

**Global Flows, Local Belonging: A Quantitative Study of International Students in U.S.
Higher Education**

by

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Abstract

The increasing emphasis on international student success in higher education encouraged researchers to examine factors influencing students' sense of institutional belonging. Prior research has demonstrated that belonging is critical to student engagement and persistence (Tinto, 1975; Hurtado & Carter, 1997). While belonging has traditionally been examined through campus-based experiences, less is known about how broader global experiences shape students' sense of belonging. Arjun Appadurai's theory of global cultural flows provided a framework for understanding these influences (Appadurai, 1996). The purpose of this study was to examine the relationship between international students' experiences across Appadurai's five scapes and their sense of institutional belonging. The sample consisted of international undergraduate and graduate students enrolled at a large public research institution in the southeastern United States (N = 106). Data were collected through a self-administered online survey, including the General Belongingness Scale (Malone et al., 2012) and measures representing each dimension of global cultural flow. Results indicated that global cultural experiences were significantly related to institutional belonging. Ethnoscape experiences and financial well-being emerged as significant positive predictors, while technoscape, mediascape, and ideoscape were not significant predictors. Undergraduate students reported higher levels of belonging than graduate students, while no significant differences were found based on first-generation status or continent of origin. These findings contributed to a growing body of literature by situating international students' sense of belonging within a global context. The results emphasized the importance of social and financial dimensions of students' experiences and highlighted the need for future research using larger and more diverse samples.

Artificial Intelligence (AI) Use Disclosure

In the preparation of this dissertation, the following Artificial Intelligence (AI) tools were used: Grammarly. This tool was used primarily to support the organization of written sections, improve clarity and coherence, assist with grammar and spelling accuracy, and aid in brainstorming and refining wording. The author acknowledges full responsibility for the intellectual content of this work and has ensured that all AI-assisted sections have been reviewed and revised for accuracy and appropriate academic style. All AI-generated content was reviewed and validated for relevance, appropriateness, and accuracy before incorporation into the final document to maintain scholarly integrity of this research.

Digital Accessibility Use Disclosure Statement

In the preparation of this dissertation, the following digital accessibility tools were used to ensure this document complies with federal requirements: Word accessibility check. The author acknowledges full responsibility for the intellectual content of this work and has made a good faith effort to comply with digital accessibility requirements in publishing, wherein the nature of the content does not significantly change in order to do so. Furthermore, all content has been reviewed and revised to meet these requirements prior to final publication.

Dedication

This dissertation is dedicated to international students navigating life away from home, learning to find their place along the way, to those in sport working to change their circumstances, and to those who continue forward despite the obstacles, paving the road for the next person to follow.

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I would like to begin by expressing my sincere gratitude to my chair, Dr. Maria Witte, whose belief in me never wavered, even in moments when mine did. At a time when I was struggling to find a committee chair, you stepped in and met me where I was, with one shared goal: to finish. Your understanding, flexibility, and unwavering support made this possible, and I will always be grateful for the way you helped me cross the finish line.

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Chapter 1: Introduction

Background

According to the Institute of International Education (2024), approximately 1.1 million international students are currently enrolled in U.S. colleges and universities, representing a 7% increase from the previous academic year and marking a historic peak in international enrollment. International students now comprise approximately 6% of the total U.S. higher education population, contributing significantly to institutional diversity, global engagement initiatives, and cross-cultural exchange (Institute of International Education, 2024).

Beyond their academic and cultural contributions, international students play a substantial role in the U.S. economy, generating over \$50 billion in revenue in 2023 alone (Institute of International Education, 2024). The Institute further emphasizes that international student presence extends beyond economic impact, serving as a strategic asset in strengthening diplomatic relationships, enhancing national security, reinforcing U.S. global leadership, and fostering intercultural understanding through sustained cross-border engagement.

Despite these contributions, research continues to document the challenges international students face within U.S. higher education. In their study of African international graduate students, George-Mwangi et al. (2019) found that many students encountered financial constraints, housing instability, and food insecurity with minimal formal institutional support, often relying instead on informal networks for assistance. Although this study focused specifically on African graduate students, its findings reflect broader patterns reported across international student populations navigating complex institutional and global environments.

While international students contribute significantly to their host institutions and communities, insufficient attention to their multidimensional experiences may hinder their sense

of institutional belonging. Feelings of marginalization or underrepresentation may emerge when institutions address only localized campus factors without recognizing the broader global forces shaping students' expectations, identities, and lived experiences. These dynamics align with what Appadurai (1996) conceptualizes as global cultural flows, wherein individuals navigate overlapping pressures across financescapes, ideoscapes, technoscapes, and other transnational dimensions.

In light of these global and institutional dynamics, this study examines the relationship between global cultural experiences and international students' sense of institutional belonging. Specifically, it investigates how students' engagement with global cultural flows influences variation in belonging within U.S. higher education. This chapter introduces the research problem, outlines the significance of the study, presents the research questions, and describes the conceptual framework guiding the investigation. It concludes by articulating the purpose of the study and defining key terms essential to understanding the research context.

Statement of the Research Problem

International students are a vital part of higher education institutions, contributing to academic diversity, cultural exchange, and institutional globalization efforts. However, despite their importance and contributions, many international students struggle with feelings of isolation and marginalization due to insufficient institutional support (George-Mwangi et al., 2019). While universities offer numerous services, such as academic advising, mental health counseling, and international student offices, the connection between students' broader global experiences and their sense of institutional belonging remains underexplored. A globalization perspective, particularly through the lens of cultural flows, offers new insight into this relationship.

Globalization is crucial in addressing this issue, as it emphasizes the interconnectedness of cultural, social, economic, and technological forces across borders. International students do not only face the challenge of adjusting to a new academic environment but are also navigating the broader global context in which educational institutions operate. As student mobility increases and higher education institutions become more globally integrated, the experiences of international students are often mediated by factors beyond institutional borders, such as media visibility, ideological climate, technological access, financial systems, and migration patterns. These global dynamics may influence how students perceive institutional support and whether they feel a sense of belonging within the university context.

Research suggests that a strong sense of belonging is critical for student retention, academic achievement, and overall well-being (Strayhorn, 2018). Yet, international students often face barriers such as cultural adjustment difficulties, limited social integration, financial constraints, and inadequate access to institutional resources (George Mwangi et al., 2019), issues that align with what Appadurai (1996) terms ethnoscapes, financescapes, and technoscapes, among others. When challenges persist without sufficient institutional support or awareness of the forces shaping student experiences, international students may experience disengagement, lower academic performance, and even attrition (George Mwangi et al., 2019).

A central question emerging from this gap is whether institutional belonging among international students is shaped solely by campus-based interactions or also by broader global forces. While institutions often address belonging through localized support services, international students simultaneously navigate cultural adaptation, financial systems, technological demands, media narratives, and ideological climates that extend beyond institutional boundaries. Yet, the extent to which these global dimensions function as predictors

of belonging remains insufficiently examined in quantitative research. Without empirical clarity regarding these relationships, higher education institutions may overlook important contextual factors that influence how international students interpret and experience inclusion.

This study addresses this gap by examining how experiences aligned with Appadurai's five global cultural flows relate to international students' institutional belonging. Specifically, it investigates whether ecological adaptation, media-influenced educational aspiration, technology anxiety, financial well-being, and global interconnectedness significantly explain variation in belonging. Additionally, the study explores whether belonging differs across demographic characteristics such as continent of origin, academic status, and first-generation college status. By modeling these global and demographic factors together, this research seeks to determine whether international student belonging is best understood as a multidimensional construct shaped by both institutional contexts and broader transnational influences.

Significance of Study

As higher education institutions expand their global engagement, international student enrollment continues to grow, bringing increased cultural diversity and transnational exchange to university campuses. International students contribute meaningfully to institutional academic life and global reputation. However, despite their importance, many international students face challenges related to cultural adjustment, social integration, financial constraints, and inadequate institutional support, which can negatively impact their sense of belonging and overall academic experience (George Mwangi et al., 2019).

A strong sense of belonging remains a critical factor in student success, influencing academic performance, well-being, and retention (Strayhorn, 2018). While research on belonging has traditionally emphasized institutional climate, peer relationships, and academic integration,

international students' experiences are shaped by broader global forces that extend beyond campus boundaries. A globalization perspective highlights how cultural adaptation, financial systems, technological demands, media narratives, and global value systems intersect with institutional environments to influence how students experience inclusion and connection.

This study is significant because it introduces a quantitatively testable model grounded in Appadurai's theory of global cultural flows to examine whether broader global dimensions help explain variation in institutional belonging. Rather than assuming belonging emerges solely from campus-based processes, this research empirically evaluates whether ecological adaptation, media-influenced educational aspiration, technology anxiety, financial well-being, and global interconnectedness function as measurable predictors of belonging. By modeling these constructs simultaneously, the study provides greater clarity regarding the relative contribution of global cultural experiences to students' sense of institutional connection.

In addition to its theoretical contribution, this study has practical significance. If global cultural dimensions meaningfully explain variance in belonging, institutions may need to reconsider how support services are conceptualized and delivered. Understanding whether belonging differs across continents of origin, academic status, or first-generation college status further allows institutions to identify patterns within international student populations that may otherwise remain obscured. Such insight may inform more responsive programming, orientation initiatives, and student affairs practices that reflect the broader global contexts shaping student experiences.

Finally, this study contributes to the literature by empirically integrating globalization theory with belonging research in higher education. By grounding its analysis in validated measures aligned with Appadurai's scapes and examining both predictive and demographic

relationships, the research advances a more globally informed framework for understanding international student belonging. In doing so, it offers a foundation for future scholarship that moves beyond campus-bound perspectives and toward a multidimensional understanding of belonging in an increasingly interconnected academic world.

Conceptual Framework

This study was guided by an integrated conceptual framework that positions institutional belonging as a psychological need shaped by both institutional environments and broader global forces. The framework combined belonging theory with globalization theory to examine how international students experience connection within higher education. Rather than viewing belonging as solely the outcome of campus-based interactions, this framework conceptualizes belonging as emerging from the dynamic interaction between local institutional contexts and transnational cultural flows.

Belonging is defined as the feeling of being valued, accepted, and integral to an institution (Strayhorn, 2018). Within higher education research, belonging has been consistently associated with academic engagement, persistence, and overall well-being (Glass & Westmont, 2014; O’Keeffe, 2013; Strayhorn, 2018; Yao, 2015). For international students, belonging is particularly significant, as they navigate intercultural transitions, new social systems, and unfamiliar institutional structures while pursuing academic goals. Maslow’s (1943) Hierarchy of Needs provides psychological grounding for this inquiry by identifying belonging as a fundamental human need, situated between safety and esteem. For internationally mobile students, stability in housing, finances, institutional support, and social integration forms the foundation upon which belonging can develop. Maslow’s framework (1943) underscores that

belonging is not merely social comfort, but a developmental necessity tied to academic and personal flourishing.

While much belonging research emphasizes institutional climate, peer relationships, and academic integration, this study adopts Appadurai's (1996) theory of global cultural flows as its primary theoretical lens. Appadurai conceptualizes globalization as operating through five interconnected yet disjunctive "scapes": ethnoscape, mediascape, technoscape, financescape, and ideoscape. These dimensions represent the global movement of people, media narratives, technological systems, capital, and ideological frameworks across borders.

Ethnoscape reflects patterns of migration and mobility that reshape local social contexts. Mediascape refers to the circulation of images and narratives that construct "imagined worlds" and influence perceptions of opportunity and identity. Technoscape captures the spread of technological infrastructures that enable communication and participation across geographic boundaries. Financescape represents the movement of capital and economic resources that structure access and stability. Ideoscape encompasses the flow of political ideas and value systems that shape identity and social meaning.

To contextualize these global dynamics, this framework also acknowledges Wallerstein's (1974) World-Systems Theory, which describes the global system as hierarchically structured across core, semi-periphery, and periphery nations. Although this study does not directly measure geopolitical status, Wallerstein's perspective provides macro-level context for understanding why global flows are uneven and why access to capital, technology, media narratives, and ideological influence may vary across regions. Rather than serving as a predictive variable, this structural lens situates international students within broader global inequalities that shape the conditions under which belonging is constructed.

Collectively, this conceptual framework positions belonging as a multidimensional construct shaped by psychological needs, institutional environments, and global cultural forces. By integrating Maslow's (1943) developmental theory, Appadurai's global flows, Strayhorn's operationalization of belonging, and Wallerstein's structural context, the framework supports the study's examination of whether experiences across global cultural flows explain variation in international students' institutional belonging.

Within this integrated framework:

- Maslow explains why belonging is psychologically essential.
- Strayhorn provides the operational definition of belonging.
- Appadurai explains how global flows shape lived experience.
- Wallerstein contextualizes the structural inequalities embedded within those flows

Purpose of the Study

The purpose of this study is to examine how experiences across Appadurai's five global cultural flows: ethnoscape, mediascape, technoscape, financescape, and ideoscape, explain variance in institutional belonging among international students in U.S. higher education institutions. Each scape was operationalized through a corresponding validated construct: ecological adaptation (ethnoscape), media-influenced educational aspiration (mediascape), technology anxiety (technoscape), financial well-being (financescape), and global interconnectedness (ideoscape). By analyzing these dimensions collectively and individually, this study sought to determine the extent to which global cultural experiences contributed to differences in international students' sense of belonging.

In addition to examining global cultural predictors, this study also investigated whether institutional belonging differed across key demographic characteristics, including students'

continent of origin, academic status (undergraduate or graduate), and first-generation college status. By integrating global cultural constructs with key demographic characteristics within a single analytical model, the study aimed to provide a more comprehensive understanding of how belonging is shaped within international student populations.

As globalization continues to influence higher education systems, international students' experiences are shaped not only by campus environments but also by broader cultural, technological, financial, and ideological forces (Appadurai, 1996; Marginson, 2014). However, much of the existing research on belonging remains focused primarily on institutional climate and interpersonal relationships within the university setting (Arthur, 2003; Glass et al., 2015; Smith & Khawaja, 2011). While scholarship increasingly acknowledges the global dimensions of international student experiences, these influences are more often discussed conceptually than systematically modeled as quantitative predictors of institutional belonging.

Through statistical examination of global cultural dimensions and demographic characteristics, the study explores whether institutional belonging among international students extends beyond campus-based interactions to encompass broader global influences. Ultimately, this research sought to strengthen empirical understanding of belonging and provide insight that may inform more globally attuned institutional policies and practices.

The following research questions were used in this study:

Research Questions

1. To what extent do experiences across global cultural flows explain variance in international students' institutional belonging?

a. To what extent does ecological adaptation predict institutional belonging?

- b. To what extent does media-influenced educational aspiration predict institutional belonging?
 - c. To what extent does technology anxiety predict institutional belonging?
 - d. To what extent does financial well-being predict institutional belonging?
 - e. To what extent does global interconnectedness predict institutional belonging?
2. Are there significant differences in institutional belonging across students from different continents?
 3. Are there significant differences in institutional belonging across academic status?
 4. Are there significant differences in institutional belonging based on first-generation college student status?

Limitations

While this study seeks to provide valuable insights into the relationship between global cultural flows and international students' sense of institutional belonging, several limitations must be acknowledged. First, the study relies primarily on self-reported data, which can be influenced by social desirability bias, recall inaccuracies, or concerns about confidentiality. International students may overstate or understate their experiences with institutional belonging or their engagement across the five global scapes due to personal perceptions, cultural differences, misunderstandings, or concerns about the potential consequences of disclosing negative feedback.

Second, because the study will be conducted at a single institution, the findings may not be generalizable to all higher education settings. Institutional climate, available resources, and student demographics vary widely across campuses, and the unique cultural and structural characteristics of the selected institution may influence students' experiences in ways that differ

from those at other universities. This limits the extent to which the findings can be applied to broader populations.

Additionally, the cross-sectional nature of the study presents another limitation. Capturing data at only one point in time restricts the ability to examine changes in students' perceptions of belonging and their experiences with global cultural flows over the course of their academic journey. As international students' sense of belonging may evolve throughout their academic journey, future longitudinal studies would offer a more comprehensive understanding of how these experiences evolve and impact students' development and integration into their institutions.

Given the diverse cultural and linguistic backgrounds of the international student population, there may be variations in how respondents interpret and respond to survey items due to cultural nuances and language barriers. These factors could affect the accuracy of responses, particularly for students whose first language is not English or those that came from cultural contexts that differ from those typically associated with Western higher education environments.

Moreover, this study does not account for external factors, such as geopolitical events, visa regulations, or economic conditions, which could influence international students' experiences and sense of belonging. For example, political tensions, changes in visa policies, or economic instability in a student's home country. These macro-level factors fall outside the scope of this study but remain important considerations for interpreting the data.

Finally, although the study employs validated instruments aligned with each conceptual construct, the integration of these measures within a single predictive model grounded in Appadurai's framework represents a novel application. As such, findings should be interpreted within the context of exploratory theory integration, and future research may further refine and

test this multidimensional model across diverse institutional settings. Additional limitations related to measurement and theoretical operationalization are discussed in Chapter Five.

Assumptions

To ensure the validity and interpretability of this study, the following assumptions were made:

1. Participants possess sufficient English proficiency to comprehend and accurately respond to survey items.
2. Participants provide responses that reflect their genuine perceptions and experiences
3. The participant sample demonstrates sufficient variability across demographic characteristics to permit meaningful statistical analysis.
4. Participants' self-reported perceptions serve as valid indicators of their subjective experiences.
5. The relationships among variables are appropriate for regression analysis.

Definitions

For the purposes of this study, the following key terms are defined to ensure clarity and consistency in interpretation:

Belonging is defined as the feeling of being valued, accepted, and integral to an institution (Strayhorn, 2018).

Cultural globalization refers to the dynamic process through which ideas, values, meanings, and cultural practices transcend national boundaries, fostering the growing interconnectedness and interdependence of cultures worldwide (Tomlinson, 2007).

Culture is the process by which meaning is produced, circulated, and exchanged within a society through practices, representations, languages, and institutions.” (Hall, 1997).

Designated school official (DSO) or principal designated school official (PDSO) is a regularly employed member of the school administration whose office is located at the school and whose compensation does not come from commissions for the recruitment of foreign students.

Globalization- "the rapidly developing and ever-densening network of interconnections and interdependencies that characterize material, social, economic, and cultural life in the modern world" (Tomlinson, 2007, p. 352).

Higher Education Institutions- Institution refers to postsecondary institutions, community colleges, universities, and other degree granting institutions.

Imagined worlds- socially constructed perceptions of reality shaped by global media flows, influencing how individuals understand and envision the world (Appadurai, 1996).

Institutional Support- Organizational and administrative support for students on college campuses.

International students – Students who receive institutional sponsorship for their visas while actively engaged in a degree program.

Neo-racism- a form of discrimination based on cultural, linguistic, and national differences rather than biological race

Sense of belonging- "students' perceived social support on campus, a feeling of sensation of connectedness, and the experience of mattering or feeling cared about, accepted, respected, valued by, and essential to the campus community or others on campuses such as faculty, staff, and peers" (Strayhorn, 2018, p. 4).

Student and Exchange Visitor Information System (SEVIS) is a web-based system for maintaining information on nonimmigrant students and exchange visitors in the United States.

The Student and Exchange Visitor Program (SEVP) is the Department of Homeland Security (DHS) program that administers the Student and Exchange Visitor Information System (SEVIS)

The Researcher Positionality

I am an international student from Trinidad and Tobago, a small island that remains unfamiliar to many. I completed both my bachelor's and master's degrees at the same U.S. institution, where I initially arrived on a track and field scholarship and was an active member of the team throughout my academic journey. Upon transitioning to another institution for my PhD, I found myself no longer part of a team, marking what I would consider my first true international student experience. As a first-generation student, I am often regarded as a remarkable achiever in my home country simply for having graduated from college. To finance my education, I worked as a graduate assistant throughout my graduate studies. While in some contexts, a college degree is seen as a pathway to economic freedom, in my culture, it is regarded as almost unnecessary. We place a higher value on community, inclusiveness, and connectivity than on individual accomplishments or academic success.

Chapter 2: Literature Review

Introduction

International students represent a vital, yet often vulnerable, population within U.S. higher education. Their academic engagement, social integration, and overall well-being are shaped by a complex interplay of personal resilience, sociocultural dynamics, and the quality of institutional support they encounter. While they contribute significantly to institutional diversity and global engagement efforts, their experiences often involve navigating cultural transitions, structural barriers, and the ongoing negotiation of belonging within unfamiliar academic environments.

This literature review integrates Maslow's (1943) Hierarchy of Needs, Appadurai's theory of Global Cultural Flows, and Wallerstein's World-Systems Theory to examine how institutional contexts and broader global forces intersect to shape international students' sense of belonging. Specifically, it explores how global cultural flows, including migration, media narratives, technological infrastructures, financial systems, and ideological frameworks, interact with institutional conditions to influence students' perceptions of inclusion and connection.

The chapter begins by synthesizing foundational scholarship on student motivation and the psychological construct of belonging. It then situates international student experiences within the broader context of globalization, drawing on Appadurai's five scapes and Wallerstein's macro-structural perspective to frame cultural, economic, and ideological influences on higher education. Finally, it identifies theoretical and empirical gaps in literature, particularly the limited integration of globalization frameworks with quantitative models of institutional belonging. These gaps provide the foundation for the present study, which employs validated

measures aligned with global cultural constructs alongside the General Belongingness Scale (GBS) to examine belonging within a globally interconnected academic landscape.

Purpose of the Study

The purpose of this study is to examine how experiences across Appadurai's five global cultural flows: ethnoscape, mediascape, technoscape, financescape, and ideoscape, explain variance in institutional belonging among international students in U.S. higher education institutions. Each scape was operationalized through a corresponding validated construct: ecological adaptation (ethnoscape), media-influenced educational aspiration (mediascape), technology anxiety (technoscape), financial well-being (financescape), and global interconnectedness (ideoscape). By analyzing these dimensions collectively and individually, this study sought to determine the extent to which global cultural experiences contributed to differences in international students' sense of belonging.

In addition to examining global cultural predictors, this study also investigated whether institutional belonging differed across key demographic characteristics, including students' continent of origin, academic status (undergraduate or graduate), and first-generation college status. By integrating global cultural constructs with key demographic characteristics within a single analytical model, the study aimed to provide a more comprehensive understanding of how belonging is shaped within international student populations.

As globalization continues to influence higher education systems, international students' experiences are shaped not only by campus environments but also by broader cultural, technological, financial, and ideological forces (Appadurai, 1996; Marginson, 2014). However, much of the existing research on belonging remains focused primarily on institutional climate and interpersonal relationships within the university setting (Arthur, 2003; Glass et al., 2015;

Smith & Khawaja, 2011). While scholarship increasingly acknowledges the global dimensions of international student experiences, these influences are more often discussed conceptually than systematically modeled as quantitative predictors of institutional belonging.

Through statistical examination of global cultural dimensions and demographic characteristics, the study explores whether institutional belonging among international students extends beyond campus-based interactions to encompass broader global influences. Ultimately, this research sought to strengthen empirical understanding of belonging and provide insight that may inform more globally attuned institutional policies and practices.

The following research questions were used in this study:

Research Questions

1. To what extent do experiences across global cultural flows explain variance in international students' institutional belonging?
 - a. To what extent does ecological adaptation predict institutional belonging?
 - b. To what extent does media-influenced educational aspiration predict institutional belonging?
 - c. To what extent does technology anxiety predict institutional belonging?
 - d. To what extent does financial well-being predict institutional belonging?
 - e. To what extent does global interconnectedness predict institutional belonging?
2. Are there significant differences in institutional belonging across students from different continents?
3. Are there significant differences in institutional belonging across academic status?
4. Are there significant differences in institutional belonging based on first-generation college student status?

Synthesis of Research Literature

The theoretical framework for this study integrates Maslow's (1943) Hierarchy of Needs, Appadurai's (1996) Global Cultural Flows, and Wallerstein's (1974) World-Systems Theory to examine how globalization and institutional dynamics shape students' sense of belonging in higher education. Rather than treating belonging solely as an internal or interpersonal construct, this framework situates belonging within broader cultural, economic, and ideological systems that affect how students experience inclusion within academic institutions.

Motivation, defined as the process that influences the direction, intensity, and persistence of behavior (Vroom, 1964), is a fundamental psychological concept that underpins many theories of human behavior. Maslow's Hierarchy of Needs, rooted in motivational theory, provides a structured understanding of how individuals prioritize their needs, with belongingness positioned as a foundational component of psychological well-being. This concept is especially relevant in educational settings, where students must feel connected and supported in order to thrive. For students navigating transnational identities, such as international or globally mobile students, belonging becomes a key predictor of academic and social adjustment.

Appadurai's (1996) theory of Global Cultural Flows expands this understanding by conceptualizing how global phenomena, such as migration, media, technology, financial systems, and ideology, shape individuals' everyday experiences and sense of identity. These five "scapes" (ethnoscape, mediascape, technoscape, financescape, ideoscape) serve as dimensions through which global influences interact with local educational environments. This study operationalizes these scapes as measurable constructs to examine how students' engagement with global cultural flows informs their perceptions of institutional belonging.

Wallerstein's (1974) World-Systems Theory further situates this inquiry within a global power structure, illuminating how inequalities across core, semi-periphery, and periphery regions affect access to educational opportunity and support. From this perspective, institutions in core countries may reproduce global hierarchies that influence how students from different world regions are included, supported, or marginalized, factors that ultimately shape students' sense of institutional belonging.

Together, these theories support a multidimensional analysis of belonging that incorporates personal motivation, institutional conditions, and global cultural flows. This literature provides the foundation for quantitative exploration using the General Belongingness Scale and five scape-based subscales developed for this study, advancing understanding of how globalization informs students' integration and inclusion in higher education.

Theoretical Framework

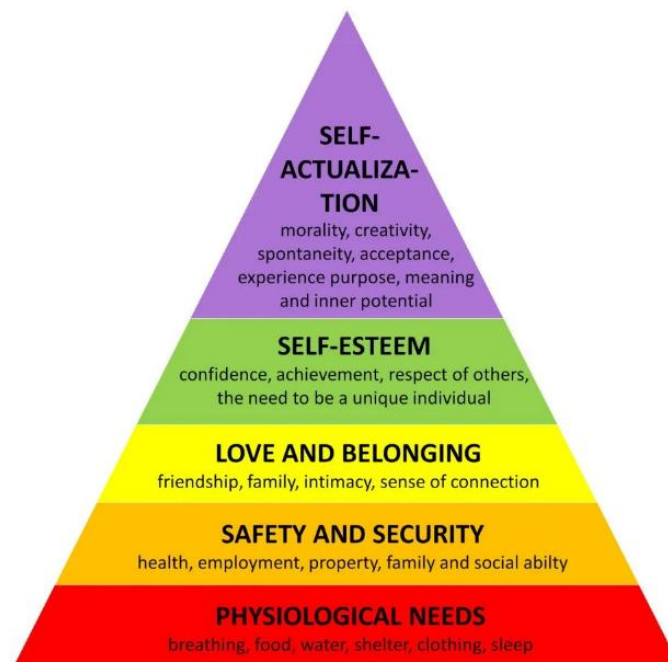
Maslow's Hierarchy of Needs and Psychological Belonging

Maslow's (1943) Hierarchy of Needs, along with his subsequent work on motivation and personality (1954), identified five fundamental needs that drive and regulate human behavior. These needs, conceptualized as innate, serve as the foundation for understanding the motivational forces that shape individual actions and development. Maslow (1943) organized them into a hierarchical structure, comprising of physiological needs, safety, belongingness and love, esteem, and self-actualization. This seminal work would later have a significant contribution to the research around belonging and sense of connection, key concepts within educational psychology.

Maslow (1943) argued that all individuals strive to meet these needs in accordance with their relevance to survival, describing them as instinctive or rooted in a hereditary component. To

illustrate this concept, Maslow utilized a pyramid to represent both the distinct categories of needs and their sequential order, with the most basic needs forming the foundation and more complex, growth-oriented needs at the top (See Figure 1). The pyramid also conveys the idea that each level supports the next. Just as a physical pyramid relies on its base to support the upper tiers, Maslow's model suggests that psychological growth and fulfillment rest on a foundation of basic security and connection. As such, the shape serves as a metaphor for balance, dependency, and human development, making abstract psychological principles easier to conceptualize and apply, especially in educational fields.

Figure 1: Maslow's Hierarchy of Needs Pyramid



The pyramid progresses from fundamental physiological necessities at the base to the psychological pursuit of self-fulfillment at the top (Dost & Smith, 2023). Physiological needs form the foundation of Maslow's hierarchy; they include components such as food, water, air, sleep, clothes, and shelter; the most fundamental requirements for human survival. Once the

physiological needs are satisfied, individuals seek the second level, which emphasizes the need for safety. This may include a stable environment, financial security, and physical safety. The first two levels are considered basic needs, which, according to Maslow (1943), must be satisfied before individuals can focus on higher-level needs. When these basic needs are unmet, they dominate behavior and decision-making processes, which can result in little motivation until the basic needs are satisfied (Gambrel & Cianci, 2003).

Maslow's third stage, love, and belongingness, serves as a central concept for this research. In educational settings, this stage reflects the importance of social integration, positive peer and faculty interactions, and a broader sense of community inclusion (Maslow, 1954). These elements are critical to emotional well-being and academic success. For example, student clubs, mentoring initiatives, and faculty-student relationships all serve as mechanisms for fostering institutional belonging.

While the fourth stage, self-esteem, encompasses feelings of accomplishment, recognition, and respect, the fifth stage, self-actualization, represents the realization of an individual's full potential and the pursuit of personal growth, creativity, and self-improvement. According to Maslow (1943), self-actualization involves becoming everything that one can become and is unique to everyone. This stage is about personal fulfillment and achieving one's goals and aspirations.

Maslow (1943) argued that "the need for food, shelter, and sleep are preconditions for the satisfaction of higher needs" (p. 373). This led many to believe that basic needs must be satisfied before individuals could attain higher-order needs (Gambrel & Cianci, 2003). In other words, students must have adequate food, shelter, and a sense of security before progressing to forming

relationships and having higher self-esteem. This perspective implies that individuals are not influenced by all needs simultaneously; rather, a single need predominates at any given moment.

This interpretation, however, was later reconsidered when Maslow's revised theory highlighted that the fulfillment of each need is largely dependent on the individual and their unique life experiences, indicating that there is not a general criterion for the satisfaction of each stage (Maslow, 1943). Nevertheless, these stages illustrate how Maslow's hierarchy of needs operates, emphasizing that each level builds upon the previous one, culminating in self-actualization.

In a learning environment, each stage of Maslow's Hierarchy of Needs plays a crucial role in shaping a student's capacity to engage, learn, and succeed. Maslow's theory offers a valuable framework for understanding student motivation by emphasizing that educational environments must address not only academic needs but also the basic physiological and emotional well-being of students. This perspective underscores the importance of a supportive environment where care and security are prioritized. Without this stable foundation, students may struggle to achieve high academic performance or reach their full potential through self-actualization.

Maslow's third stage, love and belonging, is the focus of the study. Love and belonging in education, centers on social connections, friendships, and relationships with peers, teachers, and the broader educational community (Maslow, 1954). For students, feeling accepted by their academic peers and educators can be vital to their emotional health and academic success. A strong sense of belonging within an educational setting can arise from positive interactions with peers, inclusion in academic and extracurricular activities, or meaningful relationships with

faculty. Support programs such as student clubs, mentoring initiatives, and peer groups can foster this sense of belonging, helping students feel that they are part of a larger community.

Love and belonging can foster feelings of acceptance and inclusion, which are essential for students to develop confidence, self-esteem, and ultimately, self-actualization (Maslow, 1943). Freeman, Anderman, and Jensen (2007) echo Maslow's perspective by demonstrating that a strong sense of belonging within an educational institution is positively correlated with increased motivation and engagement in school activities, thereby contributing to better academic outcomes. Therefore, the connection between love, belonging, and students within an institution is crucial for achieving academic success.

If the sense of belonging, as delineated in Maslow's Hierarchy of Needs, is not fulfilled within an educational setting, students may face significant adverse consequences that can impede their academic and personal growth. According to Maslow (1943), the need for love and belonging is an essential psychological requirement for fostering human motivation. In educational contexts, neglecting this need can lead to feelings of isolation, disengagement, and diminished motivation, resulting in negative impacts on students' learning outcomes.

For international students in particular, the transition into a new educational environment presents unique challenges that can deeply affect their sense of belonging. Studies consistently highlight that cultural differences, language barriers, and the absence of familiar support systems frequently contribute to feelings of isolation and disconnection (Andrade, 2006; Glass & Westmont, 2014; Wu & Wilkes, 2017). These factors can hinder the formation of meaningful peer and faculty relationships and, in turn, diminish motivation, engagement, and academic performance (Glass & Gesing, 2018; Gopalan & Brady, 2020). Moreover, the need to navigate

unfamiliar academic norms and social expectations can exacerbate psychological strain and delay adjustment (Hendrickson et al., 2011; Lee & Rice, 2007).

While Maslow's (1954) hierarchy of needs underscores the centrality of interpersonal connection within the love and belonging stage, it does not fully capture the cultural and transnational complexities of belonging for internationally mobile students. Scholars have argued that Maslow's framework reflects Western, individualistic assumptions that may not align with collectivist or relational cultural values (Hofstede, 1984; Gambrel & Cianci, 2003; Oishi et al., 1999). For many international students, belonging is not merely a matter of social acceptance within a single institution, but an ongoing negotiation across multiple cultural, emotional, and geographic spaces (Marginson, 2014; Yu & Moskal, 2019). Consequently, their experiences of belonging are dynamic and context-dependent rather than linear or universal.

To address these limitations, researchers have called for more culturally inclusive and globally informed interpretations of psychological theories of belonging (Rizvi, 2009).

Integrating frameworks from globalization studies, for instance, can help explain how transnational forces, such as migration, media, technology, economic flows, and ideology, influence students' identities and sense of connectedness (Appadurai, 1996). This broader lens moves beyond institutionally bounded perspectives and allows for a more comprehensive understanding of how belonging is constructed and sustained within a globalized higher-education landscape.

The challenges international students face can complicate their ability to establish meaningful relationships and integrate into their new academic environments. As a result, the traditional application of Maslow's Hierarchy may overlook the complexity of their experiences and the multifaceted nature of belonging for this demographic. To address the needs of

international students effectively, it is essential to expand interpretations of Maslow's model by incorporating considerations of cultural context, such as cultural globalization.

Maslow has no doubt been a pioneer in the field of motivation and his hierarchy of needs has played a crucial role in contributing to literature (Huitt, 2001). With that said, Maslow's work typically represents American middle class and is deeply influenced by Western, individualistic values, challenging its generalizability to cultures outside of the United States (Gambrel & Cianci, 2003). In one empirical examination, Gambrel and Cianci (2003) used China as a baseline to assess whether Maslow's hierarchy applied to collectivist contexts. They found two major differences: belonging was repositioned as the foundational need, and esteem was eliminated from the hierarchy (See Figure 2).

Figure 2: Chinese Hierarchy of Needs Pyramid



(Gambrel and Cianci, 2003)

The repositioning of belonging within Maslow's Hierarchy of Needs emerged from efforts to contextualize motivation across different cultural settings. Gambrel and Cianci (2003), in their comparative study of American and Chinese participants, found that cultural orientation

significantly influenced the prioritization of needs within Maslow's hierarchy. Their research revealed that participants from China, reflecting collectivist orientations, emphasized social belonging and group affiliation as foundational to motivation, often preceding physiological or safety needs. In contrast, American participants, reflecting individualistic cultural values, prioritized self-actualization and personal achievement. These findings highlight that belonging operates as a primary motivator in collectivist societies, where identity and well-being are deeply intertwined with social harmony and group connectedness. This empirical evidence underscores the need to culturally adapt Maslow's framework when applied to international or multicultural contexts, particularly those in which community interdependence outweighs individual ambition.

Hofstede's (1984) seminal cross-cultural analysis of values across more than 50 countries provides complementary evidence for this reinterpretation. Through large-scale surveys of IBM employees worldwide, Hofstede (1984) identified "individualism versus collectivism" as one of the key cultural dimensions shaping human motivation and behavior. His findings demonstrated that in collectivist cultures, common across Asia, Africa, and parts of Latin America, individual identity is derived largely from group membership, family roles, and social obligations. Hofstede (1984) argued that Maslow's hierarchy reflects Western, individualist assumptions that may not align with these cultural contexts. In societies that value collective harmony, the pursuit of belonging and relational stability often precedes self-esteem or self-actualization, reversing the hierarchical order proposed by Maslow.

Together, these studies demonstrate that motivational hierarchies are culturally contingent rather than universal. They suggest that belonging, as a psychological and social construct, may occupy different positions within the motivational structure depending on cultural orientation. These insights are particularly relevant to international students, whose experiences in higher

education are shaped by cross-cultural transitions, global mobility, and shifting value systems. While Maslow's framework remains foundational in understanding motivation, the evidence from Hofstede (1984) and Gambrel and Cianci (2003) indicates that it does not fully capture the relational and cultural dimensions of belonging that characterize globally diverse populations.

To address this limitation, Maslow's model can be expanded through globalization theories, particularly Appadurai's (1996) theory of global cultural flows and Wallerstein's (1974) World-Systems Theory. Appadurai's framework explains how global forces influence individuals' perceptions, interactions, and sense of belonging across transnational contexts. In parallel, Wallerstein's perspective situates higher education within a global hierarchy of core, semi-peripheral, and peripheral systems, highlighting the structural inequalities and uneven flows of knowledge, capital, and people across nations. Together, these theories offer a broader understanding of belonging that links personal needs with global structures and cultural dynamics. This synthesis allows belonging to be examined not as a static or purely psychological state but as a dynamic, context-dependent construct influenced by intersecting social, cultural, and systemic forces.

Globalization and Higher Education

The discourse surrounding globalization gained prominence in the late 20th century, drawing from diverse intellectual traditions. Key scholars have made substantial contributions to this field, each offering distinct perspectives on its complexities. Wallerstein (1974) emphasized the economic structures that shape global cultural exchanges, while Anthony Giddens (1991) explored how globalization transforms identities and the interplay between global and local cultures. Appadurai (1996) directly theorized cultural globalization through his concept of global cultural flows, and Joseph Stiglitz (2002) critiqued how economic globalization impacts cultural

identities. Collectively, these scholars offer a multifaceted understanding of globalization and its influence on individuals, institutions, and societies.

Though numerous scholars have contributed to the discourse on Globalization, Immanuel Wallerstein's World-Systems Theory (1974) and Arjun Appadurai's Global Cultural Flows (1996) have been specifically selected for this study to provide a more nuanced understanding.

Wallerstein (1974) highlights how core nations dominate global systems, including education, through the unequal distribution of economic and intellectual resources. Meanwhile, Appadurai (1996), provides a framework for understanding how culture moves through five disjunctive yet overlapping flows. Together, these theoretical frameworks deepen the comprehension of the complex and interconnected nature of global interactions.

Globalization has become a defining feature of contemporary higher education, influencing institutional structures, student mobility, and academic culture in complex ways. It can be understood as “the rapidly developing and ever-densening network of interconnections and interdependencies that characterize material, social, economic, and cultural life in the modern world” (Tomlinson, 2007, p. 352). These global interconnections transcend national boundaries, producing new flows of people, ideas, capital, and technologies that reshape the missions and operations of universities worldwide (Altbach & Knight, 2007; Cantwell & Maldonado-Maldonado, 2009; Marginson, 2022).

Universities have simultaneously become drivers and products of globalization. They act as sites for knowledge production and cultural exchange while also responding to the pressures of global competition, rankings, and transnational mobility. For international students, globalization has created new educational opportunities while also intensifying inequalities in access, support, and recognition (de Wit & Altbach, 2021).

Global Student Mobility and Structural Inequalities

The global movement of students has expanded significantly over the past two decades. According to UNESCO data, international student mobility has more than doubled since 2000, with the majority of students migrating from semi-peripheral and peripheral regions to institutions in core nations (UNESCO Institute for Statistics, 2023). This mobility reflects both individual aspirations and structural dynamics: students seek high-quality education, cultural capital, and economic opportunities abroad, while core institutions rely increasingly on international enrollments for financial stability and global prestige (Kondakci et al., 2021; Madge et al., 2015).

However, this global movement is unevenly distributed. Institutions in core regions, defined by Wallerstein (1974) as economically dominant and highly industrialized nations such as the United States and the United Kingdom, dominate the international education landscape, attracting the majority of students and resources, while those in peripheral regions often struggle to compete. Wallerstein's (1974) World-Systems Theory provides a useful lens for understanding these patterns, as it illustrates how global educational mobility mirrors existing economic hierarchies. This dynamic privileges institutions in dominant regions, e.g., the United States, United Kingdom, and Australia, and shapes the educational opportunities and experiences of students within these systems (Cantwell, 2015; Shields, 2016). This unequal structure affects not only who participates in global education but also how students experience belonging, support, and inclusion once enrolled.

Institutional Responses to Globalization

Institutions have responded to globalization through a range of strategies, including internationalization initiatives, transnational partnerships, curriculum reforms, and targeted

recruitment efforts. Internationalization, broadly defined as “the process of integrating an international, intercultural, or global dimension into the purpose, functions, or delivery of postsecondary education” (Knight, 2004, p. 11), has become a central component of institutional identity and competitiveness.

Through these efforts, universities sought to enhance global visibility, diversify their student populations, and prepare graduates for participation in an interconnected world. Common approaches include developing joint-degree programs, expanding study abroad opportunities, embedding global perspectives into curricula, and creating campus environments that promote cross-cultural engagement. However, while these initiatives often emphasize mobility and diversity, scholars note that internationalization can also reproduce global inequalities by privileging institutions in dominant regions and framing international students primarily as economic or cultural assets rather than as full members of the academic community (de Wit & Altbach, 2021; Marginson, 2019).

While some universities pursue internationalization to promote intercultural exchange and global citizenship, others are motivated by financial incentives, branding, and competition in global rankings (de Wit et al., 2015; Altbach & Knight, 2007).). This duality shapes the kinds of experiences international students encounter. Institutions that adopt transactional approaches may prioritize revenue generation over student support, potentially marginalizing globally mobile students and undermining their sense of belonging (Marginson, 2022).

Moreover, institutional policies often assume belonging is formed primarily within campus boundaries. This narrow view overlooks the ways in which international students navigate transnational social networks, media representations, and ideological discourses that extend far beyond the university setting. Understanding belonging in higher education therefore

requires examining how institutional initiatives intersect with global cultural flows and structural inequalities.

Appadurai's Global Cultural Flows and Institutional Belonging

In *Modernity at Large: Cultural Dimensions of Globalization* (1996), Appadurai introduces the concept of global cultural flows as a framework for understanding the complexities of cultural exchange in an increasingly interconnected world. These flows dynamic, overlapping, and often “disjunctive” illustrate how people, ideas, technologies, and capital move unevenly across borders, shaping diverse and sometimes contradictory cultural landscapes. Appadurai's framework challenges traditional notions of globalization as a uniform process leading to cultural homogeneity or simple Westernization. Instead, it emphasizes the fluid and negotiated nature of cultural interactions, where local and global forces continuously intersect to produce new hybrid identities and meanings.

Appadurai (1996) introduces five dimensions or "scapes" through which culture moves globally: ethnoscaples, mediascaples, technoscaples, financescaples, and ideoscaples. These scapes function as dynamic, overlapping pathways for the movement of people, media, technology, capital, and ideas. Within an educational setting, ethnoscaples may reflect students' mobility and shifting cultural identities; mediascaples may shape expectations through global media representations; technoscaples may enable transnational communication; financescaples may determine access to educational opportunities; and ideoscaples may influence how students navigate political and cultural ideologies in their host environments. Understanding belonging through these scapes allows for a more nuanced, multidimensional analysis of international student experiences (Appadurai, 1996; Rizvi, 2009; Tran & Vu, 2018).

Appadurai (1996) defines ethnoscapas as the “landscape of persons who constitute the shifting world in which we live” (p. 33), referring to the increasing movement of people across borders: migrants, refugees, tourists, students, and expatriates. These flows of people disrupt traditional notions of national identity and belonging by creating new forms of cultural interaction and hybridization (Appadurai, 1996; Vertovec, 2007). As populations become more mobile, identities are reshaped through continuous contact and negotiation with diverse cultural contexts, contributing to processes of deterritorialization, where national boundaries become less central to cultural identity (Appadurai, 1996; Rizvi & Lingard, 2010).

Within higher education, the ethnoscape dimension offers a critical lens for understanding the mobility of international students, educators, and scholars. This movement has transformed universities into transnational spaces where diverse cultural perspectives converge and interact (Marginson, 2014). The growing presence of globally mobile populations necessitates inclusive institutional practices such as intercultural competence development, culturally responsive curricula, and equitable student support structures (Leask, 2015; Tran & Vu, 2018).

For international students specifically, ethnoscapas capture the dual sense of belonging and displacement that arises when navigating between home and host environments. Their mobility creates experiences of “in-betweenness” as they negotiate multiple cultural identities and affiliations (Yu & Moskal, 2019). This highlights the importance of viewing belonging not as a static attachment to place, but as a fluid, transnational process shaped by global mobility and continuous cultural exchange.

Mediascapas are the global distribution and consumption of media images and narratives that shape how individuals imagine the world (Appadurai, 1996). Mass media; television, film, social platforms, and digital networks, provide the symbolic resources through which people

construct “imagined worlds” (Appadurai, 1996, p. 35). These mediated representations influence how global cultures are perceived and how individuals situate themselves within them. The transnational flow of media both homogenizes and diversifies cultures, generating hybrid identities and aspirations (Kraidy, 2005; Thompson, 1995).

In higher education, mediascapes play a central role in shaping perceptions of academic quality, campus life, and national prestige. Media portrayals and global university rankings influence students’ decisions about where to study and what institutions signify success (Beech, 2014; Findlay et al., 2017). However, these portrayals often produce unrealistic expectations that may not align with lived experiences, leading to disillusionment or cultural shock upon arrival (Lee, 2017). At the same time, social media platforms allow students to maintain ties to home cultures while participating in global academic communities (Mikal et al., 2015). For international students, mediascapes thus serve as both bridges and barriers: they provide exposure to diverse representations of host societies but can also reinforce stereotypes and shape unequal narratives of belonging.

Appadurai (1996) defines technoscapes as the global configuration of technology, the movement of machines, software, information, and expertise across borders, that transforms both economies and cultures. Technological innovation moves rapidly but unevenly, creating disparities in access and opportunity. These asymmetries influence education by shaping who can participate, how learning occurs, and which knowledge systems are prioritized (Selwyn, 2021; Robertson, 2013).

In higher education, technoscapes have transformed teaching and learning through digital platforms, online courses, and tools that facilitate global communication. Technologies such as learning management systems, video conferencing, and artificial intelligence have increased

opportunities for access, yet they have also highlighted and sometimes deepened existing digital divides (Henderson et al., 2017). For international students, these tools support ongoing connections with home communities and enable cross-border collaboration (Komito, 2011).

Disparities in device availability, internet connectivity, and digital skills can, however, limit engagement and reinforce experiences of marginalization (Marginson, 2022). Technoscapes thus shape students' sense of belonging by influencing how international students communicate, learn, and maintain relationships. While engagement in digital learning spaces can promote inclusion and support, unequal access to technology may reproduce global inequalities within higher education.

Financescapes, according to Appadurai (1996), represent the global flows of capital, currency, investment, and financial power that increasingly operate beyond the control of nation-states. These flows generate both interdependence and inequality, determining which regions or populations benefit from globalization and which are left vulnerable (Harvey, 2005; Steger, 2020). Within education, financescapes reveal how global economic forces affect access, institutional structures, and student opportunities.

The internationalization of higher education is closely tied to financial imperatives; universities rely on international tuition revenue, while students make mobility decisions based on cost and funding availability (Altbach & Knight, 2007; Cantwell, 2015; de Wit & Altbach, 2021). For international students, financial concerns such as tuition, scholarships, and cost of living strongly influence not only their enrollment choices but also their sense of security and belonging (Perna et al., 2015).

Economic pressures can limit participation in social and academic life, heighten stress, and create barriers to inclusion. Conversely, equitable funding mechanisms and financial support

programs enhance belonging by reducing precarity and promoting engagement. Financescape thus underscores how economic globalization is inseparable from students' educational and psychosocial experiences.

Appadurai (1996) uses the term ideoscapes to describe the global circulation of political ideas and ideologies, such as democracy, freedom, and human rights, that shape societal values and institutions. These ideological currents interact unevenly with local contexts, producing tensions between global discourses and national traditions (Rizvi & Lingard, 2010). In education, ideoscapes influence policy reforms, curriculum design, and institutional missions as global norms around competitiveness, meritocracy, and "world-class" status take hold (Ball, 2012; Carnoy & Rhoten, 2002).

For international students, ideoscapes frame how they understand academic systems and their own identities within them. Exposure to differing ideological orientations, such as collectivist versus individualist educational philosophies, can create cultural friction and identity negotiation (Montgomery, 2010). Western ideoscapes often dominate global higher education, marginalizing Indigenous and local knowledge systems while reinforcing hierarchical notions of quality and legitimacy (Shahjahan & Morgan, 2016).

As students traverse these ideological landscapes, they interpret and internalize institutional messages about diversity, equity, and inclusion. Their sense of belonging is influenced by whether campus climates affirm or challenge their cultural and political identities. Ideoscapes thus highlight that belonging is not only social and emotional but also ideological, shaped by global power relations that define what knowledge and values are deemed legitimate.

Appadurai (1996) argues that the five global cultural flows, ethnoscaples, mediascaples, technoscaples, financescaples, and ideoscaples, do not operate harmoniously but rather create

disjunctures and tensions across cultural systems. These flows move at varying speeds and intensities, often intersecting in unpredictable ways that reflect the uneven and fragmentary nature of globalization.

For instance, media representations of opportunity (mediascapes) may clash with local experiences of inequality (financescapes) or migration (ethnoscapes), producing contradictions in how individuals imagine and live globalization (Appadurai, 1996; Rizvi & Lingard, 2010). Such disjuncture generates new forms of cultural hybridization, where global and local forces continually reshape identity, belonging, and social meaning (Vertovec, 2007; Nederveen Pieterse, 2009).

For international students, these global disjunctures are lived realities. They often encounter mismatches between idealized portrayals of global education and the material or cultural realities of studying abroad. Media representations of “world-class” institutions can create expectations of inclusion and opportunity that contrast sharply with the challenges of financial strain, linguistic adjustment, or subtle exclusion (Lee, 2017; Gopalan & Brady, 2020). Navigating these conflicting experiences can generate emotional ambivalence and identity tension, as students oscillate between their home-based identities and the new selves they construct within foreign academic and social systems (Marginson, 2014; Yu & Moskal, 2019).

Within institutions, the fragmentation of global cultural flows can manifest as uncertainty, marginalization, or isolation. Students may arrive with media-shaped expectations that fail to align with institutional realities structured by economic and ideological hierarchies. When support systems adopt one-size-fits-all approaches or prioritize local students’ needs, they risk deepening the sense of disconnection for globally mobile learners (Glass & Gesing, 2018; Tran & Vu, 2018). A lack of culturally responsive support, ranging from advising and counseling to

pedagogy and campus climate, can reinforce the dissonance between students' global identities and institutional belonging (Montgomery, 2010).

To counter these challenges, higher education institutions must acknowledge and engage with the disjunctive nature of globalization. Rather than assuming a singular pathway to belonging, universities should recognize that international students experience belonging across multiple, overlapping contexts: home, host, and global. Culturally relevant support practices, inclusive pedagogies, and policies that address structural inequalities can help bridge the gap between expectations and lived experiences (Leask, 2015).

Appadurai's Global Cultural Flows and Its Application in Higher Education Institutions

Appadurai's (1996) theory of global cultural flows offers a framework for understanding how globalization shapes identity, mobility, and social connection in the modern world. He identifies five dimensions, ethnoscaples, mediascaples, technoscaples, financescaples, and ideoscaples, that describe the fluid and disjunctive movement of people, media, technology, capital, and ideologies across borders. His framework has been widely used to examine how individuals navigate transnational spaces, negotiate belonging, and construct hybrid identities in a globalized context.

Elliott (2014) employed Appadurai's scapes to analyze international students' identity formation in the UK, finding that students' experiences of home and host cultures were mediated by flows of media and technology, which allowed them to sustain ties with their countries of origin while adapting to new environments. Despite its influence, research directly applying Appadurai's scapes to the concept of sense of belonging remains limited. Most studies have used the framework to analyze macro-level globalization processes, rather than individual psychological or institutional experiences. For instance, Rizvi and Lingard (2010) used

Appadurai's framework to theorize educational globalization, emphasizing that student mobility is shaped by global ideologies of neoliberalism and meritocracy that reinforce inequality.

In a similar vein, Le and Jin (2025) conducted longitudinal interviews with 15 Chinese students who returned to China after studying in the United States during the COVID-19 pandemic. They found that these students experienced what they called "double stigmatization", marginalization in both host and home countries, as global media and political ideologies (mediascapes and ideoscapes) shaped public perceptions of Chinese mobility. Their analysis demonstrated that transnational belonging is constantly reconfigured through interactions between global narratives, media representations, and national ideologies.

Parallel insights emerge from research outside the formal educational context but are closely aligned with international student experiences. Park and Gerrits (2021) examined how Korean migrants in Germany used digital platforms to express identity and community affiliation. Through qualitative analysis of online communication patterns, they showed that migrants employed different forms of self-representation depending on the affordances of specific media platforms, revealing the influence of technoscapes and mediascapes in shaping transnational belonging. Likewise, a study by Zhan (2022) on Chinese migrants in Singapore found that technological access and exposure to host-country ideologies significantly influenced participants' self-construal and sense of inclusion, emphasizing how global flows of technology and ideology interact to produce layered identities. Collectively, these studies illustrate that belonging is not limited to physical or institutional spaces but emerges through dynamic global processes in which people negotiate identity across multiple scapes simultaneously.

Beyond mobility and economics, globalization profoundly influences the cultural dynamics of higher education. Appadurai's (1996) framework of global cultural flows, highlights how global forces shape institutional environments and student experiences.

- Ethnoscapes manifest through the growing diversity of student bodies and academic staff, creating multicultural campus spaces but also new complexities in integration and identity negotiation.
- Mediascapes influence how institutions and destinations are represented globally, shaping student expectations and aspirations before they even arrive on campus.
- Technoscapes facilitate transnational communication and virtual learning, connecting students to home communities and global networks.
- Financescapes determine access to mobility through scholarships, funding structures, and economic inequalities.
- Ideoscapes bring competing ideologies and value systems into educational spaces, affecting campus discourse and identity formation (Appadurai, 1996).

These dimensions interact in unpredictable and uneven ways, producing both opportunities for intercultural learning and sites of tension and exclusion. For international students, these global flows shape not only their initial decision to study abroad but also their ongoing sense of belonging across multiple contexts.

Appadurai's (1996) concept of global cultural flows has inspired extensive research on how globalization reshapes identity, community, and belonging across transnational contexts. Scholars have used Appadurai's five scapes: ethnoscapes, mediascapes, technoscapes, financescapes and ideoscapes, to examine the fluid movement of people, ideas, and resources that structure modern social life. While Appadurai did not design his framework specifically for higher

education, subsequent research has extended it to understand how individuals negotiate identity and belonging across shifting cultural and geopolitical boundaries.

Despite the breadth of scholarship engaging with Appadurai's framework, few studies have directly operationalized the scapes in empirical models that measure belonging. Most applications remain conceptual or qualitative, focusing on narrative and identity formation rather than institutional or psychological dimensions of inclusion. As a result, the potential of Appadurai's theory to explain how globalization affects students' lived experiences of belonging remains underexplored in quantitative research. The studies reviewed above provide compelling evidence that belonging is shaped by interactions between global and local contexts, but no existing work systematically examines how these global flows influence students' institutional belonging in higher education.

Defining World-Systems Theory in the Context of Higher Education

World-Systems Theory, developed by Immanuel Wallerstein in his seminal work *The Modern World-System I: Capitalist Agriculture and the Origins of the European World-Economy in the Sixteenth Century* (1974), is a macro-sociological perspective that seeks to explain the structure of the global economic system and its historical evolution. Wallerstein (1974) proposed that the world functions as a single economic unit, which has been shaped by the rise of capitalism since the 16th century. This system, he argued, is characterized by unequal economic and political relationships between countries.

Wallerstein conceptualized the world as a single economic unit divided into three interdependent zones: core, semi-periphery, and periphery. Core nations dominate global production through high-profit, technology-intensive industries and rely on the labor and resources of peripheral nations, which are often underdeveloped and dependent on raw material

exports (Wallerstein, 1974). Semi-peripheral countries occupy an intermediate position, industrialized but still economically subordinate to the core (Wallerstein, 1974, 2004). This hierarchical global division of labor ensures that wealth, power, and influence remain concentrated within the core, perpetuating systemic inequality (Babones, 2015; Chase-Dunn & Hall, 1997).

While initially formulated as an economic theory, Wallerstein's framework has been widely applied to education to explain global inequalities in knowledge production, institutional prestige, and academic mobility (Altbach, 2004; Marginson, 2016). Higher education institutions mirror world-systems dynamics; elite universities in core nations, such as the United States, the United Kingdom, and other high-income countries, dominate global rankings, attract international talent, and produce the majority of influential research. In contrast, institutions in peripheral regions often face resource shortages, limited research infrastructure, and reduced global visibility (Altbach, 2002; Carnoy, 1999). This imbalance reinforces the concentration of educational and intellectual capital in the core and shapes global perceptions of academic excellence.

Students from peripheral and semi-peripheral nations frequently pursue education in core countries, seeking access to advanced resources, cultural capital, and international credentials (de Wit & Altbach, 2021; Knight, 2013). However, this movement also reproduces global hierarchies, as international students contribute economically and intellectually to core institutions while remaining structurally dependent on them (Stein & de Andreotti, 2016). For many, the educational experience abroad reflects what Wallerstein (1974) described as a system of dependency, in which participation within the global education market simultaneously enables upward mobility and reinforces existing power asymmetries.

Within this framework, belonging is shaped not only by individual relationships but also by the structural inequalities of the world-system. Students from peripheral nations often face disparities in preparedness, financial security, and institutional recognition that mirror broader patterns of global stratification (Cantwell, 2015). Educational environments in core institutions may implicitly privilege Western epistemologies, pedagogies, and norms, expecting international students to assimilate into dominant frameworks rather than validating diverse ways of knowing (Tikly, 2019). As a result, belonging becomes contingent upon students' ability to navigate academic and cultural systems designed around core-country assumptions.

This unequal terrain of global higher education can lead to what Wallerstein (1974) describes as cultural and academic dependency, a dynamic in which international students benefit from the prestige and resources of core institutions but often experience marginalization or identity tension within them. Students from peripheral regions may grapple with “cultural displacement” as they reconcile the values, languages, and expectations of core academic cultures with those of their home contexts (Montgomery, 2010). When institutional structures fail to account for this diversity, students' experiences of belonging may be weakened, resulting in social isolation or disengagement.

Furthermore, the hegemony of knowledge in global education perpetuates a one-way flow of ideas from core to periphery, where Western pedagogical models and epistemologies dominate curricula and research agendas (Shahjahan & Morgan, 2016). This intellectual asymmetry marginalizes Indigenous and local knowledge systems, framing them as peripheral to the “universal” knowledge of the core. Consequently, international students from the periphery may feel that belonging requires assimilation into dominant academic ideologies, often at the expense of their cultural identities.

Belonging is not merely social or emotional but also structural and geopolitical, shaped by the uneven distribution of power, knowledge, and opportunity across global systems (Wallerstein, 1974; Marginson, 2016). Recognizing these macro-level inequalities allows institutions to better understand and address the conditions under which international students can experience meaningful inclusion and agency within the global academy (Stein, 2019; Tran & Pham, 2016).

Applying Wallerstein's (1974) World-Systems Theory to higher education exposes how international student mobility reflects the enduring inequalities of the global capitalist system. Students from peripheral and semi-peripheral regions are drawn to core countries for access to prestigious institutions, advanced research infrastructure, and global career pathways. Yet their educational journeys also reproduce dependency structures that mirror the economic hierarchies of the world-system (Altbach, 2002; Marginson, 2016).

Core nations benefit disproportionately through the intellectual and financial capital that international students bring, while peripheral nations continue to lose talent and resources through processes of academic migration (Cantwell, 2015; Stein & de Andreotti, 2016). For international students, these systemic imbalances have both empowering and alienating effects that can greatly affect their experiences while studying abroad.

Connecting World-Systems Theory and Appadurai's Global Cultural Flows

Appadurai's (1996) framework of global cultural flows and Wallerstein's (1974) world-systems analysis intersect in their critique of globalization as an uneven and hierarchical process. While Appadurai emphasizes the cultural and imaginative dimensions of global movement, how people, ideas, and media traverse borders, Wallerstein exposes the structural and economic foundations that sustain these asymmetries. Together, these frameworks reveal that international

student experiences are shaped simultaneously by macro-structural inequalities and micro-level cultural negotiations.

Students' sense of belonging in higher education thus unfolds at the intersection of these forces: Wallerstein's structural hierarchies determine access to global educational capital, while Appadurai's scapes capture the fluid cultural, technological, and ideological encounters that shape identity and connection. Integrating these perspectives allows the examination of belonging as both a structural position within global systems and a cultural process of navigating transnational flows, offering a comprehensive understanding of how globalization shapes international student experiences.

International Students and Higher Education Institutions

International students are defined as individuals holding an F-1 student visa, a classification specifically designated for those pursuing academic studies in the United States (United States Immigration and Customs Enforcement, n.d.). The process of obtaining this visa is often complex and demanding, requiring students to demonstrate academic intent, financial solvency, and institutional affiliation. Once in the U.S., these students must navigate not only academic and social environments but also a multilayered legal framework governed by both federal and state laws. Given this legal complexity, international students often rely on their institutions, particularly International Student Services (ISS) offices, for support in understanding and complying with regulatory requirements.

The Student and Exchange Visitor Program (SEVP) grants institutions the legal authority to sponsor F-1 visas for degree-seeking international students. In order to obtain and maintain SEVP certification, institutions enter into a legally binding agreement to adhere to relevant federal laws, regulations, and requirements set forth by the Department of Homeland Security

(DHS) and U.S. immigration authorities (United States Immigration and Customs Enforcement, n.d.). Institutions not certified by SEVP are prohibited from enrolling international students, placing the full legal and operational responsibility for these students on certified universities.

Institutions are also prohibited from enrolling international students who have not obtained SEVP certification (United States Immigration and Customs Enforcement, n.d.). To effectively support these students, each instructional site must designate a Principal Designated School Official (PDSO) and one or more Designated School Officials (DSOs) to be present on-site (United States Immigration and Customs Enforcement, n.d.). DSOs are typically housed within the International Student Services (ISS) offices, which play a pivotal role in interpreting SEVP regulations to inform institutional policies. These offices also collaborate with faculty and staff, provide guidance to international students, and ensure institutional compliance with relevant laws. By performing these functions, ISS offices not only protect the legal standing of the institution but also support the academic success and well-being of international students, while upholding the integrity of the institution's operations.

Institutions are also responsible for managing essential functions such as Student and Exchange Visitor Information System (SEVIS) registration, the maintenance of visa status, guidance on work authorization, and the issuance of critical documentation, including I-20 forms, Social Security letters, and change of status documents, all of which serve as evidence of legal presence in the United States. Similar to how visa requirements impose regulatory standards on international students, SEVP regulations establish standards for institutions. Non-compliance with these regulations can result in the revocation of visa privileges for international students, leading to deportation and potential bans on reentry into the United States (United States Immigration and Customs Enforcement, n.d.). For institutions, the loss of SEVP

certification can prevent the enrollment of future international students (United States Immigration and Customs Enforcement, n.d.).

Research on International Student Services (ISS) highlights the critical role these offices play in supporting international students. Chenamsetti (2020) stresses the importance of collaboration between ISS offices and other university departments to create a holistic support system that enhances students' adjustment and awareness of available resources. Moon et al. (2020) added to this notion, emphasizing that ISS staff should be more accessible to students, particularly in helping them navigate academic and social challenges. Chen and Fink (2021), however, pointed out that that ISS offices can often prioritize immigration compliance over addressing students' broader support needs, alluding to a lack of support from this service. Ultimately, despite the crucial role DSO and ISS offices play in supporting international students, their effectiveness and accessibility remain underexplored areas of research (Chen & Fink, 2021; Chenamsetti, 2020; Moon et al., 2020).

Institutional Support Services

Institutional support services are central to fostering international students' academic achievement, well-being, and sense of belonging. These services include academic advising, orientation, career development, counseling, and immigration support etc, each critical for students navigating cross-border transitions. Chen and Fink (2021) reported that international students' perceived accessibility to academic and non-academic support services was positively associated with both persistence and overall adjustment to campus life.

For globally mobile students, institutional support services help bridge the disjunctures across Appadurai's scapes, offering practical and emotional resources that mitigate the disruptions of mobility, media-driven expectations, technological gaps, and financial pressures.

Support in navigating visa processes or employment regulations aligns with the financescape, while cultural orientation programs help students adapt to the ethnoscape of new academic environments. Furthermore, advising and mentorship programs that address differing academic ideologies reflect responsiveness to the ideoscape, helping students reconcile their home and host educational values (Appadurai, 1996).

Belonging is not merely a social outcome but a fundamental psychological need that strongly predicts academic engagement and success. Research indicates that students who experience higher levels of belonging demonstrate greater motivation and lower levels of anxiety and depression. For international students, these effects are particularly pronounced, as they must navigate additional cultural, social, and systemic stressors. Belonging thus functions as a critical factor influencing students' psychological well-being and academic outcomes, and institutional interventions that account for cultural and systemic influences are essential for supporting international students' inclusion and engagement.

Collaborative support ecosystems that link international student offices with residence life, faculty development, and diversity and inclusion initiatives create more holistic and equitable educational environments. Martirosyan et al. (2022) found that such cross-departmental collaboration improves international students' sense of inclusion and satisfaction by reducing fragmentation across institutional services. Similarly, Andrade and Evans (2009) emphasized that proactive engagement, rather than reactive problem-solving, enhances international students' academic integration and well-being.

Culturally responsive institutional design is therefore essential for addressing the global complexity of international students' needs. Policies emphasizing language inclusivity, culturally informed pedagogy, and global student engagement promote not only retention but also deeper

forms of belonging (Leask, 2015). Whether assisting students in overcoming technological challenges (technoscape) or navigating ideological differences (ideoscape), support services act as key mediators between global experiences and local campus realities. When effectively implemented, these services represent institutional recognition of students' global identities and contribute to a more inclusive academic community.

Challenges Faced by International Students

Despite the growing presence of international students in higher education, their transition to host institutions often involves complex academic, social, and psychological challenges (Andrade, 2006; Smith & Khawaja, 2011). These challenges go beyond the typical difficulties faced by all students, adding to the importance of establishing a strong sense of belonging (Glass & Westmont, 2014; Strayhorn, 2018). These barriers are not isolated incidents but reflect the broader disjunctures across Appadurai's global cultural flows, which shape how international students experience inclusion within higher education systems (Appadurai, 1996; Marginson, 2014).

International students often struggle with differences in pedagogical expectations, classroom participation norms, and assessment practices, conditions that mirror dominant ideoscapes privileging Western academic traditions (Grayson, 2008). Without adequate academic guidance or culturally responsive instruction, students may feel marginalized or less competent. Guo and Guo (2017) similarly observed that many curricula in Western institutions center on Eurocentric frameworks, excluding perspectives from the Global South and limiting students' opportunities to see their knowledge validated. This exclusion can impede engagement, foster disengagement, and erode academic identity.

The lack of relational and social support further compounds adjustment difficulties. Glass and Westmont (2014) demonstrated that peer interactions and cross-cultural engagement significantly predict international students' belonging and satisfaction. Yet, as Wu and Wilkes (2017) found, limited friendship networks and perceived social exclusion are persistent barriers to integration. These challenges are intensified for students navigating the ethnoscape, where mobility disrupts social anchors and demands the negotiation of multiple cultural identities.

Experiences of bias and racial microaggressions also shape belonging. Houshmand, Spanierman, and Tafarodi (2014), in a study of Asian international students in Canada, found that subtle discrimination and racial stereotyping were linked to lower psychological well-being and higher perceived isolation. Similarly, Lee and Rice (2007) documented international students' encounters with neo-racism in U.S. campuses, revealing how race, language, and nationality intersect to produce exclusionary dynamics. Such experiences reinforce dissonance between students' imagined expectations (mediascape) and the realities of their host environments.

Mental health concerns remain significant among international students. Popadiuk and Arthur (2004) found that cultural stigma and a lack of culturally competent counseling professionals discourage students from seeking help, leading to unaddressed stress, anxiety, and homesickness. More recent studies, such as Smith and Khawaja (2011), Zhai and Carney (2024) confirm that the lack of institutional understanding of international students' mental health needs continues to impede access to effective care. The reliance on digital systems to access support (a feature of the technoscape) can further alienate students unfamiliar with these platforms or facing language barriers.

Financial stress is one of the most persistent challenges for international students, influencing both academic persistence and belonging. Martirosyan et al. (2015) and Cantwell

(2015) found that financial insecurity often leads to social isolation, reduced participation, and heightened anxiety. Students from peripheral nations in particular face structural disadvantages, reflecting the inequities described in Wallerstein's (1974) world-system theory. Economic precarity thus functions not only as a logistical challenge but as a structural barrier to belonging, shaping students' perceived value within the institutional hierarchy.

These academic, social, and structural obstacles reveal that belonging for international students is not an individual trait but a systemic outcome shaped by institutional responsiveness and global inequalities (Marginson, 2014; Wallerstein, 1974). Research examining student populations navigating identity and unmet expectations further highlights the role of institutional support in shaping students' ability to persist and adapt (Carlisle, 2023). Addressing these challenges requires universities to move beyond one-size-fits-all interventions toward systemic, culturally grounded practices (Stein, 2019). Effective institutional support must acknowledge that international students' experiences are situated within overlapping global, institutional, and personal contexts (Glass et al., 2015; Tran & Pham, 2016). Recognizing this complexity repositions belonging as not only a psychological need but also an institutional and ethical responsibility in an era of global education (Strayhorn, 2018; Stein, 2019).

Institutional Belonging within Globalized Contexts

Institutional support services and the challenges faced by international students cannot be separated from broader global dynamics (Marginson, 2014; Stein, 2019). While belonging is often discussed in psychological or relational terms, the evidence suggests that it is equally shaped by structural and transnational factors (Strayhorn, 2018; Yu & Moskal, 2019). International students' experiences, ranging from their access to financial resources to their interactions with technology, media, and ideology, reflect the larger global cultural flows

described by Appadurai (1996) and the hierarchical inequalities theorized by Wallerstein (1974). Institutional belonging thus emerges at the intersection of local university environments and global systems of mobility, economy, and culture (Marginson, 2014).

When universities design support systems without acknowledging these global complexities, they risk addressing symptoms rather than causes. For example, services that treat belonging as merely campus-based overlook the influence of home-country expectations, global media portrayals, and structural inequalities that shape students' perceptions before they even arrive on campus (Andrade, 2006; Lee & Rice, 2007; Marginson, 2014). Bridging the global and local dimensions of belonging requires that higher education institutions view internationalization not just as student recruitment but as a process of structural and cultural transformation (Jones, 2017).

Sense of Belonging in Higher Education

Research consistently demonstrates that a low sense of belonging impacts students both during their academic journey and beyond graduation (Bentrim & Henning, 2022). Institutional environments that implement inclusive and equitable pedagogical practices are more likely to foster belonging, especially among students with diverse identities (Bentrim & Henning, 2022; Cobb & Krownapple, 2019; Ladson-Billings, 2021; Strayhorn, 2018). These efforts not only promote academic success but also reduce structural barriers to integration, factors that are particularly salient for international students navigating unfamiliar social and academic systems.

As Bentrim and Henning (2022, p. 274) assert, "Identity is at the heart of belonging," suggesting that belonging is experienced through the lens of students' intersecting identities. Institutions that affirm students' cultural backgrounds and prioritize safety and inclusion cultivate stronger senses of belonging than those that expect students to conform to dominant norms

without institutional adjustment (Bentrim & Henning, 2022; Cobb & Krownapple, 2019; Hurtado et al., 2012; Strayhorn, 2018).

A strong sense of belonging is intricately linked to academic engagement and success. Intentional student engagement initiatives validate students' presence in academic spaces and contribute to their academic performance (Dost & Smith, 2022). This is especially beneficial for underrepresented students, who disproportionately benefit from robust institutional support networks (Costello, 2022). George-Mwangi et al. (2019) advocate for partnerships between institutions, student organizations, and campus departments to develop holistic practices that cater to diverse student needs. Faculty, staff, and administrators must adopt a global perspective to ensure a welcoming and inclusive institutional culture (Grites et al., 2016; Yao et al., 2023).

Globalization, Context, and the Narrow Framing of Belonging

Despite an expanding body of research on international student belonging, most existing studies continue to conceptualize belonging as a campus-bound phenomenon, focusing on interpersonal relationships, institutional support, or classroom engagement within the host university. While these studies have provided valuable insights into academic and social integration (Glass & Westmont, 2014; Gopalan & Brady, 2020; Strayhorn, 2018), they often neglect how global systems, transnational experiences, and home-country contexts influence students' sense of inclusion.

Few empirical studies explicitly frame belonging within the context of globalization or transnational mobility. For example, while Marginson (2014) explored how international students construct identity across borders, much of the literature still assumes belonging develops primarily through interaction within host campuses. This gap overlooks how factors

such as digital connectivity, financial inequality, global media, and ideological flows extend belonging beyond the university's geographic and institutional boundaries.

Research also tends to isolate institutional experiences from the wider political economy of higher education. Studies by Cantwell (2015) and Stein and de Andreotti (2016) pointed out that international students' participation is deeply tied to global hierarchies of knowledge and finance, yet most belonging studies omit these macro-level structures from their frameworks. Consequently, there is limited understanding of how belonging may differ across students' home, host, and global contexts, or how belonging is negotiated in hybrid physical digital environments shaped by global flows of media and technology.

In addition, fewer studies have attempted to quantitatively measure belonging through a globalization lens. Most instruments capture campus engagement or peer connectedness (e.g., Gopalan & Brady, 2020; Strayhorn, 2018) but fail to consider how belonging might also depend on experiences through globalization. This leaves a significant empirical gap in understanding how globalization intersects with students' sense of institutional belonging.

Finally, the literature often privileges host-country perspectives, with limited attention to how belonging is influenced by transnational identities, home-country obligations, or the emotional labor of migration. As Yu and Moskal (2019) observed, international students' belonging is "continuously negotiated across multiple spaces" (p. 667), yet higher education research has largely confined its analysis to the campus setting. This oversight perpetuates a partial understanding of belonging, one that reflects the institution's boundaries rather than the students' lived realities.

Conceptualizing Belonging in Higher Education

Numerous scholars have developed theoretical frameworks on belonging, emphasizing its critical role in student motivation, engagement, academic self-efficacy, and overall success. These frameworks offer insights into how belonging influences learning outcomes, retention, and degree completion (Hurtado & Carter, 1997; Maslow, 1954; Tinto, 1975). Maslow's (1954) Hierarchy of Needs situates belonging as a fundamental requirement that follows physiological and safety needs, preceding esteem, and self-actualization. This framework suggests that students must first experience stability and support before they can fully engage in academic and social endeavors. Other models, such as Tinto's (1975) theory of student persistence, highlight the necessity of social and academic integration in fostering institutional commitment and student retention.

Many institutions highlight demographic diversity as evidence of their commitment to equity and inclusion (Hurtado et al., 2012). However, increasing the enrollment of students from diverse racial and ethnic backgrounds does not necessarily enhance their experiences or foster a sense of belonging (Cabrera et al., 1999). Similarly, first-generation and minoritized students from lower socioeconomic backgrounds often face systemic challenges even after enrollment, as they may lack both educational and financial capital necessary for an equitable college experience (Garcia & Johnston-Guerrero, 2016).

Institutional diversity data, when presented without contextual understanding, can function more as a marketing tool than a substantive investment in campus climate initiatives that promote belonging (Ahmed, 2012; Stein, 2019). Effective inclusion requires strategic policies that extend beyond representation, actively fostering environments where students feel valued, connected, and supported (Strayhorn, 2018). These theoretical frameworks highlight the

importance of moving beyond symbolic diversity to implement structural and cultural changes that support holistic student belonging.

The International Student Experience

The recruitment of international students has become a strategic priority for many institutions, often driven by financial incentives amid declining domestic enrollment (George-Mwangi et al., 2019). However, despite their contributions to institutional growth, international students frequently report feeling that their needs are deprioritized (George-Mwangi et al., 2019). Institutional support services, while essential, often lack cultural competence and fail to adequately address the unique challenges faced by international students (George-Mwangi et al.,).

Theories of student engagement and persistence further emphasize the importance of belonging for international students. Tinto (1975) emphasizes the role of academic and social integration in student retention, while Finn's (1989) Participation-Identification Model suggests that students who internalize a strong sense of institutional connection are less likely to withdraw. Strayhorn (2018) also warns that the absence of belonging can lead to significant negative outcomes, including social withdrawal and increased psychological distress. These concerns are especially relevant for students navigating unfamiliar cultural and ideological environments.

Frequent and meaningful interactions with faculty, staff, and peers play a key role in shaping campus climate and fostering inclusion (Hurtado et al., 2012). However, international students often experience gaps in these relational opportunities, whether due to language barriers, perceived cultural distance, or lack of institutional initiative. Thus, a globally informed approach to engagement is needed to promote institutional belonging for internationally mobile students.

The concept of belonging has been extensively examined across student populations and is consistently linked to academic motivation, persistence, and well-being. Thomas (2020), in a study of over 2,000 first-year students across six UK universities, found that students' sense of belonging was the strongest predictor of persistence during the transition to higher education, outweighing prior academic achievement. Similarly, Hoffman et al. (2021), using a sample of U.S. undergraduates, demonstrated that belonging mediated the relationship between student engagement and academic self-efficacy; students who felt accepted and valued within their institutions reported higher confidence and stronger intentions to persist.

These studies shed light on belonging's function as both a psychological and institutional construct, influenced by the social environments students encounter. However, as Museus, Yi, and Saelua (2017) argue, many institutions focus primarily on surface-level engagement initiatives without addressing structural inequities that impede inclusion for marginalized populations. Their survey of 3,000 racially diverse students revealed that culturally engaging campus environments, not generic programming, predicted higher belonging and satisfaction.

Despite this, most interventions and theoretical models, such as those proposed by Tinto (1975) and Strayhorn (2018), conceptualize belonging within campus-bounded parameters, centering institutional integration and peer interaction as the primary mechanisms of connection. This campus-centric framing risks overlooking how external social, economic, and cultural factors influence belonging, particularly for students whose identities and support networks extend beyond the university setting.

These limitations become even more apparent when examining the international student experience, which is shaped not only by local campus climates but by global mobility, cross-cultural adaptation, and transnational identity negotiation. Glass and Westmont (2014), drawing

on survey data from 1,000 domestic and international students at large U.S. public universities, found that international students reported significantly lower belonging and fewer meaningful interactions with faculty and peers, despite comparable academic performance. Their study revealed that institutional belonging for international students was strongly correlated with the frequency and quality of intercultural engagement opportunities; a finding echoed by Yu and Moskal (2019), who examined 50 Chinese international students in the UK and found that belonging was often multi-sited, split between home, host, and virtual spaces.

Institutional research and practice continue to privilege on-campus solutions: mentorship programs, residence hall activities, or orientation sessions etc, without acknowledging the global, economic, and ideological factors that shape international students' experiences of inclusion and exclusion. For instance, Lee and Rice (2007), in interviews with 24 international students in the United States, found that subtle discrimination, cultural misunderstanding, and feelings of foreignness persisted despite institutional claims of multiculturalism. These findings suggest that belonging for internationally mobile students cannot be fully understood, or supported, through frameworks that confine inclusion to the institutional setting. Instead, it must be viewed as an ongoing negotiation across multiple geographies, social systems, and ideological spaces shaped by globalization itself.

Chapter Summary

This chapter examined the theoretical and contextual foundations for understanding how globalization, institutional structures, and psychosocial factors intersect to shape international students' sense of belonging in higher education. Grounded in Maslow's Hierarchy of Needs (1954), Appadurai's (1996) theory of Global Cultural Flows, and Wallerstein's (1974) World-Systems Theory, the literature review established an interdisciplinary framework for situating

belonging within both individual experience and global systems of inequality. Together, these frameworks illuminate belonging as a multidimensional construct, psychological, institutional, and global, reflecting the complex realities of internationally mobile students.

Maslow's framework positioned belonging as a fundamental human need essential for motivation and academic engagement. However, cross-cultural research (Gambrel & Cianci, 2003; Hofstede, 1984) revealed that the hierarchy's individualistic assumptions may not translate across collectivist or globally diverse contexts. These critiques demonstrate that belonging must be understood not only as an internal psychological state but also as socially and culturally situated. For many international students, belonging is influenced by collective identity, community interdependence, and transnational connections that transcend campus boundaries. Thus, while Maslow's work remains foundational, it requires theoretical expansion to account for the relational and global dimensions of contemporary student life.

Appadurai's (1996) conceptualization of global cultural added such expansion, as his flows provided the framework for examining how disjuncture among ethnoscaples, mediascaples, technoscaples, financescaples, and ideoscaples shape identity and inclusion within transnational education. Empirical studies (Le & Jin, 2025; Park & Gerrits, 2021) demonstrated that belonging in globalized contexts is dynamic and distributed across physical, digital, and ideological spaces. International students navigate these multiple scapes simultaneously, often balancing attachments to home and host cultures while engaging with media and technological systems that mediate identity formation. By incorporating Appadurai's framework, this study situates belonging within the broader processes of globalization, revealing how students' experiences are shaped by global mobility, mediated representations, economic precarity, and ideological exchange.

Complementing this, Wallerstein's (1974) *World-Systems Theory* illuminated the structural inequities embedded within global education systems. International student mobility reflects broader patterns of core-periphery dependency, where institutions in core nations attract talent, capital, and prestige while peripheral nations face challenges of educational and economic subordination (Altbach, 2013). These systemic imbalances influence not only access to education but also the quality of institutional support and the inclusivity of campus environments. As a result, students from semi-peripheral or peripheral regions often navigate unequal academic hierarchies that mirror the global capitalist order.

The literature consistently highlights the centrality of institutional support services in fostering belonging, yet reveals persistent gaps in practice. Studies show that while advising, orientation, and counseling programs etc, contribute to adjustment and retention (Martirosyan et al., 2022), they often remain compliance-driven rather than relationally or culturally responsive. International students frequently encounter barriers related to cultural dislocation, language, and financial insecurity, which are compounded by the uneven responsiveness of institutional structures. Research further suggests that belonging predicts persistence, engagement, and well-being (Strayhorn, 2018), reinforcing the need for universities to approach belonging as both a psychological need and an institutional responsibility.

Overall, this chapter positioned belonging as a globally embedded construct, shaped by individual aspirations, institutional policies, and transnational systems of inequality. By integrating Appadurai's global cultural flows with Maslow's and Wallerstein's theoretical perspectives, this study contributes a culturally responsive and globally attuned framework for examining how higher education institutions cultivate a sense of belonging among international students. It sets the foundation for an empirical inquiry that moves beyond campus-bound

interpretations, recognizing belonging as both a lived experience and a reflection of global interdependence in the modern university.

Chapter Three: Methodology

With the recent resurgence in international student enrollment in the United States, it is increasingly essential for research methodologies to evolve in ways that reflect the complexity of students' lived experiences. Although international students have long been the focus of higher education scholarship, much of the existing literature remains rooted in campus-based or interpersonal interpretations of belonging, often emphasizing student development, adjustment challenges, or acculturation (Arthur, 2003). These approaches tend to conceptualize international students primarily within institutional or academic boundaries. While these approaches provide important insight, they may not fully account for the broader global conditions that shape students' expectations, identities, and interpretations of institutional life.

This study employed a quantitative, cross-sectional design to examine the extent to which experiences aligned with global cultural flows explained variation in institutional belonging. Using validated instruments to measure ecological adaptation, media-influenced educational aspiration, technology anxiety, financial well-being, and global interconnectedness, the study evaluated whether these constructs significantly predicted belonging as measured by the General Belongingness Scale (GBS). In addition, selected demographic characteristics were examined to determine whether differences in belonging existed across student backgrounds.

This chapter outlines the methodological framework used to guide the study, including the purpose of the study, research questions, research design, sample selection, instruments, data collection procedures, data analysis plan, ethical considerations, risks and benefits. Through this structure, the chapter provides a clear rationale for the quantitative approach used and demonstrates the conceptual alignment between Appadurai's framework and institutional belonging.

Purpose of the Study

The purpose of this study is to examine how experiences across Appadurai's five global cultural flows: ethnoscape, mediascape, technoscape, financescape, and ideoscape, explain variance in institutional belonging among international students in U.S. higher education institutions. Each scape was operationalized through a corresponding validated construct: ecological adaptation (ethnoscape), media-influenced educational aspiration (mediascape), technology anxiety (technoscape), financial well-being (financescape), and global interconnectedness (ideoscape). By analyzing these dimensions collectively and individually, this study sought to determine the extent to which global cultural experiences contributed to differences in international students' sense of belonging.

In addition to examining global cultural predictors, this study also investigated whether institutional belonging differed across key demographic characteristics, including students' continent of origin, academic status (undergraduate or graduate), and first-generation college status. By integrating global cultural constructs with key demographic characteristics within a single analytical model, the study aimed to provide a more comprehensive understanding of how belonging is shaped within international student populations.

As globalization continues to influence higher education systems, international students' experiences are shaped not only by campus environments but also by broader cultural, technological, financial, and ideological forces (Appadurai, 1996; Marginson, 2014). However, much of the existing research on belonging remains focused primarily on institutional climate and interpersonal relationships within the university setting (Arthur, 2003; Glass et al., 2015; Smith & Khawaja, 2011). While scholarship increasingly acknowledges the global dimensions of

international student experiences, these influences are more often discussed conceptually than systematically modeled as quantitative predictors of institutional belonging.

Through statistical examination of global cultural dimensions and demographic characteristics, the study explores whether institutional belonging among international students extends beyond campus-based interactions to encompass broader global influences. Ultimately, this research sought to strengthen empirical understanding of belonging and provide insight that may inform more globally attuned institutional policies and practices.

The following research questions were used in this study:

Research Questions

1. To what extent do experiences across global cultural flows explain variance in international students' institutional belonging?
 - f. To what extent does ecological adaptation predict institutional belonging?
 - g. To what extent does media-influenced educational aspiration predict institutional belonging?
 - h. To what extent does technology anxiety predict institutional belonging?
 - i. To what extent does financial well-being predict institutional belonging?
 - j. To what extent does global interconnectedness predict institutional belonging?
2. Are there significant differences in institutional belonging across students from different continents?
3. Are there significant differences in institutional belonging across academic status?
4. Are there significant differences in institutional belonging based on first-generation college student status?

Research Design

This study employed a quantitative, non-experimental, cross-sectional survey design to examine the extent to which international students' experiences across Appadurai's (1996) global cultural flows predict institutional belonging. A quantitative approach was appropriate because the study sought to measure relationships among variables, estimate the variance explained by global cultural experiences, and determine the predictive strength of each scape using statistical modeling. This design allowed for the identification of patterns across a diverse student population and supported statistical examination of the role of global cultural dynamics in shaping belonging.

A non-experimental design was used because no manipulation of variables or assignment to conditions occurred. Instead, the study analyzed naturally occurring variation in students' experiences related to ecological adaptation, media-influenced educational aspiration, technology anxiety, financial well-being, and global interconnectedness. These constructs correspond to the ethnoscape, mediascape, technoscape, financescape, and ideoscape dimensions of Appadurai's (1996) global cultural flows framework. Institutional belonging served as the dependent variable and was measured using the General Belongingness Scale (GBS).

The cross-sectional nature of the study allowed for data collection at a single point in time, providing a snapshot of how global cultural experiences related to institutional belonging among international students. This approach was appropriate for examining belonging within contemporary higher education environments shaped by globalization, where students' experiences may be influenced by transnational mobility, media exposure, technological systems, financial conditions, and global ideological perspectives.

Data were collected through an online survey administered via Qualtrics, a web-based survey platform widely used for academic research. The survey included an informed consent form, a demographic questionnaire, the General Belongingness Scale, and validated instruments aligned with each of the five scapes. All participants completed the same standardized survey instrument, ensuring consistency across responses and enabling statistical analysis of relationships among variables. A total of 174 survey responses were received during the data collection period. Following data screening procedures, incomplete responses were removed, resulting in 106 usable responses retained for analysis.

Participants

Participants in this study were international students enrolled at a large public research university in the southeastern United States. Eligibility criteria required that participants (a) hold F-1 visa status, (b) be 18 years of age or older, and (c) be currently enrolled as undergraduate or graduate students at the institution. A convenience sampling strategy was used to recruit participants through multiple university-affiliated channels. Invitations to participate were distributed via an email announcement sent through the Graduate School, outreach at international student events, and flyers containing a QR code linking directly to the online Qualtrics survey.

..A demographic questionnaire within the survey was used to collect background information about participants, including gender identity, continent of origin, academic status, first-generation college status, and age. Data collection occurred over a six-week period. During this time, 174 responses were recorded using Qualtrics survey platform. Following data screening procedures, incomplete responses were removed from the dataset. The final sample consisted of 106 international students who met the eligibility criteria and completed the survey.

In terms of gender identity, the majority of participants identified as female ($n = 63, 59.4\%$), followed by male ($n = 42, 39.6\%$), and one participant identified as non-binary or third gender ($n = 1, 0.9\%$).

Participants represented several continents, The largest group of participants was from Asia ($n = 26, 24.5\%$), followed by North America ($n = 22, 20.8\%$), Africa ($n = 21, 19.8\%$), South America ($n = 17, 16.0\%$), Europe ($n = 15, 14.2\%$), Australia ($n = 3, 2.8\%$), and Antarctica ($n = 2, 1.9\%$). Regarding academic status, participants were relatively evenly distributed between undergraduate and graduate students. Undergraduate students comprised 51.9% ($n = 55$) of the sample, while graduate students comprised 48.1% ($n = 51$).

Participants were also asked to report on whether they identified as first-generation college students. Slightly more than half of the participants indicated that they were not first-generation students ($n = 54, 50.9\%$), while 49.1% ($n = 52$) reported being first-generation college students. Age was reported in ranges. Most participants were between 18–24 years old ($n = 70, 66.0\%$), followed by 25–34 years old ($n = 31, 29.2\%$), and 35–44 years old ($n = 5, 4.7\%$). A summary of the demographic characteristics of the participants is presented in Table 1.

Table 1: Demographic Characteristics of Participants (N = 106)

Variable	Category	<i>n</i>	%
Gender	Male	42	39.6
	Female	63	59.4
	Non-Binary	1	0.9
Continent	Asia	26	24.5
	Africa	21	19.8
	North America	22	20.8
	South America	17	16.0
	Europe	15	14.2
	Australia	3	2.8
	Antarctica	2	1.9
	Academic status	Undergraduate	55
Graduate		51	48.1
Yes		52	49.1
No		54	50.9
Age	18-24	70	66.0
	25-34	31	29.2
	35-44	5	4.7
	45+	0	0

Table 2: Means and Standard Deviations for Study Variables (N = 106)

Variable	Mean	SD	Min	Max
Institutional Belonging (GBS)	61.55	12.90	25	84
Ethnoscape (Ecological Adaptation)	17.32	2.65	9	20
Technoscape (Technology Anxiety)	24.16	10.07	11	55
Ideoscape (Global Interconnectedness)	18.75	2.57	12	25
Mediascape (Media-influenced aspirations)	10.06	4.68	4	20
Financescape (Financial well-being)	50.87	11.98	19	76

Data Collection Procedures

Prior to data collection, approval was obtained from the Institutional Review Board (IRB #00000993) at the participating institution to ensure compliance with ethical standards for research involving human participants. Following IRB approval, data were collected using an online survey administered through the Qualtrics platform. Online administration allowed for efficient distribution to the international student population while supporting participant anonymity and accessibility.

Participants were recruited through multiple university-affiliated channels. An email invitation describing the study and containing a link to the survey was distributed through the Graduate School. Additional recruitment occurred through outreach at international student events and the distribution of flyers containing a QR code linking directly to the survey. These methods allowed participants to access the survey at their convenience using personal devices. Participation was entirely voluntary, and no incentives or compensation were offered for

participation. Recruitment materials included a brief description of the study, eligibility criteria, the estimated time required to complete the survey, and a link or QR code directing participants to the online questionnaire.

When participants accessed the survey link, they were first presented with an electronic informed consent form. The consent form outlined the purpose of the study, study procedures, potential risks and benefits, confidentiality assurances, and contact information for the researcher. Participants were required to indicate their consent electronically before proceeding. Individuals who did not provide consent were unable to access the survey items.

Following consent, participants were presented with screening questions to confirm eligibility for the study. These questions verified F-1 visa status and current enrollment at the institution. Participants who did not meet these eligibility criteria were unable to proceed with the rest of the survey. Eligible participants then completed the survey in the following order: (1) the General Belongingness Scale (GBS), (2) the five validated instruments aligned with Appadurai's global cultural flows, and (3) a demographic questionnaire. The survey required approximately 10 minutes or less to complete.

Data collection remained open for a period of six weeks to allow sufficient time for recruitment and participation. During this period, 174 responses were recorded. After data screening procedures, incomplete responses were removed from the dataset, resulting in 106 usable responses retained for analysis. No personally identifiable information was collected, and all responses remained anonymous. Survey data were stored securely within the Qualtrics platform and subsequently downloaded to a password-protected device for statistical analysis. Access to the dataset was restricted to the researcher.

Instruments

Data for this study were collected using a structured online survey administered through the Qualtrics platform. The survey consisted of seven components: the General Belongingness Scale (GBS), five validated instruments aligned with Appadurai's (1996) global cultural flows, and a demographic questionnaire. Each instrument was selected based on its theoretical relevance and conceptual alignment with one of the five scapes. All scales were administered using their original items and response formats to preserve their established validity and reliability.

Institutional belonging, the dependent variable in this study, was measured using the 12-item General Belongingness Scale (GBS) developed by Malone et al. (2012). The GBS assesses individuals' perceived sense of social acceptance and connectedness and includes two conceptual dimensions: acceptance/inclusion and rejection/exclusion. The scale contains six positively worded items reflecting feelings of inclusion and six negatively worded items capturing perceptions of exclusion. For example, items include statements such as "When I am with other people on campus, I feel included" and "I feel like an outsider at my university." Participants rated each statement using a Likert-type scale ranging from 1 (strongly disagree) to 7 (strongly agree). Negatively worded items were reverse coded so that higher scores consistently represented stronger levels of perceived belonging.

Ethnoscape was operationalized using the Ecological Adaptation subscale of the Sociocultural Adaptation Scale–Revised (SCAS-R). The SCAS-R is a widely used measure assessing how effectively individuals navigate everyday situations within a host cultural environment. The ecological adaptation items capture participants' perceived ease or difficulty in adjusting to environmental characteristics such as population density, pace of life, and everyday

social norms. For example, items include “Adapting to the pace of life at my university.” Participants rated their level of difficulty across these situations using the scale’s original response format, with higher scores indicating greater sociocultural adaptation. Within the context of this study, ecological adaptation represents the ethnoscape dimension described by Appadurai (1996), which reflects the global movement of people across borders and the lived experiences of migration and cultural adjustment.

Technoscape was measured using the Abbreviated Technology Anxiety Scale, which assesses individuals’ comfort and anxiety when interacting with digital technologies. The scale includes items that evaluate emotional responses to technology use, perceived difficulty navigating technological tools, and hesitation toward technology-mediated tasks. For example, items include “I am reluctant to learn new features of technology.” Participants responded using a Likert-type scale ranging from strongly disagree to strongly agree, with higher scores reflecting greater levels of technology anxiety. This measure corresponds to Appadurai’s technoscape, which represents the technological infrastructures and digital systems that facilitate global communication, mobility, and participation.

Financescape was represented using the Consumer Financial Protection Bureau (CFPB) Financial Well-Being Scale (short form). This instrument measures individuals’ perceived financial stability, ability to manage financial obligations, and confidence in their financial future. Items ask participants to reflect on their financial security and capacity to meet expenses, with responses. For example, items include “I am concerned that the money I have or will save won’t last.” Responses were recorded using the CFPB’s standardized Likert-type response categories. Higher scores indicate greater perceived financial well-being. Within Appadurai’s

framework, financescapes represent the movement of capital and economic resources across global systems.

Ideoscape was assessed using the Interconnectedness subscale of the Global-Mindedness Scale (GMS). This subscale assesses individuals' awareness of global interdependence and their perceived connection to people across cultural and national boundaries. Participants rated their agreement with statements reflecting shared global responsibility and identification with the broader human community. For example, items include "I think of myself, not only as a citizen of my country, but also as a citizen of the world." Responses were recorded using a Likert-type scale ranging from strongly disagree to strongly agree. Higher scores represent stronger perceptions of global interconnectedness. This construct aligns with Appadurai's ideoscape dimension, which reflects the circulation of ideas, values, and ideological frameworks that shape how individuals interpret their roles within global and institutional contexts.

Mediascape was operationalized using items adapted from research examining media-influenced travel intention and destination aspiration (Koo et al., 2014; Shen et al., 2011). These items measure the extent to which exposure to global entertainment media, influences individuals' desire to travel or pursue opportunities in specific locations. Participants rated their agreement with statements indicating whether exposure to American television, films, and music influenced their interest in traveling to or studying in the United States. For example, items include "I want to travel to an American university because of popular American entertainment." Responses were measured using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating stronger media influence on educational aspiration.

Within Appadurai's (1996) framework, mediascapes refer to the global circulation of media images and narratives that shape individuals' perceptions of distant places and opportunities. Appadurai argues that such media representations contribute to the creation of imagined worlds, influencing how individuals envision mobility, opportunity, and participation in global spaces.

The final section of the survey collected demographic information used to describe the participant sample and contextualize the analysis. Participants reported their age, gender, continent of origin, academic status, and first-generation college student status. These variables were used to provide descriptive information about the sample and to explore potential differences in belonging across student subgroups.

Reliability analyses were conducted to assess the internal consistency of each scale used in the study. The General Belongingness Scale ($\alpha = .90$), mediascape measure ($\alpha = .94$), and technoscape measure ($\alpha = .95$) all demonstrated excellent internal consistency. Additionally, the ethnoscape measure ($\alpha = .77$) and financescape measure ($\alpha = .77$) both demonstrated acceptable internal consistency. The global interconnectedness subscale was the only measure that demonstrated low internal consistency ($\alpha = .43$), which may reflect the abstract nature of the construct and the challenges of capturing global interconnectedness within a single institutional context.

Data Analysis

Data analysis was conducted using the Statistical Package for the Social Sciences (SPSS, version 31.0). All statistical tests were evaluated at an alpha significance level of .05. The primary purpose of the analysis was to assess the extent to which students' experiences across

Appadurai's global cultural flows predicted institutional belonging and to determine whether these globalized experiences explained meaningful variance in institutional belonging.

Prior to addressing the research questions, preliminary analyses were conducted to ensure data quality and suitability for statistical testing. The dataset was first screened for missing values and incomplete responses. Of the 174 initial survey responses, 106 usable responses remained after removing incomplete surveys. Assumptions were examined through visual inspection of residual histograms, normal probability plots, and scatterplots generated in SPSS. Descriptive statistics, including means, standard deviations, and frequency distributions, were calculated for study variables to summarize the sample and inform subsequent analyses.

To address the primary research question, a standard multiple linear regression analysis was conducted to determine the extent to which the five scape variables predicted institutional belonging. Institutional belonging, measured by the GBS, served as the dependent variable. The independent variables included ecological adaptation (ethnoscape), media-influenced educational aspiration (mediascape), technology anxiety (technoscape), financial well-being (financescape), and global interconnectedness (ideoscape).

The regression analysis produced several key statistics used to interpret the results. The coefficient of determination (R^2) indicated the total proportion of variance in institutional belonging explained by the five predictor variables. Standardized beta coefficients (β) were examined to determine the relative influence of each scape on belonging, while significance levels (p-values) identified which predictors made statistically meaningful contributions to the model. The overall F-test was used to determine whether the regression model significantly predicted institutional belonging.

Prior to interpreting the regression results, standard assumptions were evaluated, including linearity, homoscedasticity, normality of residuals, and multicollinearity. Visual inspection of residual plots was used to assess linearity, homoscedasticity, and normality, while multicollinearity was evaluated using tolerance and variance inflation factor (VIF) values. In addition to the regression analysis, group comparison tests were conducted to examine potential differences in institutional belonging across selected demographic variables. A one-way analysis of variance (ANOVA) was conducted to determine whether significant differences in belonging existed across students' continent of origin. Independent samples t-test were conducted to examine differences in belonging based on academic status (undergraduate vs. graduate) and first-generation college student status.

Together, these analyses allowed for the examination of both the predictive influence of global cultural flows and differences in belonging across demographic groups. Interpretation of the findings focused on the overall variance explained by the regression model, the significance and direction of individual predictors, and the extent to which global cultural experiences contributed to institutional belonging among international students.

Risks and Benefits

This study involved minimal risk to participants. The primary potential risk was minor psychological discomfort associated with reflecting on personal experiences related to institutional belonging, financial well-being, ecological adaptation, media-influenced educational aspirations, technology use, or global identity. These topics may have prompted participants to recall challenging experiences related to adjustment or inclusion within their academic environment. However, these risks were considered minimal and comparable to those encountered in everyday conversations or reflective activities.

Participation in the study was entirely voluntary, and participants were informed that they could discontinue the survey at any time without penalty. As the survey was administered online, participants were also able to skip any question they did not feel comfortable answering. No personally identifiable information was collected, and responses were recorded anonymously to further protect participant privacy. Contact information for campus counseling services was provided in the event that any participant experienced discomfort.

While participants did not receive direct benefits from this study, their responses contributed to a better understanding of international students' experiences and the factors that shape their sense of belonging in higher education. Findings from this study may help inform institutional policies, student support services, and programming designed to better support international students. Additionally, some participants may have found personal value in reflecting on their experiences.

The Researcher Positionality

I am an international student from Trinidad and Tobago, a small island that remains unfamiliar to many. I completed both my bachelor's and master's degrees at the same U.S. institution, where I first arrived on a track and field scholarship. Throughout those years, my identity was shaped by my role as a student-athlete and the community and structure that came with being part of a team. It was only when I transitioned to another institution for my PhD, no longer an athlete and no longer surrounded by a built-in support system, that I experienced what I consider my first true international student experience.

As a first-generation college student, simply earning a degree positions me as a remarkable achiever in my home country. Yet, this achievement has come with significant sacrifice. I have relied heavily on graduate assistantships to fund my education, and I am

currently navigating substantial financial strain as I work to complete what, in the eyes of my community, may be viewed as an unnecessary degree. Without any financial support from my family, the responsibility of pursuing and financing this advanced education has fallen entirely on me.

Culturally, higher education is not always seen as a pathway to economic success in Trinidad and Tobago. Instead, we place greater value on community, inclusiveness, and genuine human connection than on individual accomplishment or academic prestige. Because of this, I often find myself stepping into different identities depending on the context, one version of myself when speaking with loved ones back home, another when navigating academic spaces in the United States. This constant shift reflects the reality of existing between different cultural expectations and the need to adapt in order to belong.

Despite these challenges, the relationships I have built during my time in the United States have become vital. The support systems I have formed here, friends, mentors, and colleagues, have played a crucial role in helping me endure the emotional, cultural, and financial pressures that accompany international student life. In many ways, these connections have become the foundation that allows me to continue progressing, even when the path feels uncertain; my community continues to be the light that shines the way.

Summary

This chapter outlined the research design and methods used in this quantitative, non-experimental, cross-sectional study examining international students' sense of institutional belonging and its relationship to global cultural experiences. The target population consisted of international undergraduate and graduate students enrolled at a large public research university in the southeastern United States who met the established eligibility criteria. Data were collected

using an online survey administered through Qualtrics, which included the General Belongingness Scale (Malone et al., 2012) and validated instruments aligned with Appadurai's five global cultural flows. Descriptive statistics were used to summarize the sample, while inferential statistical analyses, including multiple linear regression, Pearson correlation, independent samples t-tests, and one-way analysis of variance (ANOVA), were used to examine the data.

Chapter 4 Results

Chapter 1 introduced the purpose of the study, the statement of the problem, the research questions, and the significance of examining international students' sense of institutional belonging within the context of globalization. Chapter 2 presented a review of the literature related to student belonging in higher education and explored the theoretical foundations guiding the study, including Maslow's Hierarchy of Needs, Appadurai's theory of global cultural flows, and Wallerstein's World-Systems Theory. Chapter 3 outlined the methodological framework used to conduct the study, including the research design, participant selection procedures, instrumentation, data collection process, and statistical analyses used to address the research questions.

Chapter 4 presents the findings of the study. This chapter reports the results of the quantitative analyses conducted to examine the relationship between international students' experiences across global cultural flows and their sense of institutional belonging. Descriptive statistics are first provided to summarize the characteristics of the sample and the study variables. The results of the multiple regression analysis are then presented to examine the extent to which the five scape-aligned variables predict institutional belonging. Additional analyses are also reported to examine potential differences in belonging across selected demographic characteristics, including continents of origin, academic status, and first-generation college status. These analyses collectively address the research questions guiding the study.

Purpose of the Study

The purpose of this study is to examine how experiences across Appadurai's five global cultural flows: ethnoscape, mediascape, technoscape, financescape, and ideoscape, explain variance in institutional belonging among international students in U.S. higher education

institutions. Each scape was operationalized through a corresponding validated construct: ecological adaptation (ethnoscape), media-influenced educational aspiration (mediascape), technology anxiety (technoscape), financial well-being (financescape), and global interconnectedness (ideoscape). By analyzing these dimensions collectively and individually, this study sought to determine the extent to which global cultural experiences contributed to differences in international students' sense of belonging.

In addition to examining global cultural predictors, this study also investigated whether institutional belonging differed across key demographic characteristics, including students' continent of origin, academic status (undergraduate or graduate), and first-generation college status. By integrating global cultural constructs with key demographic characteristics within a single analytical model, the study aimed to provide a more comprehensive understanding of how belonging is shaped within international student populations.

As globalization continues to influence higher education systems, international students' experiences are shaped not only by campus environments but also by broader cultural, technological, financial, and ideological forces (Appadurai, 1996; Marginson, 2014). However, much of the existing research on belonging remains focused primarily on institutional climate and interpersonal relationships within the university setting (Arthur, 2003; Glass et al., 2015; Smith & Khawaja, 2011). While scholarship increasingly acknowledges the global dimensions of international student experiences, these influences are more often discussed conceptually than systematically modeled as quantitative predictors of institutional belonging.

Through statistical examination of global cultural dimensions and demographic characteristics, the study explores whether institutional belonging among international students extends beyond campus-based interactions to encompass broader global influences. Ultimately,

this research sought to strengthen empirical understanding of belonging and provide insight that may inform more globally attuned institutional policies and practices.

The following research questions were used in this study:

Research Questions

1. To what extent do experiences across global cultural flows explain variance in international students' institutional belonging?
 - a. To what extent does ecological adaptation predict institutional belonging?
 - b. To what extent does media-influenced educational aspiration predict institutional belonging?
 - c. To what extent does technology anxiety predict institutional belonging?
 - d. To what extent does financial well-being predict institutional belonging?
 - e. To what extent does global interconnectedness predict institutional belonging?
2. Are there significant differences in institutional belonging across students from different continents?
3. Are there significant differences in institutional belonging across academic status?
4. Are there significant differences in institutional belonging based on first-generation college student status?

Overview

The organization of this study is centered around specific research questions addressing the relationship between international students' global cultural experiences and their sense of institutional belonging. Each of the four research questions examines the extent to which experiences aligned with Appadurai's global cultural flows, including ecological adaptation, media-influenced educational aspirations, technology anxiety, financial well-being, and global

interconnectedness, relate to students' perceived belonging within a U.S. higher education institution. In addition, the study investigates whether institutional belonging differs across selected demographic characteristics, including continents, academic status, and first-generation college status.

The results presented in this chapter are organized according to the research questions and the statistical procedures described in Chapter Three. The chapter begins with, descriptive statistics, followed by the inferential analyses used to examine the predictive relationships among the study variables and differences across demographic groups.

Data Analysis

Data collected through the Qualtrics platform were exported into the Statistical Package for the Social Sciences (SPSS, Version 26.0) for analysis. SPSS was used to conduct the statistical procedures necessary to address the study's research questions. These analyses included descriptive statistics, multiple linear regression, one-way analysis of variance (ANOVA), and independent samples t-tests. The alignment between the research questions, and statistical tests is presented in Table 3.

Table 3: Research Question Matrix

Research Questions	Statistical Analysis
RQ1 To what extent do experiences across global cultural flows explain variance in institutional belonging?	Multiple Linear Regression
RQ1a–e: To what extent does each scape predict institutional belonging?	Multiple Linear Regression (Coefficients)
RQ2: Are there significant differences in institutional belonging across continent?	One-Way ANOVA
RQ4: Are there significant differences in institutional belonging based on first-generation status?	Independent Samples <i>t</i> -test
RQ4: Are there significant differences in institutional belonging based on first-generation status?	Independent Samples <i>t</i> -test

The purpose of this study was to examine whether experiences across Appadurai’s global cultural flows predict international students’ sense of institutional belonging and whether belonging differs across selected demographic characteristics. Institutional belonging, the dependent variable, was measured using the General Belongingness Scale (GBS; Malone et al., 2012). The independent variables included ecological adaptation, media-influenced educational aspirations, technology anxiety, financial well-being, and global interconnectedness, which correspond to the ethnoscape, mediascape, technoscape, financescape, and ideoscape dimensions of Appadurai’s (1996) global cultural flow framework. In addition to these predictors, the study examined whether institutional belonging differed based on continent, academic status, and first-generation college status.

A standard multiple linear regression analysis was selected to examine the relationship between the five global cultural flow variables and institutional belonging. This statistical procedure was appropriate for research question 1 because the model included multiple

continuous independent variables predicting a single continuous dependent variable. The regression analysis was used to determine the extent to which the five scape-aligned variables collectively explained variance in belonging scores and to identify which variables made significant contributions to the overall model.

In addition, a one-way analysis of variance (ANOVA) and independent samples t-tests were conducted to address research questions 2 through 4. These statistical procedures were appropriate because they allowed for the comparison of mean differences in institutional belonging across categorical groups. The ANOVA was used to examine differences across multiple groups (continent of origin), while independent samples t-tests were used to compare mean differences between two groups (academic status and first-gen college student status)

Participants who completed the survey are described in Table 1, which presents the demographic characteristics of the sample. Descriptive statistics were used to summarize participant characteristics, including gender, continent of origin, academic status, first-generation college student status, and age. Means and standard deviations were calculated for the General Belongingness Scale and each of the five scape-aligned variables. These descriptive statistics are presented in Table 2 and provide context for the regression, ANOVA, and independent samples t-test analyses conducted to address the research questions.

RQ1: To what extent do experiences across global cultural flows explain variance in international students' institutional belonging?

- a. To what extent does ecological adaptation predict institutional belonging?**
- b. To what extent does media-influenced educational aspiration predict institutional belonging?**
- c. To what extent does technology anxiety predict institutional belonging?**

- d. To what extent does financial well-being predict institutional belonging?**
- e. To what extent does global interconnectedness predict institutional belonging?**

To address Research question 1, a standard multiple linear regression analysis was conducted to determine whether the five global cultural flow variables significantly predicted institutional belonging. The dependent variable was institutional belonging, measured by the General Belongingness Scale (GBS). The independent variables included ecological adaptation (ethnoscape), media-influenced educational aspirations (mediascape), technology anxiety (technoscape), financial well-being (financescape), and global interconnectedness (ideoscape).

Prior to conducting the regression analysis, the data were screened to ensure that the assumptions required for multiple linear regression were met. Normality of residuals was assessed using histograms (see Figure 3) and P-P scatterplots (see Figure 4). Visual inspection indicated that the residuals were approximately normally distributed, with no severe deviations observed. Scatterplots of standardized predicted values and standardized residuals were examined to evaluate linearity and homoscedasticity (see Figure 5). The plots demonstrated a random distribution of points, suggesting that these assumptions were satisfied

Multicollinearity among the predictor variables was evaluated using tolerance values and the variance inflation factor (VIF). Tolerance values ranged from .710 to .937, and VIF values ranged from 1.067 to 1.408, all of which were within acceptable limits, indicating that multicollinearity was not a concern. Additionally, correlation analyses were conducted as a preliminary step to examine the relationships among study variables before regression analysis.

Results of the correlation indicated that institutional belonging was significantly and positively correlated with ethnoscape and financescape, suggesting that higher levels of ecological adaptation and financial stability were associated with greater belonging. Institutional

belonging was also significantly and negatively correlated with technoscape, indicating that higher levels of technology anxiety were associated with lower levels of belonging. No significant relationships were found between institutional belonging and mediascape or ideoscape.

Test of Normality

Figure 3: Histogram Testing Normality of GBS

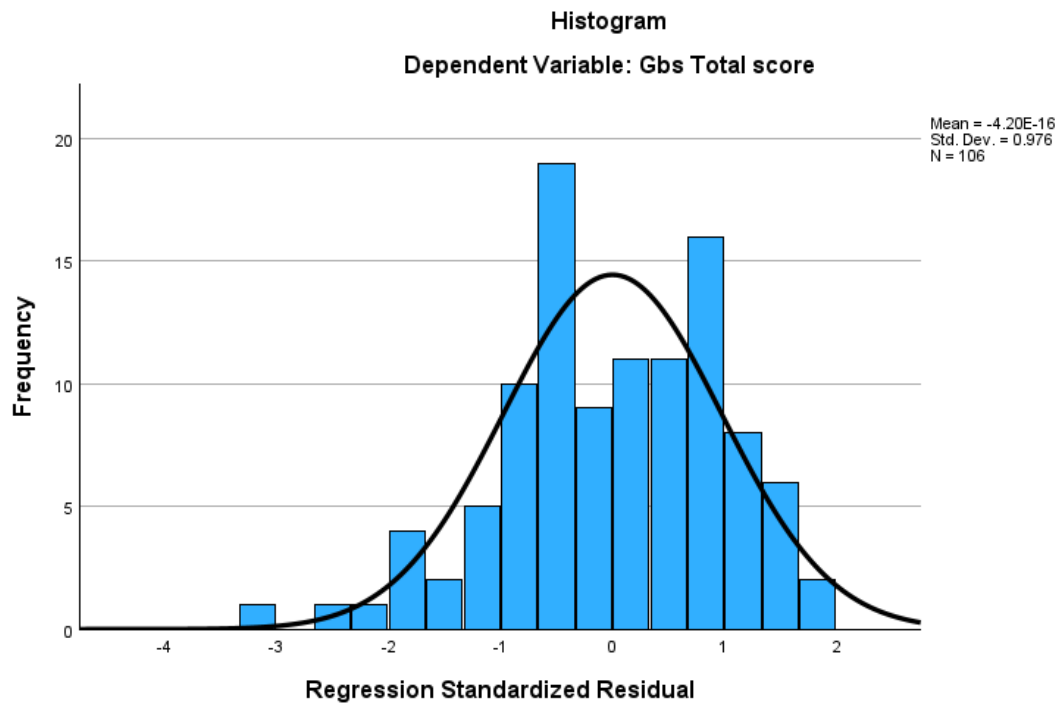
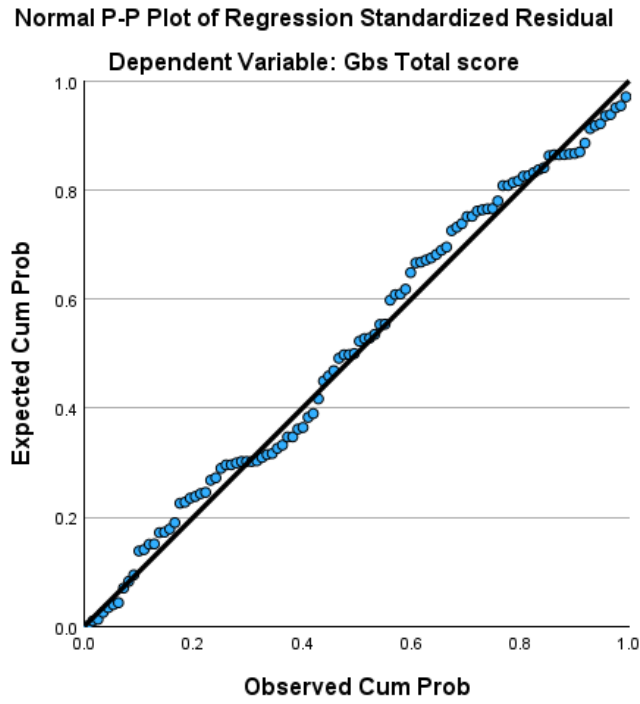


Figure 4: P-P Scatterplot Testing Normality of GBS



Test of Linearity

Figure 5: Regression Plot Testing Linearity

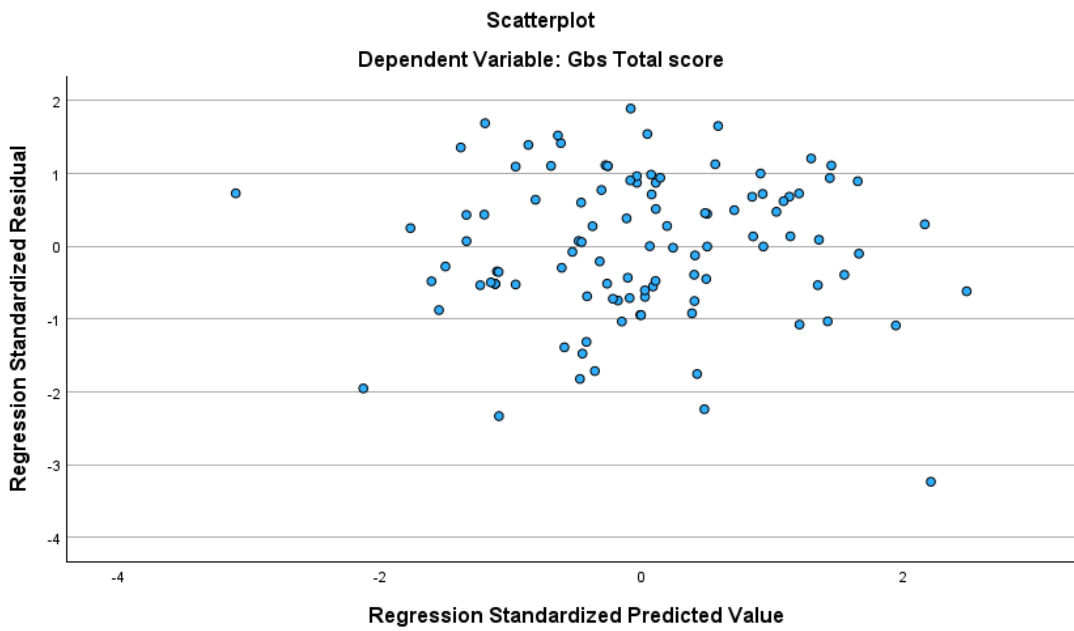


Table 4: Correlations Among Study Variables

Variable	1	2	3	4	5	6
1. GBS	—					
2. Ethnoscape	.310**	—				
3. Technoscape	-.280**	-.185	—			
4. Ideoscape	-.019	.145	.115	—		
5. Mediascape	-.069	-.107	.449**	.158	—	
6. Financescape	.485**	.218*	-.330**	-.078	-.111	—

* $p < .05$

** $p < .01$

Following the correlation analysis (see Table 4), a multiple linear regression analysis was conducted to determine the extent to which the five global cultural flow variables predicted institutional belonging.

Results

Question 1 Results

The overall regression model was statistically significant, $F(5, 100) = 8.26, p < .001$, indicating that the five predictor variables collectively explained a significant portion of the variance in institutional belonging. The model produced an R^2 value of .292, meaning that approximately 29.2% of the variance in belonging scores was explained by the global cultural flow variables. The adjusted R^2 value was .257, indicating a moderate effect size for the model.

Examination of the standardized beta coefficients revealed that ecological adaptation ($\beta = .206, p = .022$) and financial well-being ($\beta = .401, p < .001$) were significant positive predictors

of institutional belonging. Technology anxiety ($\beta = -.135, p = .179$), global interconnectedness ($\beta = -.011, p = .897$), and media-influenced educational aspirations ($\beta = .060, p = .528$) were not statistically significant predictors in the model.

The results showed that global cultural experiences do play a role in shaping international students' sense of belonging, but not all experiences contributed equally (see Table 5). Financial well-being was the strongest predictor, indicating that students who feel financially secure are more likely to feel a sense of belonging. Ecological adaptation also contributed positively, suggesting that students who adjust more easily to their environment experience greater belonging. Other factors, such as media influence, technology anxiety, and global interconnectedness, were not significant predictors when considered alongside the other variables.

Table 5: Multiple Regression Predicting Institutional Belonging

Predictor	B	SE	Beta	t	p
Constant	25.80	11.60	—	2.22	.028
Ethnoscape	1.00	.43	.206	2.33	.022
Technoscape	-.17	.13	-.135	-1.35	.179
Ideoscape	-.06	.44	-.011	-0.13	.897
Mediascape	.17	.26	.060	0.63	.528
Financescape	.43	.10	.401	4.42	<.001

RQ2 Are there significant differences in institutional belonging across students from different continent?

To address Research question 2, a one-way analysis of variance (ANOVA) was conducted to determine whether institutional belonging differed among students from different continents. The dependent variable was institutional belonging measured by the GBS, and the independent variable was the continent of origin. Prior to conducting the ANOVA, the assumption of homogeneity of variance was tested using Levene's test. The results indicated that the assumption was not violated, Levene's $F(6, 99) = 1.58, p = .162$, suggesting that the variances across groups were sufficiently equal to proceed with the analysis.

Question 2 Results

The ANOVA results indicated that there was not a statistically significant difference in institutional belonging across continents, $F(6, 99) = 1.95, p = .081$. Although mean belonging scores varied across regions, these differences were not large enough to reach statistical significance. Descriptive statistics showed that students from Australia ($M = 73.67$), Europe ($M = 66.07$), and South America ($M = 65.35$) reported higher average belonging scores, while students from Asia ($M = 57.23$) and Africa ($M = 59.24$) reported lower average scores (see Table 6). Interpretation of these findings should account for the relatively small sample sizes within certain continent groups.

The results of the ANOVA indicated that institutional belonging did not significantly differ across continents, suggesting that belonging scores were comparable across regions. Although the ANOVA was not statistically significant, the effect size was moderate ($\eta^2 = .105$), indicating that some variation in institutional belonging across continents was present, though not statistically significant.

Table 6: Institutional Belonging by Continent

Continent	n	Mean	SD
Asia	26	57.23	14.28
Africa	21	59.24	10.56
North America	22	62.18	12.99
South America	17	65.35	13.44
Europe	15	66.07	11.45
Australia	3	73.67	3.79
Antarctica	2	50.50	2.12

Note. The analysis was re-run excluding Antarctica and Australia due to low sample sizes; results remained non-significant.

RQ3 Are there differences in institutional belonging across academic status?

An independent samples t-test was conducted to examine differences in institutional belonging between undergraduate and graduate students. The dependent variable was institutional belonging as measured by the General Belongingness Scale, and the independent variable was academic status. Prior to conducting the t-test, Levene's test for equality of variances was examined to determine whether the assumption of equal variances was met. The results indicated that the assumption was not violated, $F = 2.106$, $p = .150$, and therefore the equal variances assumed results were used for interpretation.

Question 3 Results

The results indicated a statistically significant difference in institutional belonging between undergraduate and graduate students, $t(104) = 2.78$, $p = .006$. Undergraduate students ($M =$

64.80, $SD = 11.15$) reported higher levels of belonging than graduate students ($M = 58.04$, $SD = 13.81$) (see Table 7), with a mean difference of 6.76 points. Effect size was examined using Cohen's d to assess the magnitude of the difference between groups. The effect size was moderate ($d = .54$), with a 95% confidence interval ranging from .15 to .93. These findings indicate that academic status was associated with differences in institutional belonging in this sample, with undergraduate students reporting higher levels of belonging than graduate students.

Table 7: Institutional Belonging by Academic Status

Group	n	Mean	SD
Undergraduate	55	64.80	11.15
Graduate	51	58.04	13.81

RQ4 Does first-generation college status predict differences in institutional belonging among international students?

Similar to question three (3), an independent samples t-test was also conducted to examine differences in institutional belonging between first-generation and non-first-generation students. The dependent variable was institutional belonging as measured by the General Belongingness Scale, and the independent variable was first-generation college status. A Levene's test for equality of variances was examined to assess whether the assumption of equal variances was met. The results indicated that the assumption was not violated, $F = 0.225$, $p = .637$, therefore equal variances were assumed.

Question 4 Results

The results indicated that there was no statistically significant difference in institutional belonging between first-generation and non-first-generation students, $t(104) = -1.17, p = .245$. First-generation students ($M = 60.06, SD = 13.25$) reported slightly lower levels of belonging than non-first-generation students ($M = 62.98, SD = 12.51$) (see Table 8), with a mean difference of -2.92 points. Effect size was small ($d = -.23, 95\% \text{ CI } [-.61, .16]$), indicating minimal differences between groups.

Table 8: Institutional Belonging by First-Generation Status

Group	n	Mean	SD
First-generation	52	60.06	13.25
Not first-generation	54	62.98	12.51

Summary

This chapter presented the results of the quantitative analyses examining the relationship between global cultural experiences and institutional belonging among international students, as well as differences in belonging across selected demographic characteristics. The study utilized descriptive statistics, Pearson correlation, multiple linear regression, one-way ANOVA, and independent samples t-tests, along with appropriate assumption testing, to examine relationships and group differences in institutional belonging.

Results indicated that experiences across global cultural flows significantly explained variance in institutional belonging, with ecological adaptation and financial well-being emerging as significant predictors. Differences in belonging across continents were not statistically

significant. However, a significant difference was found between undergraduate and graduate students, with undergraduate students reporting higher levels of belonging. No significant differences in belonging were found based on first-generation college status. Chapter Five will interpret these results in relation to the conceptual framework, prior research, and implications for higher education practice and future research

Chapter 5 Summary, Implications, And Recommendations for Future Research

This chapter presents a discussion of the findings from the quantitative analyses examining the relationship between global cultural experiences and institutional belonging among international students. The purpose of this study was to investigate the extent to which experiences across Appadurai's (1996) global cultural flows predict students' sense of belonging within a higher education institution. Additionally, the study examined whether institutional belonging differed across selected demographic characteristics, including academic status, continents, and first-generation college status.

This chapter interprets the findings in relation to the research questions, relevant literature, and theoretical framework. It also discusses the implications of the findings for higher education practice, outlines the limitations of the study, and provides recommendations for future research.

Purpose of the Study

The purpose of this study is to examine how experiences across Appadurai's five global cultural flows: ethnoscape, mediascape, technoscape, financescape, and ideoscape, explain variance in institutional belonging among international students in U.S. higher education institutions. Each scape was operationalized through a corresponding validated construct: ecological adaptation (ethnoscape), media-influenced educational aspiration (mediascape), technology anxiety (technoscape), financial well-being (financescape), and global interconnectedness (ideoscape). By analyzing these dimensions collectively and individually, this study sought to determine the extent to which global cultural experiences contributed to differences in international students' sense of belonging.

In addition to examining global cultural predictors, this study also investigated whether institutional belonging differed across key demographic characteristics, including students' continent of origin, academic status (undergraduate or graduate), and first-generation college status. By integrating global cultural constructs with key demographic characteristics within a single analytical model, the study aimed to provide a more comprehensive understanding of how belonging is shaped within international student populations.

As globalization continues to influence higher education systems, international students' experiences are shaped not only by campus environments but also by broader cultural, technological, financial, and ideological forces (Appadurai, 1996; Marginson, 2014). However, much of the existing research on belonging remains focused primarily on institutional climate and interpersonal relationships within the university setting (Arthur, 2003; Glass et al., 2015; Smith & Khawaja, 2011). While scholarship increasingly acknowledges the global dimensions of international student experiences, these influences are more often discussed conceptually than systematically modeled as quantitative predictors of institutional belonging.

Through statistical examination of global cultural dimensions and demographic characteristics, the study explores whether institutional belonging among international students extends beyond campus-based interactions to encompass broader global influences. Ultimately, this research sought to strengthen empirical understanding of belonging and provide insight that may inform more globally attuned institutional policies and practices.

The following research questions were used in this study:

Research Questions

1. To what extent do experiences across global cultural flows explain variance in international students' institutional belonging?

- a. To what extent does ecological adaptation predict institutional belonging?
 - b. To what extent does media-influenced educational aspiration predict institutional belonging?
 - c. To what extent does technology anxiety predict institutional belonging?
 - d. To what extent does financial well-being predict institutional belonging?
 - e. To what extent does global interconnectedness predict institutional belonging?
2. Are there significant differences in institutional belonging across students from different continents?
 3. Are there significant differences in institutional belonging across academic status?
 4. Are there significant differences in institutional belonging based on first-generation college student status?

Interpretation of Research Question 1

The results of the regression analysis indicated that experiences across global cultural flows significantly predicted institutional belonging, supporting the conceptual framework guiding this study. The model explained approximately 29% of the variance in belonging, suggesting that global cultural experiences represent a meaningful component of how international students experience connection to their institution.

Among the five scape-aligned variables, ecological adaptation and financial well-being emerged as significant predictors of belonging. These findings suggest that the ability to navigate the host cultural environment and maintain financial stability may be particularly important for internationally mobile students. These results align with Appadurai's (1996) conceptualization of ethnoscaapes and financescaapes as powerful forces shaping the lived experiences of individuals in globalized contexts.

In contrast, media-influenced educational aspirations, technology anxiety, and global interconnectedness were not significant predictors when all variables were considered simultaneously. This finding may indicate that not all dimensions of global cultural flow influence belonging in the same way, and that some aspects of globalization may be more directly tied to daily functioning and adjustment than others.

Overall, these findings support the premise that institutional belonging should not be understood solely as a campus-based construct. Instead, belonging appears to be partially shaped by broader global experiences, particularly those related to cultural adaptation and financial conditions. These findings can also be understood through the lens of Maslow's hierarchy of needs.

The prominence of financial well-being as the strongest predictor of belonging suggests that students' ability to meet basic and security-related needs may directly influence their capacity to experience belonging. In this sense, belonging is not simply a social or emotional outcome, but one that is contingent upon financial stability and access to resources. When students are preoccupied with financial concerns, their ability to fully engage and feel connected within the institutional environment may be diminished.

Interpretation of Research Question 2

Research question 2 examined whether institutional belonging differed across students from different continents. The results of the one-way analysis of variance indicated that differences in belonging across continents were not statistically significant, suggesting that students from different parts of the world reported similar levels of institutional belonging.

Although mean scores varied across regions, the lack of statistical significance suggests that geographic origin alone may not be a strong determinant of belonging within the institution.

This finding may indicate that international students, regardless of continent, experience similar challenges and opportunities when navigating a U.S. higher education environment. Factors such as cultural adjustment, financial stability, and daily interactions within the host institution may play a greater role in shaping belonging than the continent of origin itself.

Appadurai's (1996) theory suggests that individuals in globalized contexts are influenced by overlapping cultural, economic, and technological forces that extend beyond national boundaries. The absence of significant continental differences in belonging supports the idea that international students' experiences may be shaped more by shared global conditions than by their continent of origin. Another possible explanation for the lack of significant differences is the diversity that exists within each continent. Students from the same continent may have very different cultural, linguistic, and educational backgrounds, which may reduce the likelihood of consistent group differences. Additionally, some regions in the sample had smaller numbers of participants, which may have limited the statistical power needed to detect differences.

Wallerstein's (1974) offers an additional explanation. While students originate from different regions with varying levels of economic and social capital, entry into a U.S. higher education institution may create a temporary leveling effect, where institutional norms and structures standardize aspects of the student experience. This may reduce observable differences in belonging across regions, even though broader global inequalities still exist outside the institutional context.

Overall, the results suggest that institutional belonging among international students may be better explained by individual experiences and global cultural factors rather than by geographic region alone.

Interpretation of Research Question 3

Research question 3 examined whether institutional belonging differed between undergraduate and graduate international students. The results of the independent samples t-test indicated a statistically significant difference in belonging scores, with undergraduate students reporting higher levels of institutional belonging than graduate students.

This finding suggests that academic status may influence how international students experience connection to their institution. Undergraduate students often have more structured opportunities for social interaction, campus involvement, and engagement with institutional support services, which may contribute to a stronger sense of belonging. In contrast, graduate students may experience fewer structured social opportunities and may be more focused on academic or research responsibilities, which can limit their interaction with the broader campus community.

The results are consistent with research on student belonging, which has emphasized the importance of social integration and participation in campus life as key factors in developing a sense of connection to the institution. Undergraduate programs frequently provide built-in opportunities for peer interaction, orientation programs, and student organizations, whereas graduate students may have more individualized academic experiences that reduce opportunities for belonging. This finding may also reflect differences in how global cultural flows are experienced at different academic levels. Undergraduate students may be more engaged in cultural adjustment and social environments associated with ethnoscares, while graduate students may experience greater academic pressure, financial responsibility, or professional demands that influence their sense of belonging in different ways.

Interpretation of Research Question 4

Research question 4 examined whether institutional belonging differed between first-generation and non-first-generation international students. The results of the independent samples t-test indicated that there was no statistically significant difference in belonging scores between the two groups, suggesting that first-generation college status was not a strong predictor of institutional belonging in this sample.

One possible explanation for this finding is that the experience of being an international student may overshadow differences related to family educational background. International students often face similar challenges regardless of first-generation status, including cultural adjustment, language barriers, financial pressures, and separation from family support systems. These shared experiences may reduce the influence of first-generation status on feelings of belonging within the institution.

International students may also rely on different sources of support compared to their domestic counterparts, such as peer networks, cultural communities, or institutional services designed specifically for globally mobile students. As a result, the factors that influence belonging for international students may differ from those typically observed in first-generation research (Collier, 2008; Ishitani, 2006; Stephens, et.al, 2012).

The lack of significant differences supports the idea that belonging among international students may be shaped more strongly by global cultural flows than by traditional demographic categories. Experiences related to cultural adaptation, financial conditions, and global interconnectedness may have a greater impact on belonging than family educational background. Additionally, Wallerstein's (1974) framework suggests that for international students, global positioning and access to resources may overshadow first-generation status. In other words,

challenges related to navigating a new country, financial constraints, and visa-related structures may be more influential in shaping belonging than whether a student is the first in their family to attend college.

These findings suggest that while first-generation status is often an important factor in domestic student populations, its influence may be less pronounced within international student contexts, where broader global and structural factors shape the student experience.

Summary of Finding

The findings of this study suggest that international students' sense of institutional belonging is not solely shaped by the campus environment, but is also influenced by broader global experiences. Consistent with the study's conceptual framing, belonging emerged as a multidimensional construct that extends beyond traditional institutional boundaries. However, the results also indicate that not all dimensions of global cultural flows contribute equally to students' sense of belonging.

Among the five scape-aligned variables, financial well-being and ecological adaptation emerged as the only significant predictors of institutional belonging. Financial well-being was the strongest predictor, suggesting that students' ability to navigate financial demands, manage resources, and feel economically secure plays a central role in shaping their sense of belonging. This finding aligns with existing literature emphasizing the importance of financial stability in student persistence and engagement, particularly among international students who often face additional financial constraints and limited access to institutional resources (Goldrick-Rab et al., 2017; Joo et al., 2008).

Within the framework of Maslow (1943), these findings reinforce the idea that belonging is contingent upon the fulfillment of more fundamental physiological and safety needs. When

financial security is uncertain, students may be less able to fully engage in the social and academic aspects of the institution, limiting their ability to experience belonging. In this context, belonging appears to be closely tied not only to social or academic integration but also to students' capacity to sustain themselves within the institutional environment.

Ecological adaptation also significantly predicted belonging, indicating that students who were better able to adjust to the physical, social, and cultural environment of the host institution reported higher levels of belonging. This finding reinforces prior research on sociocultural adjustment, which highlights the importance of navigating everyday interactions and institutional norms in shaping student integration (Ward et al., 2001; Glass & Westmont, 2014). Appadurai (1996) highlights the role of ethnoscapes not simply as movement of people, but as lived experiences of adjustment that directly shape how students situate themselves within new environments.

In contrast, technology anxiety, global interconnectedness, and media-influenced educational aspirations were not significant predictors of institutional belonging. These findings suggest that while global flows of information, technology, and ideas may influence students' perceptions and motivations, they do not necessarily translate into a stronger sense of belonging within the institutional context. One possible explanation is that these dimensions operate more distally, shaping students' expectations prior to arrival rather than their day-to-day experiences within the institution. For example, while media may influence the decision to study abroad, it may not meaningfully impact how students experience belonging once they are physically embedded in the institutional environment.

Additionally, the discrepancy between the correlation and regression findings, particularly for technology anxiety, suggests that some variables may be related to belonging at a

surface level but do not uniquely contribute when considered alongside more immediate and tangible factors such as financial well-being and ecological adaptation. This indicates that certain global experiences may overlap or be mediated by more dominant influences, reinforcing the idea that belonging is shaped by a combination of structural and experiential factors rather than any single dimension of globalization.

Furthermore, the findings indicated that institutional belonging did not significantly differ across continents. This suggests that students from different parts of the world may experience comparable levels of connection to the institution despite differences in cultural background. This pattern may reflect the standardizing influence of global higher education environments, where shared institutional structures, expectations, and support systems shape student experiences in similar ways.

At the same time, Wallerstein's world-systems theory may suggest that, although students originate from regions marked by unequal access to resources and opportunities, participation in a U.S. higher education institution may create a shared structural environment in which students report similar levels of belonging, even as broader global inequalities continue to shape their experiences. In this sense, the institutional context may function as a space where global inequalities are not reflected in students' reported sense of belonging, even though these inequalities continue to shape their broader experiences.

This pattern can be interpreted as both beneficial and concerning. On one hand, the absence of significant differences in belonging across continents may suggest that the institutional environment is capable of fostering a shared sense of connection among international students, regardless of their geographic origin. This may reflect the presence of inclusive practices, standardized support systems, and common academic and social experiences

that promote a sense of belonging across diverse student populations. In this sense, the institution may be successfully creating an environment in which students feel similarly connected despite differences in background.

On the other hand, the lack of observable differences may also raise important concerns. From a structural perspective, it is possible that measures of belonging do not fully capture the ways in which global inequalities shape students' lived experiences. While students may report similar levels of belonging, underlying disparities related to financial resources, access to opportunities, and systemic barriers may still persist. This suggests that belonging, as measured in this study, may reflect a surface-level sense of connection that does not fully account for deeper structural differences. As such, the findings highlight the need to consider both perceived belonging and the broader conditions that shape students' experiences within global and institutional contexts.

The findings of this study have important implications for both theory and practice in higher education, particularly in understanding and supporting international students' sense of belonging. Traditional models of belonging have primarily emphasized campus-based factors such as social integration, academic engagement, and institutional support (Gopalan & Brady, 2020; Hausmann et al., 2007; Hoffman et al., 2002; Tinto, 1975). However, the results of this study suggest that belonging is also shaped by broader global experiences that extend beyond the immediate campus environment. As such, belonging should be reconceptualized as a multidimensional construct influenced by both global and local conditions.

From a theoretical perspective, the significant contributions of ecological adaptation and financial well-being support the relevance of Appadurai's concept of global cultural flows as a useful framework for understanding international student experiences. Ethnoscapes and

financescapes, which reflect the movement of people and the flow of economic resources, appear to have a direct and meaningful impact on how students experience connection to their institution. At the same time, the findings suggest that not all dimensions of globalization are equally influential. While cultural adaptation and financial stability shape students' day-to-day experiences within the institution, other dimensions such as media influence, technological engagement, and global interconnectedness may operate more indirectly, shaping expectations rather than lived experiences.

The prominence of financial well-being as the strongest predictor of belonging suggests that students' ability to meet these foundational needs is essential to their capacity to fully engage in the institutional environment. In this sense, belonging is not solely a social or psychological outcome, but one that is deeply connected to students' material conditions and access to resources.

Wallerstein, 1974 adds how students' experiences are shaped by unequal access to resources and opportunities across global contexts. Although students enter a shared institutional environment, these broader structural inequalities continue to influence their experiences. While students may report similar levels of belonging across regions, this may not indicate the absence of inequality, but rather that comparable experiences of belonging can coexist with persistent structural differences.

From a practical standpoint, the findings highlight several key areas for institutional action. The strong influence of financial well-being suggests that institutions must move beyond viewing belonging solely as a social outcome and instead address the structural conditions that enable students to engage fully in campus life. This may include increasing access to financial

support, providing clearer guidance on managing financial responsibilities, and developing resources tailored to the unique financial challenges faced by international students.

Additionally, the significance of ecological adaptation underscores the importance of supporting students' cultural and environmental adjustment. Institutions should consider expanding orientation programs, peer mentorship initiatives, and opportunities for meaningful interaction between international and domestic students. Importantly, these efforts should extend beyond initial transition periods, recognizing that adaptation is an ongoing process rather than a one-time event .

The finding that undergraduate students reported higher levels of belonging than graduate students suggests that institutions should pay greater attention to the experiences of graduate populations. Graduate students, particularly international students, may have fewer structured opportunities for engagement and may experience greater academic and financial pressures. Developing targeted programming that fosters community, connection, and support for graduate students may help address this gap in belonging.

Finally, the absence of significant differences across continents suggests that international students may share common challenges regardless of geographic origin. This finding supports the development of support services that address shared experiences, such as cultural adjustment, financial stress, and social integration, rather than relying solely on region-specific approaches .

Overall, the findings of this study suggest that improving institutional belonging among international students requires a more holistic approach, one that recognizes the interplay between global experiences and local institutional contexts. Institutions that acknowledge and respond to both the structural and experiential dimensions of student life may be better

positioned to create inclusive environments that support the success and well-being of globally mobile students.

Implications

The findings of this study have important implications for both theory and practice in higher education in understanding and supporting international students' sense of belonging. Traditional models of belonging have primarily emphasized campus-based factors such as social integration, academic engagement, and institutional support. However, the results of this study suggest that belonging is also shaped by broader global experiences that extend beyond the immediate campus environment. As such, belonging should be reconceptualized as a multidimensional construct influenced by both global and local conditions.

From a theoretical perspective, the significant contributions of ecological adaptation and financial well-being support the relevance of Appadurai's (1996) concept of global cultural flows as a useful framework for understanding international student experiences. Ethnoscapes and financescapes, which reflect the movement of people and the flow of economic resources, appear to have a direct and meaningful impact on how students experience connection to their institution. At the same time, these findings also suggest that not all dimensions of globalization are equally influential. While cultural adaptation and financial stability shape students' day-to-day experiences within the institution, other dimensions such as media influence, technological engagement, and global interconnectedness may operate more indirectly, shaping expectations rather than lived experiences.

These findings can also be understood through the lens of Maslow, (1943) which positions belonging as a fundamental human need that is contingent upon the fulfillment of more basic physiological and safety needs. The prominence of financial well-being as the strongest

predictor of belonging suggests that students' ability to meet these foundational needs is essential to their capacity to fully engage in the institutional environment. In this sense, belonging is not solely a social or psychological outcome, but one that is deeply connected to students' material conditions and access to resources.

From a global perspective, Wallerstein's (1974) world-systems theory further highlights how students' experiences are shaped by unequal access to resources and opportunities across global contexts. Although students enter a shared institutional environment, these broader structural inequalities continue to influence their experiences. The findings of this study suggest that while students may report similar levels of belonging across regions, this does not indicate the absence of inequality, but rather that comparable experiences of belonging can coexist with persistent structural differences.

From a practical standpoint, the findings highlight several key areas for institutional action. The strong influence of financial well-being suggests that institutions must move beyond viewing belonging solely as a social outcome and instead address the structural conditions that enable students to engage fully in campus life. This may include increasing access to resources that help students manage financial stress, providing clearer guidance on managing financial responsibilities, and developing resources tailored to the unique financial challenges faced by international students, such as higher tuition costs, limited employment opportunities, and restrictions related to visa status. Increased awareness of the financial realities faced by international students may help faculty and administrators better understand the factors influencing student engagement and persistence.

Additionally, the significant role of ecological adaptation indicates that students' ability to navigate the cultural environment of the host country is closely related to their sense of

belonging. Institutions should consider expanding orientation programs, peer mentorship initiatives, and opportunities for meaningful interaction between international and domestic students. Importantly, these efforts should extend beyond the initial semester, recognizing that adaptation is an ongoing process rather than a one-time event.

The finding that undergraduate students reported higher levels of belonging than graduate students suggests that graduate-level international students may require additional support. Graduate students, particularly international graduate students, may have fewer structured opportunities for engagement and may experience greater academic and financial pressures. Institutions may consider developing programs specifically designed for graduate international students, including networking opportunities, professional development workshops, and community-building activities that extend beyond academic settings.

Finally, the absence of significant differences across continents suggests that international students may share common challenges regardless of geographic origin. This finding supports the idea that institutional support services should focus on common challenges faced by internationally mobile students rather than assuming that needs differ primarily by region. Programs that address cultural adjustment, financial stress, and social integration may benefit a wide range of international students.

Overall, the findings of this study suggest that improving institutional belonging among international students requires a more holistic approach, one that recognizes the interplay between global experiences and local institutional contexts. Institutions that acknowledge and respond to both the structural and experiential dimensions of student life may be better positioned to create inclusive environments that support the success and well-being of globally mobile students.

Limitations

Several limitations should be considered when interpreting the findings of this study.

This study was conducted at a single public U.S. higher education institution, which may limit the generalizability of the findings. Although participants represented a range of continents, the experiences of international students at one institution may not reflect those at other universities with different student populations, institutional cultures, or support systems. Additionally, it is important to recognize that grouping participants by continent may overlook significant within-continent differences, including variations in culture, language, and sociopolitical contexts that shape students' experiences. In addition, the use of a convenience sampling method introduces the potential for self-selection bias, as students who chose to participate may differ from those who did not respond.

Data was collected using self-report survey instruments, which rely on participants' perceptions and honesty and may be influenced by social desirability, misunderstanding of questions, or individual interpretation of scale items. Although validated instruments were used, these measures may not fully capture the complexity of students' experiences. The cross-sectional design of the study further limits the ability to make causal inferences. Because data were collected at a single point in time, the analyses identify relationships among variables but cannot determine whether global cultural experiences directly cause differences in belonging. Longitudinal research would be needed to better understand how belonging develops over time.

Additionally, some groups within the sample were relatively small, particularly across certain continents. These smaller group sizes may have reduced the statistical power needed to detect differences, which may help explain why some analyses did not reach statistical significance. While this study conceptualized belonging as a multidimensional and globally

influenced construct, the quantitative design may not have fully captured the complexity of belonging as an ongoing negotiation across multiple geographies, social systems, and ideological contexts.

The use of self-report survey measures provided a structured and standardized assessment of students' experiences but may not fully reflect the depth, fluidity, and contextual nature of belonging described in the theoretical framework. As such, the findings should be interpreted as a representation of perceived belonging within a specific institutional context, rather than a comprehensive account of how belonging is experienced across global and transnational spaces.

Although belonging was conceptualized as extending beyond the institutional setting, the measurement of institutional belonging may not fully capture students' experiences within the broader local community. International students often navigate both campus and surrounding community environments; however, their interactions and sense of connection outside the institution may be limited or shaped by structural, social, or cultural barriers. As a result, the findings primarily reflect students' perceptions of belonging within the institutional context and may not fully account for how belonging is experienced across local and community-based settings. The selection of instruments used to represent each dimension of global cultural flows was based on my theoretical interpretation of these constructs. While efforts were made to align each measure with its corresponding scape, the operationalization of these concepts is not definitive, and alternative interpretations or measurement approaches may yield different results.

Furthermore, while the use of quantitative measures allowed for statistical analysis, this approach may not fully capture the depth and complexity of international students' lived experiences. A mixed-methods approach may provide a more comprehensive understanding by integrating quantitative patterns with qualitative insights into how students interpret global

cultural flows on belonging. Despite these limitations, the study provides valuable evidence that global cultural experiences play a meaningful role in shaping institutional belonging among international students.

Recommendations for Future Research

Given the complexity of belonging as a multidimensional and globally influenced construct, future research should consider the use of mixed-methods approaches to more fully capture students' lived experiences. While the present study identified statistical relationships among global cultural flow variables and belonging, qualitative inquiry may provide deeper insight into how students interpret and navigate these experiences across different contexts. Integrating quantitative and qualitative methods may offer a more comprehensive understanding of how global cultural flows shape belonging over time.

Expanding the scope of data collection beyond a single institutional context would also strengthen understanding of these dynamics. Conducting multi-institutional or cross-national research could provide a more comprehensive understanding of how institutional environments, geographic locations, and levels of support for international students influence belonging. Such approaches would allow researchers to examine how global cultural flows interact with different institutional and cultural settings.

Additionally, longitudinal approaches may further enhance this work by examining how international students' sense of belonging develops over time. As belonging is not a static experience, examining changes across different stages of students' academic journeys may provide insight into how global cultural experiences influence belonging throughout the transition and adjustment process.

Attention should also be given to differences across academic status. The present study found that graduate students reported lower levels of belonging than undergraduate students, suggesting that this population may face unique challenges that are not fully addressed by existing institutional structures. Research focused specifically on graduate international students may help identify strategies to improve engagement, connection, and support at the graduate level.

The significant role of financial well-being in predicting belonging also highlights the need for more focused investigation of economic factors. Further research examining financial stress, employment opportunities, access to scholarships, and visa-related work restrictions may provide a clearer understanding of how financial conditions shape international students' experiences and their ability to engage fully within the institutional environment.

Continued refinement of the operationalization of global cultural flows is also needed. The present study relied on theoretically informed measures to represent each scape; however, alternative conceptualizations and measurement approaches may capture these constructs in different ways. Further validation and development of instruments aligned with Appadurai's framework would strengthen the ability to quantitatively assess globalization-related experiences.

In addition, future studies may explore how belonging is experienced across both institutional and community contexts. As international students navigate multiple environments, including campus and surrounding communities, their sense of belonging may be shaped by the spaces they are able to access and engage with. Research that examines these overlapping spaces may provide a more holistic understanding of belonging beyond institutionally defined

boundaries, as belonging is not only a function of global and institutional influences, but also of the social and physical environments available to students in their daily lives.

Finally, future research may benefit from examining additional variables that were not included in the present study but may influence belonging, such as immigration status constraints, social networks, identity development, and experiences of inclusion or exclusion. Exploring these factors alongside global cultural flows may further enhance understanding of how belonging is shaped within increasingly globalized higher education systems.

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Appendix A

Institutional Review Board (IRB) Approval Letter

EXEMPT DETERMINATION

January 5, 2026

Maria Witte
3348440299
wittemm@auburn.edu

Dear Maria Witte:

On 1/5/2026, the IRB reviewed the following submission:

Protocol Information	Submission Details
Type of Review:	Initial Study
Title:	Global Flows, Local Belonging: A Quantitative Study of International Students in U.S. Higher Education
Investigator:	Maria Witte
IRB ID:	STUDY00000993
Funding:	None
Grant Title:	N/A
Grant ID:	None
IND, IDE or HDE:	None
Documents Reviewed:	<ul style="list-style-type: none">• Debriefing Statement, Category: Consent Form;• Kadisha Fraancois Recruitment flyer .pdf, Category: Recruitment Materials;• Kadisha Francois Consent Form.pdf, Category: Consent Form;• Kadisha Francois- HRP-503 (updated).pdf, Category: IRB Protocol;• recruitment script, Category: Recruitment Materials;• Survey Questions , Category: Survey/Questionnaire;

The IRB determined that this protocol meets the criteria for exemption from IRB review. This determination is valid through 1/5/2029. The IRB has implemented a three-year determination period for Exempt submissions to better manage the active research portfolio.

In conducting this protocol you are required to follow the requirements listed in HRP-103 - INVESTIGATOR MANUAL.

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit a modification in the Endeavor system.

Sincerely,

Appendix A

Institutional Review Board (IRB) Approval Letter Part 2



IRB Administration
540 Devall Drive
Auburn, AL 36849
irbadmin@auburn.edu
(334) 844-5966

International STUDENT BELONGING STUDY

This study examines how international students' global cultural experiences relate to their sense of belonging in higher education.

Eligibility Criteria

- International students enrolled at Auburn University
- Hold F-1 visa status
- Age 18 or older

Time Commitment

One 10-minute survey

SCAN QR CODE OR VISIT LINK
TO PARTICIPATE



LINK:

<https://aub.ie/ISBelongingStudy>

For any inquiries, please contact
Kadisha Francois
kaf0058@auburn.edu

Appendix C



AUBURN UNIVERSITY

COLLEGE OF EDUCATION

EDUCATIONAL FOUNDATIONS, LEADERSHIP AND TECHNOLOGY

Consent form

Study Title: Global Flows, Local Belonging: A Quantitative Study of International Students in U.S. Higher Education

You are invited to participate in a research study examining how international students' global experiences shape their sense of belonging at their institution. You were selected as a potential participant because you are an international student currently enrolled at Auburn University.

Please read the information below before deciding whether to participate.

The purpose of this study is to understand how international students' experiences across cultural, technological, financial, ideological dimensions and media representation influence their institutional belonging. If you agree to participate, you will complete an online survey that includes questions about demographic information, cultural experiences, financial well-being, technology anxiety, global perspectives, and your sense of belonging. The survey takes approximately 10 minutes to complete.

Your participation is completely voluntary. You may choose not to participate, skip any question, or withdraw from the study at any time without penalty. This study involves minimal risk. Some questions may ask you to reflect on personal experiences related to belonging, which may cause mild emotional discomfort. You may skip any question that makes you uncomfortable.

Your responses are anonymous; no identifying information will be collected. Data will be stored securely on a password-protected computer and reported only in aggregate form. There is no compensation for participation, but your responses may help improve institutional understanding of international student experiences and support.

By selecting "I agree", you confirm that:

You are 18 years of age or older

You have read and understood the information above

You voluntarily agree to participate in this study

Sincerely,

Maria M. Witte & Kadisha Francois

Appendix D

Variable Mapping

Construct / Variable	Operational Definition	Measurement Instrument	Sample Item	Scale
Institutional Belonging (Dependent Variable)	Students' perceived sense of connection, acceptance, and mattering within the institution	General Belongingness Scale (GBS)	"When I am with other people on campus, I feel included"	7-point Likert
Ethnoscape (Ecological Adaptation)	Students' ability to adjust to cultural, social, and environmental aspects of the host country	Adapted ecological adaptation scale	"Adapting to the pace of life" (at my university)	5-point Likert
Mediascape (Media-Influenced Educational Aspiration)	Influence of global media on students' perceptions of education and aspirations	Adapted media influence items	"I want to travel to an American university because of popular American entertainment"	5-point Likert
Technoscape (Technology Anxiety)	Students' comfort and anxiety related to using digital systems and technology	Technology anxiety scale	"I am not a technology person"	5-point Likert
Financescape (Financial Well-Being)	Students' perceived financial stability and ability to meet expenses	Financial well-being scale	"Because of my money situation, I feel like I will never have the things I want in life"	5-point Likert
Ideoscape (Global Interconnectedness)	Students' sense of connection to global ideas, values, and belief systems	Adapted global interconnectedness scale	"I often think about the kind of world we are creating for future generations"	5-point Likert
Academic Status (Control Variable)	Undergraduate or Graduate classification	Self-reported	"What best describes your current academic status?"	Categorical
Continent of Origin (Control Variable)	Geographic region of student origin	Self-reported	"Which continent are you from?"	Categorical
First-Generation Status (Control Variable)	Whether student is first-generation college student	Self-reported	"Are you a first-generation college student?"	Binary (Yes/No)