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Exploring Effects of Institutional, Interpersonal, & Individual Communication on University Students' Attitudes about Diversity and Institutional Belongingness



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Abstract

University campuses are critical spaces where the importance of diversity, equity, and inclusion (DEI) in society are discussed, and debated. However, even as campus communities across the world grow more diverse, higher education institutions are facing an existential crisis—high dropout rates, low enrollments, growing disenchantment with education, and issues of otherization, sexism, and racism on campus. It has never been more necessary for administrators, faculty, staff and all stakeholders to understand the role of effective institutional, intergroup, and individual communication in increasing students' university belongingness, and positively affecting their attitudes towards 'others.' Using the lens of systems theory and intergroup contact theory, this study analyzes how institutional, interpersonal, and individual level factors affect college students' attitudes about diversity, and their university belongingness. An online survey of 432 students from a mid-sized public university in the U.S. indicated that specific interpersonal communication (e.g., interactions with diverse faculty and peers), as well as institutional-level factors were positively correlated with student attitudes towards diversity. Results also indicated that microaggressions were a significant predictor of belongingness as were institution-level communication where students felt they had university support or when they felt their voices were heard. Other findings indicated that students of color felt less welcome on campus and reported lower university support than their Caucasian peers. Results highlighted both areas of hope, as well as key challenges for higher education administrators. Implications, including recommendations for student success, greater intercultural collaboration, and creating a more inclusive campus community, are discussed. Some key implications include the need to recruit more international and culturally diverse staff; offering DEI courses, regular DEI training of staff, and actively promoting campus activities that encourage greater intergroup contact.

Keywords: Diversity, attitude, belongingness, university, systems theory, intergroup contact theory

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Diversity – of culture, nationality, race, sexuality, faith, ability, and age – continues to grow rapidly in many nations, especially in the richer nations of the global north, fueled in part by global immigration patterns (World Population Review, 2021). According to US Census data from 2019, while 60.1% of the nation's population identifies as Caucasian, 18.5% identifies as Hispanic, a further 13.4% as Black, 5.9% Asian, 1.3% Native American, and 2.8% as biracial (Census Bureau, 2019). Similarly, 8.6% (or close to 30 million individuals) among the under-65 population identifies with at least one form of disability. While the 2020 US Census is counting the country's LGBTQ population for the first time ever, unofficial estimates from several NGOs peg it as roughly 4.5% of the population, and 9.6% among the 18–24 age group (McCarthy, 2019).

This growing cultural diversity is fairly accurately reflected among the college student population in the United States. In 1996, students of color made up just 29.6% of the overall college and university student community across the U.S. (Davis & Fry, 2019). By 2013, racial and ethnic minorities represented 38% of undergraduates at public 4-year institutions (National Center for Education Statistics, 2015), and in 2017 this stood at 45.2% (Davis & Fry, 2019). The National Center for Education Statistics (2009) had projected that by 2021, more than 7.68 million students of color would be pursuing a postsecondary degree in the country. The number of international students on American campuses too has increased. The Institute of International Education reported in 2014 that international students had grown by 72% in the first 14 years of the new millennium. The number of highly skilled international faculty members may also be increasing (Kim *et al.*, 2011), but not at the same pace. Even today, university faculty are far less diverse than the student population. Data from 2017 indicates that 76% of all postsecondary teachers in the U.S. are White (Davis & Fry, 2019). In other words, while our student population gets increasingly diverse, the same students are not necessarily seeing that same diversity reflected among professors and staff.

Multiple studies have found that greater diversity among university faculty and students, can lead to improved learning outcomes for students (e.g., Umbach, 2006), and a more harmonious campus climate (e.g., Denson & Chang, 2009). Using data from a national study of 13,499 faculty at 134 colleges and universities in the U.S., Umbach found that faculty of color contributed uniquely to undergraduate education by employing a broader range of pedagogical techniques, and interacting more frequently with students than their White counterparts. Denson & Chang argued that such diversity helped students to gain knowledge thanks to cross-cultural interaction. Others such as Gurin *et al.* (2002) found that immersing students in diversity-focused programs, classes, and educational programs enhanced their interest in civic engagement and perspective-taking skills. Older studies have shown that when students meet people from diverse ethnic and racial backgrounds, it strengthens their intercultural competence, making them more productive, creative, and innovative (e.g., Bikson & Law, 1994; Cox, 1993; Reskin, 1998). More recently, studies have shown how institutions that proactively support diversity and inclusion can be more effective in helping students, staff, and faculty of color reach their academic and professional goals. For example, collaborative learning activities positively influence students' attitude to diversity, and their sense of belonging to their institution (Loes *et al.*, 2018). And when students have a closer bonding to their campus community, they tend to have a less stressful, and more meaningful college experience (Moeller *et al.*, 2020).

Recognizing the growing importance of diversity on campus, many universities have attempted to rebrand themselves as being more welcoming, inclusive, and supportive of diversity. From establishing anti-discrimination policies, multicultural centers, diversity-oriented programs, and expanding the curricula, to supporting diversity-related student organizations, sponsoring lectures by international scholars, recruiting students and faculty of color, and building partnerships with global scholar exchange programs – many campus administrations have worked strategically to promote diversity and inclusion at their institutions. The underlying assumption here is that collectively, these policies,

programs, and practices have the potential to prepare all students to be better citizens and professionals in a global society.

This is not just an American phenomenon. Globally too, when students feel a higher sense of belongingness to their university, they are less likely to feel lonely, dropout or transfer (Arslan, 2020; Moeller *et al.*, 2020). Maintaining a climate that is supportive of diversity and inclusion therefore, has the potential to enhance retention and graduation rates among students on campus (Seidman, 2005).

So, is everything on the right track, and is there little for us to worry about? Unfortunately, some recent studies have pointed to (at least) one worrying trend: despite demographic shifts, institutional changes, and strong empirical evidence in favor of diversity in higher education, several students resist diversity initiatives. Similarly, students, especially students of color and other marginalized students across universities, continue to report a lack of belongingness in their campus life.

Recent scholarship indicates that a section of university students continues to downplay the importance of race and ethnicity in social and interpersonal interactions (Jackson *et al.*, 2014; Johnston *et al.*, 2015), otherize international students (Wu *et al.*, 2015), and other minorities, because of cultural barriers (Galloway & Jenkins, 2005; Terui, 2011). Not surprisingly perhaps, students of color, and other minorities, often perceive their campus climate, including their institutional leadership, to be less than supportive and welcoming (Harwood *et al.*, 2012). Scholars have argued for more direct institutional guidance, including focusing on the complex issues involved in the maintenance of identity, power, and privilege (Rainer, 2016).

A question before higher education administrators then, is what can be done to be more effective in communicating messages of diversity and inclusion – leading to higher retention, better learning outcomes, and a harmonious campus climate? Drawing from the framework of systems theory and intergroup contact theory, this study examines how such institutional, interpersonal, and individual communication factors may affect students' perceptions about diversity, and their university belongingness.

Literature Review

Even as organizations, towns, and indeed nations across the world open their doors to people of diverse races, genders, faiths, sexualities, abilities and more, resistance to this growing diversity continues to be a challenge. Institutions of higher education are not immune to these issues. Like their counterparts in other organizational systems, university systems are grappling with multiple challenges at different levels, as they attempt to convince various stakeholders about the benefits of having a more diverse, equitable, and inclusive campus (Adserias, *et al.*, 2017). Indeed, many university systems are facing significant internal and external challenges as they try to incorporate inclusive and equitable practices into their organizational cultures (Aguirre & Martinez, 2006; Williams, 2013). Higher educational institutions are still seeking that sweet spot, which brings transformational change and prepares students for an increasingly diverse, globalized workforce (Adserias *et al.*, 2017). The following subsections provide an insight into the key assumptions in Systems Theory, as well as Intergroup Contact Theory, to explain how these theoretical lenses may help better understand the issues at stake here.

Systems Theory & Diversity

A system can be defined as “a set of interdependent components that form an internally organized whole that operates as one in relation to its environment and to other systems” (Poole, 2014, p. 50). This definition can be applied to the university setting where administrators, staff, faculty, and students

form interdependent connections and together make up the institution or the system as a whole. A “system may exist at several levels: the student, the classroom, the institution, the community” (Biggs, 1993, p 73). All systems are comprised of components or units. For the purpose of this study, these components can be understood as individuals, different groups such as faculty, and the administration or management within a university structure (Poole, 2014). Systems feature levels that reflect an organization’s framework, where the lower levels (e.g., individual members) are nested within progressively higher levels (departments, student organizations, different schools/colleges, and the administrative leadership that oversee different verticals). These components are connected to each other through various interdependencies such as workflow, communication, and institutional policies. At, and between each level, information is communicated, and this web of information plays a key role in developing stakeholder perceptions about diversity, equity, and inclusion. The quality and the nature of this communication can precipitate change in an individual or a larger group (Krippendorff, 2009).

The environment that surrounds the system also plays an important role. Environments refer to “relevant factors outside the system’s boundary” (Poole, 2014, p. 54), such as student experiences with microaggressions in and out of campus, and how those experiences affect their attitudes towards diversity, and sense of institutional belongingness. Examining problems related to diversity and inclusion through the lens of systems theory also helps gain a clearer understanding of how college students communicate and negotiate issues of race, culture, or nationality. Agency and meaningfulness are two key principles here. Agency refers to a system’s responsiveness to internal and external cues. At lower levels of an organization, the agent (e.g., student) usually responds to cues. As we turn our attention to higher organizational levels (e.g., leadership teams, university management), agency refers to actively monitoring the environment for cues. Action or meaning making may occur against the backdrop of a person’s life experiences. An agent (individual/group) is likely to interpret communication in light of their previous narrative, and react to such messages by drawing on their previous life experiences. This principle may apply to university settings where their environment and previous experiences often shape or determine how students receive and perceive diversity-related communication.

Systems theory (and its many iterations such as ecological systems theory, or motivational systems theory) emphasizes the fact that most organizational units and members are interwoven or interdependent. In other words, communication within an organization leads to feedback, which in turn leads to an effect on the nature of communication. Various systems theory models have been developed to study how university authorities communicate messages to lower-level agents. Dechant (2010), for instance, used the Star Model (Galbraith, 2002) of organization as a system. In this situation, a system consisted of a set of interrelated elements, such as strategy, structure, processes, people, and rewards. The study concluded that attention to an organization’s environment and interdependence among the various dimensions were critical to an initiative’s success and that “in order for a system to endure, it must be in touch with its environment, adapting to changes and responding to feedback from external stakeholders” (Dechant, 2010, p. 292). Others agree that university systems must be cognizant of environmental factors, particularly those that can be viewed as either new opportunities or threats (Nadler, 1987).

In sum, Systems Theory posits that organizations consist of multiple, interconnected levels and components. By applying this theory to the organizational context of postsecondary institutions, this study argues that macro level (i.e., institutional factors), mezzo level (i.e., interpersonal factors), and micro level (i.e., individual factors) components collectively influence college students’ perceptions of diversity and university belongingness.

While interwoven systemic factors may affect student perceptions about diversity, and their sense of campus belongingness, scholars have also argued that positive intergroup communication too may lead to similar favorable outcomes.

Specifically, in higher educational settings, studies have used the lens of motivational systems theory and found it to be a valid predictor of student performance, and that motivational strategies and a responsive environment can impact a student's academic performance and overall belongingness to campus (Campbell, 2007). Others have used the lens of ecological systems theory to argue that understanding how students engage with different levels of an institutional structure (at the micro, mezzo, and macro levels), can assist faculty, staff, and university administration in "arming students with a deeper understanding of diversity and inclusion ... [and] promot[ing] a deeper commitment to diversity" (Cox *et al.*, 2022, p. 118).

Intergroup Contact Theory & Diversity

The central argument of Intergroup Contact Theory is that if contact occurs under reasonably favorable conditions between members of diverse groups, such contact will reduce intergroup prejudice and foster greater collaboration (Allport, 1954, 1958; Pettigrew, 1998; Pettigrew, 2021; Pettigrew & Tropp, 2011). In other words, bringing members of diverse groups into contact, whether in classrooms or through cultural interactions, may improve intergroup relations, reduce mutual prejudice, and lead to greater harmony, helping all stakeholders become more productive (Christ & Kauff, 2019). There are four conditions for optimal intergroup contact (Pettigrew, 1998): equal group status within the situation (e.g., everyone is a student in a class, or of equal status in a campus club), common goals (e.g., do well in class, make the campus club a success, win for the team), intergroup cooperation (e.g., group projects in class, teamwork in sports) and authority support (e.g., faculty support in class, faculty advisor support in campus organization).

Previous studies have examined how exposure to different stimuli such as classes, or social interactions, affects students' diversity awareness. For example, students who are members of multicultural associations on campus, may find that participating in such an association positively impacts their multicultural awareness, and helps them develop new respect for 'others.' Similarly, students who take diversity-related coursework, study abroad, or have a higher level of contact with international students on campus, are more likely to be supportive of increasing diversity on campus (Kaltenbaugh *et al.*, 2017).

One of the possible outcomes of positive intergroup contact could be a heightened sense of institutional belongingness among members of hitherto marginalized communities.

Sense of Belonging. Individuals across age groups and professions have a strong need for belonging (Baumeister & Leary, 1995) and such needs usually motivate them to build strong bonds on an interpersonal level. When individuals feel a higher sense of belonging, they are more likely to have positive emotions (Baumeister & Leary, 1995). In a higher education setting, 'college belongingness' is an important mechanism that helps develop intervention strategies to foster students' psychological health and well-being (Arslan, 2020). For example, while living on campus, strong intergroup interactions, involvement in social activities, and membership in campus organizations have been known to improve students' sense of belongingness to campus life (Strayhorn, 2012).

Using the lenses of Intergroup Contact and System Theories, this study therefore intends to understand how communication at three interconnected levels affect students' attitudes about diversity, and their perceptions about campus.

Institutional Factors. At the macro level, this study intends to examine how overarching institutional factors influence college students' perspectives. Systems theory recognizes the importance of organizational policies, practices, messages, and programs in promoting diversity and inclusion. This study examines how diversity-related, top-down institutional messages (e.g., from administrators, faculty,

and staff), policies and resources, educational curricula, and university support for student organizations, affect students' attitudes towards diversity, and their campus belongingness.

Interpersonal Factors. In addition to institutional factors, communication and social interactions between students' peers, classmates and faculty members, especially those that cross racial and cultural divides, can affect student attitudes and beliefs. Intergroup contact theory (Allport, 1954; Pettigrew & Tropp, 2006) contends that collaborative and constructive interactions between members of different social groups can promote mutual liking, trust, and cohesion. Guided by these principles, it is theorized that positive intergroup interactions among students, classmates, and faculty from different racial, cultural or national backgrounds may foster more positive attitudes among students about diversity and university belongingness. On the flip side, what we know of racial and ethnic microaggressions (Torres-Harding *et al.*, 2012) indicates that subtle and insidious acts of discrimination (referred to as microaggressions) can severely strain relations among people from diverse racial and cultural groups.

Individual Factors. Finally, this study recognizes that students' perceptions regarding diversity and university belongingness may differ by racial or other individual identities (e.g., sexuality, ability). Prior research indicates that students of color tend to feel more positively about the need for diversity and inclusivity on campus. They also experience lower levels of university belongingness at predominantly white institutions.

Taken together, this study poses the following hypotheses:

H1: University students' *attitudes about diversity* will be positively affected by different (a) institutional (i.e., top-down communication, policies and resources, university curriculum, support for diversity-related student organizations, and welcome messages about diversity), (b) interpersonal (i.e., beliefs about and interactions with international students and faculty, and microaggressions), and individual (i.e., race) communication factors.

H2: Students' *university belongingness* will be positively affected by different (a) institutional, (b) interpersonal and individual communication.

In addition, the following research question is posed:

RQ1: How do White students and students of color report their institutional and interpersonal level experiences with diversity on campus?

Method

Since the hypotheses and research question in this study aim to understand trends and patterns, conducting an online survey was chosen as the research strategy. Surveys are often used to examine a phenomenon, seek explanation and gather data that can successfully test hypotheses.

There are some strategic advantages of conducting an online survey – advantages that make it a very valuable tool. For example, this study sought to examine the perceptions of a sample population that was not just diverse, but difficult to get together into one space by other means. Online surveys are helpful in such conditions because they provide easier access to the population (Garton *et al.*, 1999; Wellman, 1997). The fact that all students had an email account that they used, and also received the survey link by a text message blast from the university, also made it easier. Online surveys are also considered a valuable time management tool for researchers, especially when they conduct research at the same time as other regular work such as teaching, and grading (e.g., Llieva *et al.*, 2002). Finally,

an online survey can be a financially prudent option compared to the more traditional paper survey, by saving printing costs, reducing carbon emissions, and of course saving on time (Yun & Trumbo, 2000). The next sub-section explains the study design.

Design

Participants: Initially 734 full-time students from a midsized U.S. university participated in this study. Their ages ranged from 18 to 68 years ($M=20.51$, $SD=4.14$). After excluding cases where respondents had completed less than 30% of the survey, or where they were found to have obviously answered without reading the questions, 432 responses were selected for final analysis. Broadly reflecting the enrollment ratio at many such public universities, 86.4% of the sample were undergraduate students ($n=369$) while 13.7% were graduate students ($n=59$). Further, consistent with overall trends in many public universities in the region, of the 428 students who revealed their racial identity, 79.9% ($n=342$) identified as White, and 20.1 ($n=86$) as students of color. Of the 426 who responded to the gender question, 30.8% identified as male ($n=131$), 65.7% as female ($n=280$), and 3.5% ($n=17$) as non-binary.

Respondents also reported a wide variety of sexual orientations. Of the 412 who responded to the sexuality question, 78.2% ($n=322$) identified as heterosexual, while 21.8% ($n=90$) identified as LGBTQQ. Of the 429 who responded to the disability question, 16.3% students ($n=70$) said they had one or more forms of certified disabilities. Of the 395 who responded to the question about academic generation, 39% identified as first-generation ($n=154$), 38.2% identified as second-generation ($n=151$), 11.6% as 'third-generation', ($n=46$), and 11.1% ($n=44$) as higher.

Procedures: All materials were approved by the Institutional Review Board (IRB) at the author's university (Research project R#:2309 - TW). Respondents were recruited through a single campus-wide email sent through the university's Office of Student Retention, and a reminder sent a week later. Survey responses were collected during November and December of 2020, when classes in the university were being held across multiple formats (face-to-face, hybrid, and fully online). Participation was voluntary, and each respondent was provided an informed consent form that they had to digitally sign before beginning the survey. Completing the survey took between 8 to 12 minutes on average.

Measures

Unless otherwise noted, all measures were arranged along a 5-point Likert scale (1=strongly disagree, 5=strongly agree). The reliability of all variables was $\alpha > .70$, except for institutional drive for diversity, which was $\alpha = .62$. The descriptive and reliability statistics of each variable are reported in Table 1. This section describes how the outcome variables were measured (i.e., diversity attitudes and university belongingness), along with institutional, interpersonal, and individual predictor variables.

All survey questions were adapted from Phinney's (1992) Multigroup Ethnic Identity measure, Montei *et al.*'s (1996) Attitudes Towards Diversity Scale (ATDS), and Torres-Harding *et al.*'s (2012) Racial Microaggression Scale (RMAS). The wordings in some questions were changed to suit a more college-student sample (e.g., *workers*, was changed to *students*, and *faculty* where needed). Torres-Harding *et al.*, confirm in their study that "the RMAS is a reliable and valid tool to assess the occurrence of racial microaggressions in people of color" (Torres-Harding *et al.*, p. 160). Similarly, the ATDS scale too had an internal consistency of $a = .90$. The author concluded that the "scale is internally consistent and related to the attitudes towards diversity constructs" (Montei, *et al.*, p. 302). Phinney also concluded that his scale is "a reliable measure with ethnically diverse high school and college samples" (Phinney, 1992, p. 169). Some items were reverse coded. The survey questions were adapted from pre-existing scales that had been tested for validity, negating the need for a fresh factor analysis.

Table 1 Descriptive and reliability statistics

	<i>M</i>	<i>SD</i>	α
Outcome Factors			
Attitudes about diversity	4.46	.85	.80
University belongingness	3.65	.67	.88
Institutional Factors			
Institutional communication	3.37	1.01	.81
Institutional drive for diversity	3.60	.76	.62
Institutional policies and resources	4.09	.79	.75
Institutional curricula and organizations	4.11	.75	.77
Institutional welcome	4.17	.79	.83
Institutional support	3.80	.84	.72
Interpersonal Factors			
Interactions with diverse students & faculty	4.16	.70	.93
Microaggressions	1.52	.67	.91
Individual Factors			
Race	3.53	.68	.91

Attitudes about diversity

Four items measured students' attitudes about diversity. High scores indicated more positive attitudes about diversity. Sample statements included, "I believe it is beneficial to increase diversity on campus," and "I sometimes feel it would be better if different ethnic groups didn't try to mix together."

University belongingness

Emphasizing the notion of inclusion, 12 items measured the extent to which students felt a sense of organizational identification with their university. Sample statements included: "I have a strong sense of belonging to my university," "I feel a strong attachment to my university," and "I have a strong understanding of my university's history, traditions, and customs."

Institutional factors

Focusing on the university's organizational level, this study examined the impact of six institutional factors on students' attitudes about diversity and university belongingness.

Institutional communication. Three items measured the extent to which students believed that university administrators, faculty, and staff had adequately communicated the benefits of increasing diversity at their campus. Sample items included, "The university administration has adequately explained the benefits of increasing diversity on this campus" and "My university's mission statement communicates a strong commitment to diversity and inclusion".

Institutional drive for diversity. Three items comprised students' perceptions about top-down efforts to promote diversity. Higher scores indicated that students perceived institutional leaders, such as administrators and staff, to be the primary catalysts for diversity and inclusion on campus. Sample statements

included, “*The idea of increased diversity is a top-down process imposed by the university management, with students having little say,*” and “*My university’s commitment to diversity is largely driven by faculty.*”

Institutional policies and resources. Three items focused on participants’ perceptions about the inclusiveness of university policies and resources. For example, one item read, “*My university’s policies value diversity and inclusion.*” Another item stated, “*There are sufficient resources that support diversity and inclusion at my university.*”

Institutional curricula and organizations. Three items measured participants’ perceptions about their university’s diversity-related curricula and organizations. Higher scores indicated that students believed their university’s academic courses, programs, and organizations were more supportive of diversity. Items included: “*The curriculum at my university supports diversity and inclusion,*” and “*There are sufficient amounts of student organizations related to diversity at my university.*”

Welcome Feel: Four items measured participants’ perceptions about feeling welcome by the university. Higher scores indicated that students felt the university had created an atmosphere that was welcoming for them. Items included: “*Before I decided to join my university, I felt this university is welcoming to students like me,*” and “*Now that I am a student at my university I believe that my university is welcoming to students from diverse backgrounds.*”

Diversity support: Three items measured participants’ perceptions about university’s non-academic support for different student groups on campus. Items included: “*Sufficient cultural events are held for diverse groups on my campus,*” “*Sufficient cultural events are held for American students on my campus,*” and “*Sufficient cultural events are held for international students on my campus.*”

Interpersonal factors

The study also examined how intergroup interactions and peer factors influenced participants’ attitudes about diversity and university belongingness. The interpersonal factors in this study are described below.

Interactions with diverse/international students and faculty: Students’ attitudes about and experiences with diversity as well as international students and faculty were measured with 12 items. High scores indicate more positive attitudes and experiences. Sample statements included, “*Increasing the number of international students can enhance the overall standard of education on campus,*” “*We would have a more creative work-study environment if more international teachers were hired,*” and “*International faculty are less effective as teachers.*”

Microaggressions: Microaggression was defined as a statement, action, or incident regarded as an instance of indirect, subtle, or unintentional discrimination against members of a marginalized group such as a racial minority. A total of 15 items measured Microaggressions. Items included, “*Other people treat me like a criminal because of my race,*” “*Others suggest that people of my racial background get unfair benefits,*” and “*My contributions are dismissed or devalued because of my racial background.*”

Individual factor

In addition, this study examined the degree to which participants’ race influenced participants’ attitudes about diversity, and university belongingness.

Racial identity. Due to the relatively smaller number of minority racial groups (See Table 2), participants’ racial identities were recoded into white students ($n = 342$) and students of color ($n = 86$).

Table 2 Participant Demographics

Race	Response	%
White	342	79.9
POC	86	20.1
N	428	
Gender		
Male	131	30.8
Female	280	65.7
Non-binary	15	3.5
N	426	
Sexuality		
Heterosexual	322	78.2
LGBTQQ	90	21.8
N	412	
Social Class		
Lower	77	19.9
Middle	270	69.9
Upper	39	10.1
N	386	
Disability		
Yes	70	16.3
No	359	83.7
N	429	
Academic generation		
First	154	39
Second	151	38.2
Third	46	11.6
Higher	44	11.1
N	395	
Education Level		
Freshman	66	15.3
Sophomore	90	20.8
Junior	107	24.8
Senior	110	25.5
Graduate	59	13.7
N	432	

Results

Attitudes about Diversity

The first hypothesis predicted that institutional (i.e., top-down efforts to promote diversity, institutional messages, organizational policies and resources, university curricula, welcome feel, and university

Table 3 Zero-order correlations

	1	2	3	4	5	6	7	8	9	10
1. Attitudes about diversity										
2. University belongingness	.19***									
3. Inst. Comm	.34***	.51***								
Inst. Drive for diversity	.20***	.30***	.41***							
Inst. policies	.21**	.40***	.47***	.56***						
Inst. curricula	.27***	.46***	.47***	.57***	.77***					
Inst. welcome	.28***	.47***	.40***	.44***	.65***	.64**				
Inst. support	.20***	.42***	.42***	.42**	.52*	.57***	.53***			
Interactions with diversity	.64***	.13*	.21***	.11*	.02	.13**	.10*	.01		
Microaggression	-.04	-.01	-.12*	-.14**	-.32***	-.24***	-.34***	-.16**	.11*	
Race	-.04	-.04	.05	.10*	.17***	.14**	.23***	.10*	-.17***	-.52**

* $p < .05$, ** $p < .01$, *** $p < .001$

support), interpersonal (i.e., positive interactions with international & diverse faculty and students), and individual factors (i.e., racial identity) would be positively correlated with students' attitudes about diversity. A hierarchical linear regression analysis was performed to test H1. Individual factors were entered in the first step. Interpersonal factors were entered in the second step, and institutional factors were entered in the third step. Given the small sample size of racial minority groups, race was recoded into a binary variable (1 = white students and 2 = students of color). Zero-order correlations are reported in Table 3.

Overall, the model was statistically significant, $F(9, 409) = 40.57, p < .001$. With $R^2_{adj} = .46$. Institutional, interpersonal and individual variables collectively predicted 46% of the variance in students' diversity attitudes. The main effects for each institutional, interpersonal, and individual factor are reported in Table 3. Findings showed that the individual factor (race) was not predictive of diversity attitudes.

Interpersonal factors (interactions with diverse and international faculty and students, as well as microaggressions), entered in the model's second step, however, were both significantly predictive of student attitude, $F(3, 415) = 95.74, p < .001$. With an R^2 change of 40.5, the results indicated that both interactions with diverse people on campus ($t = 16.81, p < .001$), and microaggressions ($t = -2.21, p = .028$) were highly predictive of participants' attitudes about diversity and inclusion. Overall, this model was significant (F change = 142.8; $df = 415; p < .001$).

Institutional factors, entered in the third step, were a better predictor of diversity attitudes (R^2 change = 6.3). A closer examination of the results indicated that at this stage, apart from the interactions with diverse faculty and students ($t = 15.56, p < .001$), institutional level factors such as institutional communication ($t = 2.79, p < .005$), and 'welcome feel' perceptions, ($t = 2.52, p = .012$) were predictive of a positive attitude about diversity and inclusion. This model was the best overall fit ($Adj R^2 = 46.0\%$).

H1, therefore, was partially supported. Interpersonal factors (interactions with diverse faculty and peers, and microaggressions), as well as institutional level factors (institutional communications, and 'welcome feel') were positively correlated to student attitudes towards diversity on campus.

University Belongingness

The second hypothesis predicted that institutional, interpersonal, and individual factors would positively correlate with students' university belongingness. Zero-order correlations are reported in Table 3.

A hierarchical linear regression was used to determine the predictability of individual factors (entered in step 1), interpersonal factors (step 2), and institutional factors (step 3) on participants' feelings of university belongingness. The overall regression model was statistically significant, $F(9, 409) = 30.51$, $p < .001$. With the adjusted $R^2 = .38.9$, the predictor variables collectively accounted for almost 39% of the variance in university belongingness. Standardized regression coefficients are reported in Table 4.

H2 was partially supported. When controlling for institutional and interpersonal factors, race was not predictive of university belongingness. Interpersonal factors predicted about 1% more of the variance in university belongingness $F(3, 415) = 3.45$, $p = .017$ after controlling for individual factors. At this stage, interactions with diverse peers, and faculty were significantly predictive of university belongingness ($t = 2.78$, $p = .006$).

In the final step, institutional factors accounted for about 38% more variance in the dependent variable. When all variables were at play, race was seen as a significant predictor of university belongingness ($t = -2.24$, $p = .026$). Interactions with diverse peers and faculty were no longer a significant predictor. However, microaggressions were a significant predictor of belongingness ($t = -2.38$; $p = .018$).

Several institutional factors were predictive of university belongingness. They included perceptions about institutional communication ($t = 7.31$, $p = .000$), welcome feel ($t = 5.16$; $p = .000$), university support ($t = 2.23$, $p = .026$), and university curricula ($t = 1.94$, $p = 0.53$).

Table 4 Regression coefficients

	Diversity Attitudes β	Univ. Belongingness β
Institutional Factors		
Institutional communication	.12**	.34***
Institutional drive for diversity	-.01	.04
Institutional policies	.03	.03
Institutional curricula	-.02	.13†
Institutional welcome	.14*	.29***
Institutional support	.07	.11*
Interpersonal Factors		
Interactions with diverse faculty & peers	.60***	.01
Microaggressions	-.54	.11*
Individual Factors		
Race	.01	-.15***

† $p < .1$, * $p < .05$, ** $p < .01$, *** $p < .001$

Student Experiences with Diversity

Independent samples t-tests compare the means of two independent groups in order to determine whether there is statistical evidence that the associated population means are significantly different. To examine if significant differences in perception existed between White students and those who identified as students of color (SOC), a series of independent sample t-tests were conducted.

While there were no significant differences in the mean scores of the two racial groups with regards to overall university belongingness, and attitudes towards diversity, t-tests revealed some worrying differences when it came to perceptions about institutional and interpersonal experiences.

There was a significant difference in mean scores between students who identified as White ($M=20.16$, $SD=5.83$) and students of color ($M=33.29$, $SD=15.10$) in terms of reported experiences with microaggressions: ($t=-7.8$, $p<.001$). Results suggested that students of color reported higher microaggression experiences (e.g., being subjected to hateful words, being perceived as poor, or less educated because of their race) than their White classmates.

When students experience microaggressions on campus, it is likely that at least some of them will feel that they lack university support, or that they are not welcome on campus. This perception was indicated in subsequent t-tests that showed significant differences between students of color ($M=15.29$, $SD=3.87$) and White students ($M=17.15$, $SD=2.86$) in terms of how welcome they felt on campus. Results suggested that students of color felt less welcome on campus than their White peers ($t=4.18$, $p<.001$). Differences in mean scores were also reported between White students ($M=11.60$, $SD=2.45$) and students of color ($M=10.97$, $SD=2.56$) vis-à-vis perceptions about university support. Students of color reported comparatively lower university support compared to their Caucasian counterparts ($t=2.08$, $p=.038$).

On the other hand, a reversal of this trend was noted in mean scores when examining effects of university policy, and university curricula. White students ($M=12.58$, $SD=2.23$) reported a higher mean score than students of color ($M=11.62$, $SD=2.55$) for University Policy ($t=3.45$, $p=.001$). A similar pattern was seen for University Curricula ($t=2.83$, $p=.005$), where White students ($M=12.56$, $SD=2.22$) reported a higher mean compared to students of color ($M=11.80$, $SD=2.25$). This may indicate that White students are more significantly affected by institutional diversity-related messaging, and by attending diversity-related coursework. This may be a welcome sign if being significantly affected also brings about positive changes in attitude. This argument may need to be further probed and fleshed out in future research.

Discussion & Implications

At the beginning of this study, it was noted that the number of students from different races, faiths, sexualities, and nationalities joining America's universities had grown rapidly in the first two decades of the 21st century. While that statement holds true, graduation rates offer a worrying pattern. According to a nationwide study carried out a few years ago (NSC Research Center, 2017), college completion rates across the U.S. varied widely along racial and ethnic lines, with Black and Hispanic students graduating at much lower rates than their Caucasian or Asian peers. Data from several hundred universities showed that while six-year graduation rates for White and Asian students stood at 62% and 63.2% respectively, Hispanic and Black students graduated at 45.8% and 38%, respectively.

There may be several reasons that explain this higher dropout rate (e.g., economic conditions, language skills, previous education standards). However, previous studies have also found a direct correlation

between feeling excluded/otherized and dropping out of college. On the positive side, some recent studies have found that increasing student belongingness leads to higher student retention, and higher student success. Actions such as promoting collaborative learning, and social belonging interventions too have significantly helped keep students in college (Wolf *et al.*, 2017).

As student retention remains a major challenge, institutions of higher education must take cue from research findings, and create a campus climate that promotes inclusivity, while at the same time, effectively communicate the benefits of diversity and equity on individual and collective success. One of the first steps in that direction would be to develop a strategy to communicate the importance of diversity to a campus community. The objective of this study was to understand what factors positively affect student attitudes towards diversity and their university belongingness. The findings offer clear implications for institutional leadership, administrators, staff, and faculty.

Diversity Perceptions

The results indicated the value of specific institutional and interpersonal factors in fostering positive attitudes about diversity among students. When all interpersonal and institutional factors were controlled in the first step of the regression analyses, race was a significant predictor of attitude. T-test analyses also indicated that students of color experienced more microaggression cases, felt less welcome, and less supported on campus. However, when interpersonal factors were introduced, race was no longer a significant predictor of attitude. This indicated that intergroup contact such as interacting with diverse faculty and colleagues may have positively affected students' attitudes towards others.

At the same time, specific institutional-level communication strategies were positively correlated to student attitudes about diversity. Students who perceived that university support for diversity was largely driven by leadership teams (administrators, faculty) were also more likely to think positively about the concept of diversity. Further, students who felt the university system was welcoming to students like them were also likely to think positively about the concept of diversity.

These findings reinforce one of the central tenets of Systems Theory, where communication is perceived as a glue, the adhesive force that binds an interconnected system together (Almaney, 1974). As evidenced in this study, positive intergroup or interpersonal level communication moderated negative student perceptions brought about by specific individual level communications. At the same time, institutional level communication further affected student perceptions and feelings.

At the higher level of a system, the administrators, policymakers, along with mezzo level contributors such as faculty and other groups, can create an environment that helps students make sense of the education system and their campus life (Renn & Arnold, 2003; Renn & Reason, 2012). Understanding students' relationships with each level of the institutional system can help scholars gain a deeper understanding of how each of these sub-systems individually as well as all of them collectively shape student experiences and outcomes (Kitchen *et al.*, 2019).

What does this mean in the context of this study? While a multi-pronged approach to promoting diversity is important, those perceived as authority figures by students can be extremely influential in affecting student attitudes about diversity. Those who hold positions of power are usually perceived as credible sources, and if communication comes from them, such messaging is likely to be valued. In other words, how an organization's leadership team communicates with other stakeholders has a significant impact on how such stakeholders understand and internalize specific concepts and ideas, including the benefits of increasing diversity on campus. Therefore, it is critical for leadership teams at

the university level, college level, and department level, to explicitly communicate, whenever possible, the institution's commitment to diversity, to all students and other key stakeholders.

Previous studies have found that faculty members and university authorities “strongly believe that racially and ethnically diverse classrooms enrich the educational experience of white students” (Marin *et al.*, 2000, p. 4). This study's findings further underscored the pivotal role that university leaders play in the areas of diversity and inclusion. This study found that when communication comes from administrators and faculty, and when they feel the university has created specific steps to make them feel welcome, students have a more positive attitude towards diversity. In comparison, policy documents, or simply including ‘diversity’ as a topic across several academic courses, had less of an effect on student attitudes. In other words, attitude was most significantly affected when students ‘experienced’ first-hand, of ‘felt’ the benefits of diversity.

However, effective communication of mission statements or organizing diversity-related events were not the only factors found to have affected student attitudes. Students' attitudes about—and interactions with—international and diverse faculty and students, had a significant impact on their attitudes about diversity especially when such interactions were positive. This reinforces our understanding that students who have positive experiences with diverse and/or international faculty (e.g., an enjoyable course taught) or with diverse/international students (e.g., attending a diverse cultural event, or working on a class project) are more likely to have positive beliefs about the benefits of increasing diversity on campus.

These findings reinforce key tenets of intergroup communication theory, namely that consistent and meaningful communication between different groups is an effective means of mediating intergroup tensions (Christ & Kauff, 2019; Pettigrew & Tropp, 2011). In the current context, the findings indicate that diverse and international faculty and students will play an important role in changing and molding students' perceptions about diversity on campus and its benefits. At the same time, as t-tests results indicated, when students are exposed to diversity-related courses (students in the survey reported taking more than one ‘required’ diversity class, as well as electives), their worldview was more likely to be positively affected.

Previous literature has looked at how White U.S. students sometimes view increasing rates of diversity on their campuses as negative or threatening (Jackson & Heckman, 2002; Mazie *et al.*, 1993). On the face of it, this study did not yield evidence for this concern. However, the author is currently conducting a separate qualitative analysis of the open-ended questions of the survey, where students were asked “What does diversity mean to you?”, and “What do you think of diversity?” to explore if they yield possible differences of opinion. Similarly, statistical tests could be conducted to examine if individual identity (e.g., race) of a student affected some of the other survey questions answered (e.g., “Diverse faculty are beneficial for campus,” “More international students could hamper my job prospects”). The findings of this study may open up many such possibilities.

Addressing Belongingness

Results indicated that a university's commitment to diversity, along with interethnic social interactions, and even the race of the student may influence students' organizational belongingness. University belongingness is driven at both institutional and interpersonal levels. Consistent with the principles of intergroup contact theory, this study recommends that interethnic interactions are particularly important in helping students of color *and* White students feel more connected to their university. For example, when institutional level communication was not at play, interactions with diverse and global peers and faculty were positively (significantly) correlated with a sense of university belongingness for both students of color and White students.

When students were exposed to communication at all three levels of the institutional system, then experiences with microaggression were most significantly correlated to belongingness. This indicates that when students experience instances of microaggression, especially on campus, they feel less protected, and less welcome. On the other hand, when students said university leadership (faculty, administrators) had explained the benefits of diversity and inclusion to them adequately, or when they attended diversity-focused courses, they were more likely to report a higher sense of belongingness. The advantages of an interconnected institutional system cannot be overstated. This study's findings concur with scholars who argue that "systems thinking is a way of looking at the world in which objects are interrelated with one another" (Whitchurch & Constantine, 2009, p. 325).

Student Experiences with Diversity

Many colleges and universities across the US are committed to increasing racial and ethnic diversity of their faculty, staff, and students. Strotzer and Hossellman (2012) found that schools that were most successful in recruiting racial and ethnic minorities, particularly Black and Latino students, also reported fewer hate crimes on campus. Other studies have found a direct and positive correlation between increasing diversity and students' academic success (Marin *et al.*, 2000).

Some key findings of this study imply the need for deep introspection by university leaders. For example, students of color felt less welcome, and less supported on campus than their White peers, and were far more likely to report experiences with microaggression. On the other hand, university policies, as well as diversity-related courses such as 'Diversity & Media' and 'global cultures' had a positive impact on White students compared to students of color, as evidenced in the t-tests. Universities then, are also doing a lot of things right, but clearly, much is left to be done.

Scholars and administrators will hopefully find this study useful as they examine newer ways to create harmonious campus communities, where students, irrespective of their race, faith, nationality, sexuality or abilities, report higher level of belongingness, have fewer and fewer experiences of microaggressions, and celebrate growing diversity in and outside of campus.

Conclusion

Collectively, the findings of this study reveal how institutional, interpersonal, and individual factors within a system influenced college students' attitudes about diversity and university belongingness. There were some issues that this project had to contend with. They are not necessarily drawbacks or limitations. Instead, they point to opportunities that should guide future research. For example, the sample consisted of predominantly White students from a mid-sized regional public university. While it can be argued that the sample was representative of current enrollment demographics in the United States, future research should examine a more racially (or otherwise) diverse sample of college students. This may allow scholars to make more nuanced between-group comparisons.

Further, participants were all pursuing their education in a specific geographic location. Future studies can examine how organizational, interpersonal, and individual factors influence students' attitudes about diversity, and their university belongingness in different types of institutions (e.g., larger universities from different geographical regions, or perhaps in historically Black, or Hispanic-serving institutions).

Additionally, this is a survey-based study that explored broader patterns. Qualitative studies that use in-depth interviews or focus groups as tools, may seek to understand student perspectives, and explore

why specific communication are understood in certain ways, or explore how students understand and explain terms such as the feeling of welcomeness and belongingness. This is all the more important since a possible limitation of a purely survey-based study could be presence of social desirability bias (SDB) in some of the items of the psychometric scale used, (e.g., “I believe it is beneficial to increase diversity on campus”). SDB broadly refers to the tendency of survey respondents to answer questions in a manner that will be viewed favorably by others. The author of this paper is currently in phase-2 of a project where separate in-depth interviews are being conducted with students who identify as members of the LGBTQ+ community, identify with a disability, or belong to minority ethnic and religious groups to understand what such students mean when they say they report low belongingness, or report that they feel less welcome on campus than their peers.

While the present study did add open-ended questions in the survey to gain some idea about student perceptions, interviews or focus group data could lead to rich data and deeper insights into student perceptions and complement the findings of the present study.

Even in its present form, however, the findings of this study hold several key implications for educators, administrators, and communication scholars. The finding that interactions with faculty and staff in classroom and campus settings have significant effects on student belongingness and attitudes towards diversity indicate the need for regular workforce training in DEI issues, specifically how to make syllabi, course material, assignments, and even conversations more inclusive and equitable – keeping in mind different races, abilities, and other differences within students. This finding also indicates that universities must consider hiring a more diverse, global pool of faculty and staff to reflect the increasingly diverse student population.

The fact that institutional-level communication had the most significant effect on student beliefs and attitudes also suggests that universities should pay more attention and invest in human resources in areas such as marketing and communications, and social media teams because institutional level messages – whether emails, videos, or social media posts – must be meticulously and carefully crafted to ensure they are truly inclusive and equitable and not perceived as preaching diversity without showing it.

Finally, students reported that when they felt the messaging at the institutional level made them feel welcome, they were more likely to stay in college and feel a part of campus life. This suggests the need to create more institution-driven opportunities on campus for intergroup interactions such as multicultural nights, special events to celebrate different sexualities, abilities and other differences, hosting international events where students learn about cultures of other nations, or even starting new campus clubs to foster intercultural understanding.

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