astin highlighted that getting involved — whether academically or socially — increased students' satisfaction and deepened their commitment to their education. The theory also pointed out that students who actively participated in both classroom and extracurricular activities were more likely to develop positive feelings toward their school. This engagement helped foster loyalty, a sense of belonging, and stronger emotional ties to their institution. Involvement shaped how students perceived the value of their school and played a significant role in their decision to stay connected to their chosen college.

Academic involvement referred to the degree to which students engaged in academic-related activities such as attending classes, completing assignments, participating in discussions, and seeking academic help. It was widely recognized as a significant predictor of student success and satisfaction. According to Astin's (1984) seminal theory of student involvement, students who invested more time and energy into their academic pursuits tended to achieve better outcomes both academically and personally.

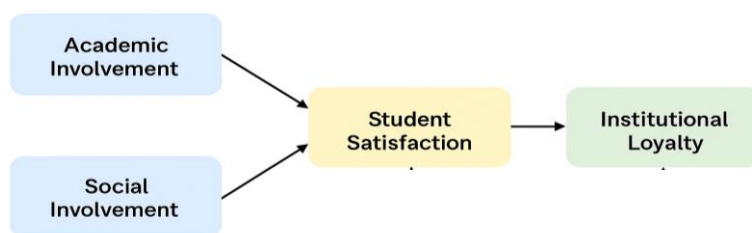
Micabalo et al. (2020) found a strong positive relationship between academic involvement and student satisfaction among university students in the Philippines. However, contrastingly, the present study revealed a non-significant mediation effect of academic involvement on loyalty via satisfaction. This discrepancy could be explained by cultural differences or institutional contexts, where Filipino students might have prioritized social experiences and campus community over academic activities in forming loyalty intentions. Their study showed that active participation in academic activities increased satisfaction with institutional services. Similarly, Robbins et al. (2021) concluded through a meta-analysis that academic involvement positively influenced academic achievement, psychological well-being, and overall student satisfaction. Thus, fostering academic involvement was essential in preparing senior high school students for a smooth transition to college (Micabalo et al., 2020; Robbins et al., 2021). Java (2020) investigated student satisfaction at Central Philippine University and reported that academic involvement, supported by accessible academic resources and effective faculty interaction, contributed significantly to positive student experiences.

Social involvement complemented academic engagement by fostering connections and a sense of belonging within the student community. In the Philippine context, Kubota and Garcia (2020) found that social media, especially Facebook, helped build social capital and eased students' transition to college. Cruz and De La Cruz (2020) highlighted the importance of peer support, counseling services, and social activities in sustaining student satisfaction during the COVID-19 pandemic. Internationally, Palahan (2025) reported that students with strong peer networks and frequent interactions achieved better academic outcomes and higher satisfaction. Together, these studies underscored the vital role of social involvement in student well-being and academic success.

Student satisfaction reflected perceptions of academic and non-academic services and served as a predictor of retention and loyalty. Cruz and De La Cruz (2020) emphasized the value of empathetic service during crises, noting higher satisfaction in responsive institutions during the pandemic. Micabalo et al. (2020) linked academic involvement to greater student satisfaction and institutional commitment. Bautista and Santos (2021) added that extracurricular activities and campus facilities also enhanced overall satisfaction. Internationally, Supriyanto et al. (2024) and Chandra et al. (2019) found that academic service quality and university image significantly impacted satisfaction and loyalty. A review by Alqurashi (2020) further confirmed that student satisfaction influenced retention, academic success, and institutional reputation, underscoring the need for continuous service improvement.

Sá (2023) confirmed that academic engagement, through activities like group projects and research, boosted student retention and satisfaction internationally. In Indonesia, Gunarto and Hurriyati (2020) found that when students viewed academic activities as relevant and collaborative, their engagement and satisfaction improved significantly. Institutional loyalty intention, often shaped by sustained satisfaction and positive experiences, referred to students' ongoing affiliation with their institution. Java (2020) linked student satisfaction with loyalty in the Philippine context, showing that satisfied students were more likely to remain loyal. Supporting this, Supriyanto et al. (2024) and Masa'deh et al. (2022) demonstrated that academic service quality and satisfaction predicted loyalty among students in Indonesia and Peru. Additionally, Shin and Choi (2021) revealed that student satisfaction fostered institutional trust, which strengthened loyalty intention, highlighting the importance of transparency and effective communication.

Figure 1. Theoretical Model



METHODOLOGY

This study employed a quantitative, descriptive-correlational research design utilizing Structural Equation Modeling (SEM). This design was deemed appropriate for investigating the relationships among multiple latent variables and for testing the direct and indirect effects of academic involvement and social involvement on institutional loyalty intention, with student satisfaction serving as a mediating variable.

The descriptive aspect of the study determined the levels of involvement, satisfaction, and loyalty intention of incoming first-year college students, while the correlational aspect analyzed the interrelationships among these variables within a theoretically grounded structural model.

The study was conducted at a private higher education institution located in Cagayan de Oro City, Misamis Oriental, Philippines. The institution offered various undergraduate programs and maintained a Senior High School department, which made it an ideal setting to study incoming first-year college students transitioning from Grade 12. The locale was chosen for its accessibility to the researchers and its active enrollment of senior high school graduates proceeding to college within the same institution. The target population for this study comprised all Grade 12 Senior High School students in a private institution during the Academic Year 2024–2025 who had expressed intent to enroll in the institution's undergraduate programs for the upcoming school year. The study used stratified random sampling to ensure proportional representation of students from different strands (e.g., STEM, HUMSS, ABM, and TVL). This technique ensured that variations across academic tracks were adequately represented in the sample. A minimum sample of 200 respondents was selected, following the

general guideline for SEM sample sizes, which recommended at least 5–10 respondents per estimated parameter (Kline, 2016). The final number of participants also considered availability and willingness to participate during the data collection period.

The primary data-gathering tool for this study was a structured survey questionnaire composed of four sections: Section A on Academic Involvement with 20 items, Section B on Social Involvement with 20 items, Section C on Student Satisfaction with 20 items, and Section D on Institutional Loyalty Intention with 20 items. The instrument adopted items from previously validated questionnaires used in related studies on student involvement, satisfaction, and loyalty. These items were modified to suit the context of senior high school students transitioning to college. The survey utilized a 5-point Likert scale, with response options ranging from 1 (Strongly Disagree) to 5 (Strongly Agree). To establish content validity, the instrument underwent review by three experts in the fields of educational research and student development. Their feedback was incorporated to improve the clarity and relevance of the items. Prior to the actual data collection, a pilot test was conducted involving a group of thirty (30) senior high school students who were not part of the final study sample. The purpose of the pilot test was to evaluate the clarity, consistency, and reliability of the questionnaire items. Based on the pilot test results, minor revisions were made to enhance item comprehensibility and alignment with the study objectives. The reliability of the survey instrument was then assessed using Cronbach's alpha coefficient. The computed Cronbach's alpha value was 0.976, indicating excellent internal consistency reliability for the entire instrument. This result confirmed that the questionnaire items were highly reliable in measuring the constructs of academic involvement, social involvement, student satisfaction, and institutional loyalty intention.

This study focused on incoming first-year college students from a private school institution in Cagayan de Oro City, Misamis Oriental, specifically targeting those who were completing Grade 12 and had expressed their intent to enroll for the Academic Year 2024–2025. It aimed to measure four key variables: academic involvement, social involvement (both during senior high school), student satisfaction with their prospective college, and institutional loyalty intention. The research adopted a quantitative, survey-based approach using a structured questionnaire that was distributed via online forms or printed copies, depending on the institution's protocols. The study deliberately excluded Grade 11 students, currently enrolled college students, graduate students, and alumni.

Data collection was conducted within a designated period before the official start of the academic year and relied solely on self-reported perceptions, without accounting for external factors such as family influence, financial constraints, or marketing promotions. A formal request for data collection was submitted to the Office of the Senior High School Principal and the Research Ethics Committee for approval. Upon approval, an invitation was extended to Grade 12 students who had confirmed their intent to enroll in college, encouraging voluntary participation in the study. The final, validated questionnaire was administered, and responses were gathered over a one-week period to ensure completeness and reliability.

All data were securely stored and treated with strict confidentiality, accessible only to the researchers. Ethical guidelines governing research involving human participants were strictly observed, including the provision of an informed consent form detailing the study's purpose, procedures, voluntary participation, and confidentiality measures. Participants were assured of their right to withdraw from the study at any point without any consequences. Furthermore, the research proposal underwent ethical review and approval by the Research Ethics Committee prior to data collection to guarantee adherence to established ethical standards.

The collected data were systematically processed using AMOS statistical software, a specialized tool for advanced multivariate analysis. The initial stage of data analysis involved the application of descriptive statistics, specifically computing the mean and standard deviation for key constructs. This provided a foundational understanding of the central tendencies and dispersion of academic involvement, social involvement, student satisfaction, and institutional loyalty intention within the dataset. Following the descriptive analysis, the primary analytical approach was Structural Equation Modeling (SEM). This powerful technique was utilized to rigorously test the hypothesized relationships among the variables within the conceptual framework. SEM enabled the assessment of direct, indirect, and total effects, offering a comprehensive and nuanced understanding of how these constructs interacted and influenced one another.

To ascertain the robustness and validity of the proposed structural model, various Model Fit Indices were meticulously examined. These indices, including the Comparative Fit Index (CFI), Root Mean Square Error of Approximation (RMSEA), and Standardized Root Mean Square Residual (SRMR), were crucial for evaluating how well the theoretical model aligned with the empirical data. Acceptable values for these indices indicated a good fit, thereby lending support to the model's explanatory power and generalizability within the context of academic involvement, social involvement, student satisfaction, and institutional loyalty intention.

RESULTS AND DISCUSSION

The theoretical model demonstrated acceptable fit based on conventional SEM fit index standards in Table 1. The chi-square value was significant ($CMIN = < 0.001$), which was expected in large samples; however, the relative chi-square ($CMIN/DF = 2.080$) fell within the acceptable threshold of less than 3, indicating a reasonable model fit.

Furthermore, incremental fit indices such as the Comparative Fit Index ($CFI = 0.980$), Tucker-Lewis Index ($TLI = 0.975$), Goodness-of-Fit Index ($GFI = 0.928$), and Normed Fit Index ($NFI = 0.963$) all exceeded the recommended value of 0.90, confirming excellent model fit. Although the Adjusted Goodness-of-Fit Index ($AGFI = 0.893$) was slightly below the ideal threshold, it remained within a marginally acceptable range for model adequacy.

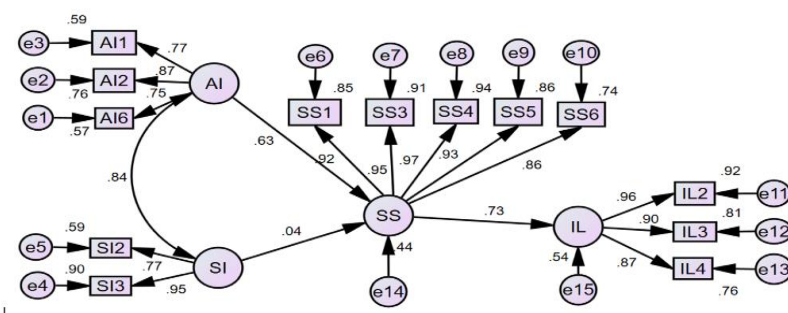
Table 1. Model Fit Summary of Theoretical Model

	Model Fit Summary	Recommended Values
CMIN	< 0.001	> 0.05
CMIN/ DF	2.080	≤ 3
CFI	0.980	≥ 0.90
GFI	0.928	≥ 0.90
AGFI	0.893	≥ 0.90
TLI	0.975	≥ 0.90
RMSEA	0.066	≤ 0.05
NFI	0.963	≥ 0.90

The Root Mean Square Error of Approximation ($RMSEA = 0.066$), though marginally above the ideal cutoff of 0.05, still fell within the acceptable range for approximate model fit in social science research, particularly in models of moderate complexity.

Taken together, these indices confirmed that the hypothesized structural relationships in the model were well-supported by the data and provided a good fit for the observed data structure.

Figure 2. The Path Diagram of the Theoretical Model



Legend: AI = Academic Involvement, AI1 = Classroom Engagement, AI2 = Independent Study, and AI6 = Academic Research; Social Involvement = SI, SI2 = Community Engagement and SI3 = Peer Collaboration; Student Satisfaction = SS, SS1 = Academic Quality, SS3 = Campus Environment, SS4 = Support Services, SS5 = Student Well-being, and SS6 = Inclusivity; and Institutional Loyalty = IL, IL2 = Advocacy, IL3 = Emotional Alignment, and IL4 = Alumni Engagement.

The analysis revealed that 73% of the changes in Institutional Loyalty ($R^2 = .73$) were explained by Student Satisfaction. Moreover, 44% of the changes in Student Satisfaction ($R^2 = .44$) were explained by Academic Involvement ($\beta = .63$) and Social Involvement ($\beta = .04$). Correlations were also found to be significant between AI and SI ($\beta = .84$).

The model further revealed a positive effect of the indicators on latent variables: Academic Involvement, Social Involvement, Student Satisfaction, and Institutional Loyalty. Academic Involvement was influenced by its three indicators: Classroom Engagement ($\beta = .77$), Independent Study ($\beta = .87$), and Academic Research ($\beta = .75$). The results of R^2 for Classroom Engagement ($R^2 = .59$), Independent Study ($R^2 = .76$), and Academic Research ($R^2 = .57$) implied that 59%, 76%, and 57%, respectively, of the changes in Academic Involvement could be explained through Classroom Engagement, Independent Study, and Academic Research. The remaining 41% for Classroom Engagement, 24% for Independent Study, and 43% for Academic Research might have been explained by other factors, which could be considered in future studies.

Social Involvement was influenced by Community Engagement ($\beta = .77$) and Peer Collaboration ($\beta = .95$). The R^2 results for Community Engagement ($R^2 = .59$) and Peer Collaboration ($R^2 = .90$) indicated that 59% and 90%, respectively, of the variation in the respondents' Social Involvement could be predicted by Community Engagement and Peer Collaboration. The remaining 41% for Community Engagement and 10% for Peer Collaboration might have been explained by other factors, which could be explored in future studies.

Student Satisfaction was explained through Academic Quality ($\beta = .92$), Campus Environment ($\beta = .95$), Support Services ($\beta = .97$), Student Well-Being ($\beta = .93$), and Inclusivity ($\beta = .86$). The R^2 results for Academic Quality ($R^2 = .85$), Campus Environment ($R^2 = .91$), Support Services ($R^2 = .94$), Student Well-Being ($R^2 = .86$), and Inclusivity ($R^2 = .74$) meant that 85%, 91%, 94%, 86%, and 74%, respectively, of Academic Quality, Campus Environment, Support Services, Student Well-Being, and Inclusivity explained the variation in Student Satisfaction. The remaining 15%, 9%, 6%, 14%, and 26%, respectively, might have been predicted by other variables, which could be considered in future studies.

Institutional Loyalty was influenced by Advocacy ($\beta = .96$), Emotional Alignment ($\beta = .90$), and Alumni Engagement ($\beta = .87$). The R^2 for Advocacy ($R^2 = .92$), Emotional Alignment ($R^2 = .81$), and Alumni Engagement ($R^2 = .76$) implied that 92% of Advocacy, 81% of Emotional Alignment, and 76% of Alumni Engagement explained the changes in Institutional Loyalty. This also meant that the remaining 8% of Advocacy, 19% of Emotional Alignment, and 24% of Alumni Engagement might have been predicted by other factors that could be explored in future studies.

In essence, when students were satisfied with their perceptions of the institution, they were more likely to intend to enroll, remain, and promote the school to others. This confirmed findings from Teeroovengadum, Raghoobar-Teeroovengadum, and Veerasamy (2020), all of whom consistently stated that satisfaction was a reliable and direct predictor of student loyalty intentions.

Additionally, while academic activities remained central to the academic experience, this study suggested that student loyalty intentions in Philippine private institutions were increasingly shaped by holistic experiences that included interpersonal relationships, institutional culture, and non-academic engagements. This finding indicated that despite active classroom involvement, loyalty might have been more closely tied to the broader student experience than to academic engagement alone. Cultural expectations and the value placed on social integration within Philippine campuses might have contributed to this result.

Table 2. Mediation Analysis of Academic Involvement, Student Satisfaction and Institutional Loyalty

Effect	p – value
Total: nAI → IL	0.460
Indirect: AI → SS → IL	0.460
Direct: AI → IL	< 0.001

Table 2 revealed that the total effect from Academic Involvement to Institutional Loyalty was not significant ($p = 0.460$). This finding opposed Astin's assertion that students who actively participated in academic activities were more likely to form deeper emotional and psychological attachments to their institution. It contradicted the conclusions of Micabalo, Cano, and Montilla (2020), who demonstrated that academic engagement significantly enhanced student satisfaction, which subsequently influenced loyalty.

Further, the study showed that the indirect effect of Academic Involvement on Institutional Loyalty was not significant ($p = 0.460$). This implied that student satisfaction had no mediating effect between academic involvement and institutional loyalty. This challenged the work of Supriyanto et al. (2024), who emphasized that satisfaction acted as a crucial intermediary between service quality (or academic experience) and loyalty intentions.

The direct effect between Academic Involvement and Institutional Loyalty, however, was statistically significant ($p < 0.001$). This nuanced finding, where AI primarily fostered IL through SS, reflected the observations of Gunarjo and Humbyard (2020). Their work suggested that while various forms of direct involvement might intuitively be thought to directly factor loyalty, their most profound and effective impact often materialized when they culminated in tangible satisfaction with institutional services and experiences.

This outcome was corroborated by Robbins et al. (2021), whose meta-analysis concluded that academic involvement not only influenced academic outcomes but also promoted psychological well-being and satisfaction, which in turn bolstered loyalty. Similarly, Java's (2020) research emphasized that satisfaction derived from academic and social services led to stronger institutional attachment among Filipino students.

Table 3. Mediation Analysis Summary of Social Involvement, Student Satisfaction and Institutional Loyalty

Effect	p – value
Total: SI → IL	0.027
Indirect: SI → SS → IL	0.027
Direct: SI → IL	< 0.001

Table 3 revealed that the total effect of Social Involvement on Institutional Loyalty Intention was significant ($p = 0.027$), indicating that social involvement did contribute to students' loyalty intentions.

Further examination showed that the indirect effect of Social Involvement on Institutional Loyalty Intention through Student Satisfaction was significant ($p = 0.027$). This finding indicated that the total effect of social involvement operated indirectly through its ability to enhance students' satisfaction. This implied that student satisfaction had a mediating effect between student involvement and institutional loyalty. In other words, participation in extracurricular activities, peer organizations, and social networks improved student satisfaction, which in turn increased loyalty intentions. This result resonated with the findings of Cruz and De La Cruz (2020), whose study highlighted that social support services, peer interactions, and extracurricular opportunities contributed to higher student satisfaction, especially during challenging circumstances like the COVID-19 pandemic.

However, the direct effect of Social Involvement on Institutional Loyalty Intention was significant ($p < 0.001$). This implied that the mediating effect of student satisfaction between student involvement and institutional loyalty was only partial. This result supported the conclusions drawn by Palahan (2025), who argued that while social integration enhanced academic outcomes and emotional well-being, it was typically mediated by other factors—such as satisfaction and academic experiences—before it could influence loyalty or retention.

Moreover, the study's finding of a partial mediation effect confirmed the notion put forth by Supriyanto et al. (2024), who emphasized that student satisfaction acted as a crucial mediator in the relationship between institutional services and loyalty. In their studies, social and academic services influenced institutional loyalty primarily by improving satisfaction, rather than through direct pathways. The current study's results similarly indicated that while social involvement fostered satisfaction by creating positive interpersonal experiences and a sense of belonging, it required this mediating pathway to affect loyalty outcomes.

It was important to note that this study was conducted in a single private institution in Cagayan de Oro City, Philippines. As such, the findings might have had limited generalizability to other institutional contexts, particularly public universities and colleges or institutions in other regions. Future research should have replicated this study across diverse educational settings to validate the findings and enable cross-contextual comparisons.

CONCLUSION

Based on the findings, it was concluded that academic involvement did not significantly influence institutional loyalty among students. However, this effect could be mediated by other variables. This suggested that while students' participation in academic-related activities such as attending classes, engaging in discussions, and completing assignments was important, its impact on their loyalty to the institution was realized only when these academic experiences were influenced by other factors, such as social interaction, personal motivation, or institutional support services.

On the other hand, student involvement in non-academic activities had a significant effect on institutional loyalty. Student satisfaction played a partial mediating role in this relationship. This meant that students who actively participated in extracurricular activities, campus organizations, volunteer work, and other non-academic engagements tended to develop a stronger sense of attachment and loyalty to their institution.

It was recommended that higher education institutions consistently enhance the overall quality of student services and academic support systems. By ensuring that students' academic needs and concerns were addressed promptly and effectively, institutions could help foster positive experiences that contributed to their satisfaction. Regular feedback mechanisms, open communication between faculty and students, and a student-centered approach to academic management were deemed essential in cultivating a learning environment where students felt valued and supported. Furthermore, developing programs that reinforced students' sense of belonging and connection to the institution could strengthen loyalty. Initiatives that celebrated student achievements, provided academic recognition, and created meaningful traditions could deepen students' emotional attachment to their school. Lastly, future research was recommended to be directed toward exploring other factors that might mediate the indirect effect from academic involvement and student involvement toward institutional loyalty. Understanding these dimensions could offer a more comprehensive picture of what encouraged students to remain committed to their academic institution.

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