GPA and retention among college students: The role of student organization involvement and leadership

by

Marcus Dominique Kidd

B.S., Kansas State University, 2014
M.S., Kansas State University, 2016

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

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Department of Special Education, Counseling, and Student Affairs
College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2026

Abstract

Student involvement has long been recognized as an important contributor to academic success and persistence in higher education. While prior research shows positive links between involvement and outcomes, little is known about how specific involvement types and leadership roles relate to academic performance and retention within a single institution. This study examined the relationship between student organization participation and success, measured by GPA and retention, among undergraduates at Central Plains University.

Data from 5,610 undergraduates involved in student organizations during the 2024–2025 academic year were analyzed. Student involvement was classified into broad groups: (a) single curricular only, (b) multiple curricular, (c) single cocurricular only, (d) multiple cocurricular, and (e) both curricular and cocurricular. Leadership participation was compared between students with formal leadership roles and those without. Supplemental analyses examined GPA and retention across specific student organization categories. Analyses included ANOVA, Welch's ANOVA, Games-Howell post hoc, *t* tests, and chi-square tests to address four research questions.

Significant differences in GPA were found across student involvement types, with those involved in both curricular and cocurricular groups displaying higher GPAs. Leadership status was also associated with GPA, with student leaders reporting higher mean GPAs than non-leaders. Significant, though small, associations were identified between organization involvement, leadership, and retention. Further analyses showed similar small, significant differences in GPA and retention based on involvement categories. While statistically significant, these differences and associations were small, indicating involvement and leadership are just part of the factors affecting academic success.

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Abstract

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Completing this dissertation is not simply the closing of an academic requirement. It is the completion of a refining process.

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and persist through challenges. Your growth affirmed my central conviction — that engagement is not optional to student success; it is foundational.

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And I close this chapter with this truth:

What began as a research question became a confirmation of calling — and the same faith, community, and conviction that carried me to this defense will carry me into the work ahead.

Dedication

This dissertation is first and foremost dedicated to God.

There were moments in this journey when the vision felt bigger than my capacity. Moments when the feedback was sharp, the revisions were long, and the finish line felt distant. In those seasons, I was reminded that this calling was never mine to carry alone. God sustained me in the quiet hours, strengthened me when I felt stretched thin, and granted me peace when I questioned whether I could complete what I had started. This achievement is not simply the result of discipline — it is the evidence of grace.

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Chapter 1 - Introduction

The U.S. Department of Education has historically published reports and updates on various sectors of the U.S. education system, including the critical sphere of higher education. As the landscape of higher education has evolved in response to societal, economic, and technological changes, it has remained a crucial area of focus for federal policy and research. Among the many organizations contributing to this body of knowledge are several federally sponsored or affiliated entities that provide essential data, research findings, and policy recommendations aimed at improving the quality and accessibility of postsecondary education. While federal reporting practices may shift across political administrations, these agencies have maintained a long-standing commitment to producing publicly accessible data, a consideration that will be addressed more fully in later chapters.

The What Works Clearinghouse (WWC, 2024), affiliated with the U.S. Department of Education, provides evidence-based information to help educators and policymakers improve education, including higher education. It reviews research to identify effective interventions for student success, retention, and academic achievement. WWC's focus includes topics such as student retention and intervention effectiveness. Student involvement, encompassing participation in both curricular and cocurricular activities, significantly influences academic success and persistence, as evidenced by studies such as the National Survey of Student Engagement (NSSE, 2024) and Williams et al. (2019). Engagement is positively associated with higher grade point average (GPA) and retention, with research emphasizing the vital role of student involvement in achieving success (Akhtar et al., 2024; Astin, 1999; Kuh et al., 2008). Recent studies (e.g., Dinh & Zhang, 2021; Hur et al., 2024; Katsumoto & Bowman, 2023; Lungay & Villocido, 2024; Moreno Luna, 2024; Nasser & Hutson, 2025; Pearson et al., 2022;

Zilvinskis, 2019) also show that cocurricular activities improve critical thinking and academic performance, while student connections and mentoring promote resilience and retention in STEM. The Department of Education and related agencies, such as the WWC, work together to promote effective practices, especially related to student involvement, helping institutions address attrition and academic challenges. Other initiatives like the NCES provide data on student demographics, enrollment patterns, graduation, and performance, enabling institutions to develop better policies and improve campus life.

Findings from the research mentioned above have highlighted the pressing need for higher education institutions to address the challenges of a diverse and changing student body. With the increasing enrollment of non-traditional students, including first-generation college students, part-time students, and those from underrepresented minority groups, it is more important than ever for universities to adopt evidence-based strategies to support diverse student populations. Research from the U.S. Department of Education and affiliated organizations has consistently emphasized the role that student involvement opportunities can play in improving retention rates and fostering a sense of belonging among these student groups (Harrel-Hallmark et al., 2022; Kitchen, 2023; Soria & Stebleton, 2012). These findings reinforce the need for institutions to design inclusive student involvement programs that cater to the diverse needs of the modern student body. However, the extent to which different forms of student organization involvement relate to academic performance and retention within a specific institutional context remains unclear.

Despite the extensive literature available, much of the existing research was designed to identify generalizable associations at the national or multi-institutional level. Federal datasets and evidence syntheses necessarily rely on broad operationalizations of student involvement and

are not structured to account for how institutions locally define, categorize, and support student organizations. Additionally, much of the literature has framed student involvement as a binary construct (involved versus not involved) or has examined outcomes associated with participation in a single organization, without differentiating among types of involvement. As a result, these studies provide limited insight into how distinct types of student organization involvement within a specific institutional context relate to academic performance and retention outcomes. This limitation is particularly consequential for campus practitioners and administrators who must make localized decisions regarding student engagement strategies, resource allocation, and targeted retention interventions.

The research produced by organizations affiliated with the U.S. Department of Education, such as the WWC and NCES, provides invaluable insights into the factors influencing higher education success. These organizations produce extensive outcomes-based research, typically describing broad national trends rather than examining institution-specific patterns of student involvement and their relationship to academic success. This dissertation addresses a gap that federal reporting cannot fill, which is the need for institutionally grounded baseline evidence that can inform future analytic work and guide targeted interventions for student success. By disaggregating involvement into meaningful organizational categories and examining their differential associations with academic and retention outcomes, this study provides evidence that can inform targeted, institution-specific interventions. The findings from this study can inform the implementation of targeted interventions that strengthen and support student involvement and improve overall academic outcomes and persistence through to degree completion. These considerations highlight the need to clearly articulate the problem this dissertation seeks to

address: the absence of institution-level empirical evidence linking distinct forms of student involvement to academic success and retention.

Statement of the Problem

Despite the well-documented benefits of student involvement in higher education, there remains a significant gap in understanding how different types of involvement experiences (e.g., academic, honorary, community service, special interest) reflect critical academic outcomes, such as GPA and student retention. Research indicates that students engaged in campus life typically perform better academically and are more likely to complete their degrees. However, the specific relationships between these activities and academic performance have not been adequately examined. This gap highlights the need for research that differentiates between types of involvement to clarify their contributions to student success. The What Works Clearinghouse (WWC) and affiliates of the U.S. Department of Education emphasize the importance of evidence-based strategies for improving student outcomes, yet many institutions continue to rely on generalized approaches without sufficient data on how specific activities are associated with GPA and retention. Understanding these differences is crucial, as student success and retention increasingly serve as essential metrics for evaluating institutional effectiveness and securing funding, making insights from such research vital for enhancing student outcomes.

Moreover, student involvement programs are not one-size-fits-all. Previous studies indicate that certain forms of involvement may benefit some groups of students more than others, depending on their backgrounds, academic preparedness, and personal goals (Webber et al., 2013). As a result, participation in student organizations may yield differential benefits across involvement types rather than producing uniform effects for all students. Understanding the differential impacts of various involvement experiences is essential for developing targeted

strategies that can support diverse student populations in achieving academic success and retention.

While involvement in student organizations broadly contributes to student development, leadership roles represent a distinct level of engagement. Leadership positions often require sustained responsibility, decision-making, collaboration, and advanced time management, competencies that are closely aligned with academic performance and sustained student engagement (Dugan, 2011; Dugan & Komives, 2010). Thus, beyond understanding how types of student organization involvement relate to GPA and retention, it is equally important to examine whether students who assume leadership roles within those organizations demonstrate differential academic and retention outcomes compared to general members. Although leadership development within student organizations has been widely studied (e.g., Coscia, 2018; Dugan & Komives, 2010; Dugan, 2011; Igbal et al., 2023; Rosch & Stephens, 2017), limited empirical research has examined whether students who hold leadership roles demonstrate measurable differences in academic performance and retention compared to students who participate as general members. This gap represents an important extension of involvement research at the institutional level.

Given the importance of differentiating among both types of student involvement and levels of engagement within those organizations, this study examines how GPA and retention differ based on organization type and leadership status. By addressing these distinctions, the research seeks to provide evidence-informed guidance for institutions aiming to design more strategic and equitable student engagement structures that support academic performance and retention.

Purpose of the Study

The purpose of this study was to examine the relationship between student involvement and leadership in campus-based student organizations and key indicators of student success, specifically academic performance and retention. Institutions of higher education invest substantial resources in student organizations as a means of fostering engagement, persistence, and degree completion; however, empirical evidence remains limited regarding whether different forms of involvement are associated with differential academic outcomes. Much of the existing research conceptualizes involvement as a singular or binary construct, often overlooking variation in organizational context and depth of participation. This study seeks to address this limitation by disaggregating student involvement in ways that more accurately reflect the complexity of cocurricular engagement.

The first purpose of this study was to investigate the differences in academic performance and retention among students involved in different types of student organizations. Rather than treating involvement as a uniform experience, this study differentiates participation based on organizational context, recognizing that student organizations vary widely in structure, purpose, and level of engagement required. Examining outcomes across organization types allows for a more detailed understanding of whether certain forms of involvement are more strongly associated with student success and continued enrollment than others.

The second purpose of this study was to examine the differences in academic performance and retention among students who hold leadership positions in a student organization and those who do not hold leadership positions. Leadership roles often involve increased responsibility, sustained time commitment, and greater interaction with peers, advisors, and institutional structures. As such, leadership involvement may represent a different form of

engagement than general membership. Distinguishing between leadership and non-leadership participation allows this study to more precisely assess how level of involvement is associated with academic outcomes and retention.

Academic performance was measured by cumulative GPA, a widely accepted indicator of academic achievement, while retention was assessed based on students' continued enrollment from one academic year to the next academic year, specifically analyzed by using the information captured on the 20th day of classes being in session. These outcome measures are intentionally selected because they reflect institutional priorities related to persistence, student success, and degree completion.

Because student organizations engage an increasingly diverse student population, this study also reports descriptive characteristics of students involved in different types of organizations, including race, gender, and enrollment status. These characteristics are included to provide contextual information about the composition of the sample and to support transparent interpretation of the findings. Differences across demographic groups are not the primary focus of this study and are not examined as focal explanatory variables; rather, demographic characteristics are reported descriptively.

By analyzing both the type of organization and level of involvement, and by situating these analyses within the demographic context of the student population, this study aimed to provide a clear understanding of how cocurricular engagement is associated with student success in higher education.

Research Questions

This study was guided by the following research questions:

1. Does the cumulative grade point average (GPA) differ among college students involved in different types of student organizations?
2. Does the yearly retention differ among students involved in different types of student organizations?
3. Among those involved in student organizations, does the cumulative grade point average (GPA) differ between students who are in student organization leadership roles versus those who are not in a leadership role?
4. Among those involved in student organizations, does the yearly retention differ between students who are in student organization leadership roles versus those who are not?

Significance of the Study

Over the past several years, universities across the country have increasingly invested resources into student involvement initiatives as part of broader efforts to enhance student success. Research has consistently demonstrated that structured engagement, such as participation in student organizations and leadership experiences, is positively associated with academic outcomes, retention, and overall satisfaction with the collegiate experience (e.g., Kuh, 2008; Pascarella & Terenzini, 2005; Rosch & Collins, 2017; Sá, 2023). Providing data on these relationships enables administrators to allocate resources more strategically to high-impact involvement programs and to identify opportunities for new initiatives that support student learning and persistence. Within this context, leadership within student organizations represents a particularly important area for continued institutional investment, as recent scholarship indicates that student leaders often experience deeper engagement and stronger academic outcomes (e.g., Pike & Wiese, 2024).

Definitions

To provide clarity and to establish a foundation for this study, it is crucial to define key terms that frame the research. Understanding these concepts is vital for contextualizing the research problem and recognizing the need for continued investigation into the relationship between student involvement, academic performance, and retention.

Cocurricular involvement (also referred to as *extracurricular involvement*) includes participation in non-academic activities such as sports teams, arts programs, and student organizations (Kuh et al., 2008). Unlike curricular involvement, cocurricular involvement is characterized by its focus on activities outside the classroom or formal learning environments. These activities contribute to students' holistic development by fostering leadership skills, social integration, and personal growth (Sharma, 2024). Recent research has demonstrated that extracurricular involvement positively influences retention rates and enhances students' sense of community (Barbera et al., 2020; Forrester et al., 2018). Cocurricular activities complement academic and social involvement by providing additional opportunities for skill development and social connections (J. M. Allen et al., 2018). Such examples include community service organizations, fraternities/sororities, sports clubs, multicultural, religious, and special interest organizations.

Curricular involvement (also referred to as *academic involvement*) refers specifically to student participation in activities directly related to the academic degree they are pursuing, such as attending classes, joining study groups, participating in research, or engaging in academic clubs and societies (Banerjee, 2024; Pascarella & Terenzini, 1991; Risku & Holder, 2024). Unlike cocurricular involvement, which encompasses activities outside of academic pursuits, curricular involvement focuses solely on learning and intellectual development. Recent studies

have highlighted that curricular involvement significantly improves academic achievement, cognitive development, and long-term academic motivation (Day & Dotterer, 2018; Lei et al., 2018). Moreover, a sense of belonging derived from curricular engagement is closely tied to positive academic outcomes (Korpershoek et al., 2020).

Grade Point Average (GPA) is a widely recognized numerical representation of a student's academic performance, typically calculated on a 4.0 scale. It reflects the average grades earned in all courses and serves as a key indicator of academic achievement (Horn & Kojaku, 2001). GPA is frequently used by researchers to assess student success and to predict retention, as higher GPA levels are commonly associated with an increased likelihood of student persistence (e.g., Beech & Yelamarthi, 2024; Campione, 2023; Letz, 2024; Lewis-Jack & Blackman, 2024). Although GPA can vary across academic disciplines due to differences in curricular rigor and grading patterns, this study used students' cumulative institutional GPA, with disciplinary variation addressed in later methodological considerations.

Leadership refers to the ability to influence and guide individuals or groups toward achieving common goals (Carton, 2022). In the context of student involvement, leadership encompasses both formal roles, such as elected or appointed positions within student organizations, and informal leadership behaviors, including mentoring peers, initiating group efforts, or shaping organizational culture without holding an official title. These forms of leadership often involve taking on roles within student organizations, leading initiatives, or contributing to group efforts, which can enhance personal development, build valuable skills, and positively impact academic and retention outcomes (Komives et al., 2006). Research has shown that leadership experiences in college contribute to a greater sense of belonging, foster

critical thinking skills, and promote academic success (Dugan & Komives, 2010). In the context of this study, only formal roles were noted.

Student retention measures an institution's effectiveness in keeping students enrolled and successfully progressing through their studies (Hadjar et al., 2023; Samoila & Vrabie, 2023; Tinto, 1993), serving as a crucial indicator of both student success and institutional effectiveness (Acee et al., 2023; Tinto, 1975). A university's retention rate is often seen as a reflection of the quality of its academic programs, student support services, and overall student experience, with a high retention rate suggesting effective engagement and support that can help reduce attrition and dropout rates (Benavides-Dominguez, 2024).

Student involvement is a key focus of this study, emphasizing the concept of energy that students invest in their curricular and cocurricular experiences. This involvement refers to the extent to which students dedicate to activities that support their personal, social, and intellectual growth. As defined by Astin (1999), student involvement is the "amount of physical and psychological energy that the student devotes to the academic experience" (p. 518), suggesting that students who channel significant energy into campus life are more likely to achieve academic success. In this study, "academic experience" is understood broadly to include both formal coursework and the cocurricular environments that contribute to students' learning, development, and integration into the institution. Although examining the precise amount of involvement presents challenges and was not the primary focus of this study, the research will discuss various types of involvement that align with this notion of energy investment. This includes participation in academic clubs that develop intellectual and professional skills (Holzweiss et al., 2007), cultural organizations that offer social support and promote inclusivity (Lin, 2006), and service-oriented groups that encourage civic engagement and a sense of

community purpose (Renga, 2011). These examples illustrate just a few of the many pathways through which students can engage, highlighting a diverse spectrum of involvement opportunities that ultimately influence academic success, personal growth, and retention, while collectively underscoring the dynamic nature of student involvement and its essential role in the landscape of higher education.

Summary

This chapter establishes the foundational context and framework for this study, examining differences in academic performance and retention among students involved in different types of student organizations. This chapter begins with the introduction and significance of understanding student retention in higher education and highlights the gaps in knowledge concerning specific types of student involvement and leadership.

The statement of the problem articulates the limited understanding of the academic performance and retention rates among diverse students involved in different types of student organizations. The lack of empirical research regarding leadership in a student organization provides further justification for this study. The purpose of this study was to explore if there are differences in academic performance and retention among students who are involved in different types of student organizations, in addition to observing leadership status, providing actionable insights for designing effective student engagement programs that institutions can use in the future. Leadership positions may offer enhanced opportunities that can relate to skill development, time management, campus integration, and social capital—all of which could potentially contribute to stronger academic and persistence outcomes.

Key terms are defined in this chapter to clarify the concepts central to this research, including curricular and cocurricular types of organizations, leadership, retention, and student

involvement, grounding the study in relevant terminology. The chapter also emphasizes the significance of the study by demonstrating the potential for institutions to leverage data-driven insights to support student success. Finally, the research questions outline the study's primary inquiries into the differences in academic performance and retention, in addition to examining leadership status, among students involved in different types of student organizations, setting the stage for subsequent investigation.

In sum, this chapter presents a comprehensive foundation for this study, underscoring the critical need for targeted research on examining the differences in academic performance and retention among students involved in different types of student organizations in higher education, in addition to observing leadership status. The remaining chapters of this document examine relevant literature related to this topic, the research design, the results and interpretation, and recommendations for future research.

Chapter 2 - Literature Review

Chapter 2 offers a thorough overview of the literature concerning college student success, retention, and curricular and cocurricular involvement. The chapter begins by providing the theoretical frameworks guiding the study, including foundational theories of student involvement and retention, contemporary extensions, and an integrated framework informing the research design. It then examines literature on student success and retention, addressing the importance of retention, historical perspectives, academic performance, high-impact practices, active learning strategies, student attrition, and institutional approaches to supporting student success. The chapter further explores student involvement by reviewing its historical context, purposes, advantages, and documented impacts, with particular attention to leadership development, academic and cognitive outcomes, and connections to student success and retention. This section also categorizes forms of curricular and cocurricular involvement and examines academic, demographic, and socioeconomic factors that influence student participation. The chapter concludes by identifying gaps in the existing literature, particularly the need for additional empirical research examining differences in academic and retention outcomes across types of student involvement.

Theoretical Frameworks Guiding the Study

This section outlines the theoretical frameworks that informed the examination of the relationships among student involvement, GPA, and retention. Rather than relying on a single explanatory model, this study was guided by an integrative theoretical approach that drew upon foundational theories of student involvement and retention alongside contemporary psychological and sociological extensions. Collectively, these frameworks provide a multidimensional lens for understanding how students' academic performance and persistence

are shaped by their engagement with institutional environments, individual psychological processes, and broader structural factors. This theoretical grounding establishes the foundation for the variables, analytic approach, and research questions guiding the study.

Foundational Theories of Student Involvement and Retention

Astin's Theory of Student Involvement (1999) served as the primary theoretical framework guiding this study. Astin's work emphasized that student success is not solely determined by academic ability, but by the degree to which students invest physical and psychosocial energy into their educational experiences. His theory posits that greater involvement in both curricular and cocurricular activities fosters academic development, enhances GPA, and increases the likelihood of persistence. Because this study explicitly examines differences in academic performance and retention across types of student organization involvement, Astin's framework provided a direct and conceptually aligned lens for understanding how engagement influences student outcomes.

Within Astin's (1999) framework, leadership roles in student organizations may be conceptualized as an intensified form of involvement. Leadership positions typically require greater time commitment, decision-making responsibility, peer coordination, and interaction with institutional representatives such as faculty and administrators. As such, leadership roles may represent a higher degree of physical and psychological energy investment compared to general membership. From this perspective, students serving in leadership positions may experience deeper academic and social integration, potentially strengthening both academic performance and persistence. Examining leadership as a differentiated form of involvement therefore aligns with Astin's theoretical emphasis on the quality and quantity of student engagement.

Complementing Astin's theory, Tinto's Theory of Student Departure (1975, 1993) offers a retention-focused perspective that situates academic performance within broader processes of academic and social integration. Tinto argued that students who are meaningfully integrated into the academic and social fabric of an institution—through interactions with faculty, peers, and institutional systems—are more likely to persist. GPA functions within this model as both an indicator of academic integration and predictor of continued enrollment, reinforcing its relevance to the present study's focus on retention.

Bean's Causal Model of Student Attrition (1980, 1981) further extends to these perspectives by incorporating psychosocial and environmental factors that influence students' decisions to continue or depart. Bean emphasized the role of satisfaction, institutional commitment, and external pressures, such as financial obligations, in shaping retention outcomes. Although this study does not directly measure these psychosocial constructs, Bean's model provides important contextual insight into how factors beyond involvement and academic performance may influence persistence. This multidimensional perspective supported the present study's examination of how distinct forms of student involvement may differentially relate to academic performance and retention outcomes.

Contemporary Extensions and Contextual Perspectives

Building on these foundational theories, contemporary scholarship has expanded retention models to incorporate psychological, sociological, and structural dimensions of student persistence. Psychosocial frameworks, such as Weiner's Attribution Theory (1979) and Bean and Eaton's Psychological Model of Student Retention (2001), have highlighted how students' perceptions of success, self-efficacy, and coping mechanisms shape academic behavior and persistence. While these constructs were not directly measured in the present study, they offer

valuable interpretive context for understanding variation in student outcomes. Recent literature has also emphasized the influence of structural and socioeconomic factors on involvement and retention. Studies examining inequities in access to involvement opportunities (Naylor & Mifsud, 2020) and the impact of financial pressures (Aina et al., 2022) underscored that student engagement does not occur in isolation. These perspectives reinforce the importance of examining student involvement within the broader institutional and social environments that shape students' educational experiences.

Integrated Theoretical Framework for the Present Study

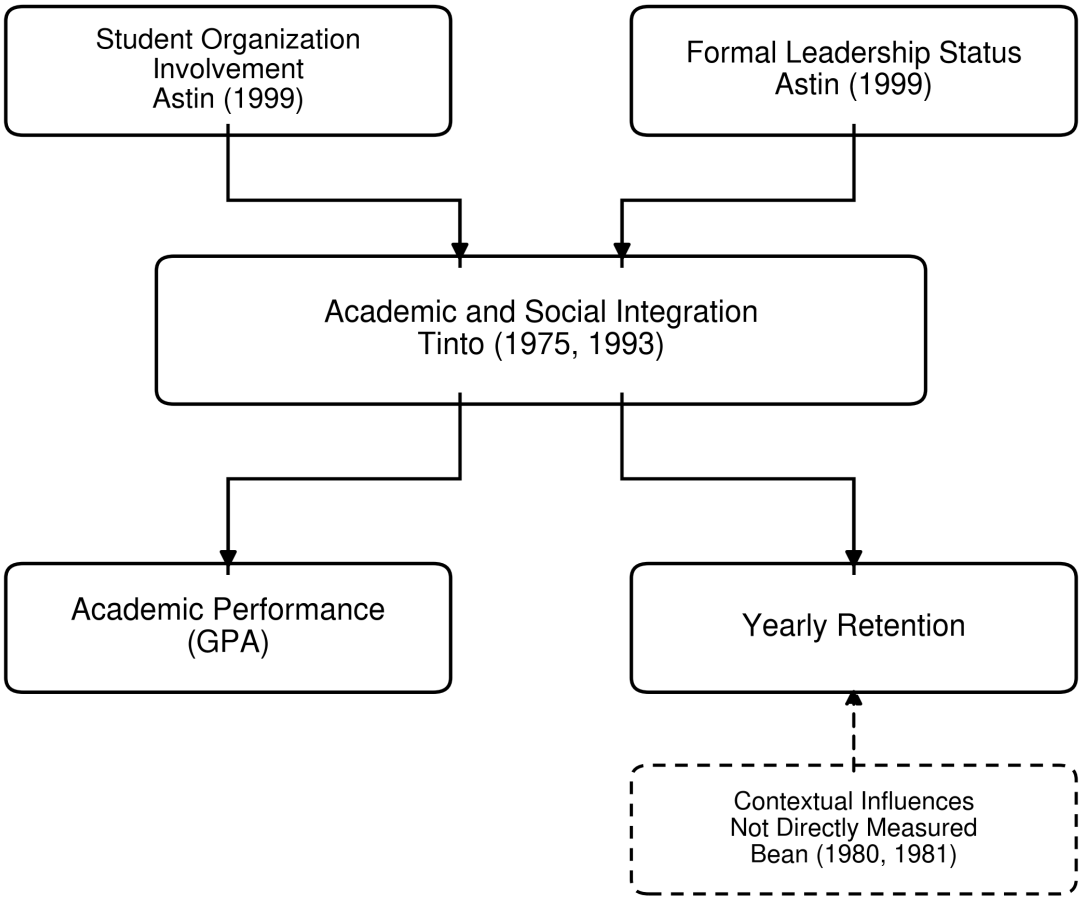
Guided primarily by Astin's Theory of Student Involvement (1999), this study conceptualizes student engagement as the central mechanism linking institutional experiences to academic outcomes and retention. Astin's framework provides the core explanatory lens for examining how students' participation in curricular and cocurricular activities relates to GPA and retention. Tinto's Theory of Student Departure (1975, 1993) and Bean's models of attrition and retention (1980, 1981) complement this perspective by situating academic performance within broader processes of academic and social integration, psychological commitment, and external influences. Together, these theories form an integrated framework in which student involvement—ranging from general participation to formal leadership roles—operates as the primary driver of academic success, while institutional, psychological, and socioeconomic factors shape the conditions under which involvement translates into sustained enrollment.

Figure 2.1 presents the integrated theoretical framework guiding the present study. Astin's (1999) theory provides the primary lens for conceptualizing student organization involvement and formal leadership, while Tinto's (1975, 1993) and Bean's (1980, 1981) theories provide complementary perspectives on integration, contextual influences, and retention. The

figure distinguishes between the constructs examined in the study and the contextual factors that were theoretically relevant but not directly measured.

Figure 2.1

Integrated Theoretical Framework for the Present Study



Note. Solid elements represent theoretically informed relationships involving the study's primary variables. The dashed element represents contextual influences identified by Bean (1980, 1981) that were theoretically relevant but not directly measured. The pathways do not indicate that mediation was tested or that causal relationships were established.

Student Success and Retention

This section examines the historical and theoretical foundations of student success and retention in higher education, with a particular focus on how these concepts have evolved over time. It explores key frameworks outlined in the previous section to highlight the interplay among academic, social, psychological, and economic factors that influence student persistence.

Additionally, the role of academic performance, particularly as measured by GPA, is analyzed as a critical predictor of retention. The section also considers contemporary approaches to retention, emphasizing high-impact practices, active learning strategies, and data-driven interventions that address the diverse challenges faced by modern students. By integrating historical insights with modern advancements, this section aims to provide a comprehensive understanding of the multifaceted nature of student success and retention in higher education.

Importance of Retention

Retention in higher education supports students' success and well-being by maintaining access to resources that aid academic achievement and mental health. It also reflects the institution's capacity to foster an inclusive and supportive environment (Darame & Dyal, 2024; Gibson, 2024). However, it is essential to recognize that retention alone does not guarantee positive well-being, as students may persist despite challenges such as unmet emotional or financial needs (Abbasov, 2024; Bonilla & Minaya, 2024). Students who persist in college are more likely to achieve their academic and career goals, have higher earning potential, and experience greater job satisfaction (Pascarella & Terenzini, 1991). Research has further confirmed that retention is closely linked to students’ sense of belonging and institutional support, which fosters academic success and life satisfaction (McNaughton-Cassill et al., 2021; Vavasseur, 2024). Institutions with high retention rates are more likely to attract and retain

students, faculty, and staff, and may also have greater financial stability (Kuh et al., 2008). Recent studies underscore the role of well-being initiatives and social support systems in improving retention rates, which also benefits institutional outcomes (Antaramian, 2017; Sussman, 2020). Furthermore, satisfaction with academic advising and engagement in supportive programs contribute significantly to persistence and long-term academic success (Schreiner, 2010; V. Williams, 2024). By integrating evidence-based strategies, institutions can strengthen their retention efforts, promoting equitable outcomes for diverse student populations (Ojeda et al., 2011).

Understanding retention is important, and thus, examining the research studies that reference factors related to retention is crucial to identifying the need for further research. These factors include financial aid (Astin, 1975; Bettinger, 2004; Zimmerman & Parker, 2023), student characteristics (Astin, 1997; Stokes, 2017), retention programs (Bean & Eaton, 2001), event attendance (Bergen-Cico & Viscomi, 2012), student organization involvement, which these studies conceptualize broadly rather than by specific organizational type (Bialka et al., 2017; Cleofas, 2020; Kuk & Banning, 2010; Kwon et al., 2020; Moore et al., 1998; Vetter et al., 2019; Wilder & Kellams, 1987), residency status (Braxton et al., 2014), emotional intelligence (Kastberg et al., 2020), intensity of campus activity participation (Knifsend, 2020), mental health (S. L. Johnson, 2024; N. S. Thomas et al., 2021), admissions (Tinto & Wallace, 1986), first-year experiences (Fluharty, 2020; Frazier, 2024; Wolcott, 2006), and sense of belonging (Ribera et al., 2017; Shaulskiy, 2016; Strayhorn, 2018). Kuh (2009) and Carini et al. (2006) contributed findings on the general aspects of retention that relate to multiple factors. Among the expansive research conducted, the specific differences in retention among students involved in different types of student organizations have yet to be fully explored.

A substantial body of literature emphasizes student involvement and autonomy-supportive engagement as central mechanisms influencing persistence in higher education. One strand of research examined the positive influence of student involvement on academic autonomy and purpose clarification for senior students (J. S. Smith & Griffin, 1993). These findings align with foundational retention theories that conceptualize persistence as a function of students' active engagement with institutional environments rather than solely as an outcome of pre-college characteristics (Tinto, 1975, 1993). Recent studies have expanded upon this foundational framework by examining the motivational dimensions through which involvement influences retention. For instance, Bowden et al. (2021) introduced a holistic model emphasizing emotional and autonomous involvement as central to engagement and persistence. This was accomplished by examining the interrelationships between students' expectations and involvement, and its role in shaping affective, social, behavioral, and cognitive engagement—which jointly can motivate students' persistence and retention. Additionally, motivational factors have been shown to play a crucial role, as illustrated by Azila-Gbettor et al. (2021), who linked self-efficacy and autonomous motivation to higher engagement. Their cross-sectional study involved surveying university students in Ghana, where it was demonstrated that both self-efficacy and autonomous motivation were significant predictors of cognitive, behavioral, and emotional engagement, which can affect retention. Together, these studies emphasize that involvement contributes to retention not merely through participation frequency, but through its capacity to support autonomy, motivation, and sustained engagement.

In addition to involvement-based mechanisms, research on retention has increasingly examined the role of institutional context and instructional modality in shaping students' persistence decisions. Martin and Borup (2022) explored online learning through a conceptual

and integrative review from educational psychology, educational technology, and the learning sciences, due to its increased use in past years, undoubtedly due to the COVID-19 pandemic and the need for continued education and engagement during that time. Rather than collecting original data, the authors synthesized existing research to reconceptualize online learner engagement and identify key dimensions and environmental factors that influence it, emphasizing the importance of autonomy support to maintain engagement in digital settings. Their findings highlight autonomy support as a critical factor in maintaining student engagement in digital contexts, suggesting that even in virtual environments, opportunities for choice, agency, and self-directed learning remain essential for persistence to occur. This line of inquiry reinforces the broader retention literature by demonstrating that autonomy-supportive practices are relevant across instructional modalities, though they may manifest differently depending on the learning environment.

Motivational processes further contribute to understanding why students persist in higher education, particularly in relation to engagement across academic and cocurricular contexts. Building on Weiner's (1979) attribution theory discussed previously, students' interpretations of academic success and failure influence their expectancy beliefs, emotional responses, and subsequent engagement behaviors. Within the context of higher education, these motivational processes shape how students interpret their academic experiences and involvement opportunities, which, in turn, can affect their commitment to continued enrollment. When students attribute their success or failure to controllable factors and experience positive motivational feedback through engagement, they are more likely to remain invested until degree completion. This perspective underscores the importance of examining not only whether students are involved, but how involvement experiences interact with motivational beliefs that support

persistence over time. Building upon the retention framework previously discussed, Tinto (2010) provided foundational elements of student retention success: expectations, support, feedback, and involvement. These factors suggest that institutions should put greater focus on these areas. Tinto asserted that student involvement is inevitable within the collegiate experience; however, the nature and direction of that involvement significantly influence persistence outcomes. Recent studies reinforce these principles, highlighting the critical role of structured support, timely feedback, and engagement opportunities in retention strategies. Cross et al. (2023) utilized faculty focus groups to gain more insight into early academic support at a university in the United Kingdom. In this context, "tutors" refer to faculty or academic advisors (rather than peer tutors, as commonly understood in U.S. higher education). Tutor approachability, clarity in communication, and timely feedback are important factors for students, especially during their first semester. Their findings showed that personalized tutor support and dialogic feedback are key to enhancing first-year student engagement and progression. Gopalaratnam et al. (2024) explored how customized support and strategic partnerships can enhance student success. Tailored academic advising, faculty mentorship, and internal and external collaborations (e.g., student organization involvement) were all showcased to demonstrate how these initiatives led to higher retention and academic performance among engineering students. Ragusa and Crampton (2024) shared their findings regarding the potential hindrance of digital learning environments as it relates to classes, student organization involvement, and other activities. Through a sociological analysis, the researchers attributed the potential hindrance to students being disengaged from technical distractions. Proper scaffolding (i.e., deliberate design and facilitation) was shown to foster flexible learning for students that could positively affect their performance. From these researchers, it can be suggested that there is significance in aligning

student and institutional expectations to promote retention (Gopalaratnam et al., 2024; Ragusa & Crampton, 2024).

Effective data collection is crucial for understanding and improving student success in higher education. Turner (2004) asserted the importance of recording experiences related to the collegiate experience and cited the lack of data for evaluating and better understanding the enrollment-completion relationship as an issue that could be addressed with better data. Recent studies highlight the critical role of robust data collection and analysis in understanding factors that influence college completion rates. For instance, V. Williams (2024) evaluated institutional data to assess the effectiveness of well-being programs in enhancing student retention and completion. She found that participation in these programs was associated with improved student retention and completion outcomes. Additionally, Calabria Pacheco (2024) examined the interplay of socioeconomic, psychological, and academic factors in student retention, dropout, and re-enrollment behaviors. He found that students who persisted demonstrated stronger academic performance, fewer economic barriers, and higher levels of intrinsic motivation, whereas students who dropped out experienced greater financial constraints, lower academic performance and more extrinsic motivation, with re-enrolled students reflecting intermediate characteristics across these variables. Together, these studies emphasize the need for comprehensive data-driven interventions and reinforce Turner's original argument: that high-quality data collection is essential to identifying factors that shape the student success experience in the enrollment-completion continuum.

Taken together, researchers often examine the relationship between the quality and quantity of student organizations and their impact on college student retention. However, the methods and frameworks used to study this relationship vary significantly, leading to a lack of

standardization in the field (Arghavani et al., 2024; Ynalvez et al., 2024). Despite these inconsistencies, the literature consistently emphasizes the importance of retention-focused initiatives for higher education institutions. By prioritizing student retention, colleges and universities can enhance graduation rates, promote academic achievement, and foster a supportive and engaging learning environment. Implementing comprehensive support systems and targeted interventions enables students to persist through challenges and succeed in their academic journeys. Consequently, student retention emerges as a critical component of institutional effectiveness, contributing to both individual student well-being and the broader reputation and impact of the institution.

Historical Perspectives on Student Success and Retention

While contemporary research highlights the significance of retention initiatives in fostering academic success and well-being, it is equally important to examine the historical development of retention practices. Understanding the origins and evolution of retention frameworks offers valuable insights into how institutions have addressed the challenges of student persistence over time. This historical lens not only contextualizes current efforts but also illuminates how past approaches have shaped modern strategies for enhancing student retention and success.

The study of student success and retention has its roots in the mid-20th century, when higher education institutions began to analyze the factors influencing students' decisions to remain enrolled. Retention has long served as a key indicator of institutional effectiveness when observing a student's enrollment and progress to degree completion (e.g., Hadjar et al., 2023; Samoila & Vrabie, 2023; Tinto, 1993). Early challenges in retention were stark, with some systems reporting rates below 50%, reflecting significant barriers to student persistence and

degree completion (National Center for Education Statistics, 2022; Zając & Komendant-Brodowska, 2019). Over time, these rates improved, reaching 64% at four-year institutions in the United States by 2022 (National Center for Education Statistics, 2022).

Academic Performance and Retention: The Role of GPA

As the understanding of student retention evolved, researchers also began exploring how academic performance, specifically measured by GPA, correlates with retention. GPA has emerged as a key predictor of student success and persistence, with numerous studies demonstrating that higher GPAs are positively associated with a student's likelihood of continuing their education (Kuh et al., 2008; Pascarella & Terenzini, 2005). Recent studies reaffirmed this relationship, highlighting the role of GPA in academic success and institutional strategies. For example, de Vries et al. (2024) researched how person-environment fit and study choice affected students' academic success. In their analysis, person-environment fit was not only shaped by course content but also by relational and experiential factors that could influence belonging. Through this research, they found that students whose personal interests and skills aligned with their academic environment reported better academic performance and lower dropout rates. Similarly, Xu et al. (2024) conducted a systematic review to examine active recall strategies and their association with increased academic achievement. It was observed that engagement with the learning material is enhanced by active rather than passive study methods. Their review concluded that techniques such as spaced repetition, self-quizzing, and group retrieval improved academic performance across different disciplines. Although Xu et al. (2024) did not examine retention directly, their findings emphasize that academic performance, often operationalized through GPA, is responsive to instructional and cognitive strategies, thereby reinforcing GPA's centrality in institutional frameworks. In a different context, Kolawole et al.

(2023) analyzed the relationship between student satisfaction and academic performance in a Nigerian polytechnic environment. In their survey research, a significant positive correlation was observed between satisfaction with learning environments and academic achievement. From this, they were able to conclude that when students feel supported and satisfied with their educational experiences, they tend to perform better academically. Collectively, these studies have shown that the environments in which students are exposed to are critical to their academic success, and institutions have increasingly focused on academic performance as a key factor in retention strategies, recognizing that GPA serves as a significant indicator of a student's ability to meet academic demands.

High-Impact Practices and Their Effects

The foundational work of Astin (1999) and Tinto (1993) underscores the critical connections between academic performance, social integration, and institutional support in promoting student success. While their theories established the importance of these factors, subsequent research has explored specific strategies and practices that operationalize these ideas in higher education. High-impact practices, which include undergraduate research, internships, mentoring, student organization involvement, and other experiential learning opportunities, have emerged as actionable approaches to enhance both academic and social integration (Dinh & Zhang, 2021; Katsumoto & Bowman, 2023; Zilvinskis, 2019). These practices not only align with the principles articulated by Astin and Tinto but also provide measurable ways to foster student engagement, improve GPA, and increase retention across diverse student populations (Kuh et al., 2008).

These practices enhance academic performance and promote persistence, suggesting that GPA is not just a reflection of individual ability but is influenced by the larger educational

environment. For instance, Zilvinskis (2019) used empirical data to examine the quality and quantity of participation in high-impact practices. When students perceived the high-impact practices as meaningful and well-executed, they reported higher increases in learning and engagement. Through this research, they found that not all high-impact practices are equally effective, and that the quality of implementation can influence the outcomes. It was also observed that differential effects were observed among racial and ethnic minority populations, first-generation, and transfer students. Dinh and Zhang (2021) explored high-impact practices and how they can affect STEM degree attainment among students who transferred from community colleges. Similar to the students in Zilvinskis' (2019) study, those participating in high-impact practices were observed to show higher rates of persistence and graduation in STEM fields. This study uniquely showed how high-impact practices can be valuable for students navigating complex transitions. Additionally, Katsumoto and Bowman (2023) researched high-impact practices among international students. Using national survey data, they noted that international students who engaged in high-impact practices, such as research, saw improved GPA and persistence rates. High-impact practices were seen to be especially meaningful for students navigating cultural adjustments and academic transitions. Their research emphasized the importance of high-impact practice implementation across diverse settings. More recently, Turnquest et al. (2024) studied transfer students and found that participation in high-impact practices significantly predicted term GPA, with each additional practice being associated with a small incremental increase in GPA and participation accounting for a small variance in GPA. These collective findings can suggest that engagement in high-impact educational experiences may contribute to academic success and persistence, while also demonstrating that the magnitude and consistency of these relationships can vary across practices, populations, and outcomes.

Together, these research studies reinforce the evolving understanding of GPA not merely as a reflection of individual ability but as a product of a supportive educational environment. The connection between GPA and retention remains critical as institutions monitor student success. While early research primarily focused on enrollment retention, increasing evidence shows GPA as a key predictor of long-term success, with foundational insights from Astin (1999) and Tinto (1993) underscoring the importance of academic performance, student engagement, and institutional support. In today's context, fostering a comprehensive approach to retention that addresses academic, social, and financial barriers—through high-impact practices such as student organization involvement—can significantly enhance student engagement and success in higher education.

Active Learning as a Retention Strategy

While high-impact practices illustrate how structured experiences can enhance engagement and persistence, active learning extends these benefits into the classroom through instructional strategies that directly promote integration and student success. As institutions seek to enhance student retention, the shift towards active learning strategies has gained prominence as a central pedagogical approach. This approach not only addresses the challenges of student attrition but also aligns with the foundational principles of Tinto's (1975, 1993) theory of student departure, which emphasized the importance of integration in both academic and social spheres. By involving students in collaborative and hands-on activities, active learning cultivates a richer educational experience, allowing for the practical application of theoretical concepts. This transformation in learning environments has been shown to deepen connections among students, their coursework, and institutional faculty, ultimately fostering a sense of belonging that is critical for academic persistence (Dominguez et al., 2019; Hartikainen et al., 2019; Yannier et al.,

2021). Thus, understanding the role of active learning not only addresses immediate academic concerns but also promotes a more integrated and supportive community for students.

In addition to promoting engagement, active learning also impacts academic performance, particularly through its connection to time invested in educational activities. Bloom's (1977) research on time and learning demonstrated that the amount of time students dedicated to both overt (e.g., group projects, discussions) and covert (e.g., individual study, cognitive processing) learning activities strongly correlated with academic success. The more time and effort students invested in their learning, the more likely they were to achieve high GPAs and to persist in their academic programs. In this way, active learning serves as a classroom-level application of involvement theory, translating the investment of time and energy into structured pedagogical practice. By intentionally designing instructional environments that require sustained cognitive and behavioral participation, institutions can operationalize the principle that student success is shaped by the quality and quantity of effort students invest in their academic experiences. Together, these perspectives emphasize the importance of active involvement, whether inside or outside the classroom, to reducing attrition and improving retention.

Student Attrition: Why Students Leave College

To effectively address the critical issue of student retention, it is crucial to first understand the factors contributing to student attrition. While retention and attrition are related concepts, they are not simply opposites. Retention focuses on conditions that support persistence, whereas attrition refers to the process by which students depart an institution prior to completing their degree requirements (Braxton et al., 2014; Tinto, 2012). Understanding attrition as a distinct construct allows researchers to explore the specific academic, social, financial, and

personal circumstances that lead students to leave college, providing insights that cannot be fully captured through retention analyses alone. While student retention has been thoroughly examined, the complexity of student attrition—the reasons students leave college—has not been fully unpacked. Attrition directly reflects institutional effectiveness and profoundly impacts students' academic futures, influencing their economic mobility and personal fulfillment (e.g., Aina et al., 2022; Bernardo et al., 2016; Maldonado et al., 2021; Peters et al., 2019; Shafiq et al., 2022). Shcheglova et al. (2020) highlighted this in their research related to the first-year experience and student attrition patterns. The researchers utilized a longitudinal study at a Russian university, combining institutional data with survey data to examine first-year experiences related to attrition. Academic integration, social involvement, and perceptions of student support services during a student's first year were observed to significantly influence whether a student continued or withdrawn at the institution. They concluded that students who were engaged in campus life, through peer interactions, cocurricular activities, and mentorship, were more likely to persist into their second year. Attrition also affects an institution's reputation, financial stability, and overall success, with research emphasizing that predictive models and institutional interventions can significantly enhance retention outcomes (Hassani & Wilkins, 2022; Yu et al., 2021).

Understanding the root causes of attrition provides invaluable insight for developing effective interventions. Early identification of at-risk students using academic data and machine learning techniques has been proven to improve student outcomes and retention rates (Fahd & Miah, 2024; Ortiz-Lozano et al., 2020). Moreover, redefining institutional metrics and focusing on tailored retention programs can lower dropout rates and align with broader goals of student satisfaction and organizational success (Barbera et al., 2020; Maldonado et al., 2021).

Institutions that integrated these strategies not only strengthened their reputation but also fulfilled their mission of supporting student success and mobility (Millea et al., 2018).

Early research on student attrition, notably Bean's (1978) foundational work, identified key factors that drive students to leave college, including academic struggles, lack of commitment, and uncertainties about the value of a college degree. Bean's (1981) model of student attrition remains a pivotal framework, showing how personal factors such as satisfaction, goal commitment, and institutional fit interact with external pressures, such as financial concerns and job prospects, influence a student's decision to persist or drop out. Bean's research also highlighted gender differences, noting that women more frequently leave due to academic challenges and doubts about degree value, while men are more likely to exit because of low commitment and dissatisfaction with their student roles. These insights suggest that student attrition is a multifaceted issue, shaped by both personal and external factors, necessitating targeted institutional responses.

While Bean's (1981) model highlighted the significance of a holistic student experience in understanding college attrition, it is equally important to recognize the broader social, psychological, and economic pressures that students face. Behr et al. (2020) expanded on this further by synthesizing research on student attrition, identifying several key predictors, including academic preparedness, financial stress, mental health, and institutional fit. These factors suggest that while academic performance and engagement are critical, they must be viewed in the context of students' overall well-being. Institutions that fail to address these broader challenges risk losing students to circumstances beyond their control. This risk reinforces the need for a multifaceted approach to retention that addresses not just academic challenges but the socio-economic realities students face.

Overall, student attrition is a complex issue shaped by a range of academic, personal, and institutional factors. Taken together, the foundational models of Bean (1978, 1981), Tinto (1975, 1993), and the more contemporary synthesis by Behr et al. (2020) reveal how the field has moved from conceptualizing attrition as primarily an academic or social integration issue to recognizing it as a multidimensional phenomenon shaped by psychological well-being, financial pressures, and institutional responsiveness. While active learning, faculty engagement, and institutional support are evidence-based strategies for improving retention, addressing the broader social, psychological, and economic factors at play is equally important. Institutions must adopt a holistic, student-centered approach to combat attrition, focusing on creating an inclusive, supportive environment where students feel connected, valued, and capable of achieving their academic goals.

Institutional Support and Holistic Retention Strategies

To truly understand the factors contributing to student success, it is essential to recognize the profound impact of institutional support. This encompasses a comprehensive array of initiatives, including academic advising, mentoring programs, mental health services, career development resources, and cocurricular engagement opportunities. Together, these elements play a pivotal role in fostering an environment where students can thrive (Career Leadership Collective, 2021; Kinzie, 2022; Taylor & Dart, 2023).

Recent research has further emphasized the importance of layered mentoring structures in supporting student resilience and persistence. Nasser and Hutson (2025) described a multimodal mentoring framework in STEM education that integrates academic guidance, psychosocial support, and wellbeing-centered practices to promote student success. Their work suggests that mentoring models that intentionally address both academic performance and emotional well-

being may strengthen students' capacity to persist through academic challenges. Such approaches reinforce the broader argument that retention strategies must be comprehensive, coordinated, and developmentally responsive (Tinto, 2010). Chickering et al. (1969) and more recent studies by Lee et al. (2020) explored the developmental impacts related to serving as a mentor on students' leadership skills. In this research, they found that mentorship provides rich, real-world learning experiences that cultivate personal and professional growth. Through quantitative analysis, it was observed that students who served as mentors reported enhanced communication, problem-solving, and team leadership abilities.

Beyond structured mentoring programs, faculty-student relationships play a critical role in fostering persistence. Students who feel supported by faculty and staff are more likely to persist, as these interactions heighten their engagement and sense of belonging. For instance, Guzzardo et al. (2021) conducted interviews with undergraduate students and found that faculty who demonstrated care and personal interest made a significant difference in students' persistence and confidence. Similarly, Trolian and Parker (2023) synthesized research that emphasized the importance of meaningful and ongoing relationships between students and faculty, and that the relationships can improve learning, motivation, and retention. Through their research, they found that faculty engagement is most effective when it extends beyond the classroom and supports holistic student development. As reflected in interviews, Hogan (2020) also demonstrated that supportive professor-student interactions significantly enhanced students' motivation and persistence.

Institutional support also involves ensuring alignment between students and their broader academic and social environments. Ajayi et al. (2021) explored how the person-environment fit affects minority students and retention rates and found that the three dimensions of person-

environment fit, including academic, cultural, and social contexts, significantly impacted retention rates for minority students. Interventions at the faculty, staff, and administrative levels were observed to foster stronger alignment of the person-environment fit of students. This collection of research underscores the importance of holistic institutional strategies, emphasizing the integration of diverse campus resources to promote student success. This holistic research demonstrates that retention strategies must extend beyond the classroom to involve a holistic support system that nurtures students academically, socially, and emotionally.

Contemporary Approaches to Student Success and Retention

Building on these historical foundations, contemporary research has adapted retention strategies to address the evolving challenges and opportunities of today's higher education landscape. Tinto's (2010) updated framework continues to inform discussions on retention, emphasizing factors such as expectations, support, feedback, and engagement. However, modern applications of these principles have become more sophisticated, incorporating technological advancements and data-driven strategies.

For instance, academic advising, traditionally a cornerstone of student support, has transformed with the integration of digital tools such as online platforms and real-time progress tracking. Similarly, predictive analytics and educational data mining have become pivotal in identifying at-risk students. By analyzing behavioral and academic data, institutions can proactively intervene before disengagement escalates, tailoring support to individual student needs (Shafiq et al., 2022).

Complementing these data-informed approaches, contemporary empirical studies have employed advanced statistical modeling to better understand the complex factors influencing persistence. For example, Hafer et al. (2021) utilized structural equation modeling to examine

student retention at a two-year institution, identifying interrelated academic, institutional, and environmental predictors of persistence. Their findings reinforce the multifaceted nature of retention processes and demonstrate how modern quantitative techniques can capture the dynamic interactions among factors shaping student success. Such approaches reflect the broader shift toward evidence-based, analytically rigorous retention strategies within higher education.

Today's research highlights the need to address the unique challenges faced by non-traditional learners, including part-time students and adult learners. Flexible learning environments, personalized academic support, and efforts to build a sense of community are crucial for retaining these students, who often juggle multiple responsibilities (Peters et al., 2019). Furthermore, the societal benefits of student retention are increasingly recognized. Higher levels of educational attainment contribute to improved economic outcomes, better health, and enhanced civic engagement, underscoring the broader significance of persistence in higher education (Baum et al., 2013; Brady et al., 2020).

As institutions strive to adapt to the demands of a diverse and dynamic student body, adaptive retention models have emerged. Maldonado et al. (2021) proposed real-time adjustment of retention strategies based on student performance and engagement metrics. Such models are particularly relevant for online learners, who may lack the in-person support systems available to traditional students. By monitoring virtual engagement indicators, institutions can intervene effectively, ensuring that students remain on track.

In summary, while the foundational theories of Astin (1977, 1993, 1999), Bean (1978, 1981), and Tinto (1997, 1998) remain relevant, contemporary approaches to student retention reflect significant advancements in technology, data analytics, and student engagement strategies. These developments highlight the ongoing evolution of higher education, where

institutions must balance historical insights with innovative practices to address the complex challenges of student success and retention in a rapidly changing world.

Understanding Student Involvement

Building upon the discussion of student success and retention, it is essential to consider one of the most influential factors driving these outcomes: student involvement. Research consistently demonstrates that students who actively engage in campus activities, organizations, and academic opportunities are more likely to persist, achieve academic success, and develop essential life skills (Astin, 1999; Kuh, 2008; Pascarella & Terenzini, 2005). Understanding the multidimensional nature of student involvement provides deeper insight into how higher education institutions can create environments that promote both retention and holistic development.

This section provides a comprehensive review of the historical, theoretical, and practical dimensions of student involvement in higher education to clarify its role within contemporary discussions of student success and retention. It begins by exploring the historical context of student involvement, tracing its evolution from early cocurricular activities to its vital role in fostering student success. The discussion then shifts to the goals and purposes of involvement, emphasizing its critical impact on academic achievement, retention, and personal development. Specific categories of involvement, such as curricular and cocurricular activities, are examined to illuminate the diverse ways students engage with their institutions. The section also investigates the benefits of involvement, highlighting its influence on academic outcomes, leadership development, and inclusivity, while considering potential challenges, such as over-involvement and demographic disparities. Finally, it addresses key factors influencing student participation, including academic program design, course load, and socioeconomic constraints, to offer a better

understanding of how institutions can support diverse student populations effectively. Together, these discussions provide a robust foundation for examining how different forms of involvement may contribute to variation in academic performance and retention, an essential focus of the present study.

Historical Context of Student Involvement

The overarching goal of this research was to examine the differences in academic performance and retention among students involved in different types of student organizations. The second goal of this research was to examine leadership status of involved students to examine differences in academic performance and retention. To better understand what has and has not been observed regarding involvement, a review and analysis of past research is crucial. While students have always been involved in curricular activities as part of their collegiate experience, the history of studying cocurricular involvement—activities beyond the classroom—emerged in the early 20th century as institutions sought to foster holistic development. According to Astin (1993), this period saw the rise of formalized cocurricular activities, such as student organizations, athletics, and service groups, as a means of engaging students in ways that complemented their academic pursuits. As colleges and universities grew both in size and scope, so did these opportunities for student involvement, leading to the development of numerous clubs, organizations, and activities (Blimling & Whitt, 1999). These opportunities have been shown to impact student success and retention positively (Kuh et al., 2008).

Several researchers have explained the importance of student involvement (e.g., Astin, 1993; Montelongo, 2002; Tinto, 1993) and have connected it to student success, which impacts retention. While this is the case, there seems to be information deficits related to the types of student organizations that students are joining that contribute to their overall success.

Montelongo (2002) reaffirmed the foundational aspects of this research by attributing student involvement to greater student satisfaction with their college experience, increased community engagement, and intellectual growth. While the reaffirmation credits the vast amount of research conducted before the 2000s, there continues to be missing information: the examined differences in academic performance and retention among students involved in different types of student organizations have yet to be explored. This raises the question, "When examining students involved in different types of student organizations, are there any differences in academic performance and retention rates?" During previous research efforts, certain factors were either absent or deemed too early to explore regarding intricate subtopics.

While many researchers have conducted varied research regarding student success, Pace (1982) contributed to this field by exploring the quality of effort, emphasizing that student learning and success are shaped less by students' background characteristics or institutional prestige and more by the extent to which students actively engage in educationally purposeful activities during college. Using data from 12,000 responses to the College Student Experience Questionnaire from college students at more than 40 colleges across the United States over a three-year period, Pace demonstrated that students' time, effort, and involvement in academic and cocurricular experiences were strongly associated with learning and developmental outcomes. Building on Pace's emphasis on effortful engagement and extending beyond traditional settings, Nkomo et al. (2021) used a systematic review to examine student engagement in technology-enhanced learning environments. They conceptualized engagement as encompassing behavioral, social, and cognitive dimensions, including effort, persistence, and psychological investments in learning activities. Their findings suggest that engagement can occur across academic, social, and digitally mediated contexts, highlighting the diverse ways

students participate in educational experiences. However, these forms of involvement may differ in their structure, expectations, and alignment with institutional academic goals. Tight (2020) utilized a systematic review of engagement and retention-based literature to further examine how engagement is defined and applied in higher education. He defined engagement as the time and effort students invest in educational activities and the ways institutions structure opportunities to promote participation. In this review, it is also acknowledged that some aspects of the research has overlooked the role of cocurricular involvement in shaping retention outcomes. Furthermore, Tight (2020) emphasized the importance of structured engagement opportunities in fostering persistence, suggesting that the degree to which involvement is intentionally organized and integrated into the educational environment may shape student outcomes. Collectively, these studies support the examination of student involvement not as a singular construct, but as a set of distinct engagement contexts that may differentially affect GPA and retention.

A significant dimension of student involvement that warrants further attention is the development of leadership through participation in student organizations. Involvement often leads to students assuming leadership roles, which have been shown to contribute positively to a wide range of student outcomes, including enhanced self-efficacy, improved communication skills, and better time management, factors closely associated with academic achievement (Dugan & Komives, 2007; Logue et al., 2005). Furthermore, students in leadership roles often experience a stronger sense of belonging and institutional commitment, both of which are predictors of persistence (Foreman & Retallick, 2016). As higher education institutions increasingly recognize the value of extracurricular learning, leadership development through student organization involvement is now frequently considered a key outcome of undergraduate education.

Beyond individual involvement experiences and leadership outcomes, broader syntheses of higher education research provide important context for understanding how multiple factors interact to influence student success. Pascarella and Terenzini (1991, 2005) synthesized three decades of research on student success, examining outcomes related to cognitive development, persistence, degree attainment, and psychosocial growth across varied institutional contexts. Their work identified student-faculty interaction, peer relationships, institutional characteristics, student background traits, and student engagement in both curricular and cocurricular activities as key contributors to success. A primary conclusion to their synthesis is that the factors contributing to student success should work together to maximize student achievement, as opposed to isolated student success factors. This allows for an inference that, for example, participation in student organizations can serve as one of the complementary elements of student success, in addition to other various student success factors, such as in-class participation, seeking out tutoring, and other student success initiatives.

Extending this synthesis into the contemporary era, Mayhew et al. (2016) examined more than two decades of additional research to evaluate how college environments influence student learning, persistence, and development. Their findings reaffirmed that student engagement—particularly involvement in academically and socially integrative experiences—remains a consistent predictor of cognitive growth, moral reasoning, and persistence. Importantly, they emphasized that no single factor independently determines student success; rather, outcomes emerge from the interaction between student characteristics, institutional environments, and patterns of engagement. This comprehensive synthesis reinforces the premise that involvement functions as one component within a broader developmental system, further supporting the

rationale for examining how specific types of organizational involvement may differentially relate to GPA and retention outcomes.

The relationship between student involvement and retention is significant. Research has shown that students who are actively involved in campus activities and organizations are more likely to persist and succeed in their academic pursuits (Kahu & Nelson, 2018; Miller et al., 2021; Sá, 2023). Understanding the potential differences in student success outcomes among students involved in different types of student organizations enables higher education institutions to formulate strategies for improving student engagement and subsequently enhancing retention rates. This, in turn, contributes to developing a more resilient and supportive campus community, yielding benefits for both the students and the institution (Gu et al., 2024; Palomino & Ortega, 2023; Ridwan & Priyatno, 2024).

Goals and Purpose of Student Involvement

Building on this historical foundation, it becomes essential to examine the goals and purpose of student involvement in contemporary higher education. By understanding the underlying objectives and how involvement fosters key aspects of student success, institutions can better align their strategies to meet the evolving needs of diverse student populations. Theoretical frameworks and decades of research provide critical insights into why student involvement remains a cornerstone of retention and student development efforts. Scholars such as Astin (1993), Braxton et al. (2000, 2014), Kuh et al. (2008), Pascarella and Terenzini (1991, 2005), and Tinto (1993) provided the theoretical groundwork for understanding why and how student involvement contributes to better outcomes for college students. The overarching consensus from these studies is that involvement is key to fostering engagement, skill development, and a sense of belonging, which are all crucial components of academic success.

The purpose of student involvement is multifaceted. Such involvement provides students with opportunities to explore their interests, build relationships, and engage beyond the classroom through clubs, organizations, and other cocurricular activities. Kuh et al. (2006) found that these activities are not only essential for personal development but also for promoting a sense of community, which leads to higher retention rates and improved academic performance. Recent studies, such as Pedler et al. (2022), further underscored that a strong sense of belonging cultivated through involvement significantly enhances student motivation and persistence.

Pascarella and Terenzini (2005) emphasized that student involvement, when paired with other success factors like academic support and feedback, mutually reinforces these elements to create an environment conducive to optimal student success. For instance, involvement in leadership positions within student organizations can help students develop practical skills, such as communication and time management, which are transferable to their academic and professional careers (Mitchell, 2015). The leadership opportunities created through involvement not only foster self-efficacy but also open networking avenues that can benefit students after graduation. This is supported by Schreiner et al. (2020) in their concept of student thriving. Student thriving is defined as the psychological, social, and academic engagement that leads students to not only persist but to flourish in college. Their research identified primary contributors to student thriving, which included campus involvement, supportive relationships, and a sense of meaning—which closely align with the experiences gained through student leadership roles. Student thriving offers a holistic framework for understanding how involvement extends beyond retention to promote well-being, resilience, and long-term success.

As the demographics of higher education evolve, with underrepresented minorities, first-generation students, and low-income students making up an increasing portion of the student

body, the role of involvement has become even more critical. It is important to contextualize the growing presence of these students through descriptive statistics. In this study, however, these groups were referenced only for descriptive purposes and were not the primary focus. Mitchell (2015) pointed out that for these students, involvement often provides the social capital necessary to navigate academic institutions successfully. It can also help mitigate feelings of isolation that some students experience, particularly those from marginalized backgrounds (Pendakur, 2023). Conefrey (2021) emphasized that first-generation students, in particular, benefit from high-impact practices—such as learning communities, service learning, and student organization involvement—that are intentionally designed to be culturally responsive and inclusive. This study was focused at a private, four-year institution in the northwestern region of the United States. Using a qualitative case study of student ePortfolios, course materials, and interviews, Conefrey examined how participation in multiple high-impact practices during the first year of college influenced students' academic adjustment and engagement. His study found that when students engage in organizations or activities that affirm their identities and reflect their lived experiences, they report stronger academic self-confidence, greater institutional commitment, and enhanced social belonging. This research suggests that for these students, involvement in culturally relevant organizations or affinity groups can be especially beneficial, offering both academic and emotional support by fostering environments where students feel seen, valued, and connected.

In summary, the purpose of student involvement extends beyond simple participation in cocurricular activities. It plays an essential role in helping students build social connections, develop leadership and professional skills, and establish a sense of belonging, all of which contribute to academic success and retention (Hoyt, 2023; Thomas, 2013). Research has shown

that fostering these connections not only enhances students' sense of community but also supports their persistence in higher education environments (Sá, 2023; Simonet, 2008). As the landscape of higher education changes, it is critical for institutions to create inclusive and accessible involvement opportunities that accommodate the diverse needs of today's student population. Institutions that effectively promote involvement will not only improve retention rates but will also help students thrive both academically and personally (Kahu & Nelson, 2018; Soria & Werner, 2018).

Advantages of Student Organizations

The goals and purpose of student involvement are rooted in fostering a holistic college experience, emphasizing academic success, personal development, and social integration. Student organizations embody these objectives by serving as a platform through which students can develop meaningful connections, acquire essential skills, and engage in transformative experiences. These organizations have been widely researched, revealing a multitude of benefits that span academic, social, and personal development domains. Participation in student organizations is consistently linked to positive outcomes, including leadership development, academic achievement, civic engagement, and personal growth (Dugan & Komives, 2010; Glass & Gesing, 2018).

One of the most significant benefits of involvement in student organizations is the development of social capital in the form of expanded relational and professional networks. While earlier research has highlighted social capital as a mechanism through which underrepresented students gain navigational support within structures (Mitchell, 2015), Glass and Gesing (2018) extended this concept by demonstrating how student organizations provide a platform for students to expand their networks, which allows them to form meaningful

relationships and create connections that may not be available through academic coursework alone. These relationships often result in social and professional support systems that can extend beyond college and into students' careers.

Leadership development is another well-documented benefit. Dugan and Komives (2010), Page (2010), and Schuh and Laverty (1983) all emphasized that student organizations offer opportunities to practice leadership in real-world contexts. Students who take on leadership roles within student organizations often develop essential skills such as communication (Dugan and Komives, 2010), conflict resolution (Page, 2010), and time management (Laverty, 1983), which are critical in both academic and professional settings.

Academic achievement has consistently been identified as a key outcome associated with student involvement in cocurricular organizations. Empirical research demonstrates that students who participate in such activities often outperform their uninvolved peers in academic settings. For example, Hawkins (2010) conducted a comparative study at Purdue University examining the academic performance of three distinct groups: uninvolved students, general members of student organizations, and student organization leaders. The findings revealed a positive, statistically significant relationship between organizational involvement and GPA, with student organization leaders achieving the highest GPAs, followed by general members, and lastly, uninvolved students. Hawkins attributed these outcomes to the development of transferable skills such as time management, discipline, and goal-setting, which are often cultivated through active participation and leadership responsibilities.

Similarly, Powers (2008) examined the relationship between social involvement, academic achievement, and life satisfaction among 103 undergraduate students at Clemson University. In this study, social involvement was operationalized as participation in student

organizations, including clubs and teams. The sample reflected a balanced distribution across gender and academic year, enhancing the generalizability of the results within the institutional context. Powers' study identified a positive correlation between levels of social involvement and both academic performance and overall life satisfaction. These findings suggest that student involvement not only supports academic success but also contributes to students' holistic well-being, reinforcing the role of involvement as an integral component of the collegiate experience.

Additionally, student organizations promote volunteerism and civic engagement, which have long-term positive implications for students. Astin et al. (1999) and Soria et al. (2003) highlighted that students who participate in volunteer activities during their undergraduate years are more likely to continue volunteering after graduation, demonstrating the lasting impact of these experiences on civic responsibility. Bowman (2011), through a meta-analysis of college diversity experiences and civic outcomes, found that involvement in cocurricular activities, particularly those emphasizing diversity and service, significantly contributed to students' development of civic values, social agency, and engagement with the democratic process. Trolian and Barnhardt (2017) used national survey data from the Wabash National Study of Liberal Arts Education to examine how specific types of cocurricular involvement—such as community service, student government, and organization participation—influenced students' civic commitments. Their findings demonstrated that higher levels of cocurricular engagement were associated with greater commitments to contributing to the public good and being actively involved in community and civic life. These studies suggest that student involvement in civic-oriented organizations not only fosters a commitment to community service but also enhanced students' understanding of social issues and their role as citizens. Pascarella et al. (1988) further argued that civic engagement gained through student organizations cultivated critical thinking

and ethical reasoning skills, which are essential for students' long-term personal and professional development.

Involvement in student organizations also facilitates cross-racial interactions, which are critical for fostering inclusivity and diversity in higher education. Denson and Chang (2009), using data from the Cooperative Institutional Research Program (CIRP)—a national, longitudinal dataset administered by the Higher Education Research Institute at UCLA—found that involvement in student organizations significantly increased the frequency and quality of cross-racial interactions. Their analysis of CIRP's large, multi-institutional sample revealed that such interactions enhance students' openness to diversity and commitment to social justice values. Similarly, Flowers (2004) conducted a quantitative study using the College Student Experiences Questionnaire (CSEQ) and found that African American students who were actively involved in student organizations reported more frequent and meaningful interactions with peers from different racial backgrounds. Zuniga et al. (2005), drawing on data from the National Study of Living-Learning Programs, demonstrated that student involvement in campus diversity initiatives—such as multicultural organizations and diversity-focused events—was positively associated with action-oriented democratic outcomes, including students' willingness to engage across difference and advocate for equity. Furthermore, Gellin (2003) conducted a meta-analysis of 40 studies and concluded that student involvement, including participation in organizations, was significantly related to the enhancement of students' critical thinking skills. These findings collectively suggest that student organizations serve as a vital platform for promoting critical thinking, inclusivity, and social cohesion by creating environments where students engage across differences and reflect on complex social issues.

Beyond these specific benefits, student organizations contribute to students' overall personal development. Kraack (1985) found that involvement in student organizations promotes greater maturity. This was concluded from a survey that was completed by 177 students before and after the completion of their sophomore year, in which greater maturity was observed from students who were involved in student organizations with more democratic governance. Qualities like maturity, developed through the challenges and responsibilities of organizational participation, are transferable to other areas of students' lives, including their academic and career pursuits. In addition, Bowyer and Kahne (2020) argued that student organizations play a key role in shaping students' political identities and encouraging political engagement, which is increasingly important in today's sociopolitical climate. These findings reflect the evolving role of student organizations in addressing contemporary issues and shaping students' civic identities.

Active learning is a significant benefit of involvement in certain types of student organizations that focus on collaborative and hands-on activities. For instance, Amelink et al. (2019) demonstrated that participation in open-ended, project-based scenarios within cocurricular or classroom contexts enhances active learning and fosters workforce readiness. Such activities—frequently found in professional and academic student organizations—promoted problem-solving, group collaboration, and real-world application of knowledge. These experiences not only reinforced academic material but also prepared students for workforce demands by allowing them to apply theoretical knowledge practically.

Research has also revealed the long-term benefits of participation in student organizations, particularly with respect to career readiness and professional development. In a study of the impact of student organization involvement on career outcomes, Foubert and Urbanski (2006) found that students who actively participated in organizations were more likely

to report higher levels of job satisfaction and career success after graduation. This research was conducted by having students complete the Student Development Task and Lifestyle Inventory at the beginning of their sophomore year, and then again at the end of their senior year. Uninvolved students were observed to show lower developmental scores as compared to involved students. Involved students who participated in student organizations beyond just attending meetings were observed to show higher developmental scores than those who were not as active in student organizations. These involved students credited their organizational experiences with helping them develop leadership, teamwork, and problem-solving skills, all of which are highly sought after by employers.

Moreover, student organizations may serve as a critical resource or catalyst for retention and persistence. Studies by Berger (2002), Derby (2006), and Hatch and McCarthy (2005) showed that students who were actively involved in student organizations were more likely to persist through college and to graduate on time. These studies highlighted that student organizations provided a support system that helped students navigate the challenges of college life, whether they were related to academic difficulties, social isolation, or financial stress. This support network can be particularly valuable for first-generation and underrepresented students, who may face additional barriers to persistence and success (Stuart et al., 2011).

Recent research reinforces the importance of student organizations. Alvarez (2020) found that student organizations positively influenced GPA, retention, and graduation rates among Hispanic students by creating a sense of belonging and fostering academic support. Similarly, Pearson et al. (2022) emphasized how STEM-focused student organizations improved persistence and retention rates, especially among first-generation and underrepresented students. Kornbluh et al. (2022) highlighted the concept of "resistance capital," whereby cultural activism

through student organizations promoted persistence among minority groups. Hopkins et al. (2021) examined how first-generation students' participation in tailored out-of-classroom experiences, such as culturally aligned student groups, facilitated retention. Kezar et al. (2023) further discussed comprehensive programs that integrated social, academic, and organizational support for these populations. These findings collectively demonstrate that student organizations act as vital platforms for academic and social integration, especially for students who face systemic challenges in higher education.

Lastly, student organizations provide an inclusive platform where students can engage with their peers, faculty, and the broader community in meaningful ways, fostering a sense of belonging and purpose. Daniel et al. (2001) discussed how parental influence and the changing dynamics of college student experiences require institutions to support and sustain student involvement opportunities that align with students' evolving needs. Greek-lettered organizations, for instance, have been shown to provide important social and academic support for students, particularly those from underrepresented backgrounds (Turk, 2012).

Overall, the benefits of student organizations are far-reaching, extending beyond the immediate college experience. By fostering leadership, civic engagement, academic achievement, social capital, and personal development, student organizations play an essential role in shaping well-rounded, successful students. The research consistently emphasizes the importance of institutional support for these organizations, as such support is integral to student retention, satisfaction, and long-term success.

However, while involvement in these organizations is linked to better academic performance (Hawkins, 2010; Powers, 2008), it is crucial to recognize the need for balance. Research indicates that excessive engagement can lead to negative outcomes such as burnout

(Crist, 2024; Fierro, 2024), academic stress (Marsh, 2024; V. Nguyen et al., 2024), and diminished focus on coursework (T. S. Nguyen et al., 2024; Trapper, 2024). These factors can ultimately undermine academic persistence (Smith et al., 2024). Therefore, as the multifaceted impact of student organizations is further explored, it is vital to consider both the benefits and the potential challenges of student involvement to ensure a holistic approach to student development.

Impact of Student Involvement

Building on the advantages provided by student organizations, recent research continues to emphasize the significant impact of student involvement on academic performance, retention, and holistic development. Student engagement, both academic and social, plays a pivotal role in fostering a sense of belonging and integration within the university community. Sá (2023) used interviews and content analysis to explore the experiences of students across four Portuguese higher education institutions. This research highlighted that participation in cocurricular activities enhanced students' commitment to their academic goals, while also addressing broader social and emotional development. This is particularly evident in activities that encourage peer collaboration and leadership development, which are linked to improved retention rates and academic persistence.

Leadership development opportunities, such as roles within student organizations, contribute to both academic success and career readiness. Maduforo et al. (2024) conducted an extensive literature review to look further into what leadership development looks like on college campuses. Their research emphasized that students who held leadership positions often exhibited higher levels of interpersonal and decision-making skills, which translated to stronger academic and professional outcomes.

In addition to leadership development, involvement in campus organizations supports retention by fostering academic and social integration. Wilbrod and Joshua (2024) described the holistic benefits of student engagement strategies, including the positive impact on re-enrollment rates through enhanced community support. These findings align with Kuh et al. (2008)'s earlier assertion that student engagement complements formal learning by providing opportunities to interact with diverse peers and confront new challenges.

Leadership in Student Organizations

Participation in student organizations has long been recognized as a significant contributor to student development in higher education. While general membership in student organizations provides social and developmental benefits, leadership roles demand higher levels of engagement, accountability, and strategic responsibility that distinguish them from general participation. However, the specific role of leadership within these organizations presents unique benefits that distinguish it from general involvement. Leadership experiences in student organizations provide students with opportunities to develop essential skills such as communication, decision-making, problem-solving, and collaboration, all of which contribute to personal and academic growth (Coscia, 2018; Igbal et al., 2023).

Beyond personal development, leadership roles may also contribute to measurable academic and cognitive outcomes. Engaging in leadership roles within student organizations fosters the development of leadership competencies that extend beyond general membership and contribute to both personal and academic growth. Leadership experiences provide students with opportunities to cultivate skills such as communication, decision-making, problem-solving, and collaboration, which are central to effective learning and academic performance (Coscia, 2018; Igbal et al., 2023). Empirical research suggests that students who hold leadership positions often

demonstrate stronger time management skills, heightened responsibility, and enhanced critical thinking abilities, all of which support academic success (Igbal et al., 2023). Further, quantitative findings from more than 400 students revealed that structured leadership programs within student organizations have been associated with greater levels of cognitive development, including improved problem-solving and analytical reasoning skills (Rosch & Stephens, 2017). Similarly, Islam et al. (2024) found that sustained participation in a university-based debate club significantly enhanced students' critical thinking, argumentation, and analytical reasoning abilities. These studies suggest that structured involvement experiences—particularly those requiring deliberation, reflection, and collaborative engagement—may contribute to the development of higher-order cognitive skills that are closely aligned with academic performance. While prior research has largely focused on leadership development programs and self-reported outcomes, this study examines formal leadership roles within student organizations using institutional data to assess objective academic outcomes, including cumulative GPA and retention.

Leadership involvement may also influence students' persistence and continued enrollment in higher education. Student engagement plays a critical role in persistence and retention in higher education by fostering academic and social integration, institutional commitment, and a sense of belonging. Research has consistently demonstrated that students who are actively engaged in campus organizations are more likely to persist, as involvement facilitates meaningful connections with peers, faculty, and institutional structures that support continued enrollment (Rosch & Collins, 2017; Sá, 2023). Leadership roles within student organizations may further strengthen these outcomes by increasing students' responsibility, visibility, and investment in the institution, thereby deepening their sense of connection and

commitment. Empirical research suggests that student organization involvement can support leadership and identity development, including the identity development of African American male student leaders participating in both predominantly Black and mainstream organizations (Coscia, 2018; Harper & Quaye, 2007). While prior research has established these relationships largely through self-reported engagement measures or program-based samples, fewer large-scale quantitative studies have examined how holding formal leadership positions within student organizations is associated with retention using institutional data.

Although leadership in student organizations has been widely studied, much of the literature examines leadership in aggregate or within certain isolated contexts, with limited attention to the differences across types of student organizations (e.g., Kelling & Hoover, 2005; Murage et al., 2019). This approach often treats leadership as a relatively uniform developmental experience, which potentially overlooks meaningful differences that may arise based on organizational structure, purpose, and level of alignment. Addressing this gap, the present study examined retention outcomes among student organization members by leadership status and organizational type to better understand how formal leadership involvement is associated with persistence.

Linking Involvement to Student Success and Retention

Student involvement is a cornerstone of success and retention in higher education, influencing both academic outcomes and personal development. Engagement in campus life facilitates students' integration into the academic and social fabric of their institutions, fostering a sense of belonging and commitment that is essential for persistence to occur. Participation in student organizations directly correlates with improved academic performance. Beyond fostering a sense of community, such involvement develops essential skills like time management,

leadership, and problem-solving (Hawkins, 2010; Powers, 2008). These competencies enable students to better manage academic demands while preparing them for professional success.

Beyond academics, the broader developmental benefits of involvement are noteworthy. Research shows that leadership roles within student organizations cultivate critical skills such as conflict resolution and teamwork, which have lasting value beyond college (Dugan & Komives, 2010). Moreover, for underrepresented groups, culturally relevant organizations provide not only academic and social support but also a vital sense of affirmation and belonging (Glass & Gesing, 2018; Mitchell, 2015). These dimensions are particularly significant in addressing the challenges faced by first-generation and minority students, underscoring the importance of inclusive opportunities for engagement. Bowman (2011) further noted that involvement contributes to long-term personal development and civic responsibility, complementing its academic and retention benefits.

The modern landscape of student involvement extends beyond traditional campus-based activities. While virtual engagement has its challenges, it also opens new avenues for participation, ensuring that all students—regardless of physical location—can benefit from the community and support structures central to retention. Kim and Choi (2024), examining virtual clinical simulation experiences among students in health-related higher education programs, found that virtual simulation-based experiences can develop reasoning, communication, and interpersonal skills. Although this study was situated within a discipline-specific context, these findings suggest that virtual platforms can facilitate meaningful forms of student engagement beyond traditional in-person environments and further highlight the evolving nature of student engagement in digital learning environments.

While the benefits of student involvement are well-documented, the broader literature shows a more complex relationship between engagement and academic outcomes. Research highlights the dual-edged nature of cocurricular involvement: moderate engagement is linked to improved academic performance, stronger peer networks, and greater persistence, whereas excessive involvement may contribute to stress, burnout, and reduced academic focus. For example, Garland (2010) conducted a quantitative correlational study of 336 college students at a public institution and found statistically significant—but practically weak—relationships between the extent of involvement in student organizations and GPA, suggesting that increased involvement alone does not meaningfully predict academic performance. Similarly, Koehler (2014) examined the effects of cocurricular overinvolvement among college students and identified a nonlinear relationship between involvement and academic outcomes, in which moderate engagement was associated with higher GPAs, but the academic benefits plateaued at higher levels of involvement. Together, these studies suggest that while involvement is generally beneficial, excessive participation may yield diminishing academic returns rather than uniform negative outcomes. In contrast, Dearman (2017) reported positive associations between cocurricular involvement hours and GPA among high school students, suggesting that structured involvement can reinforce beneficial academic behaviors. Johnston (2013) further observed that involved college students demonstrated higher GPAs and greater persistence than their non-involved peers, with differences emerging across types of involvement. Specifically, it was observed that students involved in equine and agriculture-related student organizations experienced stronger academic benefits than students engaged in other forms of cocurricular participation. These findings suggest that the academic effects of involvement are not uniform and may vary based on the nature and demands of specific student organizations, reinforcing the

importance of examining involvement by type rather than as a singular construct when assessing associations with GPA and retention. Collectively, these mixed findings underscore the need to better understand how varying levels of involvement influence student academic success and retention—an issue central to the present study.

Overall, student involvement serves as a critical bridge connecting academic achievement, personal growth, and social integration. As higher education landscapes evolve, institutions must embrace diverse and adaptive opportunities for engagement to enhance individual success and foster inclusive learning environments. This commitment to inclusivity and engagement sets the stage for examining how the categorization of student involvement further shapes institutional strategies and student experiences.

Categories of Student Involvement

To further understand the relationship between student involvement and success, it is important to explore the various categories of involvement that shape students' experiences. Research has emphasized the role of student engagement and motivation in shaping academic success and persistence (Caruth, 2018), prompting scholars to explore how different forms of involvement are organized and experienced by students. In the context of student involvement, organizations can be categorized into curricular and cocurricular groups, which further distinguish the types of experiences students can expect (Cardona Mejía et al., 2020; Casanova et al., 2018). Accordingly, this research focused on the distinct subcategories of student involvement, as categorical frameworks are commonly used to organize student organizations and facilitate analysis within higher education research. Such frameworks enable universities to analyze patterns of engagement across diverse student populations, thereby promoting academic success and retention (Heilporn et al., 2021; Subhash & Cudney, 2018).

Researchers have highlighted that there are many different types of college student involvement opportunities. When examined categorically, these types of organizations are distinguished through the research: academic organizations, general club and organization involvement, community service opportunities, Greek life, multicultural organizations, religious organizations, special interest groups, and sports clubs (e.g., Astin, 1993; Braxton et al., 2000; Kuh et al., 2008; Pascarella & Terenzini, 1991, 2005; Tinto, 1993). However, these categories are not mutually exclusive in practice. Many organizations span multiple functional domains; for example, Greek organizations often include service components, and religious organizations may simultaneously serve as community service or social engagement spaces. As scholars in other fields have noted, reliance on categorical separation of involvement activities can obscure the underlying characteristics that cut across groups. Hollenbeck et al. (2012) argued for a shift from discrete types toward identifying the shared characteristics that distinguish these groups. A similar challenge emerges in educational involvement research, where attributes such as service orientation, academic integration, social connectedness, or cultural affinity may vary within and across organizational types. Recent research has continued to explore the multifaceted nature and impact of these involvement opportunities. While a characteristics-based approach offers a more intricate understanding of involvement, current institutional data systems do not reliably capture such attributes at scale. As a result, the present study utilized the existing categorical structure of curricular and cocurricular organizations, acknowledging that this approach simplifies the complexity of student involvement and does not fully capture the multidimensional nature of students' experiences. Nonetheless, using named organizational membership—rather than student self-reported involvement—provided a methodologically replicable approach that other institutions can adopt when working with comparable data infrastructures.

Curricular Involvement

Curricular involvement encompasses students' active engagement in academic-related activities, both within and beyond the classroom, that are directly tied to their educational programs. This form of involvement is essential for fostering intellectual growth, developing professional competencies, and building a strong foundation for academic and career success. By participating in a variety of curricular opportunities such as academic organizations, competition teams, university-wide academic initiatives, and honorary societies, students not only deepen their understanding of course material but also cultivate essential skills such as critical thinking, problem-solving, and leadership. Furthermore, research from Freeman et al. (2014) demonstrated that active and collaborative learning strategies promote critical thinking and increase student performance, particularly in science, engineering, and mathematics disciplines. A meta-analysis of 225 studies allowed the researchers to examine the effect of active learning environments and exam scores. Students in more active learning environments were observed to have approximately 6% higher test scores as compared to students who were only in lecture-based settings. When active learning was employed, course failure rates were reduced by 55%. Such findings highlight the importance of curricular involvement in shaping well-rounded, academically accomplished students who are prepared to excel in their future endeavors.

Curricular involvement in academic organizations encompasses students' engagement in formal educational activities, including coursework, research, and academically focused student organizations. Prior research has highlighted the role of curricular organizations in facilitating peer interaction, collaboration, and structured engagement aligned with academic and professional interests (Holzweiss et al., 2007; Rosch & Coers, 2013). Those same studies have shown that students often participate in curricular organizations as a means of preparing for

future careers, although outcomes associated with curricular involvement may vary across academic disciplines. Using case study analysis, Hinkle and Koretsky (2019) demonstrated that professional and academic organizations, such as engineering clubs, function as activity systems that integrate theory, tools, collaboration, and project-based responsibilities, providing students with opportunities to develop technical and professional competencies relevant to their fields.

Involvement in academic competition teams, such as physics competitions, promotes collaborative learning and provides opportunities for the practical application of theoretical knowledge in structured, competitive contexts. Through survey and observation, Dziob et al. (2022) found that involvement with physics competitions significantly increased students' science interest and intrinsic motivation of the subject. Students reported improvements in many soft skills, including communication, collaboration, problem-solving, and creativity. Similarly, Tschisgale et al. (2024) analyzed student participants of a physics competition by use of a case study design. This allowed the researchers to investigate the cognitive and affective predictors of student success. Cognitive ability predicted early-stage success in the competition while affective behaviors, like motivation and self-efficacy, became more influential at advanced stages. The findings from these studies illustrate how academic competition teams are characterized by both disciplinary engagement and differentiated developmental experiences.

Honorary student organizations play a pivotal role in fostering academic excellence, leadership development, and professional growth among their members. These organizations, typically requiring a high level of academic achievement for membership, provide a platform for students to be recognized for their scholarly efforts and to engage in activities that enhance their intellectual and professional capacities (Bradford et al., 2011; Broadhurst & Martin, 2014). Participation in honorary organizations has been associated with enhanced career readiness, as

these groups often sponsor events such as workshops, seminars, and networking opportunities that help students translate academic success into professional competence. Additionally, the recognition conferred by membership in such organizations is frequently valued by employers and graduate programs, which view it as evidence of a student's dedication, leadership potential, and ability to excel in rigorous academic environments (Smith & Chenoweth, 2015). Furthermore, honorary organizations cultivate a sense of community among high-achieving students, fostering environments where members can collaborate on research projects, engage in service-learning initiatives, and contribute to institutional goals, thereby supporting broader institutional efforts to promote academic excellence and retention (Bradford et al., 2011; Broadhurst & Martin, 2014; Smith & Chenoweth, 2015).

Cocurricular Involvement

Cocurricular involvement includes various student activities that significantly enhance academic, personal, and social development. Research shows that such participation boosts academic performance, leadership skills, and retention rates. Community service fosters civic responsibility and soft skills, while fraternities and sororities provide networking opportunities, despite some risks. Multicultural organizations promote identity exploration and inclusivity, supporting diverse students. Religious groups encourage spiritual growth and belonging, aiding emotional development. Special interest organizations allow for creative expression and skill development, while sports clubs enhance physical health, teamwork, and community spirit. Together, these opportunities create a vibrant campus environment, equipping students for personal and professional success.

Community service organizations represent a form of cocurricular involvement centered on volunteerism, outreach, and engagement with local and broader communities. Huml et al.

(2014) utilized content analysis to explore the similarities and differences among NCAA Division I and Division II athletic departments in how they promoted and utilized community service to develop their students. This research underscored the important role that educational institutions play in encouraging student-athletes to engage in community service, illustrating how such involvement can lead to both academic and personal growth. Shcheglova (2019) utilized surveys and binary logistic regression to look at how extracurricular involvement fosters soft skill development in students. One of Shcheglova's (2019) specific research questions focused on community service and volunteer activities. This research pointed out that participation in cocurricular activities, including clubs and volunteer work, is vital for the development of essential soft skills such as communication, teamwork, and time management. Jones and Giles (2022) employed a mixed-methods approach, combining surveys and follow-up interviews, which helped emphasize the impact of higher education outreach facilitated by student organizations. This approach showcased how students take a leadership role in addressing community needs and fostering civic engagement. Furthermore, community service has been recognized as a means of enhancing civic engagement and social responsibility (Jones & Abes, 2004; Smist, 2006), aligning with the broader institutional objectives of nurturing well-rounded graduates.

Fraternity and sorority organizations represent a distinct form of cocurricular involvement characterized by structured membership, peer networks, and shared social experiences. Prior studies on fraternities and sororities (Borynski, 2003; Capone et al., 2007; Patton et al., 2011; Turk, 2012; Yates, 2020) highlighted their dual role in fostering social networks while also presenting risks, such as substance use, that affect the overall student experience. Pike and Wiese (2024) used data from the NSSE to evaluate the fraternity/sorority

experience, demonstrating significant relationships between membership in these organizations and student engagement, learning outcomes, grades, and satisfaction with the college experience. After accounting for demographic and institutional characteristics, affiliated students reported higher levels of engagement and satisfaction, as well as greater perceived gains in interpersonal and leadership-related learning, compared to their non-affiliated peers. These insights underscore the importance of examining the balance between the positive social networks and overall engagement fostered by such organizations that may influence students' overall collegiate experiences.

Multicultural student organizations, including ethnic and culturally-focused groups, have been examined in the literature as involvement contexts that support identity exploration and community-building among diverse student populations (Bowman et al., 2015; Deo, 2013). Related research has also explored how participation in student organizations relates to students' exposure to diversity and engagement with cultural differences. Johnson and Lollar (2002) examined racial identity development and interactions across student differences, which demonstrated the pivotal role that student organizations play in promoting cultural awareness, further supporting initiatives aimed at fostering inclusive leadership opportunities. These organizations serve as vital platforms for fostering a sense of belonging and encouraging active engagement with diverse cultural narratives within higher education.

Religious or faith-based student organizations represent a form of cocurricular involvement centered on shared belief systems, spiritual exploration, and community formation. Engagement in religious organizations gives students a sense of community and can support their personal and spiritual growth. Involvement in faith-based groups has been linked to improved well-being and a supportive network that enhances the overall college experience (Jomuad et al.,

2016). The authors based this on survey results showing a connection between participation in church events and development in moral reasoning, empathy, and responsibility. This research aligns with Bryant's (2007) findings, which used data from multiple institutions to analyze how involvement in religious groups can predict various outcomes, including social adjustment, sense of belonging, and moral reasoning. Notable observations from this study included stronger peer connections, greater spiritual growth, and better psychosocial adjustment. Similar themes have also been documented through qualitative, case study research examining faith-based student organizations (Magolda & Ebben, 2006).

Special interest organizations represent a category of student involvement centered on shared hobbies, identities, affinity interests, and niche academic or personal passions that may not align with traditional organizational structures. Dunkel and Schuh (1998) focused on special interest organizations within broader examinations of student involvement and advising, noting how such groups connect students through common interests and are shaped by organizational missions and advising frameworks. Saladino (2010) highlighted that participation in special interest organizations often involves student activism, which enables members to develop leadership skills, expand social networks, and enhance their sense of agency. Saladino (2010) also shared that "special interest organizations are organizations in which students are brought together with like interests and can range from a Chess Club to LGBT organizations" (p. 4). Furthermore, Vieira (2019) argued that special interest student organizations are integral to the holistic development of students, as they provide opportunities for engagement, learning, and personal fulfillment that complement academic pursuits.

Sports clubs and recreational organizations represent a form of cocurricular involvement centered on structured physical activity, team-based participation, and peer interaction.

Participation offers a range of physical, social, and psychological benefits. Engagement in campus recreation is positively associated with student recruitment, retention, and academic achievement. For example, Moxey et al. (2022) used virtual interviews and ethnographic data collection to observe and understand what it meant to be a member of a sports club. They found that students involved in recreational sports tend to report higher levels of engagement and enhanced academic performance. Furthermore, intramural sports significantly contributed to fostering peer interaction, teamwork, and a sense of belonging within the student community (Astin, 1993; Braxton et al., 2000; Kuh et al., 2008; Pascarella & Terenzini, 1991, 2005; Phipps et al., 2015; Tinto, 1993). De Prada Creo et al. (2020) further emphasized the development of teamwork skills through cocurricular activities, highlighting how sports clubs can serve as a critical avenue for cultivating collaboration and interpersonal skills among university students.

General university involvement encompasses students' participation in a wide range of academic programs, campus organizations, and resources offered by the institution that serve the broader institutional community rather than a specific academic, social, or cultural niche. These organizations can often include student government, campus programming boards, general university ambassadors, and other groups that promote institutional spirit, student engagement, and campus-wide collaboration. Such groups may also include organizations that do not singularly fit within other classifications (e.g., academic, community service, multicultural). Previously, research has examined broad forms of student engagement and has discussed the role of campus-level involvement in shaping students' connections to their institutions (Caruth, 2018; Williams et al., 2019). Recent research has also examined participation in general campus organizations using survey and participation data, highlighting how students describe experiences related to leadership development, communication, teamwork, time management,

and campus belonging within institution-wide involvement contexts (Mustaqim & Wahjoedi, 2024). The categorization of student organizations into curricular and cocurricular types served as a foundational framework for this study. These classifications are consistent with institutional practices commonly employed in higher education and are further informed by recent literature on student involvement and its impact on academic and personal development. Table 2.1 provides a summary of these categories, pairing each with relevant literature that underscores their significance. This table not only offers a visual representation of the organizational types but also highlights the scholarly context that supports their inclusion in this research. By summarizing these connections, the table reinforces the rationale for comparing student organization types to examine outcomes such as GPA and retention.

Table 2.1

Categorization of Curricular and Cocurricular Student Organizations and Relevant Literature

Classification	Category	Relevant Literature	Key Findings
Curricular	Academic	Hinkle, C. M., & Koretsky, M. D. (2019). Toward professional practice: Student learning opportunities through participation in engineering clubs.	Leadership practices and interpersonal skill development.
	Academic Competition Teams	Tschisgale, P. L., Steegh, A., Petersen, S., Kubsch, M., Wulff, P., & Neumann, K. (2024). Are science competitions meeting their intentions? A case study on affective and cognitive predictors of success in the Physics Olympiad.	Academic competition teams foster both cognitive and psychosocial benefits—skill development, motivation, and identify formation.
	Honorary	Smith, L. J., & Chenoweth, J. D. (2015). The Contributions of Student Organization Involvement to Students' Self-Assessments of Their Leadership Traits and Relational Behaviors.	Fosters leadership and recognition of academic achievement.

Classification	Category	Relevant Literature	Key Findings
Cocurricular	Community Service	Jones & Giles (2022). Higher Education Outreach via Student Organizations: Students Leading the Way.	Strengthens civic responsibility and community engagement.
	Fraternity/ Sorority	Pike, G., & Wiese, D. (2024). The fraternity/sorority experience revisited: The relationships between fraternity/sorority membership and student engagement, learning outcomes, grades, and satisfaction with college.	Builds inclusivity and leadership skills.
	Multicultural	Bowman et al. (2015)	Enhances cultural awareness and campus inclusivity.
	Religious	Jomuad et al. (2016). Students' Involvement in Church Activities and their Values Formation.	Provides community and fosters inclusivity.
	Special Interest	Vieira, F. M. (2019). The Importance of Participation in Student Organizations for Soft Skills Development.	Encourages personal growth and shared interests.
	Sports Club	De Prada Creo et al. (2020). The acquisition of teamwork skills in university students through extra-curricular activities.	Promotes teamwork, leadership, and physical activity.
	General University	Mustaqim, G. P., & Wahjoedi, T. (2024). Effectiveness of Student Participation in Campus Organizations.	Promotes student engagement and academic growth.

Note. The cited literature is abbreviated for clarity. Full references are provided in the reference list.

Overall, the various categories of student involvement are essential in cultivating a vibrant and enriching educational experience. By participating in both curricular and cocurricular organizations, students not only deepen their learning but also acquire vital life skills that facilitate personal growth. The array of involvement options enables students to explore their passions, forge lasting relationships, and foster a sense of belonging within their school

community. Encouraging active engagement in these areas ultimately equips students to become well-rounded individuals, prepared to tackle the challenges of the future.

Factors Influencing Student Involvement

Extensive research regarding the history, purpose, benefits, and types of student involvement has been explained to better understand this complex area of student success within higher education. However, student involvement does not occur in a vacuum. There are other factors that serve as important considerations related to student involvement which can influence student involvement participation. These factors can impact a student's overall capacity to engage in curricular and cocurricular experiences, such as who can participate, how participation can occur, and under what conditions.

Prior research has suggested that academic program design, course load, and prior academic performance can affect students' availability and readiness for involvement. Beyond these academic considerations, demographic characteristics and socioeconomic contexts, such as race, ethnicity, first-generation status, enrollment pathway, and financial constraints, play a substantial role in shaping access to and experiences within student organizations. These factors may function as facilitators for some students while simultaneously serving as barriers for others, particularly within institutional environments that vary in their responsiveness to diverse student populations. Accordingly, this section examines primary academic, demographic, and socioeconomic factors that influence student involvement, with particular attention to how structural conditions and lived experiences intersect to shape patterns of engagement across student organizations.

Academic Program Design

The structure and intensity of an academic program have the potential to influence the level of student engagement. Programs with specific schedules or certain credit-hour requirements can affect students' opportunities to participate in cocurricular activities, further impacting their overall involvement. Huntington-Klein and Gill (2021) studied time-to-degree completion and the various factors that can affect it. This was accomplished by using longitudinal administrative data from two cohorts of first-time first-year students (Fall 2010 and Fall 2011) of one of the 23 California State University campuses. These students were tracked through approximately six to seven academic years (through Spring 2017). Their study found that students who took more credits per semester had higher GPAs and completion rates. This, in turn, can reflect student motivation and better institutional integration, which can also influence student involvement.

Prior Academic Performance

Prior GPA serves as both a predictor and a potential inhibitor of student involvement. Students with lower GPAs may face academic probation or remediation requirements, restricting their participation in curricular and cocurricular activities. Schneider and Preckel (2017) conducted systematic literature reviews of 38 meta-analyses spanning multiple decades, which examined 3,330 effect sizes from nearly two million students. From their analysis, they observed consistent associations between academic performance and variables such as motivation, self-regulation, and social belonging. Bowman et al. (2019) further highlighted how non-cognitive attributes, such as resilience and time management, mediate the relationship between GPA and student engagement, suggesting a complex interplay between academic and psychological factors. These observations came from using multi-institutional data, in which the authors found

that traits like self-control, emotional stability, and belonging are positively associated with first-year persistence. This study implies that student involvement—particularly in environments that promote confidence, community, and emotional support—plays a key role in fostering noncognitive development that can enhance retention.

Course Load

The number of courses or credit hours students take in a semester can shape the overall demands they experience, which in turn can influence their availability for engagement beyond the classroom. Burridge et al. (2024) used survey data from multiple institutions and observed that students who experienced heavier academic workloads reported higher levels of time pressure and academic stress. While this study did not directly examine cocurricular involvement, the findings can suggest that increased academic workload demands can indirectly limit students' capacity to participate in student organizations or other campus activities. Similarly, Asarta and Schmidt (2017) conducted a quantitative analysis of course-level learning behaviors using detailed learning management system (LMS) activity logs from undergraduate economics courses. Their results demonstrated that students' learning experiences and engagement were significantly shaped by the structure and intensity of their course schedules. When these studies are considered together, they indicate that managing a balanced and appropriately paced course load may help students maintain a sense of control over their academic responsibilities, thereby supporting their ability to engage in developmental experiences outside the classroom.

Demographic and Socioeconomic Factors

Demographics, such as age, gender, and socioeconomic status, play a critical role in student involvement. Research indicates that students who engage with campus organizations

tend to exhibit greater persistence in their educational journeys and benefit from enriched experiences that contribute to their holistic growth (Filho et al., 2024). However, students from underprivileged backgrounds often face unique barriers to participation, including limited access to essential resources like transportation and technology (Thill et al., 2016). Similarly, disparities in involvement among racial and ethnic minorities are frequently exacerbated by these underlying socioeconomic factors (Shernoff & Schmidt, 2008).

Research on African American students reveals that systemic inequalities profoundly shape their ability to engage in campus life. Gipson et al. (2018) examined the compounding effects of underfunded K-12 education systems, noting that these students often enter college less prepared to navigate or participate in campus organizations. Walpole (2008) used data from the National Postsecondary Student Aid Study and the Baccalaureate and Beyond Study to conduct a quantitative analysis to observe African American students across socioeconomic status groups. It was observed that lower-SES African American students worked significantly more hours while enrolled, which limited their campus engagement and access to enriching academic experiences. These students reported reduced participation in student organizations, academic opportunities, and social activities, as well as lower GPAs and limited access to graduate education opportunities. Inequities regarding financial resources, institutional support, and post-graduation earnings were also observed within this research. Strayhorn (2008) emphasized that this economic pressure significantly reduces opportunities for meaningful involvement. Harper and Quaye (2007) further identified cultural isolation within predominantly white institutions (PWIs) as a substantial barrier, with many African American students reporting a lack of culturally affirming spaces on campus.

Latinx students face distinct challenges as well. Garcia (2017) and Garcia et al. (2017) noted that Latinx students often rely heavily on familial networks for emotional support, which can limit their engagement with campus communities that do not reflect or affirm their cultural values. Solis and Durán (2022) highlighted that Latinx students often experience cultural disconnects in PWIs, further discouraging participation. Shelton (2019) stressed the importance of culturally responsive student organizations as a key factor in fostering Latinx student engagement.

Asian students encounter unique inhibitors shaped by cultural expectations and institutional environments. Palmer and Maramba (2015) conducted interviews with Southeast Asian American undergraduates to learn more about their college experiences. Social capital—particularly familial and peer networks—was observed to play a critical role in shaping these students' access to higher education, their adjustment to campus life, and their academic and social success. Similarly, Wang et al. (2019) used survey data from Chinese college students to differentiate between instrumental and expressive types of involvement and to examine the long-term developmental effects of those experiences. While the observations centered around political participation, their findings demonstrated that involvement behaviors have cumulative and multifaceted effects on students. Taken together, these bodies of work emphasize that for Asian students, involvement is both contextually shaped and developmentally consequential, reinforcing its relevance to their academic and social experiences in higher education.

Native American students face barriers tied to historical trauma and systemic underrepresentation in higher education (Oxendine et al., 2020). Lundberg (2007) used data from the NSSE and analyzed responses from Native American students across multiple institutions to examine how peer interactions, faculty interactions, and institutional practices surrounding

diversity predicted self-reported learning gains. Student-faculty interactions were reported as the strongest predictor of learning. This research illuminates how social and academic integration processes function differently for racially minoritized groups, particularly Native American students, who, according to this research, often report lower levels of engagement and belonging at PWIs. This reinforces broader concerns about cultural incongruence and the limited responsiveness of institutional environments to Indigenous students' needs.

Minority groups and multicultural students with varying levels of involvement have been the focus of numerous studies (e.g., Alvarez, 2020; Astin & Others, 1982; Baker, 2008; Chickering et al., 1981; Deo, 2013; Kellogg & Liddell, 2012; Maramba, 2008; Rooney, 1985; Tang et al., 2015). Research on these demographic groups has consistently highlighted themes of marginalization and exclusion. Notably, Tang et al. (2015) and Maramba (2008) underscored the necessity of inclusive institutional practices to address the intersectional barriers encountered by these populations. For international students, Glass and Gesing (2018) identified challenges such as language barriers and the complexities of cultural adjustment, while Slantcheva-Durst and Knaggs (2019) noted that these students often face difficulties in accessing peer networks that support their involvement.

Understanding the complexities of student demographics is paramount for cultivating an inclusive educational environment. Nontraditional student involvement, as articulated by Rabourn et al. (2018), emphasizes the necessity for flexibility and tailored resources designed to effectively engage a diverse array of learners. This consideration is particularly critical for online learners (Chen et al., 2009; Tiger & Preston, 2013) and first-generation students (Demetriou et al., 2017; V. Garcia, 2010; Irlbeck et al., 2014; Stroud, 2017) who may encounter distinct challenges and requirements. Furthermore, the necessity to examine student involvement extends

to various groups, including transfer and community college students, calling attention to the significance of a detailed approach to their engagement (Chang, 2002; Derby, 2006; Elliott, 2009; Goldrick-Rab, 2010; Lancaster & Lundberg, 2019; X. Wang & Wharton, 2010; Zeidenberg et al., 2007). Consequently, it is imperative to implement strategies that specifically address these diverse needs, thereby ensuring that all students receive the comprehensive support essential for their academic success. The collective findings of these studies underscore the significant role that demographic and socioeconomic factors play in shaping student involvement. By understanding the unique barriers faced by diverse populations, institutions can develop targeted strategies to promote inclusivity and reduce disparities in student engagement.

In summary, the examination of demographic and socioeconomic factors is critical for understanding how they contribute to student success and engagement within higher education institutions. This study employs a comprehensive framework that acknowledges the diversity of the student population, particularly related to race, gender, and enrollment type. By systematically tracking these variables, one can elucidate the complex ways of examining the differences in student success outcomes among students involved in different types of student organizations without prioritizing any single demographic group. Recognizing the multifaceted nature of student involvement is paramount for fostering an educational environment that addresses the unique needs of diverse populations.

Gaps in the Research

Despite extensive research on college student involvement, critical gaps remain that need to be addressed to fully understand involvement in different types of student organizations. One critical gap is the need to examine the differences in academic performance and retention among diverse students involved in different types of student organizations. While S. Hu and Kuh

(2002) emphasized the importance of overall engagement, later research, such as that by S. Hu and McCormick (2012), used relationships between student types and various outcomes. This builds upon the work by S. Hu and Kuh (2002) by identifying engagement typologies associated with college outcomes. Their study utilized data from the NSSE to categorize student involvement into distinct typologies, such as collaborative learning, faculty interaction, and cocurricular activities, and demonstrated how these forms of engagement correlated with academic success and persistence. By offering a more expansive framework, their work extended earlier research by shifting the focus from generalized involvement to specific types of engagement, revealing that not all forms of involvement contribute equally to academic outcomes. However, Hu and McCormick (2012) did not extensively explore how particular types of activities—such as participation in academic clubs or community service—uniquely influence GPA and retention. Much of the existing research, including theirs, treats involvement as a broad concept, failing to differentiate between specific activities and the extent to which different forms of involvement are associated with variations in GPA and retention. These comparisons can provide valuable insights for institutions seeking to enhance student outcomes through more targeted engagement strategies.

Recent research has further examined why students actively choose to remain enrolled, emphasizing the role of institutional support, engagement, and personal meaning-making in persistence decisions. Nieuwoudt and Pedler (2023) highlighted that students' decisions to continue are shaped by positive academic and social experiences that reinforce institutional commitment. While their findings advance the understanding of persistence motivations, they do not differentiate how specific types of student organization involvement may contribute to variations in GPA and retention outcomes. This continued emphasis on engagement being

broadly defined calls out the need for more precise comparisons across distinct involvement categories.

In addition to differentiating between types of involvement, another critical gap in the literature is the role of leadership within student organizations and its comparison of academic success and retention to students who are not in a leadership role. Student leadership experiences, such as serving as an officer in an organization, participating in executive boards, or leading campus-wide initiatives, are often assumed to provide valuable skills in communication, time management, and problem-solving. However, empirical research on the association between academic impact and leadership roles remains limited, particularly in understanding how leadership experience may differ across organizational contexts.

Despite a growing body of research on student leadership, a critical gap remains in understanding how leadership experiences vary across different types of student organizations. As discussed in the literature on leadership in student organizations, prior research has largely examined leadership in an aggregate form or within specific organizational contexts, rather than comparing leadership experiences across organizational categories (Kelling & Hoover, 2005; Murage et al., 2019). This approach implicitly and unintentionally treats leadership as a uniform experience, which can potentially overlook meaningful differences that may arise based on student organizational structure, purpose, and level of alignment. Given these variations, examining leadership through a comparative framework represents an important extension of the existing literature. While past studies, such as that conducted by Dugan and Komives (2007), explored leadership identity development among college students, more recent research has examined leadership's tangible academic effects. For example, Rosch and Collins (2019) found that students who held leadership positions in campus organizations reported higher levels of

self-efficacy and academic confidence, which positively influenced their persistence and GPA. These findings illustrate the potential development value of organizational leadership while underscoring the need for additional research examining whether formal leadership participation is associated with objective academic outcomes.

Leadership roles may also come with increased responsibilities and time commitments, which could have both positive and negative effects on academic outcomes. Rosch and Stephens (2017) found that students who engaged in leadership development programs exhibited higher academic motivation and retention rates, although they also experienced challenges balancing leadership commitments with coursework. Moreover, Behr et al. (2020) emphasized the need to analyze how student involvement influences retention, highlighting the importance of understanding the interplay between involvement patterns and academic outcomes. Recent studies, such as Rasco et al. (2023), underscored the role of peer interactions, demonstrating that collaborative and social academic activities significantly enhanced student engagement and success. Similarly, Sá (2023) highlighted the importance of academic and social integration in fostering retention, particularly in diverse student populations. These insights indicate that a clearer understanding of how variables like peer interactions and engagement types can lead to improved academic outcomes can inform effective strategies to bolster student persistence and success.

Furthermore, the intersection of leadership, identity, and student success is an area requiring further exploration, particularly for underrepresented and marginalized student populations. Research suggests that students from historically marginalized backgrounds often face unique barriers to accessing leadership roles in student organizations (Quaye et al., 2019). While leadership experiences can contribute to increased engagement and persistence, they may

also present additional challenges related to time management, mental health, and balancing responsibilities. Although prior studies have explored leadership development programs designed for underrepresented students, fewer large-scale quantitative studies have examined how holding leadership positions is associated with academic performance and retention across diverse student populations. Meyer (2021) examined whether universities' efforts to create inclusive environments were effectively supporting students from diverse backgrounds. Using a combination of relevant theorists—Tinto (1993), Spady (1970), and Bean (1978, 1981)—to guide the research, Meyer (2021) found that leadership development programs specifically designed for underrepresented students led to increased engagement and a sense of belonging, ultimately improving retention rates.

In sum, while existing research has established the overall benefits of student involvement, significant gaps remain regarding the differences in student success outcomes among students involved in different types of student organizations. There is also a need for further research into differences in academic performance and retention among students in leadership roles within student organizations. Beyond these distinctions, limited research has explored how leadership experiences themselves may vary across organizational contexts with prior studies often treating leadership as a uniform construct rather than one shaped by the structure, purpose, and alignment of the organization. Addressing these gaps will provide institutions with actionable insights to better support student success and retention through targeted involvement opportunities, particularly for students in formal leadership positions across varied organizational settings.

Building on the theoretical frameworks and conceptual understandings of student involvement and retention, this section reviews empirical research that has examined

relationships between student involvement, academic outcomes, and persistence, with particular attention to how involvement contexts shape students' experiences and success.

Pedler et al. (2022) empirically demonstrated that students' sense of belonging is strongly associated with motivation, enjoyment, and intentions to persist, with students who frequently considered leaving their institution reporting significantly lower levels of belonging. Their findings further revealed meaningful differences in belonging across student subpopulations, highlighting the importance of institutional environments and engagement opportunities in shaping student success outcomes. However, while this study established belonging as a critical mechanism linked to persistence-related outcomes, it did not distinguish how different forms or contexts of student involvement, such as participation in specific types of student organizations, may differentially contribute to academic performance or retention.

In addition to research examining belonging and engagement mechanisms, some empirical studies have directly explored associations between involvement and retention outcomes. For instance, Pusztai et al. (2021) used surveys and stepwise linear regression to explore the positive effects of volunteering on student persistence and academic achievement. While these findings contribute to understanding the potential relationship between service-oriented involvement and persistence, the study relied on self-reported measures and focuses on a specific form of engagement, limiting its applicability to broader comparisons across formal student organization types.

Complementing this work, Glass et al. (2017) examined cocurricular engagement as a contextual factor influencing students' sense of belonging, particularly among first-generation international students. Their findings emphasized the role of structured cocurricular opportunities in fostering connection to the institution and promoting social integration, suggesting that

involvement outside the classroom can serve as an important pathway to belonging and persistence. While this study advanced understanding of cocurricular engagement as a meaningful involvement context, it did not compare outcomes across multiple categories of student organizations or examine academic performance indicators such as GPA.

Together, these studies demonstrated that involvement contexts and engagement environments matter for students' sense of belonging and persistence. However, they stopped short of systematically comparing academic outcomes and retention across distinct categories of student organization involvement. This limitation points to an important empirical gap. Specifically, there remains a limited understanding of whether participation in different types of student organizations—particularly curricular-based versus cocurricular-based organizations, as well as varying patterns of involvement and leadership—are associated with differential outcomes in GPA and retention. Addressing this gap may provide more insight into how institutional involvement structures function for diverse student populations and inform more targeted strategies to support academic success and retention.

Summary

The study of student involvement in higher education has a longstanding history, originating in the early 20th century when cocurricular activities first gained recognition as avenues for engaging students beyond academics. Research consistently calls attention to the significant impact of student involvement on critical outcomes such as academic success, retention, and overall student development. Foundational theories, including Tinto's model of student departure (1975), highlight how engagement fosters a sense of belonging and integration within the academic community, which in turn enhances retention.

The importance of college student retention cannot be overstated, as it influences both individual achievement and the long-term success of higher education institutions. Retention rates affect institutional reputations, financial stability, and their ability to support student success. Effective retention strategies require a clear understanding of how different categories of student involvement—such as participation in student organizations, athletics, community service, and other cocurricular activities—affect academic and developmental outcomes. These forms of involvement offer opportunities for personal growth, skill development, and community building, contributing to a richer college experience.

While the literature affirms the positive relationship between student involvement and academic success, research gaps persist, particularly regarding the comparative differences of different types of involvement. Further exploration is needed to understand the differences in GPA and retention among students involved in different types of student organizations. Additionally, there is limited research examining how these patterns vary across demographic groups, institutional settings, and fields of study. By addressing these gaps, future studies can provide actionable insights for institutions to develop tailored programs that maximize the benefits of student involvement across diverse student populations.

This literature review establishes the foundation for examining the comparison between different types of student involvement and leadership role status, and critical outcomes, such as GPA and retention. The next chapter will detail the research methodology employed in this study, including the research design, data collection methods, and analytical strategies. This evidence-based approach seeks to advance the understanding of the differences in academic performance and retention among students involved in different types of student organizations, contributing to the broader field of higher education research.

Chapter 3 - Methodology

Introduction

This chapter provides the methodology that was used to conduct the research for this study. It also provides the research questions, design of the study, information about the participants, data sources, information regarding data collection and analysis, and protection of human subjects.

Research Questions for the Study

The study was designed to examine the following research questions:

1. Does the cumulative grade point average (GPA) differ among college students involved in different types of student organizations?
2. Does the yearly retention differ among students involved in different types of student organizations?
3. Among those involved in student organizations, does the cumulative grade point average (GPA) differ between students who are in student organization leadership roles versus those who are not in a leadership role?
4. Among those involved in student organizations, does the yearly retention differ between students who are in student organization leadership roles versus those who are not?

Research Design

The primary objective of this study was to compare the differences of involvement, in addition to leadership role status, in various types of student organizations and the students' academic outcomes, specifically their GPA and retention rates. The researcher investigated the comparisons of participation, including their leadership status, in different student organizations

on students' GPA and their likelihood of re-enrolling for the following year. Academic performance was evaluated based on students' cumulative GPA, while retention was determined by whether students chose to enroll the following year.

This quantitative, non-experimental study aimed to examine statistical differences between groups based on their involvement in various types of student organizations as well as their leadership status. Because this study employed a non-experimental approach, the analyses identified associations between variables without inferring causation. The research utilized institutional data from the Office of Institutional Research (OIR) and the Student Organization System (SOS; the university's portal for tracking student organization involvement, achievements, event attendance, and participation in university-sponsored activities).

Measures for the Study

This study operationalized student involvement as the primary independent variable for research questions one and two. For the main analyses, students were classified into one of five mutually exclusive involvement groups: (a) single curricular only, (b) multiple curricular, (c) single cocurricular only, (d) multiple cocurricular, or (e) both curricular and cocurricular. Each student appeared in only one of these five categories.

For supplemental analyses only, students were further classified according to the specific organization category represented in their involvement record. Students whose involvement was limited to a single category of student organization were classified into that category (e.g., fraternity and sorority life only, sports clubs only, academic organizations only, multicultural organizations only), with no concurrent participation in other organization categories. Students with broader participation remained in the multiple curricular, multiple cocurricular, or both curricular and cocurricular categories. This supplemental 12-category classification was not used

to answer the four primary research questions. Although political organizations and sports clubs were included in the institution's original organization classification system and were retained in the recoding framework presented in Appendix A, neither category contained students whose involvement was limited exclusively to that organization type. Students affiliated with political organizations or sports clubs also participated in at least one additional organization category and were therefore classified within the multiple cocurricular or both curricular and cocurricular groups, as applicable. Consequently, political organizations and sports clubs did not appear as separate exclusive categories in the supplemental analyses.

Student involvement data were sourced from SOS, the university's centralized system for tracking participation in registered student organizations. Descriptive statistics were used to summarize GPA and retention across involvement categories, and categorical comparisons supported inferential analyses examining differences among groups. Final analytic groupings were informed by observed cell sizes and distributional characteristics of the institutional data to ensure sufficient statistical power and stable estimates.

The specific categories that each student organization was organized into include academic, academic competition team, community service, fraternity/sorority, general university, honorary, multicultural, political, religious, special interest, and sports clubs. While no specific rationale was provided by the university for these categories, they represent a comprehensive and widely utilized structure for grouping student organizations on campus. The types of organizations mentioned earlier were used to organize the recognized student organizations at Central Plains University. The definitions of the student organization categories are referenced and summarized from the university's Student Involvement Office (SIO) website (Central Plains University Student Involvement Office, 2024) and can be found in Appendix A.

For the primary analyses, the institution's student organization categories were recoded into curricular and cocurricular classifications based on their relationship to the formal academic curriculum. Academic, academic competition team, and honorary organizations were classified as curricular because they were directly connected to academic disciplines, programs of study, academic achievement, or the application of disciplinary knowledge. Community service, fraternity/sorority, general university, multicultural, political, religious, special interest, and sports club organizations were classified as cocurricular because their primary purpose involved engagement outside the formal curriculum. Appendix A presents the classification, summarized definitions, and representative examples for each student organization category. Final involvement classifications were determined after examining the distribution of cases across groups. Although the anticipated sample size was expected to support the planned comparisons, observed cell sizes were also considered to promote adequate statistical power and stable group estimates.

The second independent variable was leadership within the student organizations. This variable considers whether a student has held a leadership position in at least one student organization during the academic year. Leadership was defined as holding a formally recognized officer or executive board position, such as president, vice president, treasurer, secretary, or some other unique leadership position, as identified in SOS. These roles are typically recorded in organizational rosters and verified by faculty/staff advisors or organization administrators.

Leadership was operationalized primarily as a dichotomous variable, with students classified as either having held a leadership position (yes) at the time of the data capture or not (no), regardless of the type of leadership position held. This approach allows for a clear and

straightforward comparison of academic outcomes between students who have taken on formal leadership responsibilities and those who have not.

Because the institutional data identified whether a student held a leadership position but did not identify the specific organization in which that leadership occurred, leadership could not be classified according to curricular or cocurricular organizational context. Accordingly, leadership was analyzed only as a dichotomous variable.

Two dependent variables for this study were cumulative GPA and retention. GPA is defined as the cumulative average of students' grades and was treated as a continuous variable, sourced from institutional data provided by OIR. Higher GPAs indicate better academic performance. Retention was measured as a binary variable, reflecting whether a student re-enrolls in the following year (1 = retained, 0 = not retained). This variable captured retention across the study period, with retention determined by whether a student enrolled in Fall 2024 and returned in Fall 2025. Because this study focused on the academic year, students who stopped out temporarily were not distinguishable within the data and were treated as not retained (0). Data for retention was drawn from the university's 20th-day enrollment records, which are reported to public agencies (e.g., the Board of Regents).

Several variables were included in the analysis to ensure a comprehensive understanding of comparing students by involvement types. Demographic variables such as gender, race/ethnicity, and first-generation status were included primarily for descriptive purposes. This allowed the researcher to examine how these characteristics were distributed across the sample and across involvement categories, providing contextual information regarding the composition of the study population. Descriptive statistics summarized GPA, retention, involvement membership, and leadership status across various groups, providing an overview of the data.

Although factors such as academic classification (e.g., freshman, sophomore), year-to-year enrollment patterns, and differences in fall-spring versus spring-fall retention can also influence persistence, the present study did not include these variables due to the scope of the available institutional data. These considerations were noted as important directions for future research, particularly in understanding how retention outcomes may vary across a student's progression toward degree completion.

Retention rates were extensively analyzed among the student population that transitioned from the Fall 2024 semester to the Fall 2025 semester. Academic performance was quantified through the collection of grade point averages (GPAs) specifically from the Fall 2024 and Fall 2025 semesters. This year-long dataset offered a comprehensive understanding of student performance and persistence, enabling a more holistic analysis of retention trends across the full academic cycle.

Student Involvement Description

Student involvement at Central Plains University significantly enriches the academic and social experiences of its students, offering opportunities for personal growth, leadership development, and community engagement. With a wide array of student organizations catering to diverse interests—including academic, professional, social, and service-oriented goals—Central Plains University fosters a vibrant campus life where students can actively participate in activities that complement their educational pursuits.

To gain official recognition by the university, student organizations must complete a formal process involving the submission of a registration form, approval of officer memberships, and the fulfillment of specific requirements by the organization's president and advisor. In some cases, departmental sponsorship is required, with departments approving sponsorship agreements

to support the organization's operations (Central Plains University Student Involvement Office, 2024). Membership in these organizations may also involve criteria such as maintaining a minimum GPA or paying membership dues, underscoring the balance between academic achievement and cocurricular engagement.

Many organizations receive funding from sources such as student government, sponsoring departments, or other university-affiliated entities, enabling them to offer programs, events, and initiatives that enhance the student experience (Central Plains University Student Governing Association, 2024). Through their participation, students develop leadership skills, expand their social networks, and engage in meaningful cocurricular activities. These experiences not only foster personal development but also contribute to academic success and retention, exemplifying a holistic approach to education at Central Plains University.

Participants

The participants in this study consisted of undergraduate students enrolled at Central Plains University during the 2024–2025 academic year who were involved in at least one student organization. The inclusion of students across all undergraduate class ranks was intentional, as involvement in certain student organizations may not be available until after a specific class rank has been completed. Restricting the sample to early class standings would have excluded meaningful patterns of engagement that can occur later in students' academic trajectories. Data were obtained from institutional records, and no direct recruitment or interaction with participants occurred. This ensured that the study adhered to ethical standards while leveraging existing data for robust analysis.

Sampling Method

A non-representative, purposive sampling method was employed for this study. The participants were identified through institutional data from OIR and SOS, with a focus on students who were actively involved in at least one recognized student organization during the period in which roster information was captured. Due to the structure of SOS and the variability in how student leaders updated organizational rosters, involvement data reflected a snapshot at a single point in time rather than a comprehensive record of students' involvement histories. As a result, students who were previously active but not listed on the captured roster, or whose participation was not consistently documented, may not have been captured in the dataset. Accordingly, this study emphasized current, institutionally verified involvement status rather than longitudinal participation or duration of involvement. This sampling method was appropriate given the study's focus on analyzing existing data rather than recruiting participants directly. However, because this was not a random sample and was limited to students with verifiable activity at the time of data extraction, the results may have limited external validity and may not be generalizable to populations outside Central Plains University.

Access to Data

The study relied on de-identified institutional data, which was obtained through Central Plains University's administrative systems. The data sources included student demographic, success, and retention data from OIR, and SOS, which monitored student involvement. After IRB approval was obtained, permission to obtain the SOS data was granted from the SIO. Permission to obtain student demographic, success, and retention data came from OIR. All data was anonymized prior to conducting the analyses, ensuring compliance with ethical standards and protection of participants' privacy.

Inclusion Criteria

To be included in the study, participants must have met the following criteria:

a. Be enrolled as an undergraduate student at Central Plains University during the 2024–2025 academic year. Degree-seeking and non-degree-seeking students were eligible, including students with declared majors and those who were undeclared.

b. Have institutional records indicating participation in recognized student organizations, as documented in SOS.

c. Have a recorded GPA for the Fall 2024 semester and a retention status for the subsequent fall semester.

Students who did not meet these criteria (e.g., those without sufficient academic or involvement records) were excluded from the analysis.

Estimated Sample Size

The study anticipated analyzing data from approximately 5,000 to 7,000 undergraduate students. This estimate was based on the average undergraduate enrollment size for the Fall 2024 semester at Central Plains University (n = 15,560) (*Interactive Factbook*, 2024) and the proportion of students who were involved in campus organizations. Given the anticipated large sample size, many statistical tests may yield statistically significant results even when differences are small. Therefore, in addition to reporting p-values, the study emphasized practical significance by examining effect sizes, specifically Cohen's d for mean differences and eta squared for variance explained. This ensured that findings were interpreted in a meaningful and contextually relevant manner. The actual sample size may have varied depending on the completeness and availability of institutional data.

Data Collection

The data collection process began with the researcher preparing and verifying student organization membership, classification, and leadership records obtained from the SIO. Microsoft Excel was used to initially clean the involvement file and was then transmitted securely to the OIR. OIR staff matched those records to institutional demographic, GPA, and enrollment data using unique student identifiers, removed all personally identifiable information, and returned a de-identified analytic file to the researcher. Thus, the researcher did not receive identifiable academic or enrollment records. To protect student confidentiality, the institutional data provider combined racial and ethnic groups with relatively small numbers into a broader underrepresented minority category. No fixed numerical threshold was applied; rather, categories were aggregated when separate reporting could increase the risk of identifying individual students. International students were retained as a separate category because the institution follows federal and state reporting practices that classify international students independently of race and ethnicity (Office of Institutional Research representative, personal communication, September 2, 2026).

Once the data was returned to the researcher, Microsoft Excel was used again, involving cleaning and merging datasets to ensure consistency and accuracy before the full data analysis took place. Unique student identifiers were used to match records from both sources, ensuring that each student's data was accurately represented. The data collection focused on the 2024–2025 academic year, providing a comprehensive view of student involvement and academic performance over a full academic cycle. Once combined in Excel, the data was prepared for statistical analysis, which included checking for missing values, outliers, and ensuring all variables were correctly formatted for analysis. Any observations with missing values on critical

variables, including GPA, retention status, or confirmed organizational involvement, were removed from analysis because such information cannot be accurately inferred from institutional data sources. This approach ensured that only complete and verifiable records were used in the statistical models. Throughout the data collection and analysis process, ethical considerations were paramount. The researcher prepared and verified the student organization involvement data received from the SIO to ensure the accuracy of organizational classifications and leadership variables. This process ensured that the researcher never had access to identifiable institutional academic records. This helped protect privacy and confidentiality. The data was stored securely, and access was restricted to authorized personnel. Accordingly, student involvement was examined only at the two defined capture points (end of Fall 2024 and end of Fall 2025), and involvement occurring outside these timeframes was excluded from the analysis.

By following these detailed steps, the study aimed to provide a comprehensive analysis of student involvement and its two key academic outcomes. The findings contributed to a better understanding of the role of curricular and cocurricular activities in student success and retention. The findings also contributed to a better understanding of a leadership role within a student organization.

Data Analysis

Descriptive statistics were calculated to provide an initial overview of the data, including measures such as mean, median, standard deviation, and frequency distributions. The prepared data was then imported into SPSS (Statistical Package for the Social Sciences) for detailed statistical analysis. These descriptive measures summarized GPA and retention outcomes across the different categories of student involvement and leadership status.

To address the research questions, this study employed a range of statistical tests tailored to the data and objectives. A one-way Analysis of Variance (ANOVA) was used to address the first research question regarding differences in GPA across student organization involvement classifications, with Welch's ANOVA reported when the homogeneity of variance assumption was violated. An independent-samples *t* test was used to address the third research question, with Welch's *t* test reported when equal variances could not be assumed. For the second and fourth research questions regarding retention outcomes, Pearson's Chi-square test was used to assess group differences in retention rates across involvement types and leadership status. Fisher's Exact Test was applied when expected cell counts were too small for the chi-square assumptions to be met. Measuring involvement this way allowed for statistical comparisons to be made by using a chi-square test. Descriptive statistics summarized GPA and retention across these categories, providing an overview of the data. Collectively, these statistical procedures allowed the study to identify whether significant differences existed in GPA and retention across types of student involvement and leadership experiences.

For Research Question Two, the Pearson chi-square and Fisher-Freeman-Halton exact tests evaluated the overall association between involvement classification and retention; neither omnibus test identified which pairs of groups differed. Exploratory post hoc comparisons used two-sided Fisher exact tests for each of the ten pairs of involvement groups, with Holm's adjustment across all ten comparisons to control the familywise error rate at .05. These follow-up calculations used the retained and not-retained counts reported in Table 4.6.

In addition to statistical significance testing, effect sizes were reported to provide an estimate of the magnitude of observed differences. For analyses involving GPA comparisons, Eta squared (η^2) was reported for analysis of variance (ANOVA). Cohen's *d* was calculated to

quantify the practical significance of differences between groups and was reported for mean differences and pairwise comparisons. Cramér's *V* was reported for chi-square analyses. Reporting effect sizes allowed the findings to be interpreted beyond statistical significance, offering institutions clearer insight into the magnitude of differences in academic performance and retention associated with varying levels of student involvement and leadership experiences.

Protection of Human Subjects

This research solely employed de-identified institutional data to ensure the confidentiality and privacy of individual participants. Given that the study relied on secondary data sources, there was no direct interaction with participants. All data used in the study was obtained from existing university records, ensuring that no personally identifiable information (PII) was included. Since the research did not involve direct contact with individuals or the collection of new personal data, informed consent from participants was not required.

Prior to data acquisition, approval was sought from Central Plains University's Institutional Review Board (IRB) to ensure compliance with ethical standards for research involving institutional data. The researcher completed all IRB training modules prior to completing the IRB paperwork. The dataset was handled with strict confidentiality, and all information was stored securely on password-protected systems, accessible only to the researcher. Results were reported in aggregate form, ensuring that individual identities remained protected throughout the study. Furthermore, individuals were each assigned a unique number once the data from multiple sources were matched and organized.

Summary

This chapter presents the methodology used for the approved study, including research questions, design of the study, information about the participants, data sources, information

regarding data collection and analysis, and protection of human subjects. The research questions investigated whether participation in various types of student organizations and/or whether holding a leadership role in student organizations correlated with students' academic outcomes, specifically GPAs and retention rates. Employing a quantitative, non-experimental approach that utilized institutional data, the study aimed to identify patterns rather than infer causal relationships. Student involvement and leadership were categorized into distinct organization types to compare the differences among the different groups. Data collection leveraged existing university systems, including OIR for academic records and SOS for involvement data, allowing for categorical measurement of participation. Although findings may not be generalizable beyond Central Plains University, they were expected to yield actionable recommendations for enhancing student engagement and academic outcomes.

Chapter 4 - Results

This study examined the differences in academic performance and retention among students involved in different types of student organizations, as well as differences associated with formal student organization leadership status. Chapter four presents the demographic characteristics of the analytic sample, descriptive statistics for the study variables, and inferential analyses addressing the four research questions. Supplemental analyses by exclusive organization category are reported separately from the primary research-question analyses.

Data Screening and Preparation

The original dataset consisted of all undergraduate students whose data was available in the SOS within the given capture periods. Prior to analysis, cases were filtered to include only students whose retention status was available and who met the inclusion criteria in the organization involvement analyses. After filtering, the final analytic sample consisted of 5,610 undergraduate students.

Missing data were minimal throughout the dataset. Complete demographic information was available for the institutional field reported as gender, race/ethnicity, leadership status, organizational involvement classification, and retention status. Fifty-five cases (1.0%) were missing first-generation status, 25 cases (0.4%) were missing academic classification, and 55 students did not have a recorded GPA for Fall 2025. Missing academic classification did not establish whether a student was degree-seeking. Cases without a recorded Fall 2025 GPA were excluded from analyses requiring that measure resulting in an analytic sample of 5,555 students for the GPA-related analyses.

Student Characteristics

The final sample consisted of 5,610 undergraduate students. The largest demographic groups were students recorded as female (53.9%, *n* = 3,023), White (81.5%, *n* = 4,571), and not first-generation (80.6%, *n* = 4,524). First-year students (33.8%, *n* = 1,898) and sophomores (33.2%, *n* = 1,862) constituted similarly sized portions of the sample. Complete demographic distributions are presented in Table 4.1.

Formal leadership experience was reported by 28.3% (*n* = 1,588) of participants. Exclusive cocurricular involvement was the most common involvement classification (49.9%, *n* = 2,798). Across the final analytic sample, students participated in an average of 2.52 student organizations (*SD* = 1.63). The distributions of both independent variables are presented in Table 4.2.

Table 4.1

Demographic Characteristics of the Study Sample

Characteristic	Category	*n*	*%*
Gender	Male	2,587	46.1%
	Female	3,023	53.9%
Race/Ethnicity and	White	4,571	81.5%
International Status	Underrepresented Minority	949	16.9%
	International Student	56	1.0%
	Not Specified	34	0.6%
First-Generation Status	First-Generation	1,031	18.4%
	Not First-Generation	4,524	80.6%
	Not Specified	55	1.0%

Characteristic	Category	*n*	%
Academic Classification	First-Year	1,898	33.8%
	Sophomore	1,862	33.2%
	Junior	1,463	26.1%
	Senior	362	6.5%
	Not Specified	25	0.4%

Note. $N = 5{,}610$. Demographic characteristics are reported for students included in the final analytic sample. Percentages may not total exactly 100% per the characteristic due to rounding. Demographic characteristics reflect the aggregated, de-identified institutional categories provided by the Office of Institutional Research. To reduce the risk of identifying students within small demographic groups, domestic students from underrepresented racial and ethnic populations were combined into a single underrepresented minority category. International students were reported separately based on international status rather than race or ethnicity; disaggregated racial and ethnic information for these students was not provided to the researcher. The Office of Institutional Research supplied a field labeled "gender" containing only Male and Female categories for comparison; no other categories were available in the supplied data. The institutional label is retained for reporting consistency, but these binary categories should not be interpreted as a comprehensive measure of gender identity. The supplied data do not establish whether the source field was intended to represent sex or gender identity.

Table 4.2

Distribution of Students Across Variables

Variable	Category	*n*	%

Leadership Status	Leader	1,588	28.3%
	Non-Leader	4,022	71.7%
Student Organization Involvement Classification	Curricular Only	329	5.9%
	Multiple Curricular	7	0.1%
	Cocurricular Only	2,798	49.9%
	Multiple Cocurricular	1,675	29.9%
	Both Curricular & Cocurricular	801	14.3%

Note. N = 5,610 for Fall 2024 GPA; n = 5,555 for Fall 2025 GPA and GPA change. GPA can equal 0.000 on the 0.000 – 4.000 scale; a recorded value of zero is distinct from a missing GPA.

Descriptive Statistics

The mean cumulative GPA at the conclusion of the Fall 2025 semester was 3.41 (SD = 0.70). Table 4.3 presents the descriptive statistics for the outcome variables of this study.

Table 4.3

Descriptive Statistics for GPA Outcomes

GPA	*M*	*SD*	*Min*	*Max*
Fall 2024 GPA	3.348	0.709	0.000	4.000
Fall 2025 GPA	3.405	0.703	0.000	4.000
GPA Change	0.054	0.685	-4.000	4.000

Note. N = 5,610 for Fall 2024 GPA; n = 5,555 for Fall 2025 GPA and GPA change.

Primary Analysis

The primary objective of this study was to compare the differences of involvement, in addition to leadership role status, in various types of student organizations and the students'

academic outcomes, specifically their GPA and retention rates. Specifically, the study was designed to examine the following research questions:

1. Does the cumulative grade point average (GPA) differ among college students involved in different types of student organizations?
2. Does the yearly retention differ among students involved in different types of student organizations?
3. Among those involved in student organizations, does the cumulative grade point average (GPA) differ between students who are in student organization leadership roles versus those who are not in a leadership role?
4. Among those involved in student organizations, does the yearly retention differ between students who are in student organization leadership roles versus those who are not?

Research Question One

Research question one focused on the differences in cumulative GPA of the students involved in different types of student organizations. Descriptive statistics for each involvement category are presented in Table 4.4. A one-way analysis of variance (ANOVA) was conducted to compare mean GPA across the five student organization involvement classifications (curricular only, multiple curricular, cocurricular only, multiple cocurricular, and both curricular and cocurricular involvement).

Levene's test of homogeneity of variance was statistically significant, F (4, 5550) = 2.81, p = .024, indicating the assumption of equal variances was not met. Consequently, Welch's ANOVA was reported because it is robust to violations of homogeneity of variance.

Table 4.4

Descriptive Statistics for Fall 2025 GPA by Student Organization Involvement Classification

Organization Involvement	*n*	*M*	*SD*
Curricular Only	326	3.38	0.71
Multiple Curricular	7	3.61	0.35
Cocurricular Only	2,759	3.35	0.71
Multiple Cocurricular	1,665	3.45	0.71
Both Curricular & Cocurricular	798	3.51	0.66
Total	5,555	3.40	0.70

Note. GPA measured at the end of Fall 2025. Values rounded to two decimal places.

Welch's ANOVA results indicated statistically significant differences among the involvement classifications, F (4, 47.33) = 11.26, $p < .001$. The associated effect size was small ($\eta^2 = .008$), indicating that approximately 0.8% of the variance in cumulative GPA was explained by student organization involvement classification.

Games-Howell post hoc comparisons indicated three statistically significant pairwise differences. Students involved in both curricular and cocurricular organizations had significantly higher GPAs than students involved exclusively in cocurricular organizations (mean difference = 0.160, $p < .001$, $d = 0.23$). Students involved in multiple cocurricular organizations also had significantly higher GPAs than students involved exclusively in cocurricular organizations (mean difference = 0.102, $p < .001$, $d = 0.14$). In addition, students involved in both curricular and cocurricular organizations had significantly higher GPAs than students involved exclusively in curricular organizations (mean difference = 0.133, $p = .030$, $d = 0.20$). No other pairwise

comparisons were statistically significant. Complete post hoc comparison results are presented in Table 4.5.

Table 4.5

Games-Howell Post Hoc Comparisons for Fall 2025 GPA

Comparison	Mean Difference	*p*	Cohen's *d*
Both vs. Cocurricular Only	0.160	< .001	0.23
Multiple Cocurricular vs. Cocurricular Only	0.102	< .001	0.14
Both vs. Curricular Only	0.133	.030	0.20

Note. Only statistically significant pairwise comparisons are presented. Positive mean differences indicate higher GPAs for the first group listed.

Research Question Two

Research question two focused on whether retention differed among students involved in different types of student organizations. A Pearson's chi-square test of independence was conducted to determine whether retention status was associated with student organization involvement classification. Retention status was categorized as either retained or not retained from Fall 2024 to Fall 2025. Table 4.6 presents the retention frequencies by organization involvement classification.

The Pearson chi-square analysis indicated a statistically significant association between student organization involvement classification and retention, χ^2 (4, N = 5,610) = 10.58, p = .032. Cramér's V was .043, indicating a small association between organization involvement classification and retention status. Because sparse expected counts made the Pearson approximation unreliable, a Fisher-Freeman-Halton exact test, an extension of Fisher's Exact

Test for larger contingency tables, was used for inference and also indicated a statistically significant association, $p = .026$. The effect size was small.

Table 4.6

Retention Status by Student Organization Involvement Classification

Organization Involvement	Not Retained *n* (%)	Retained *n* (%)	Total *n*
Curricular Only	3 (0.9%)	326 (99.1%)	329
Multiple Curricular	0 (0.0%)	7 (100.0%)	7
Cocurricular Only	39 (1.4%)	2,759 (98.6%)	2,798
Multiple Cocurricular	10 (0.6%)	1,665 (99.4%)	1,675
Both Curricular & Cocurricular	3 (0.4%)	798 (99.6%)	801
Total	55 (1.0%)	5,555 (99.0%)	5,610

Note. Pearson's χ^2 (4, $N = 5{,}610$) = 10.58, $p = .032$, Cramér's $V = .043$. Fisher-Freeman-Halton exact $p = .026$ was used for inference because of sparse expected counts.

Post hoc comparisons were conducted using two-sided Fisher exact tests for all ten pairs of involvement classifications, with Holm's procedure for multiple comparisons. No pairwise comparison was statistically significant at the .05 level after adjustment. The smallest adjusted *p*-values were .146 for cocurricular-only versus both curricular and cocurricular involvement (unadjusted $p = .015$) and .149 for cocurricular-only versus multiple cocurricular involvement (unadjusted $p = .017$); all remaining adjusted *p*-values were 1.000. Thus, the significant omnibus association did not identify a specific pairwise difference after control for multiple testing. The multiple-curricular group contained only seven students, and the small number of non-retained students across groups limits the precision of these comparisons.

Research Question Three

Research question three focused on whether cumulative GPA differed between students who held formal leadership positions within student organizations and those who did not. An independent-samples *t* test was conducted to compare Fall 2025 cumulative GPA between student leaders and non-leaders. Prior to conducting the analysis, assumption of normality and homogeneity of variance were evaluated.

Although GPA distributions demonstrated minor departures from normality, the large sample size supported the use of the independent-samples *t* test. Homogeneity of variance was assessed using Levene's test, and the appropriate *t* test results were reported based on the outcome of the assumption test.

Descriptive statistics are presented in Table 4.7. Students who held leadership positions reported a higher mean GPA ($M = 3.50$) than students who did not hold leadership positions ($M = 3.37$). Welch's independent-samples *t* test indicated a statistically significant difference in cumulative GPA between student leaders and non-leaders, $t\ (3221.01) = -6.95$, $p < .001$. Cohen's *d* was -0.197, indicating a small effect size.

Table 4.7

Independent-Samples t Test Comparing Fall 2025 GPA by Leadership Status

Leadership Status	*n*	*M*	*SD*			
Non-Leader	3,976	3.37	0.72			
Leader	1,579	3.50	0.64			
Test	*t*	*df*	*p*	Mean Difference	95% CI	Cohen's *d*
Welch's *t* test	-6.95	3221.01	<.001	-0.138	[-0.177, -0.099]	-0.197

Note. Levene's test of equality of variance was statistically significant, F (1, 5553) = 25.17, p <.001, indicating unequal variances. Accordingly, Welch's t test was used. The mean difference was calculated as non-leader minus leader. Cohen's d was calculated using the pooled standard deviation.

Research Question Four

Research question four focused on whether retention differed between students who held formal leadership positions within student organizations and those who did not. A Pearson's chi-square test of independence was conducted to determine whether retention status was associated with leadership status. Table 4.8 presents the retention frequencies by leadership status.

The Pearson chi-square analysis indicated a statistically significant association between leadership status and retention, χ^2 (1, N = 5,610) = 3.90, p = .048. Cramér's V was .026, indicating a small association between leadership status and retention.

Table 4.8

Retention Status by Leadership Status

Leadership Status	Not Retained *n* (%)	Retained *n* (%)	Total *n*
Non-Leader	46 (1.1%)	3,976 (98.9%)	4,022
Leader	9 (0.6%)	1,579 (99.4%)	1,588
Total	55 (1.0%)	5,555 (99.0%)	5,610

Note. Pearson's χ^2 (1, N = 5,610) = 3.90, p = .048, Cramér's V = .026.

Supplemental Analyses

To provide a more detailed examination of student organization involvement, supplemental analyses were conducted using the exclusive student organization classification variable. Unlike the primary analyses, which grouped students into five broad involvement

classifications, the additional analyses compared students across twelve mutually exclusive student organization categories. These analyses were conducted to further examine differences in cumulative GPA and retention among students involved in specific types of student organizations. Political organizations and sports clubs were not represented as separate categories in the supplemental analyses because no students were involved exclusively in either organization type. Students affiliated with these organizations also participated in other organization categories and were classified within the applicable multiple-involvement group.

Supplemental Analysis 1 (GPA)

A one-way analysis of variance (ANOVA) was conducted to compare Fall 2025 cumulative GPA among students classified into one of twelve mutually exclusive student organizations: academic, academic competition team, honorary, community service, fraternity/sorority, general university, multicultural, religious, special interest, multiple curricular, multiple cocurricular, and both curricular and cocurricular. Prior to conducting the analysis, assumptions of normality and homogeneity of variance were evaluated.

Descriptive statistics for each exclusive student organization category are presented in Table 4.9. Students involved in both curricular and cocurricular organizations (M = 3.51) and students involved exclusively in religious organizations (M = 3.47) also reported comparatively high mean GPAs, whereas students involved exclusively in multicultural organizations reported the lowest mean GPA.

Table 4.9

Supplemental Analysis: Descriptive Statistics for Fall 2025 GPA by Exclusive Student Organization Category

Exclusive Student Organization Category	*n*	*M*	*SD*

Academic	2	3.24	0.56
Academic Competition Team	131	3.36	0.66
Honorary	193	3.39	0.74
Community Service	314	3.41	0.70
Fraternity/Sorority	1,035	3.39	0.59
General University	437	3.33	0.79
Multicultural	122	3.00	0.83
Religious	64	3.47	0.68
Special Interest	787	3.33	0.78
Multiple Curricular	7	3.61	0.35
Multiple Cocurricular	1,665	3.45	0.71
Both Curricular & Cocurricular	798	3.51	0.66

Note. Means and standard deviations are based on Fall 2025 cumulative GPA. The Academic (n = 2) and Multiple Curricular (n = 7) categories contained very small sample sizes and should be interpreted with caution.

Levene's test of homogeneity of variance was statistically significant, indicating that the assumption of equal variances was not met. Therefore, Welch's ANOVA was reported as a robust alternative to the traditional one-way ANOVA. The Welch's one-way ANOVA indicated a statistically significant difference in cumulative GPA among the exclusive student organization categories, F (11, 39.48) = 5.62, $p < .001$. The associated effect size was small ($\eta^2 = .015$).

Games-Howell post hoc comparisons identified several statistically significant pairwise differences. Students involved exclusively in multicultural organizations had significantly lower GPAs than students in several other organization categories, including academic competition

team, honorary, community service, fraternity/sorority, religious, multiple cocurricular, and both curricular and cocurricular organizations. Additional statistically significant differences were observed between several other organization categories. Complete post hoc comparison results are presented in Table 4.10. Because this was a supplemental analysis and several categories were small, these results should be interpreted with caution.

Table 4.10

Statistically Significant Games-Howell Post Hoc Comparisons for Fall 2025 GPA

Comparison	Mean Difference	*p*
Academic Competition Team – Multicultural	0.361	< .001
Honorary – Multicultural	0.391	< .001
Community Service – Multicultural	0.412	< .001
Fraternity/Sorority – Multicultural	0.390	< .001
Religious – Multicultural	0.473	.001
Multiple Cocurricular – Multicultural	0.453	< .001
Both Curricular & Cocurricular – Multicultural	0.511	< .001
Both Curricular & Cocurricular – Fraternity/Sorority	0.120	.009
Both Curricular & Cocurricular – General University	0.178	.002
Multiple Cocurricular – Special Interest	0.125	.003
Both Curricular & Cocurricular – Special Interest	0.182	< .001

Note. Only statistically significant pairwise comparisons are presented. Positive mean differences indicate that the first organization category listed reported the higher mean GPA.

Supplemental Analysis 2 (Retention)

A Pearson's chi-square test of independence was conducted to determine whether retention differed among students classified into the twelve exclusive student organization categories.

Retention frequencies for each exclusive organization category are presented in Table 4.11. Across the study sample, 5,555 students (99.0%) were retained from Fall 2024 to Fall 2025, while 55 students (1.0%) were not retained. Retention rates remained high across all organization categories, although the number of students not retained varied among categories.

Table 4.11

Supplemental Analysis: Retention Status by Exclusive Student Organization Category

Exclusive Student Organization Category	Not Retained *n* (%)	Retained *n* (%)	Total *n*
Academic	0 (0.0%)	2 (100.0%)	2
Academic Competition Team	1 (0.8%)	131 (99.2%)	132
Honorary	2 (1.0%)	193 (99.0%)	195
Community Service	7 (2.2%)	314 (97.8%)	321
Fraternity/Sorority	4 (0.4%)	1,035 (99.6%)	1,039
General University	7 (1.6%)	437 (98.4%)	444
Multicultural	2 (1.6%)	122 (98.4%)	124
Religious	0 (0.0%)	64 (100.0%)	64
Special Interest	19 (2.4%)	787 (97.6%)	806
Multiple Curricular	0 (0.0%)	7 (100.0%)	7
Multiple Cocurricular	10 (0.6%)	1,665 (99.4%)	1,675

Exclusive Student Organization Category	Not Retained *n* (%)	Retained *n* (%)	Total *n*
Both Curricular & Cocurricular	3 (0.4%)	798 (99.6%)	801
Total	55 (1.0%)	5,555 (99.0%)	5,610

Note. Percentages are reported within each organization category.

The Pearson chi-square test indicated a statistically significant association between exclusive student organization category involvement and retention, χ^2 (11, N = 5,610) = 32.80, p < .001. Cramér's V was .076, indicating a small association between exclusive organization category and retention status. Nine cells (37.5%) had expected frequencies fewer than five, reflecting the small sample sizes within several organization categories. The Monte Carlo Fisher-Freeman-Halton exact test was used and supported an statistically significant association, p = .001. This supplemental result is exploratory because of sparse categories. The Pearson chi-square analysis is presented in Table 4.12. This table also summarizes the primary statistical analyses conducted to address each of the four research questions.

Table 4.12

Summary of Statistical Analyses

Analysis	Statistical Test	Test Statistic	*p*	Effect Size
Research Question One	Welch's ANOVA	F (4, 47.33) = 11.26	< .001	η^2 = .008
Research Question Two	Pearson χ^2	χ^2 (4) = 10.58	.032	Cramér's V = .043
		--	.026	

Analysis	Statistical Test	Test Statistic	*p*	Effect Size
	Fisher-Freeman-Halton exact			
Research Question Three	Welch's *t*	*t* (3221.01) = -6.95	< .001	Cohen's *d* = -0.197
Research Question Four	Pearson χ^2	χ^2 (1) = 3.90	.048	Cramér's *V* = .026
Supplemental Analysis (GPA)	Welch's ANOVA	*F* (11, 39.48) = 5.62	< .001	η^2 = .015
Supplemental Analysis (Retention)	Pearson χ^2	χ^2 (11) = 32.80	< .001	Cramér's *V* = .076
	Monte Carlo exact	--	.001	

Note. Effect sizes are reported as eta squared (η^2), Cohen's *d*, or Cramér's *V*, as appropriate for each statistical analysis. Statistical values are rounded to two decimal places except where greater precision aids interpretation. For analyses in which Levene's test indicated unequal variances, Welch's ANOVA was reported as a robust alternative. Exact tests are emphasized when sparse expected counts made Pearson chi-square approximations unreliable. The exclusive-category analyses are supplemental and do not answer the four primary research questions.

Summary

This chapter presented the results of the statistical analyses conducted to address the four research questions guiding this study. Descriptive statistics were first presented to summarize the

characteristics of the study sample and the primary study variables. Inferential statistical analyses were then conducted to examine differences in cumulative GPA and retention among students based on student organization involvement classifications and leadership status.

Research question one examined differences in cumulative GPA across the five student organization involvement classifications using a one-way analysis of variance (ANOVA), with Welch's ANOVA and Games-Howell post hoc comparisons reported when assumptions of homogeneity of variance were not met. Research question two examined differences in retention across the same involvement classifications using a Pearson's chi-square test of independence and Fisher-Freeman-Halton exact test. Research question three examined differences in cumulative GPA between student organization leaders and non-leaders using Welch's independent samples *t* test. Research question four examined differences in retention between student leaders and non-leaders using a Pearson's chi-square test of independence. The twelve-category analyses were supplemental.

The findings presented in this chapter provide the statistical results used to address each research question. Chapter five presents an interpretation of these findings, discusses the results within the context of the existing literature and theoretical framework, acknowledges the limitations of the study, and offers implications for practice and recommendations for future research.

Chapter 5 - Discussion, Recommendations, and Conclusion

The purpose of this quantitative, non-experimental study was to examine the relationship between student organization involvement and student success among undergraduate students at Central Plains University. Specifically, this study investigated whether differences existed in grade point average (GPA) and retention based on students' types of organizational involvement and leadership participation. Student organization involvement was examined using a broad involvement classification consisting of curricular only, multiple curricular, cocurricular only, multiple cocurricular, and both curricular and cocurricular involvement. Supplemental analyses for involvement examined outcomes across twelve exclusive organization categories. Leadership participation was examined by comparing students who held formal leadership positions within student organizations to those who did not.

Using institutional data from 5,610 undergraduate students involved in registered student organizations from the beginning of the Fall 2024 semester through the end of the Fall 2025 semester, statistical analyses were conducted to address four research questions. Differences in GPA were examined using one-way analysis of variance (ANOVA), or Welch's ANOVA when necessary, while differences in retention were analyzed using chi-square tests of independence. Effect sizes were also evaluated to assess the practical significance and magnitude of statistically significant findings.

The findings presented in Chapter four demonstrated several statistically significant relationships between student organization involvement, leadership participation, GPA, and retention. However, the magnitude of many of these relationships was relatively small, suggesting that although organizational involvement may contribute to student success, it represents one of many factors influencing academic performance and persistence.

The purpose of this chapter is to interpret the findings presented in Chapter four within the context of existing literature and the theoretical frameworks that guided this study. The chapter begins with a summary of the major findings organized by research question, followed by a discussion of each finding in relation to prior research and theory. Next, implications for higher education practice are presented, followed by the study's limitations and recommendations for future research. The chapter concludes with a summary of the study's overall contribution to the understanding of student organization involvement and student success.

The research questions addressed in this study were:

1. Does the cumulative grade point average (GPA) differ among college students involved in different types of student organizations?
2. Does the yearly retention differ among students involved in different types of student organizations?
3. Among those involved in student organizations, does the cumulative grade point average (GPA) differ between students who are in student organization leadership roles versus those who are not in a leadership role?
4. Among those involved in student organizations, does the yearly retention differ between students who are in student organization leadership roles versus those who are not?

Discussion of Findings

The discussion of findings is organized according to the four research questions that guided this study. Each research question is examined individually to interpret the findings presented in Chapter four before the findings are collectively discussed in relation to the existing literature and the theoretical frameworks that informed the study. This organization provides a

logical progression from the study's individual findings to their broader implications for higher education research and practice.

Research Question One

Does the cumulative grade point average (GPA) differ among college students involved in different types of student organizations?

Research question one examined whether statistically significant differences existed in cumulative GPA among undergraduate students based on their type of student organization involvement. Student organization involvement was examined according to the breadth of the student's involvement (curricular only, multiple curricular, cocurricular only, multiple cocurricular, and both curricular and cocurricular involvement). The supplemental analyses examined students who participated exclusively within a single organizational category.

There were statistically significant differences in GPA among students based on the type of student organization involvement. Students involved in both curricular and cocurricular organizations generally demonstrated higher GPAs than students participating exclusively in cocurricular organizations, although the observed effect size was small. These findings suggest that while student organization involvement is associated with academic performance, additional academic, personal, and environmental factors likely contribute more substantially to students' academic outcomes.

The findings suggest that the breadth of student involvement may be more influential than participation within any single organizational category. Students who engaged in both curricular and cocurricular organizations demonstrated stronger academic performance than many of their peers who participated in only one type of organization. This pattern may indicate

that students who intentionally diversify their collegiate experiences benefit from opportunities that reinforce both academic learning and personal development.

Participation in curricular organizations often provides opportunities for students to extend classroom learning through discipline-specific experiences, faculty interaction, professional networking, and academic collaboration. Conversely, cocurricular organizations frequently promote interpersonal development, leadership, community engagement, and social integration (Barbera et al., 2020; Forrester et al., 2018; Kuh et al., 2008; Pascarella & Terenzini, 1991, 2005). Students participating across both contexts may therefore benefit from complementary experiences that collectively support academic achievement.

While there was statistical significance observed, the relatively small effect sizes indicate that student organization involvement should not be viewed as the sole determinant of academic success. GPA is influenced by numerous variables, including prior academic preparation, motivation, socioeconomic circumstances, time management, employment obligations, family responsibilities, and institutional support services (Akbar et al., 2017; Astin, 1999; Bettinger & Baker, 2014; Robbins et al., 2004). Rather than serving as a direct cause of higher academic performance, organizational involvement may function as one component within a broader network of experiences that contribute to student success.

The supplemental analysis also identified the multicultural category as having a significantly lower mean GPA than seven other organization categories. Among these differences, students involved exclusively in religious organizations had a significantly higher mean GPA than students involved exclusively in multicultural organizations. However, the religious-organization category did not differ significantly from the other organization categories. This finding warrants attention but should be interpreted cautiously because both

categories were relatively small, the analysis was supplemental, and the available institutional data did not measure organization quality, intensity of participation, or other student characteristics that could account for the difference. The results did not establish that participation in either type of organization affected GPA; rather, they identify a pattern for future research using larger samples and additional contextual variables.

Research Question Two

Does the yearly retention differ among students involved in different types of student organizations?

Research question two examined whether yearly retention differed across the five student organization involvement classifications. The Fisher-Freeman-Halton exact test indicated a statistically significant overall association, with a small effect size. Exploratory pairwise Fisher exact tests did not identify any statistically significant differences after adjusting the ten pairwise *p*-values using Holm's procedure. Accordingly, the omnibus finding should not be interpreted as evidence that a particular pair of involvement groups differed in retention.

These findings suggest that the nature of student organization involvement may be associated with student persistence, but that involvement alone is unlikely to determine whether a student remains enrolled. Student retention is a complex phenomenon influenced by numerous academic, financial, social, and personal factors (Bowden et al., 2021; Kuh, 2009; Martin & Borup, 2022; Nieuwoudt & Pedler, 2023; N. S. Thomas et al., 2021). While involvement in student organizations may strengthen students' connection to the institution and provide opportunities for meaningful engagement, the small effect sizes observed in this study indicate that organizational participation represents only one component of a student's overall collegiate experience.

The findings also demonstrate that students participating across both curricular and cocurricular environments generally experienced more favorable retention outcomes than students whose involvement was limited to a single organizational context. This pattern suggests that students who engage in multiple dimensions of campus life may develop broader institutional connections, increasing their likelihood of remaining enrolled. At the same time, the overwhelming retention rate observed across the sample (99%) should be considered when interpreting these findings, as relatively few students were not retained between the first and second years of the study. The descriptive differences observed per the pattern of involvement did not remain statistically significant in the adjusted pairwise comparisons. The overall retention rate of 99% and the small number of students who were not retained restrict the variability available for identifying differences. The results therefore support cautious interpretation of the overall association without attributing improved retention to a specific involvement pattern.

Research Question Three

Among those involved in student organizations, does the cumulative grade point average (GPA) differ between students who are in student organization leadership roles versus those who are not in a leadership role?

Research question three examined whether statistically significant differences existed in cumulative GPA between students who held formal leadership positions within student organizations and those who did not. Students who held formal leadership positions demonstrated statistically significant differences in GPA compared to students who did not hold leadership roles. Although statistically significant, the magnitude of this relationship was relatively small. These findings suggest that students who assume leadership responsibilities may

possess characteristics that also contribute to academic success. Leadership positions frequently require students to develop skills related to organization, communication, time management, decision-making, and accountability (Coscia, 2018; Igbal et al., 2023; Islam et al., 2024; Maduforo et al., 2024; Rosch & Stephens, 2017). These competencies may complement academic responsibilities by encouraging students to manage competing priorities effectively while remaining engaged in their educational experiences.

However, the findings should not be interpreted as evidence that leadership positions directly improve academic performance. Rather, students who seek leadership opportunities may already possess characteristics associated with higher academic achievement, including motivation, self-efficacy, and effective study habits. Leadership involvement therefore appears to be associated with academic success, but likely functions alongside numerous other student characteristics and experiences that influence GPA.

Research Question Four

Among those involved in student organizations, does the yearly retention differ between students who are in student organization leadership roles versus those who are not?

Research question four examined whether statistically significant differences existed in retention between students who held formal leadership positions within student organizations and those who did not. Students who held formal leadership positions demonstrated statistically significant differences in retention when compared with students who did not hold leadership roles. Students serving in leadership roles generally experienced higher retention rates than non-leaders, although effect sizes suggested the practical impact was limited. The findings suggest that leadership participation may strengthen students' commitment to the institution by increasing opportunities for meaningful involvement, responsibility, and interpersonal

connection. Students serving as organizational leaders often develop stronger relationships with peers, faculty advisors, and university staff while assuming responsibilities that reinforce their investment in the institution. These experiences may contribute to a greater sense of belonging and institutional commitment, both of which have been associated with student persistence (Bowden et al., 2021; Kuh, 2009; Martin & Borup, 2022; N. S. Thomas et al., 2021).

Nevertheless, leadership participation should not be viewed as a singular predictor of retention. Similar to organizational involvement more broadly, leadership represents only one aspect of the undergraduate experience. Financial circumstances, academic performance, personal well-being, family responsibilities, and institutional support services all contribute to students' decisions to remain enrolled (Akbar et al., 2017; Angrist et al., 2009; Bowden et al., 2021; Wilcox et al., 2005). Consequently, while leadership participation appears to be positively associated with retention, the findings indicate that its independent contribution is relatively modest.

Interpretation of both membership and leadership also requires attention to students' reasons for participating. Some students may experience required or pressured participation in activities or leadership roles, for example through program expectations or organizational obligations. Such participation may differ from freely chosen involvement in its meaning, motivation, and perceived benefits. The institutional membership and leadership records used in this study did not distinguish voluntary participation from required or pressured participation. Consequently, membership or a formal leadership role should not be assumed to indicate autonomous engagement, and the findings cannot establish whether the associations differed according to students' reasons for participating.

Contextualizing Statistical and Practical Significance

The statistically significant findings identified in the present study should be interpreted alongside their practical magnitude. Statistical significance indicates whether the observed differences or associations are unlikely to be attributable to sampling variability alone, whereas effect sizes provide information regarding the magnitude of those relationships. Across the four primary research questions, statistically significant differences were identified; however, the associated effect sizes were relatively small. These findings suggest that student organization involvement and leadership participation are associated with GPA and retention, but that neither represents a dominant explanation for variation in these outcomes.

Interpretation of these findings within the broader literature also requires consideration of changes in statistical reporting practices over time. Much of the foundational scholarship informing theories of student involvement and retention was developed during a period in which null-hypothesis significance testing received greater emphasis than the routine reporting and interpretation of standardized effect sizes. Consequently, although foundational works remain essential for explaining the theoretical importance of involvement and persistence, their findings do not always permit direct comparisons of effect magnitude with contemporary studies. Table 5.1 therefore emphasizes empirical studies for which sufficiently comparable statistical information is available, particularly more recent research, while using foundational scholarship primarily as theoretical and substantive context. Because the studies summarized in the table vary in populations, operational definitions, outcomes, research designs, and statistical procedures, the reported values should be interpreted as contextual benchmarks rather than direct numerical equivalents.

Table 5.1

Contextual Comparison of Statistical and Practical Significance in Related Student Engagement Research

Study	Involvement or Engagement Measure	Outcome	Statistical Result / Magnitude	Interpretation and Comparability
Present Study – Research Question One	Student organization involvement classification	Fall 2025 cumulative GPA	Welch's F (4, 47.33) = 11.26, $p < .001$; $\eta^2 = .008$	Statistically significant, with a small effect. Organization classification accounted for approximately 0.8% of the variance in GPA.
Present Study – Research Question Two	Student organization involvement classification	Fall-to-Fall retention	Fisher-Freeman-Halton exact $p = .026$; Cramér's $V = .043$	Statistically significant, with a small association. Interpretation is constrained by the 99.0% overall retention rate and limited variability in the outcome.
Present Study – Research Question Three	Student organization leader versus non-leader	Fall 2025 cumulative GPA	Welch's t (3221.01) = −6.95, $p < .001$; $d = -.197$; mean difference = −0.138	Statistically significant, with a small effect. Student leaders averaged approximately 0.14 GPA points higher than non-leaders.
Present Study – Research Question Four	Student organization leader versus non-leader	Fall-to-Fall retention	$\chi^2(1, N = 5{,}610) = 3.90$, $p = .048$; Cramér's $V = .026$	Statistically significant, with a very small association. Leadership status was associated with retention, but the magnitude of the relationship was limited.
Turnquest et al. (2024)	Number of high-impact practices completed	Term GPA among transfer students	F (1, 1285) = 46.28, $p < .001$; $B = .08$; β = .19; $R^2 = .04$	Statistically significant, but modest in magnitude. Each additional high-impact practice was associated with approximately a 0.08-point increase in term GPA, and participation explained 4% of GPA variance. This provides a strong recent contextual comparison for RQ1, although the population and

Study	Involvement or Engagement Measure	Outcome	Statistical Result / Magnitude	Interpretation and Comparability
				involvement measure differed from the present study.
Pike and Wiese (2024)	Fraternity/sorority membership versus non-membership	Self-reported college grades	Standardized total effects ranged from −.042 to −.122 across sex and class-standing groups; three of four effects were statistically significant at $p <$ .0001	Small relationships were observed despite high statistical significance. This study provides a strong topical comparison because it examined membership in a specific type of student organization, although grades were self-reported and structural equation modeling was used.
Katsumoto and Bowman (2023)	Participation in nine high-impact practices	College grades, sense of belonging, and satisfaction	N = 5,800 students across 15 universities; more than 75% of tested relationships were nonsignificant; statistically significant relationships were modest in magnitude	Demonstrates that engagement experiences do not uniformly produce statistically significant or substantial relationships with student outcomes. This study provides contextual rather than direct effect-size comparison because the population, engagement measures, and statistical models differ from the present study.
Carini et al. (2006)	Multiple dimensions of college student engagement	College-reported cumulative GPA	Adjusted engagement–GPA correlations generally ranged from r = .03 to .13; 11 engagement measures collectively explained approximately 3.1% of residual GPA variance	Engagement–GPA relationships were generally small. The study provides a useful academic-outcome comparison, although engagement was defined more broadly than student organization involvement.
Dinh and Zhang (2021)	Participation in selected high-impact practices	STEM bachelor's degree attainment	Community-based projects: 54.8% higher odds; mentoring: 89.1%	Provides evidence that selected engagement experiences were associated with longer-term educational

Study	Involvement or Engagement Measure	Outcome	Statistical Result / Magnitude	Interpretation and Comparability
			higher odds; internships: 90.6% higher odds; culminating senior experiences: 71.4% higher odds; significant effects ranged from $p < .05$ to $p < .01$	attainment. However, degree attainment and odds ratios are not directly comparable with annual retention or Cramér's *V* in the present study.

Note. Effect statistics are reported in the metric used by each study and should not be interpreted as mathematically equivalent across rows. Comparisons are intended to contextualize the magnitude, direction, and consistency of relationships between student involvement or engagement and academic or persistence outcomes rather than to rank effect sizes numerically. Differences in populations, operational definitions, outcomes, research designs, and statistical procedures should be considered when interpreting these comparisons. For Research Question 2, the Fisher–Freeman–Halton exact test was used for inference because sparse expected counts made the Pearson chi-square approximation unreliable. The negative sign for Cohen's d in Research Question 3 reflects the ordering of the comparison groups; student leaders had the higher mean GPA.

Collectively, the studies summarized in Table 5.1 demonstrate that statistically significant relationships between student engagement and academic outcomes are frequently modest in magnitude and are not consistently observed across all forms of engagement. This pattern provides important context for interpreting the findings of the present study. Although organization involvement classification and leadership status were statistically significantly associated with GPA and retention, their relatively small effect sizes indicate that these variables represent only a portion of the many factors associated with student success. The findings

therefore support continued institutional investment in meaningful involvement opportunities while cautioning against treating student organization participation as an isolated or deterministic intervention for improving GPA or retention.

Relationship to Existing Literature

The findings of the present study generally support the growing body of literature demonstrating that student involvement is positively associated with academic achievement, persistence, and leadership participation within higher education (Kuh et al., 2008; Nieuwoudt & Pedler, 2023; Pascarella & Terenzini, 2005; Rosch & Stephens, 2017). Consistent with prior research, statistically significant relationships were observed between student organization involvement, leadership participation, cumulative GPA, and retention. However, the relatively small effect sizes observed throughout this study reinforce previous scholarship suggesting that student success is influenced by numerous academic, social, institutional, and personal factors rather than any single collegiate experience.

The findings related to academic performance are generally consistent with previous research emphasizing the educational benefits of student engagement. Earlier scholarship has demonstrated that involvement in curricular and cocurricular experiences promotes learning, cognitive development, and academic achievement by extending educational experiences beyond the classroom (Kuh et al., 2008; Pascarella & Terenzini, 1991, 2005). More recent research has similarly emphasized that curricular involvement strengthens academic motivation and achievement while cocurricular involvement promotes leadership development, social integration, and community engagement (Barbera et al., 2020; Day & Dotterer, 2018; Forrester et al., 2018; Lei et al., 2018; Risku & Holder, 2024; Sharma, 2024). The present study extends this literature by demonstrating that students participating across both curricular and cocurricular

organizational contexts generally earned higher GPAs than students whose involvement was confined to a single type of organization. Rather than suggesting that one category of organization is inherently superior, these findings indicate that students may benefit from complementary experiences that collectively support academic success.

The findings related to retention likewise support previous scholarship emphasizing student engagement as a central contributor to persistence. Prior research has consistently demonstrated that student engagement, institutional support, sense of belonging, and meaningful campus relationships strengthen students' commitment to their institutions and increase the likelihood of continued enrollment (Bowden et al., 2021; Kuh, 2009; Martin & Borup, 2022; Nieuwoudt & Pedler, 2023; N. S. Thomas et al., 2021). Although retention rates were high across all groups within the present study, statistically significant differences were identified among students with different patterns of organizational involvement and leadership participation. These findings suggest that involvement may contribute to persistence by strengthening students' academic and social connections to the institution while recognizing that persistence remains a multidimensional process influenced by many additional factors.

Although statistically significant relationships were identified throughout the present study, the relatively small effect sizes reinforce previous scholarship recognizing that student success is influenced by numerous interacting factors beyond student organization involvement. Prior research has demonstrated that students' transition to college (Astin, 1999; Berk & Goebel, 1987; Calcagno & Long, 2008; Eccles et al., 2003; O'Dell et al., 2016; Rosch & Nelson, 2021), family support (Akbar et al., 2017; Cullaty, 2011; Sax & Wartman, 2010), faculty and staff interactions (Bettinger & Baker, 2014; Lundberg & Schreiner, 2004; Sidelinger, 2010; Sidelinger & Booth-Butterfield, 2010; Ullah & Wilson, 2007), social integration (Wilcox et al., 2005),

academic self-efficacy (Robbins et al., 2004), living environment (Enochs & Roland, 2006), financial support (Angrist et al., 2009; Brock & Richburg-Hayes, 2006), peer engagement (McCallum et al., 2015), and other environmental influences have all been associated with student success. Likewise, the broader learning environment plays a critical role in shaping students' academic and developmental experiences (Kuh et al., 2008; Lenning & Others, 1980). Collectively, this body of literature reinforces the conclusion that student organization involvement represents one important component of student success rather than its sole determinant.

The findings concerning leadership participation are also consistent with the leadership literature. Previous research has shown that leadership experiences within student organizations contribute to the development of communication skills, problem-solving abilities, critical thinking, decision-making, and interpersonal competence (Coscia, 2018; Igbal et al., 2023; Islam et al., 2024; Maduforo et al., 2024; Rosch & Stephens, 2017). Students serving in leadership roles within the present study generally demonstrated higher cumulative GPAs and stronger retention outcomes than students who did not hold formal leadership positions. Although these differences were modest, the findings reinforce previous research suggesting that leadership experiences provide opportunities that complement students' academic experiences and support overall student success.

An additional contribution of the present study is the use of a practical organizational classification framework that can be replicated using existing institutional data. Although a characteristics-based approach to classifying student organizations may provide a more sophisticated understanding of organizational involvement, current institutional data systems do not consistently capture these characteristics at scale. Consequently, the present study utilized

existing organizational classifications maintained through institutional records, providing a practical and methodologically replicable approach that may be adopted by other colleges and universities with comparable student involvement data systems. While this approach necessarily simplifies the multidimensional nature of student involvement, it also provides a realistic framework for institutional researchers seeking to examine relationships between organizational participation and student success using administrative data.

Finally, the present study contributes to the existing literature by addressing several of the research gaps identified in Chapter 2. Previous studies have frequently examined student involvement as a broad construct or focused on individual organizational contexts without comparing outcomes across multiple organizational categories (Hu & Kuh, 2002; Hu & McCormick, 2012; Kelling & Hoover, 2005; Murage et al., 2019; Nieuwoudt & Pedler, 2023). In contrast, the present study examined both broad and exclusive organizational classifications while simultaneously considering the influence of formal leadership roles on GPA and retention. By distinguishing among different types of student organization involvement rather than treating involvement as a single construct, this study provides a more nuanced understanding of how organizational participation relates to undergraduate student success.

Relationship to Theoretical Frameworks

The theoretical foundation for this study was informed by Astin's Student Involvement Theory (1984, 1993, 1999) and Tinto's Theory of Student Departure (1975, 1993). Together, these frameworks provided a foundation for understanding how students' involvement within the collegiate environment may contribute to academic success and persistence. The findings of the present study generally support the central propositions of both theories while reinforcing the

understanding that student success is shaped through multiple, interconnected educational experiences rather than a single form of engagement.

Astin's Student Involvement Theory proposes that student learning and development are directly related to the quantity and quality of physical and psychological energy students invest in their educational experiences (Astin, 1984, 1993, 1999). The findings of the present study are consistent with this perspective. Students who participated across both curricular and cocurricular organizations generally demonstrated higher cumulative GPAs than students whose involvement was limited to a single organizational context. Likewise, students serving in formal leadership positions demonstrated stronger academic performance than non-leaders. These findings suggest that students who invest time and effort across multiple dimensions of campus life may experience educational benefits that extend beyond the classroom. While the observed effect sizes were modest, the overall pattern of findings supports Astin's assertion that involvement serves as an important mechanism through which students experience learning and development.

The findings also support Tinto's Theory of Student Departure, which emphasizes that students are more likely to persist when they become academically and socially integrated into their institutions (Tinto, 1975, 1993). Students who participated in both curricular and cocurricular organizations generally demonstrated stronger retention outcomes than students whose involvement was more narrowly focused, and students serving in leadership roles were retained at slightly higher rates than their peers. These findings suggest that opportunities to establish meaningful relationships, participate in campus life, and assume leadership responsibilities may strengthen students' connections to the institution. Although retention rates were uniformly high across the sample and the observed relationships were relatively small, the

findings remain consistent with Tinto's proposition that academic and social integration contribute to student persistence.

An important contribution of the present study is the manner in which the findings illustrate the complementary nature of Astin's and Tinto's theoretical perspectives (Astin, 1984, 1993, 1999; Tinto, 1975, 1993). Astin emphasizes the role of student involvement as the process through which learning and development occur, whereas Tinto emphasizes the importance of academic and social integration in promoting persistence. The present findings suggest that these concepts are not mutually exclusive but instead operate together. Students who participated across multiple organizational contexts were likely exposed to opportunities for academic engagement, peer interaction, leadership development, and institutional connection simultaneously. These overlapping experiences may help explain why students with broader organizational involvement generally demonstrated stronger academic outcomes and retention than students whose participation was more limited.

At the same time, the findings also reinforce an important aspect of both theoretical frameworks: neither theory suggests that involvement alone determines student success. Throughout the present study, statistically significant relationships were accompanied by relatively small effect sizes, indicating that organizational involvement and leadership participation explain only a modest proportion of the variation in GPA and retention. This finding is consistent with Astin's recognition that student outcomes are influenced by numerous inputs and environmental experiences, as well as Tinto's acknowledgment that persistence results from a complex interaction of individual characteristics, institutional experiences, and external influences. Consequently, the present study supports both theoretical frameworks while

reinforcing the understanding that student organization involvement represents one meaningful component within a much broader process of undergraduate student success.

Finally, the integrated use of Astin's Student Involvement Theory and Tinto's Theory of Student Departure proved to be an appropriate framework for examining the relationship between student organization involvement and student success. Together, these theories provided a comprehensive lens through which to interpret differences in academic performance and retention while recognizing the interconnected roles of engagement, involvement, institutional integration, and persistence. The findings of this study therefore support the continued application of these theoretical frameworks in future research examining the influence of student engagement on collegiate outcomes.

Recommendations for Practice

The findings of this study have several implications for higher education practice. Although the relationships between student organization involvement, leadership participation, cumulative grade point average (GPA), and retention were generally characterized by small effect sizes, the findings suggest that student organizations remain an important component of the collegiate experience. Rather than viewing student organizations as extracurricular activities operating independently of the academic mission, institutions should recognize their potential to complement classroom learning, promote student engagement, and support persistence. The following implications are offered for higher education administrators, student affairs professionals, faculty members, and student organization advisors.

Institutional Leaders

The findings suggest that higher education administrators should continue to recognize student organizations as an important component of institutional student success initiatives.

While involvement in student organizations alone is unlikely to substantially improve academic performance or retention, the results indicate that such involvement may contribute to positive student outcomes when combined with other institutional support strategies. Institutional leaders should therefore consider student organizations as educational partners that complement the academic mission rather than as activities that exist outside the learning environment. This partnership has important implications for how student organizations are managed and advised. Certain student organizations may utilize advisors with in-depth knowledge of the organization and potentially the subject matter, while others may not, which can affect the overall experience for members of that specific organization.

The findings also suggest that institutions should continue investing in opportunities that encourage students to engage in both curricular and cocurricular organizations. Such investments may take multiple forms, including supporting organization fairs; maintaining software platforms that help students identify and join organizations; strengthening faculty and staff advising initiatives; providing financial support for student organizations; ensuring access to appropriate meeting and event spaces; and developing referral pathways through academic departments, student affairs offices, and student organization leaders. For curricular organizations, academic departments may further integrate information about involvement opportunities into academic advising and major-specific courses. For cocurricular organizations, institutions may reduce barriers to participation and organizational development by maintaining accessible recognition processes, providing advisor-matching assistance and resources, offering leadership development and training, and establishing funding opportunities that support the creation and sustainability of student organizations. Collectively, these strategies can expand access to involvement opportunities rather than assuming that students will independently discover or create them. This

approach may be particularly valuable given that students who participated across both curricular and cocurricular contexts generally demonstrated stronger academic outcomes than students whose involvement was more narrowly focused. Although these findings do not establish a causal relationship, they suggest that providing students with opportunities to engage across multiple dimensions of campus life may contribute to stronger academic and social experiences.

Finally, institutional leaders should recognize that organizational involvement represents one component of a comprehensive student success strategy. Investments in student organizations should complement, rather than replace, initiatives related to academic advising, financial assistance, mental health services, tutoring, and other student support programs that collectively influence student achievement and persistence.

Student Affairs Professionals

The findings reinforce the important role student affairs professionals play in fostering meaningful student engagement. Professionals responsible for student organization advising, leadership development, and campus engagement should continue creating opportunities that encourage students to become involved early in their collegiate experience. Early engagement may help students establish connections with peers, faculty, and the institution while developing a stronger sense of belonging.

The results also suggest that student affairs professionals should encourage students to consider involvement across multiple organizational contexts rather than limiting participation to a single type of organization. Exposure to both curricular and cocurricular experiences may provide complementary opportunities for academic, personal, and professional development. While individual students will differ in their interests and available time, encouraging intentional

and balanced involvement may help students maximize the educational benefits of organizational participation.

Additionally, the positive relationship observed between leadership participation and student success suggests that leadership development opportunities should remain a priority within student affairs programming. Leadership experiences provide students with opportunities to develop communication, collaboration, decision-making, and organizational skills that contribute to their overall collegiate development. Student affairs professionals should continue providing accessible pathways for students to assume leadership responsibilities within registered student organizations.

Enrollment Management Professionals

The findings of this study also have implications for enrollment management professionals, including admissions counselors, recruitment staff, orientation leaders, and transition program coordinators. These professionals play an important role in introducing prospective and new students to the opportunities available outside the classroom and helping students understand how involvement can contribute to a meaningful collegiate experience. Although the findings do not suggest that student organization participation alone improves academic performance or retention, they do indicate that organizational involvement may serve as one component of a broader student success strategy.

Enrollment management professionals should consider intentionally incorporating information about both curricular and cocurricular student organizations throughout the recruitment and onboarding process. Introducing students to a variety of involvement opportunities before and during their transition to college may help students identify organizations that align with their academic interests, career aspirations, and personal goals.

Early exposure to these opportunities may also reduce barriers to involvement by helping students become aware of available resources before they begin their collegiate experience.

The findings also suggest that enrollment management initiatives should emphasize the educational value of student involvement rather than presenting organizations solely as opportunities for social engagement. Students who participated across both curricular and cocurricular organizations generally demonstrated stronger academic outcomes than students whose involvement was limited to a single organizational context. Consequently, enrollment professionals may wish to collaborate with Student Affairs and Academic Affairs to highlight organizations that reinforce classroom learning while also promoting leadership development, community engagement, and institutional connection.

Finally, enrollment management professionals should recognize that meaningful involvement begins before students attend their first class. Recruitment events, orientation programs, welcome week activities, and transition initiatives provide valuable opportunities to connect students with organizations that complement their interests and academic goals. Developing intentional partnerships among enrollment management, Student Affairs, and Academic Affairs may strengthen students' early connections to the institution and support a more comprehensive approach to student success.

Recommendations for Future Research

The findings of the present study provide several opportunities for future research examining the relationship between student organization involvement and student success. While this study contributes to the growing body of literature regarding student involvement, additional research is needed to further understand the complex relationship between organizational participation, academic achievement, leadership participation, and student persistence. The

following recommendations are offered to extend the findings of the present study and address several limitations identified throughout this research.

First, future research should examine these relationships across multiple institutional settings. Because the present study was conducted at a single public, land-grant university, replicating the study at private institutions, community colleges, minority-serving institutions, and institutions with different enrollment profiles would provide greater insight into the extent to which these findings are consistent across higher education. Comparative studies involving multiple institutions may also help identify institutional characteristics that strengthen or moderate the relationship between student organization involvement and student success (Mayhew et al., 2016; Pascarella & Terenzini, 2005).

Second, future research should consider longitudinal research designs that examine student organization involvement over multiple years rather than a single academic year. Students' patterns of involvement frequently evolve throughout their collegiate experience as academic demands, leadership responsibilities, and personal interests change. Longitudinal studies may provide greater insight into how sustained involvement influences academic achievement, persistence, leadership participation, and other educational outcomes over time (Busseri et al., 2011; Mayhew et al., 2016). Such research may also distinguish between the effects of short-term participation and long-term engagement in student organizations.

Future research should disaggregate first-year and sophomore students from juniors and seniors, while retaining separate academic classification categories when sample sizes permit. Comparisons of students earlier and later in their undergraduate programs could clarify whether associations between involvement, leadership, GPA, and retention vary across academic progression. Such analyses should distinguish graduation from other reasons for non-enrollment,

particularly among seniors, and should consider unequal opportunities to obtain leadership roles across academic classifications.

Third, future research should examine the quality, intensity, timing, and duration of student organization involvement rather than organizational membership alone. Although the present study classified students according to organizational participation and leadership status, it was not possible to determine the extent to which students actively participated within their organizations. Students may join organizations at different points during their collegiate careers, vary in the amount of time devoted to organizational activities, or transition into leadership positions after several semesters of involvement. Future studies incorporating measures such as meeting attendance, event participation, leadership responsibilities, hours of involvement, and students' perceived levels of engagement may provide a more comprehensive understanding of how organizational participation influences student success.

Fourth, future researchers should consider employing mixed-methods research designs that combine quantitative analyses with qualitative inquiry. Although institutional data provide valuable information regarding patterns of involvement and student outcomes, they cannot fully explain why students choose particular organizations, how they experience organizational participation, or what aspects of involvement they perceive as most influential to their academic success and persistence. Qualitative methods, such as narrative inquiry or case study, would allow students to describe how they make meaning of their organizational experiences and how those experiences contribute to their academic, personal, and professional development (Garcia et al., 2017; Gasiewski et al., 2012).

Fifth, future research should incorporate additional student characteristics and environmental factors that were unavailable within the institutional dataset used in the present

study. Variables such as socioeconomic status, employment, financial aid, academic motivation, sense of belonging, mental health, prior academic preparation, and family responsibilities have all been associated with student success in previous research (Kahu & Nelson, 2018; Thomas et al., 2021; Tight, 2020). Including these variables may provide a more comprehensive understanding of the complex factors influencing both organizational involvement and student success while helping to explain the relatively modest effect sizes observed in the present study.

Sixth, future research should continue refining methods used to classify student organization involvement while also evaluating the consistency of these classification frameworks across institutional contexts. While the present study examined both broad organizational classifications and exclusive organizational categories, additional classification frameworks may provide an even more elaborate understanding of organizational participation. Researchers may wish to consider organizational mission, interdisciplinary participation, organizational size, frequency of participation, collaboration across multiple organizations, and levels of member engagement when examining student outcomes (Hu & Kuh, 2002; Kuh et al., 2008; Mayhew et al., 2016). Continued refinement of organizational classification methods may provide a deeper understanding of how different forms of student involvement contribute to academic achievement, persistence, leadership development, and student success.

Finally, future research should also continue examining how student organization involvement varies across diverse student populations and educational contexts. Additional research exploring the intersection of organizational involvement with student characteristics such as race, gender, socioeconomic status, first-generation status, and enrollment modality may provide a more comprehensive understanding of how different student populations experience involvement and engagement (Harper & Quaye, 2007). Likewise, as online and hybrid learning

environments continue to expand, future studies should investigate how virtual students establish meaningful institutional connections and participate in organizational experiences that support their academic success and persistence. Expanding research across these diverse contexts will further strengthen the understanding of student involvement within an evolving higher education landscape.

Collectively, these recommendations provide several avenues for extending the findings of the present study while continuing to advance the understanding of student organization involvement within higher education. As colleges and universities continue investing in student engagement initiatives, future research that incorporates diverse institutional contexts, richer measures of involvement, and additional student success variables will further inform evidence-based practices designed to promote student learning, development, and persistence.

Limitations

Like all research, the present study has several limitations that should be considered when interpreting the findings. Although these limitations do not diminish the value of the study, they provide important context regarding the scope of the findings and the extent to which the results may be applied to other institutional settings.

First, this study was conducted using data from a single public, land-grant university in the Midwestern United States. Institutional missions, student demographics, organizational structures, and campus cultures differ considerably across colleges and universities. Consequently, the findings may not be generalizable to other institutional contexts, including private institutions, community colleges, minority-serving institutions, or universities with substantially different student populations or student engagement opportunities. Replication of

this study across multiple institutional types would provide greater insight into the extent to which these findings are consistent across higher education.

Second, this study relied exclusively on existing institutional data collected for administrative purposes rather than research purposes. While the use of institutional data allowed for the analysis of a large sample of undergraduate students using objective measures of grade point average, retention, organizational involvement, and leadership participation, the available variables were limited to those maintained within university records. As a result, factors known to influence student success—including socioeconomic status, employment, financial aid, family responsibilities, mental health, academic motivation, and students' sense of belonging—were not available for analysis. Because these variables were beyond the scope of the institutional dataset, the findings should be interpreted within the context of the information available.

Third, the study examined student organization involvement during the 2024–2025 academic year based on membership records maintained within the university's student organization management system. Historical involvement data from prior academic years were not consistently available following the institution's transition to a new organizational management platform. Consequently, the study was unable to examine longer-term patterns of organizational involvement or determine whether sustained participation across multiple years influenced academic performance or retention differently than involvement during a single academic year.

Fourth, student organization involvement was classified according to organizational categories assigned within the university's student organization management system. Although institutional staff reviewed organization classifications to improve consistency, organizations initially selected their own primary classification during the registration process. As a result,

some organizations may have reasonably aligned with more than one category, introducing the potential for minor classification inconsistencies. While every effort was made to ensure accurate categorization, this limitation should be considered when interpreting comparisons among organizational types.

Fifth, organizational involvement was measured through membership and formal leadership participation rather than the quality, frequency, or intensity of students' involvement. Membership within an organization does not necessarily reflect the amount of time students devoted to organizational activities or the extent to which they actively participated. Likewise, students who held leadership positions were classified dichotomously as either leaders or non-leaders, regardless of the specific position held, duration of service, or level of responsibility. Consequently, this study was unable to distinguish between students who demonstrated minimal involvement and those who were highly engaged within their organizations. Dichotomizing leadership status also reduced variability by combining students with different number of roles, responsibilities, and durations of service into a single leader category. This loss of information may obscure differences within groups and weaken the ability to detect more nuanced relationships with GPA and retention. GPA itself was retained as a continuous measure, while the limitation concerns the simplified representation of leadership and participation experiences.

Sixth, the measures of academic performance and retention included inherent limitations. Grade point average was used as the measure of academic achievement; however, GPA may be influenced by differences in course selection, academic major, grading practices, and course rigor that were beyond the scope of the present study. Similarly, retention was measured by determining whether students enrolled during the Fall 2024 semester returned for the Fall 2025 semester. This measure did not account for students who temporarily stopped out and later

reenrolled or students who transferred to another institution after leaving Central Plains University. Accordingly, the retention measure reflects institutional persistence rather than students' continued enrollment within higher education more broadly.

Seventh, the retention measure also reflects institution-level persistence exclusively. Students who changed colleges, departments, or academic programs within Central Plains University but remained enrolled were classified as retained. The analysis did not distinguish continued enrollment in the same academic unit from persistence elsewhere within the institution. This limitation is important for interpreting the findings from the perspective of individual colleges or academic programs, where an internal transfer may represent a loss even though the student remains retained by the university.

Eighth, the differences in organizational eligibility requirements constitute an additional limitation. Some organizations may require a minimum GPA for initial membership, continued participation, or eligibility to hold a certain officer position, whereas others may impose no comparable requirement. These requirements were not standardized across organizations, nor were they incorporated into the analyses. Consequently, observed GPA differences may partly reflect academic eligibility and continued-membership rules rather than experiences arising from participation. Such rules may also restrict the range of GPA within particular groups, complicating comparisons across involvement classifications and leadership status.

Finally, the study employed a non-experimental research design and was subject to self-selection bias. Students who choose particular organizations and pursue leadership roles may differ in prior academic achievement, motivation, available time, financial resources, and institutional commitment from students who choose other forms of involvement. These preexisting differences may be associated with both participation patterns and academic

outcomes. The sample also included only students with documented organizational involvement, limiting conclusions about students who were not involved, or chose to participate in involvement opportunities that were not formally captured by the SOS. Because the analyses did not isolate these selection processes, the findings establish associations rather than causal effects of organizational participation or leadership on GPA and retention. Required or pressured participation, where present, represents a further source of heterogeneity that the records could not distinguish.

Overall, these limitations should be considered when interpreting the findings of the present study. At the same time, they also identify opportunities for future research to build upon the results by examining student organization involvement across multiple institutional contexts, incorporating additional measures of student engagement and development, and exploring the relationship between organizational participation and student success using alternative research designs.

Conclusion

Student success remains one of the foremost priorities within higher education, prompting colleges and universities to continually examine the experiences that contribute to students' academic achievement, persistence, and overall collegiate development. Student organizations have long been recognized as opportunities for involvement, leadership, and engagement; however, understanding how different forms of organizational participation relate to measurable student outcomes remains an important area of inquiry. The purpose of this study was to examine the relationship between student organization involvement, leadership participation, cumulative grade point average (GPA), and retention among undergraduate students at Central Plains University.

The findings of this study identified statistically significant relationships between student organization involvement, leadership participation, GPA, and retention. Students who participated in both curricular and cocurricular organizations generally demonstrated stronger academic outcomes than students whose involvement was more narrowly focused, while students serving in formal leadership positions also demonstrated higher GPAs and slightly stronger retention outcomes than their peers. Although the observed effect sizes were relatively small, the findings suggest that student organization involvement represents one meaningful component of the undergraduate experience and may contribute to student success alongside the many academic, social, institutional, and personal factors that influence educational outcomes.

This study also contributes to the existing body of literature by providing a more detailed examination of student organization involvement than has been employed in many previous studies. Rather than treating student involvement as a single construct, this study examined both broad organizational involvement classifications and exclusive organizational categories while also considering the relationship between formal leadership participation and student success. By distinguishing among different patterns of organizational participation, the study provides additional insight into how involvement relates to academic achievement and persistence and offers a methodological framework that future researchers may continue to refine and expand.

The practical implications of this study extend across multiple areas of higher education. The findings suggest that student success is strengthened through the collective efforts of Academic Affairs, Student Affairs, Enrollment Management, faculty members, academic advisors, and student organization advisors. While student organizations should not be viewed as a singular solution for improving academic performance or retention, they represent an important educational environment that complements classroom learning, promotes leadership

development, fosters meaningful campus connections, and supports students' overall collegiate experience.

Ultimately, this study reinforces the value of examining student success through a holistic lens. Academic achievement and persistence are influenced by numerous interacting factors, and student organization involvement represents one important component within that broader educational ecosystem. By examining organizational involvement through multiple classification frameworks and exploring its relationship with both academic performance and retention, this study contributes to a deeper understanding of how collegiate experiences outside the classroom complement students' educational journeys.

As colleges and universities continue seeking innovative ways to improve student success, the findings of this study suggest that meaningful student involvement should be recognized not as an addition to the collegiate experience, but as an integral component of it. Student organizations should not be viewed merely as extracurricular activities that exist alongside the educational mission of the university. Rather, they are educational partners that complement classroom learning, foster leadership development, strengthen students' connections to the institution, and contribute to the holistic development of undergraduate students. As institutions continue investing in initiatives that promote student success, recognizing student organizations as educational partners rather than simply extracurricular activities may help create more intentional, connected, and meaningful collegiate experiences for future generations of students.

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Appendix A - Student Organization Classifications, Definitions, and Examples

Table A.1

Recoding, Definitions, and Examples of Student Organization Categories

Recoded Classification	Category	Definition & Summary	Student Organization Examples
Curricular	Academic	Academic organizations are closely aligned with specific fields of study, often tied to academic majors, and serve as an effective entry point for student engagement. These groups facilitate networking among peers and faculty while providing opportunities to integrate academic knowledge with cocurricular activities.	Agronomy Club American Chemical Society American Marketing Association National Student Nurses Association Society for Human Resource Management
Curricular	Academic Competition Teams	These organizations enable students to apply their academic knowledge in competitive environments. They promote teamwork, practical skill development, and academic excellence, often offering opportunities to achieve recognition at regional, national, or international levels.	Concrete Canoe Team Crops Team Dairy Cattle Judging Team Intercollegiate Horse Judging Team Model United Nations
Curricular	Honorary	Distinguished by their focus on scholarship, leadership, and service, honorary organizations often have specific eligibility criteria, such as academic performance or field of study. These groups cultivate excellence and provide avenues for leadership and community engagement.	Blue Key Senior Honorary Chimes Junior Honor Society Mortar Board College Honor Society Phi Eta Sigma Freshmen Honor Society Silver Key

Recoded Classification	Category	Definition & Summary	Student Organization Examples
Cocurricular	Community Service	Focused on altruism and civic engagement, community service organizations emphasize fostering positive societal impact through volunteerism. Participation facilitates personal development and cultivates connections among individuals with a shared commitment to societal betterment.	American Red Cross Club CircleK International Engineers Without Borders Habitat for Humanity Rotaract
Cocurricular	Fraternity/ Sorority	These organizations, known for their social Greek-letter identities, provide a comprehensive engagement experience encompassing leadership development, community service, philanthropy, and interpersonal connections. Governed by councils such as the Interfraternity Council (IFC), Panhellenic Council (PHC), and National Pan-Hellenic Council (NPHC), they also embrace diverse cultural and social missions.	Alpha Delta Pi Delta Sigma Phi Interfraternity Council (IFC) National Pan-Hellenic Council (NPHC) Panhellenic Council (PHC)
Cocurricular	General University	These entities represent various institutional areas, including college councils, residence halls, and student governance structures. They offer valuable platforms for leadership development, fostering collaboration among students across different academic and social spheres.	Association of Residence Halls Student Alumni Association Student Alumni Board Student Foundation Student Government
Cocurricular	Multicultural	These groups promote cultural awareness, appreciation, and exchange. They enable students to celebrate their heritage, explore new cultural perspectives, and foster a deeper understanding of global and local diversity.	African Students Union Asian Pacific American Student Association Black Student Union Brazilian Student Association Hispanic American Leadership Organization

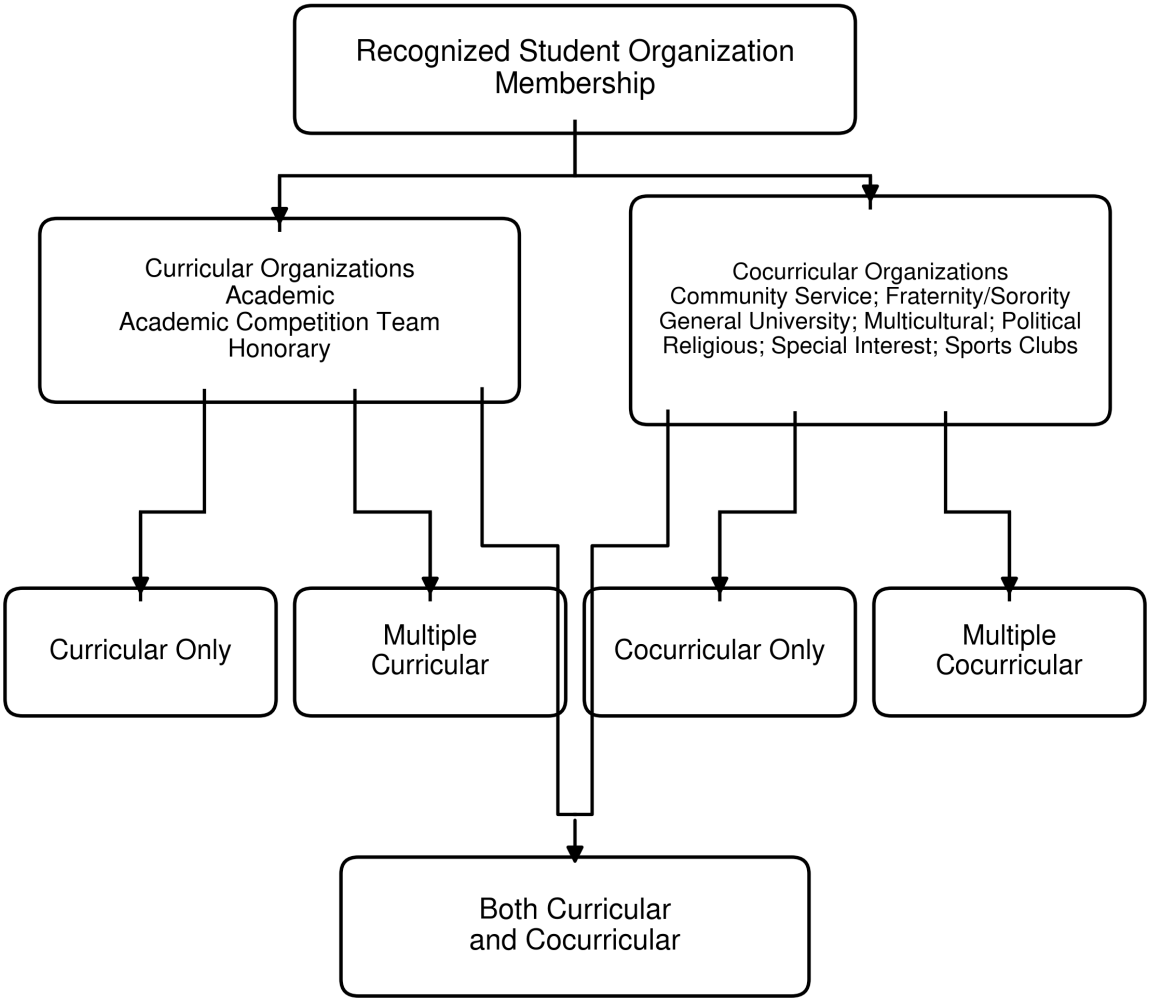
Recoded Classification	Category	Definition & Summary	Student Organization Examples
Cocurricular	Political Organizations	Political groups provide forums for civic discourse, ideological exploration, and democratic engagement. Participation encourages informed dialogue and fosters active involvement in political and social processes.	College Republicans Students for Liberty Turning Point USA Young Americans for Freedom Young Democrats
Cocurricular	Religious	These groups support spiritual exploration and community building, offering spaces for faith-based dialogue and practice. They may be affiliated with local religious institutions or operate as independent campus organizations.	Chi Alpha Cru Hillel International InterVarsity Christian Fellowship Muslim Students Association
Cocurricular	Special Interest	Encompassing a wide range of interests, these organizations cater to unique hobbies, activities, and communities not represented in other categories. They provide diverse opportunities for personal enrichment and community engagement.	Anime Club Biodiesel Initiative Board Game Club Chess Club Photography Club
Cocurricular	Sports Club	Designed for students interested in athletic activities, sports clubs allow participants to continue engaging in competitive sports or explore new ones. These teams often compete in the intercollegiate sense, usually with teams from other institutions, fostering physical fitness and team spirit.	American Collegiate Hockey Association Rugby Club Running Club Ultimate Frisbee Club Women's Soccer Club

Note. Curricular organizations were defined as those with a direct connection to an academic discipline, program of study, or academically focused application of disciplinary knowledge. Cocurricular organizations were defined as those that complemented students' educational experiences through social, cultural, civic, religious, recreational, service, leadership, or other forms of engagement outside the formal curriculum. These classifications were created for the present study by recoding the institution's original student organization categories.

Figure A.1 provides a visual representation of how individual student organization memberships were consolidated into the five mutually exclusive involvement classifications used in the primary analyses

Figure A.1

Classification of Student Organization Involvement Used in the Primary Analyses



Note. Primary involvement classifications represent the breadth and combination of students' organizational involvement. Each student was assigned to one mutually exclusive classification. The exclusive organization categories used in the supplemental analyses were coded separately.