Empirical Article

Taking It Day by Day: Reasons for Daily Changes in University Belonging

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Abstract

For emerging adults enrolled in higher education institutions, their sense of belonging to the university largely influences their development. However, not all students experience university belonging in the same way. There is a dearth of work identifying how students make meaning of their everyday experiences and how those experiences affect their daily university belonging. Our article draws on a mixed-methods study of students' sense of university belonging to investigate how daily experiences within university contexts shape and influence their university belonging. We found five categories of daily experiences (e.g., non-academic interpersonal interactions, community-building events, academics, campus resources, emotions and stress) which affected students' university belonging. The results suggest that signals of university belonging exist in all facets of university life, helping us further understand the reasons behind students' university belonging fluctuations.

Keywords

sense of belonging, university, daily experiences, college students, mixed-methods

Introduction

The period of emerging adulthood—roughly ages 18–25 years old in American contexts—involves negotiating developmental challenges and adjustments (Arnett & Mitra, 2020). Currently, 40 percent of emerging adults in the United States are enrolled in institutions of higher education (National Center for Education Statistics, 2022). Their development is thus embedded within the college context. Part of this development includes establishing a healthy sense of belonging to one's various place-based and identity-based contexts (e.g., racial/ethnic/cultural identity, university; see Lee et al., 2023). For emerging adults in college, a main motivation involves developing a healthy sense of belonging to their university context. Strayhorn (2019) defines university belonging as "students' perceived social support on campus, a feeling or sensation of connectedness and the experiences of mattering or feeling cared about, accepted, respected, valued and important to the campus community or others on campus," (p. 4). Developing a sense of university belonging is associated with many positive outcomes, including academic performance (Walton & Cohen, 2007), academic motivation and enjoyment (Pedler et al., 2022), and retention (Nieuwoudt & Pedler, 2021; O'Keeffe, 2013).

Unfortunately, not all college students are afforded the privilege of developing a positive sense of university belonging at their institutions or equally sharing the benefits of university belonging (Gopalan & Brady, 2020). Extant literature notes group and individual differences in levels of school belonging—including university belonging—among diverse students. Students with minoritized identities, including racial-ethnic minority students and first-generation college students, are more likely to experience low levels of school belonging than their peers (Gopalan et al., 2022; Ruedas-Gracia et al., 2020). In other words, not all college students report the same levels of university belonging.

This study investigates the fluctuating nature of university belonging among college students from diverse sociodemographic backgrounds enrolled at a predominantly white public university in Illinois. We take a mixed-methods approach in this study such that we first collected quantitative survey data of participants' daily university belonging, and then developed a qualitative interview protocol to gain a deeper understanding of the survey results (see Appendix A). Our study addresses: *What do students report as reasons for their daily positive or negative experiences of university belonging*? Answers to this question may lead to a more nuanced

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theoretical understanding of why sense of university belonging may change at the daily level. In addition, answers to this question may illuminate reasons for these fluctuations in university belonging, which can directly inform college-level policies and practices aimed at improving sense of university belonging among students.

Changes in University Belonging Over Time

Developing a sense of university belonging is fundamental for healthy human development among our college-going population. Similar to how the K-12 setting is a prime environment in which children and adolescents negotiate their social identities, motivations, and future goals, the college environment is a prime environment where many emerging adults continue to negotiate important facets of their lives (Arnett, 2016). It is thus important to feel supported, valued, and cared for in this setting—prime components of university belonging. University belonging theory assumes possible instability and posits that sense of university belonging may change as circumstances change (Hurtado & Carter, 1997; Strayhorn, 2019).

The college experience can be the backdrop to the identity development of emerging adults (Jones & Abes, 2013). Nonetheless, most studies of university belonging are cross-sectional by design, meaning that university belonging is measured at one point in time with no exploration as to whether that level of university belonging changes or remains stable over time and why they may change. The few empirical studies measuring university belonging over time provide mixed evidence. A study exploring daily-level university belonging among first-year college students showed that in one of the project's samples, university belonging decreased over the course of three weeks (Dutcher et al., 2022). However, the additional samples did not show a significant change (Dutcher et al., 2022). Another study exploring daily-level university students showed that first-generation college students were more sensitive to daily fluctuation in university belonging than their continuing-generation counterparts (Gillen-O'Neel, 2021). A study exploring year-level university belonging found that on average, university belonging remained relatively stable for college students regardless of their income status, gender, and race (Ruedas-Gracia et al., 2023). However, upon closer examination of differences by intersectional social identities, the study found between-group differences where, for some students, university belonging increased over time (Ruedas-Gracia et al., 2023). It is therefore imperative to continue employing longitudinal research designs to examine how and why sense of university belonging changes over time.

Reasons for Varying Levels of University Belonging Among Diverse College Students

Despite the scant literature examining changes in university belonging over time, cross-sectional studies of university belonging shed some light on reasons why students may feel different levels of university belonging. The campus environment is shown to be a major predictor of a sense of university belonging (Museus, 2014). Literature has provided more detail as to which aspects of the campus environment predict a sense of university belonging. For example, Museus and Chang (2021) showed that among first-generation college students, perceptions of greater collectivist orientations, validation, and relevant community service directly influenced university belonging. Another study of first-generation college students corroborates these claims, showing that a cultural mismatch—the incongruity between the values and practices of the university and the student's home culture—is also a source of low university belonging (Phillips et al., 2020). Moreover, an exploration of university belonging among Latino college students showed that positive diversity experiences and engagement in the campus community – including interactions with individuals within the campus community – were positively associated with a sense of university belonging (Museus et al., 2017). The authors hope to extend this work by exploring the reasons behind *fluctuations* in university belonging. This contributes to the literature by attending to day-to-day experiences of university belonging which will provide not only more nuanced information but also provide direction for circumstances under which to implement interventions and programming to boost university belonging.

Conceptual Framework

Although there is limited empirical research on *fluctuations* in university belonging (Gillen-O'Neel, 2021). Theoretical literature provides insight on possible reasons for and consequences of these fluctuations. Baumeister and Leary's belongingness theory (1995) states that "human beings have a pervasive drive to form and maintain at least a minimum quantity of lasting, positive, and significant interpersonal relationships," (p. 497). According to this theory, individuals must be engaged in frequent and affectively pleasant interactions with others. In addition, potential real or imagined changes in belonging will result in emotional responses that can be either positive or negative. Low university belonging would lead to negative affective responses such as anxiety, jealousy, guilt, depression, and loneliness. High university belonging would lead to positive affective responses such as happiness, joy, and love.

Regarding college students and pertinent to this study, a lack of affectively pleasant interactions with others constitutes reasons for low university belonging. Conversely, affectively pleasant interactions are sources of high university belonging. Moreover, in accordance with belongingness theory, emotional responses to experiences of either high or low belonging could be either positive or negative, respectively. Therefore, it is expected that different experiences that are either affectively pleasant or unpleasant can lead to high or low belonging and in turn be considered by the individual as positive or negative experiences.

Current Study

The current study aims to explore the dynamic nature of university belonging among college students from diverse backgrounds, specifically investigating the daily fluctuations in their sense of university belonging. The following research question are explored:

- What do students report as reasons for their daily positive or negative experiences of university belonging?

Addressing this question is crucial for developing a deeper understanding of the factors influencing students' daily university belonging changes, which in turn can inform targeted interventions to enhance students' experiences in college. To achieve the objective, we employed a mixed-methods approach, first gathering daily belonging data through daily quantitative surveys followed by in-depth qualitative interviews to understand the daily belonging patterns observed in the survey data. We hope to gain a comprehensive analysis of the transient aspects of university belonging, providing insights that are critical for improving students' experiences and developing interventions in the future. In our study, we utilize a comparison approach to underscore the importance of observing and understanding both positive and negative experiences of university belonging. We highlight the importance of not only what contributes feelings of university belonging, but specific instances where these contributions can lead to either positive or negative experiences of university belonging. This provides an additional level of detail regarding experiences of university belonging to support nuanced interventions and policies.

Method

The present study employed a mixed-method Explanatory Sequential Design (see Figure 1) which entails first collecting quantitative data, then using the quantitative data to inform the qualitative component of data collection (Creswell & Plano-Clark, 2018; DeCuir-Guby & Schutz, 2016). First, the researchers sent out an initial survey to obtain demographic information and participants' baseline level of university belonging via a quantitative survey instrument (Walton & Cohen, 2011). Once the initial survey was complete, the researchers surveyed students for 28 days, in which students reported their daily sense of university belonging via the same quantitative instrument (Walton & Cohen, 2011). At the completion of the 28 days, the researchers used the quantitative data to visualize the students' daily university belonging trajectories via line graph. These line graphs were then incorporated into the semi-structured interviews, so the students could reflect on the possible reasons behind the fluctuation in their university belonging. The purpose of this explanatory sequential research design is to use the qualitative data to explain the quantitative data in more detail and depth

(Creswell & Creswell, 2017). Our current analysis focused on a sample of 20 students who participated in both the daily surveys and interviews.

Participants and Procedure

Participants in this mixed-method study were undergraduate and graduate students at a large Midwestern public university. The project consisted of an intake survey to collect demographic information, a 28-day daily survey portion, and an interview portion. To be eligible for the study, the participants had to be registered students at the university with a valid university email. All procedures were approved by the university's institutional review board.

The participants were recruited through an email sent by the university's Division of Management Information Office, flyers on campus, social media, and classroom announcements. In September 2021, interested participants were instructed to scan the QR code on flyers or click the link in the recruitment email to sign the consent form and complete an intake survey. The intake survey measured each participant's baseline level of university belonging, their general wellbeing, and collected demographic information including age, gender, race/ethnicity, year in college, major, annual household income, and immigrant generation in the U.S. A daily survey link was emailed and texted to participants each day for 28 consecutive days (i.e., 4 weeks) from October 18 to November 15, 2021. Each daily survey link contained the measure for university belonging at the daily level. Participants were compensated $5 each week for completing at least one daily survey that week and were compensated an additional $5 if they completed four or more daily surveys each week.

A total of 449 participants signed up for the study. For the interview portion of the study—which is the focus of this manuscript—a stratified random sub-sample of 40 participants from diverse sociodemographic backgrounds was selected from the larger sample of participants. The sub-sample was stratified by race/ethnicity, gender identity, socioeconomic status, and year in college. The stratified sub-sample was then reviewed to ensure that each sociodemographic category present in the original sample was represented by at least one participant in the sub-sample. The 40 participants were invited for a one-on-one semi-structured interview in November 2021. Of the 40 participants invited, 20 participants consented, completed an interview, and were used for analysis. Interview participants were compensated $15 for participating. Due to the nature of this research, participants of this study did not agree for their data to be shared publicly, so supporting data is not available.

Measures

Daily university belonging. Daily university belonging was assessed using The Sense of Social Fit Scale (SSFS) (Walton & Cohen, 2007), which is a 17-item assessment (e.g., "People at
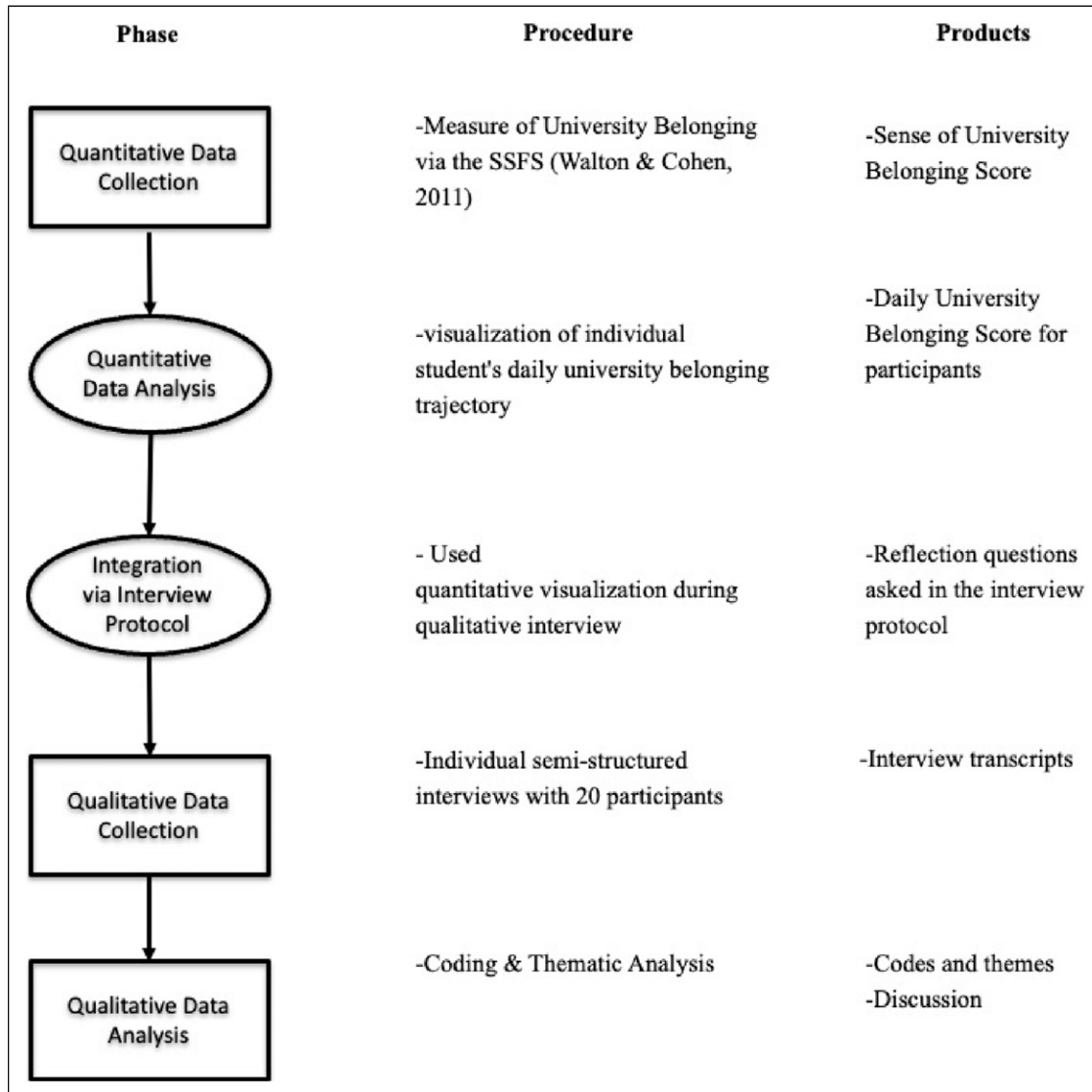
Phase	Procedure	Products
Quantitative Data Collection	-Measure of University Belonging via the SSFS (Walton & Cohen, 2011)	-Sense of University Belonging Score
Quantitative Data Analysis	-visualization of individual student's daily university belonging trajectory	-Daily University Belonging Score for participants
Integration via Interview Protocol	- Used quantitative visualization during qualitative interview	-Reflection questions asked in the interview protocol
Qualitative Data Collection	-Individual semi-structured interviews with 20 participants	-Interview transcripts
Qualitative Data Analysis	-Coding & Thematic Analysis	-Codes and themes
-Discussion

Figure 1. Mixed methods flow chart.

the university accept me", "I fit in well at the university") of people's sense of belonging within a group. Participants were asked to rate their university belonging every day on a 5-point Likert scale from *1 = strongly disagree to 5 = strongly agree* (αs ranged from .90 to .93). The SSFS has been validated for use with U.S. college populations, and researchers recommend a total scale scoring method with this measure (Maghsoodi et al., 2023). The items were averaged as an index of students' university belonging each day, with higher scores corresponding to a stronger sense of university belonging.

Interview. The overall interview protocol asked questions about participants' sense of belonging to different contexts, including the university, the United States, and their racial-ethnic-cultural group. The semi-structured in-depth interview was designed to explore the reasons behind student's fluctuations in belonging. The current study only focused on analyzing students' fluctuation of belonging within the university context. We showed students a line graph of their sense of university belonging which they reported previously (see Figure 2). The interviews ranged from 40 min to 1 hour and were conducted by the first, second, and third authors. All interviews were audio recorded on Zoom and later transcribed by undergraduate research assistants. The transcripts were then coded and categorized into broader themes by the first and second authors using Microsoft Word. Microsoft Word was best suited for this study's analysis because of its benefits regarding systematic coding and structuring interview data based on basic software functions (Ose, 2016). Reflective memos were written throughout the interview and data-analysis process to record the author's thoughts and help the author elaborate on concepts and themes.
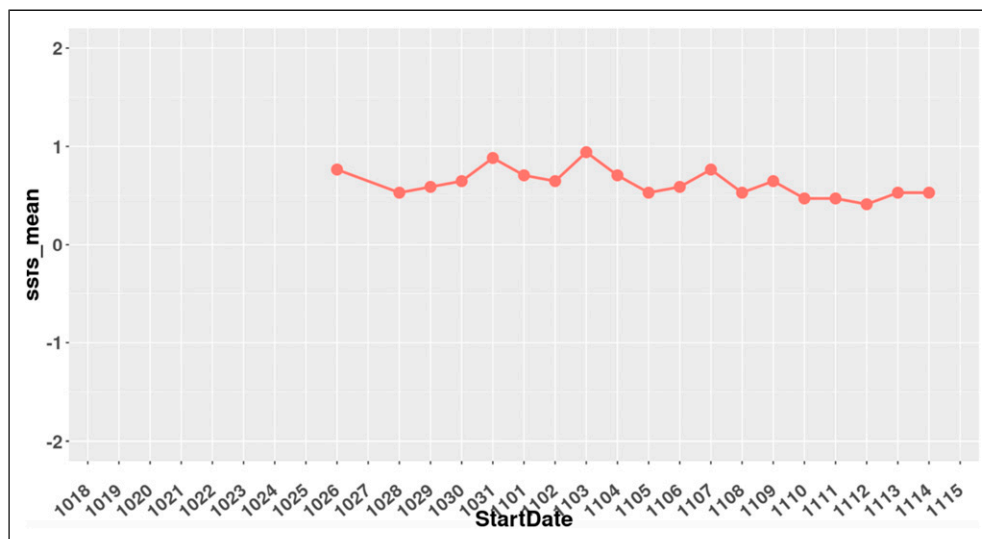
Figure 2. Alexa Jiang's daily belonging graph. *Note:* SSFS stands for daily survey "The Sense of Social Fit Scale" (Walton & Cohen, 2007). SSFS_mean stands for the average score of Alexa's daily survey response. Start Date stands for the dates the daily survey was distributed.

Analytic Plan

Phase 1: Quantitative Analysis. During daily survey data collection, each participant's daily university belonging score was calculated by computing the individual's average score of SSFS each day. After 28 days of data collection, a unique line graph was created for each participant based on their daily survey responses using ggplot2 package in Rstudio (see Figure 2 as an example). The researchers also developed an interactive online app using shiny package in Rstudio, so that once a participant's name was entered in the app, the unique belonging graph of that participant would generate. Moreover, before generating the graphs, the daily belonging survey responses were recoded from -2 = *strongly disagree* to 2 = *strongly agree* (i.e., the original scale is 1 = *strongly disagree* to 5 = *strongly agree*), so that scores above 0 indicated an increased sense of university belonging and scores below 0 indicated a decreased sense of university belonging. With the recoded survey responses, it was easier for interviewees to read their graph and reflect on their positive and negative university belonging experiences.

Phase 2: Qualitative Analysis. Phase two used in-depth interviews to explore the reasons behind students' belonging fluctuation over the 28 days. Our qualitative analysis focused on analyzing participants' reflections on their daily self-reported university belonging. The graphs generated from the daily survey were utilized to guide students to reflect on their experiences during the interview. The reflective interview questions included "Do you feel like this graph accurately describes that time in your semester?" and "Can you recall what happened that led you to score in this way?". Two interviewees were excluded from the final analysis because they could not recall or pinpoint the underlying reason for their

university belonging change. Therefore, 20 interviewees were included in the current qualitative analysis. Table 1 presents the demographic information of the 20 interviewees.

The first and second authors coded the interview transcripts independently using the interpretative phenomenological analysis approach, which focuses on gaining in-depth understanding of an individual's daily experiences in a given context (Smith et al., 2009). The research question "What do students report as reasons for their daily positive or negative experiences of university belonging?" was used as guidance throughout the coding process. In the first wave of coding, both authors coded the transcripts independently in Microsoft Word while concurrently checking the audio recordings to generate initial inductive codes. Some codes we generated were "exam performance", "university support", and "friends/peers". More examples of codes can be found in Table 2. The transcripts were read several times before coding to get a sense of what the participants were saying and get a better understanding of participants lived university belonging experiences (Alase, 2017; Smith et al., 2009). After the first stage of coding, the researchers then met to assess inter-rater reliability by discussing the consistency and disagreement of initial codes and preliminary findings. Once agreement was reached, the authors examined codes most relevant to the research question and refined the codes to ensure the codes capture the central meaning of participants' lived experiences (Alase, 2017). The codes were then generated into broader categories to capture the recurring patterns of lived university belonging experiences among participants (see Table 2 for full list of codes). After generating the broader categories, the transcripts were reviewed again to ensure the essence of the participants' experiences was accurately captured in relation to the research question (Alase, 2017). A figure of our step-by-step qualitative data analysis process can be found in this

Table 1. Pseudonyms, Key Demographics and Sense of Belonging Summary Statistics Information of Interview Subjects.

Pseudonym	Gender	Race/Ethnicity	Age	Year in college	BelongingAvg	Min	Max	*SD*
Alexa Jiang	Female	Asian/Pacific Islander	20	Transfer student (Fall, 2021)	2.21	1.44	3.29	0.49
Amanda Nell	Female	Biracial/Multiracial (Hispanic & white)	21	Senior	3.43	2.47	4.53	0.52
Anthony Tapia	Male	Latinx/Hispanics	18	Freshman	3.17	2.06	3.71	0.45
Ava Johnson	Female	Latinx/Hispanics	21	Junior	2.61	2.06	3.50	0.50
Bruno Hernandez	Female	Latinx/Hispanics	21	Senior	2.75	2.06	3.71	0.47
David Scott	Transgender male	Biracial/Multiracial (white & Filipino)	23	Transfer student (Spring, 2021)	0.52	−0.41	2.06	0.63
Frank Mitchell	Male	Asian/Pacific Islander	18	Freshman	1.21	−0.62	2.27	0.71
Happy Su	Female	Asian/Pacific Islander	22	Senior	2.36	1.65	3.09	0.37
Isaiah Garden	Male	Black/African American	18	Freshman	1.73	1.24	2.47	0.30
Jackson Lopez	Male	Asian/Pacific Islander	25	Graduate (Master)	3.54	2.27	4.12	0.75
Jenny An	Female	Asian/Pacific Islander	21	Senior	0.09	−0.41	1.03	0.40
Jonny Li	Male	Asian/Pacific Islander	18	Freshman	3.36	2.47	3.91	0.35
Kiana Johnson	Female	Black/African American	23	Graduate (Master)	3.16	1.53	4.12	0.61
Mathew Johnson	Male	Latinx/Hispanics	19	Sophomore	3.08	1.24	3.71	0.65
May Chen	Female	Asian/Pacific Islander	23	Graduate (Master)	1.81	−3.29	3.91	1.80
Meril Beldo	Male	Biracial/Multiracial (African American & Japanese)	20	Transfer student (Fall, 2021)	2.89	1.24	3.71	0.49
Nyleon Katar	Female	Black/African American	21	Senior	1.73	1.03	2.68	0.45
Rose Garcia	Female	Biracial/Multiracial (Middle Eastern & African American)	21	Senior	1.44	0.82	2.27	0.34
Tex Orion	Female	Black/African American	20	Junior	1.97	−0.82	3.09	1.25
Victor Martin	Non-binary	Asian/Pacific Islander	18	Freshman	−1.39	−3.71	0.41	1.09

Note. N = 20. Avg indicates participant's average SSFS score across the data collection period. SD = Standard Deviation.

Table 2. Final Qualitative Categories.

Category	Description	Example of codes
Non-Academic Interpersonal Interactions	Discussion of how non-academic interpersonal interactions reinforce one's sense of university belonging	Friends/peers Family/home Internships/Work
Community-building Spaces	Engagement in social activities and developing social relationships	Party Thanksgiving Halloween Class trip Online platform
Academics	Discussion of classes or exams or teacher-student interaction	Class/Class performance Exam performance Grades Professor/TA
Experiences with campus resources	Discussion of resources or services provided by the university	University support Counseling University prestige
Emotions and Stress	Discussion of specific emotions or stress felt	Mood Busy Mental health

article's supplemental files. Each category was divided into two subcategories of positive and negative experiences of university belonging to better reflect the fluctuation in participants' daily university belonging and the reasons behind those changes. Examples of each category were chosen based on discussions between the researchers.

Results

Quantitative Results

In our study, we investigated the day-to-day variability of school belonging among participants over the course of the data collection period. Table 1 presents a detailed summary of these findings, highlighting the individual fluctuations in perceived school belonging for each participant. On average, participants reported a range of feelings of school belonging across the study days, with individual averages ranging from a low of −1.394 to a high of 3.541 on the original scale. Notably, Isaiah Garden reported the highest average level of school belonging at 3.541, suggesting a strong sense of connectedness to the school environment throughout the study period. Conversely, Victor Martin experienced the lowest average level of belonging, with an average score of −1.394. The minimum and maximum values reported for school belonging provide insight into the breadth of experiences among our participants. For example, Mathew Johnson exhibited the widest range of school belonging scores, reporting a minimum of −3.294 and a maximum of 3.912, indicating significant variability in his day-to-day experiences.

Personal standard deviation of school belonging scores further illustrates the variability each participant experienced. The standard deviation ranged from 0.297 for Happy Su, indicating relatively stable feelings of belonging, to 1.798 for Mathew Johnson, highlighting a more fluctuating experience during the study period. These results underscore the individual nature of school belonging and the degree to which it can vary from day to day. Understanding these dynamics is crucial for developing interventions that can address the unique needs of each student to foster a greater sense of belonging within the school community.

Qualitative Results

In our results, we summarized the factors mentioned by the participants that influenced changes in their university belonging into five categories: (a) non-academic interpersonal interactions; (b) community-building events; (c) academics; (d) experiences with campus resources; and (e) emotions and stress. Next, we divided each category into two levels—positive experiences of university belonging and negative experiences of university belonging—to illustrate how those factors shaped participants' university belonging in different ways (See Table 2).

Non-academic interpersonal interactions

This category refers to students' environments positively or negatively reinforcing whether they belong within the university. Examples of non-academic interpersonal interactions are a conversation with friends, interactions during a job change, or an experience with others while moving. Interviewees' perceptions of these events largely affected their university belonging. Six interviewees highlighted the impact of such interactions on their sense of belonging.

Positive Experiences of University Belonging. Participants addressed that satisfying work environments fostered a positive sense of university belonging. Specifically, they valued the sense of achievement from the work they were doing. The sense of achievement and work satisfaction contributed to students' university belonging. Happy, a senior Chinese international student, shared her work experience when she was asked about an increase in her university belonging evidenced in her university belonging graph. She transferred to a new job that she was genuinely passionate about:

> I ended my position as IDA [Industrial Design Associate], and I successfully transferred the position of graphic design system, so I don't have to work for both jobs … both the teams are very nice and people working there are very nice, and I am very thankful for that. I worked 10 months with the IDA team, and it was a very nice experience to work with them and I ended the position and said goodbye to them nicely. I think that made me feel good, also getting familiar with the new job was a relief for me.

Happy shared a thoughtful and positive perspective that she was grateful for what she had learned in the previous job and was satisfied with the work atmosphere of the new one.

Another non-academic interpersonal interaction found to increase university belonging had to do with being physically on campus. Meril, a biracial African American & Japanese, transfer student enrolled Fall 2021, illustrated that when he returned to the university from home, the simple awareness of him being on campus increased his university belonging:

> I think that sort of coming back to campus, I was kind of not super excited to be leaving home, but then once returned, it was like back around my friends and stuff, it just felt good to be back, so I guess would be why [there's an increase].

For Meril, the university is not to be conflated with home, but it is an environment that elicits good feelings and a sense of community of friends.

Negative Experiences of University Belonging. In previous paragraphs, we suggested pleasant working experiences could facilitate a sense of achievement and university belonging among students. However, not all students were equally fortunate to have a satisfying and enjoyable job. Tex, an

African American junior student, shared an unexpected and unfounded comment she received during work, which made her feel offended and negatively affected her university belonging that day:

> I work as a WSA (Wellness Support Associate), like at the front door and check in people. I also get a little triggered of my rejection sensitivity working that job, because there are some people who are kind of rude to you about it.… I even had this guy in the business institute be like, "You guys are really annoying because you're inconsistent and I would understand if you were here every day but you're not." Being called annoying for just doing my job made me feel really bad.

Not only do unpleasant things happening during work affect students' university belonging, but a rude peer can also lead to decreased university belonging.

Amanda, a biracial Hispanic & White senior student, shared her story of how a harmful "joke" from a peer harmed her university belonging on a particular day:

> I think on the 20th I had an interaction with one of my roommates who said a joke about, she said that "why would you come to America if you don't get rich." I took that to heart, and when I had lunch with my brother that day, we discussed why that is a very rude statement to just say casually. At least to me, having my mother who's not from the United States, who isn't necessarily rich and has been here, as long as I've been born and that's 21 years, that statement made me feel really uncomfortable.

Previous studies suggest that negative peer interactions can prohibit students from forming healthy university belonging (Maramba & Museus, 2013; Maunder, 2018; Strayhorn, 2019). Amanda's example emphasized the association between being respected in one's environment and one's university belonging (van Gijn-Grosvenor & Huisman, 2020). The feeling of being respected and accepted is an important contributor to students' university belonging (van Gijn-Grosvenor & Huisman, 2020). Amanda's example also suggested that the receiver's and giver's perceptions of a joke could be completely different. It is important to set boundaries with peers and develop mutually satisfying peer interactions, which can help foster a healthy sense of university belonging.

Community-Building Events

This category refers to events, such as parties, in which students can socialize and interact with their peers. Positive experiences within community-building spaces were found to facilitate a sense of community and belonging among interviewees, whereas unpleasant experiences with such spaces made some interviewees feel excluded and neglected. This observation was noted by nine participants.

Positive Experiences of University Belonging. The interviewees tended to have an increase in a sense of university belonging when they could connect with their peers and friends through different events and activities. Those events and activities provided them a platform to develop and maintain social interactions with different people on campus, making the interviewees feel a sense of belonging. Frank, an Asian male freshman, shared the experiences of a Thanksgiving party with his friends which increased his university belonging on that day:

> I had a Thanksgiving party the day before, I think that contributed a lot to feeling like I belonged, just doing things with community, I got to spend time with a lot of my friends.… It felt wholesome I guess, like a family party instead of a bunch of college kids getting drunk. It was just good memories.

Moreover, Alexa, an Asian female transfer student enrolled Fall 2021, shared her day trip with classmates which contributed to her sense of university belonging.

Alexa illustrated that the day trip gave her an opportunity to interact with her friends and people she was not yet familiar with:

> I had a field trip with my department, we went to an exposition, like a showcase kind of thing for studies, and I had a really good experience at that, so I think that definitely influenced my feeling of belonging, and we were able to go to whatever we wanted to see, and just talk with people from the professional industry, and I think that went really well for me.… I do have like one friend in the class, and I spent the day with him and then he introduced me to his friends, and we went around the convention the whole day, so making new friends and feeling like included in things definitely made me feel more belonging.

This finding is consistent with van Gijn-Grosvenor and Huisman (2020), who stated that interaction with other students within events and clubs can foster a sense of university belonging among college students.

In addition, not only did in-person activities increase students' sense of university belonging, but online platforms also facilitated a sense of belonging. The students were able to connect through internet and build an online community to network and develop a sense of university belonging. Isaiah, an African American freshman, demonstrated how the university forum on Reddit helped him meet new friends and strengthened his connection with peers:

> People like post pictures on there [i.e., Reddit] as well, like beautiful pictures of the scenery and I also post things, so I guess you do feel a sense of belonging, because you know that other students or other alumni, it's not just people in your own grade, but it's people above you also enjoy whatever content you put out there … so if I was a photographer or like take pictures, and I post them on reddit and got a whole bunch of like uploads and some

words like "nice pictures," "these are really cool," I feel like I belong because people enjoy the work that I make around the school, it does increase sense of belonging.

Thanks to the online forum and community messages—even among alumni and students of different ages—Isaiah increasingly participated in community-building events, which contributed to his positive sense of university belonging.

Negative Experiences of University Belonging. Although positive experiences with the networking events and activities were found to increase students' university belonging, sometimes those spaces could hinder one's university belonging. For example, Alexa had a great time on a day trip with her classmates, which boosted her university belonging. However, she also shared an unpleasant experience during a sorority party:

> I had initiation for my sorority, and I think it wasn't like bad, it just like a lot of things. First of all, I was late to the event because I was not told that I had to come in an hour early, so that was kind of embarrassing, but then it was kind of weird and afterwards I was hanging out, but nobody was talking to me, and I didn't feel like talking to anybody else. I was just sitting there awkwardly and ended up going home.

For Alexa, the sense of not fitting in and being neglected during the party jeopardized her sense of university belonging that day.

Another interviewee, Jonny, an Asian male freshman, shared his experience of being left alone on Halloween making him feel neglected and isolated. He illustrated that Halloween was supposed to be a gathering time for friends, but he was not invited to any parties or social gatherings, which made him feel particularly isolated and negatively impacted his sense of university belonging within that moment:

> I think 10/30 that was around Halloween, and at that time, I don't think I really had anyone to hang out with, so I felt pretty lonely, like I didn't even know that there was anything going on that weekend, I could've worn a costume, but I didn't.

Our analysis suggested that community-building events can be a double-edged sword. On one hand, those social networking events can connect students together, giving them a sense of community and belonging. The experiences of students like Frank, Alexa, and Isaiah represent how positive community-building activities and spaces can foster university belonging on a particular day. Those spaces helped students build a sense of community which helped them feel included and connected. On the other hand, as seen in examples of Alexa's and Jonny's experiences, other spaces or events may reinforce a sense of not fitting in among students, making a student feel neglected and isolated.

Academics

A large portion of college students' life centers academic success. Almost half of our participants mentioned their university belonging was affected by their grades, their like/dislike of classes, and interactions with instructors. This viewpoint was shared by eleven interviewees.

Positive Experiences of University Belonging. Ava, a Latinx junior female student, shared that the high exam score she received from a class made her feel proud and increased her university belonging temporarily:

> When I would perform good in a class, I think that's when I felt like I belonged in the university, but that's because I have a very strong academic perspective, so like doing good in school, it's the one thing that's a good motivator to keep me on going and to just have that view of acceptance of myself and belonging.

For Ava, academic success—indicated by good grades and evaluation—motivates her and helps her maintain a positive sense of belonging.

In addition to academic achievement, instructors' warmth and support were also found to positively influence students' university belonging (Miller et al., 2019; Slaten et al., 2016). For example, Isaiah appreciated the in-depth conversation with a teaching assistant (TA) in his chemistry class, who provided great academic advice for him. Isaiah wanted to go to dental school in the future and the TA was a dentistry student. The TA introduced him to the dentistry students' group and provided him with a lot of useful information about the dental school application. The support received from the TA made Isaiah feel like he belonged to the university during this interaction that was specifically in the classroom/academic context. He also mentioned that the fact that the class was in-person made it easier for him to access and connect with the TA:

> My class for Chem, my TA is Karen and one of the first days, Karen was like, she's in dentistry and I'm also a pre-dentistry student as well, and then you know she gave me like the contact to a PVC, which is the dental group on campus, and a little bit after that, when she had to leave, we had a sub. His name is Larry and he also was a pre-dental student, and it was nice that I talked to him, you know, this whole bunch of pre-dental people around and normally you don't see them at all, so yeah, definitely being in person, because if that was online, I would never been able to access, nor would I come up like conversation … when you're in online setting, you can just mute, those random conversations don't come up anymore.

Previous literature suggested that face-to-face contact in in-person classrooms can better foster socialization and effective learning among college students compared to online classes (Adnan & Anwar, 2020). Additionally, Jeng et al. (2023) suggested that students who felt a stronger sense of belonging

in their courses tended to have a more favorable perception of others' endeavors to offer academic help. Isaiah's experiences of face-to-face contact with his TAs provided him with opportunities to develop close relationship with and receive support from the TAs. The supportive relationship cultivated an increased sense of belonging in Isaiah. His increased belongingness also made him to perceive the support provided by his TAs as valuable and helpful.

Another student, David, a biracial White & Pilipino transgender male student, also illustrated the importance of instructors' warmth in facilitating his university belonging. He highlighted the story of a professor who remembered his name in class:

> One of the days that I answered more positively (on university belonging) was the day that my professor remembered my name in class.… I walked out of that class feeling great like, "Wow, he knew my name, he knew what question I had specifically asked, and was following up on it." It felt really good.

David's experiences were consistent with literature that shows instructors' perception and recognition of students' unique values and positive instructor-student relationship can increase students' sense of university belonging (Allen et al., 2021; Slaten et al., 2016). For ethnic minority students, being seen and valued within the college community is key to fostering a sense of university belonging (Strayhorn, 2019). It is important for instructors to be aware of the unique needs of minority students to help them develop a healthy university belonging.

Negative Experiences of University Belonging. Previously we discussed that students' academic performance is highly correlated with their university belonging. Students who struggled in class tended to have more negative experiences with university belonging compared to those who succeeded academically. Tex shared that she had failed a midterm in a certain class. This class was held on Tuesdays and Thursdays and those were usually the days she reported her lowest levels of university belonging:

> It plummets at random days, and I can guarantee those are probably Tuesdays and Thursdays. That's when I have my class for the most part … it's a class that makes me feel weird … there were some days I suppose that was probably around the time midterm had already happened, which I failed. I was literally in tears. I was so sad because I felt like my teacher didn't like me and didn't respect me or my work ethic.

Kiana, an African American graduate student, also shared her struggles with a class. She ultimately decided to drop the class because of the stressful experiences. She felt relieved when she made the decision and her university belonging increased on that day. Similarly, Jenny, an Asian senior student, also experienced an increase in university belonging when she dropped a class she was struggling with.

Another student May, an Asian international graduate student, also mentioned her struggles with classes but for different reasons. May felt frustrated and like she did not belong because she failed to actively participate in class. The gap between "what I should do" and "what I actually did" made her question her university belonging:

> As I spend more time here, I ask myself to participate more in local activities and talk more in class, but sometimes it's not that easy … I had a course on Monday, maybe on that day, I don't participate so much in class … like on all Mondays and Tuesdays, I have that class which I don't behave so well, so maybe [that's why my university belonging was low].

Moreover, the interviews revealed that not only undergraduate students struggled with classes and exams. Students who were also teaching assistants struggled with exams as well. Jackson, a graduate student who was teaching, demonstrated that when his students failed exams, he would feel guilty, and this temporarily affected his sense of university belonging negatively. When asked to describe a moment of low university belonging seen on his graph, he explained that sometimes he internalized students' academic failure, feeling that students' failure was his responsibility:

> That was when our students had their first exam and everyone did really bad … this semester has been really hard for us, the averages across all sections are almost 20 points lower than they have been … so they were just doing worse and as a teacher, if your students do worse than average, you're going to feel a little bit bad, even though it's not true, you feel maybe it's your fault.

This was an important finding because it suggested that one's university belonging can be affected by the intersectionality of different roles and identities. In Jackson's case, his university belonging was mainly influenced by his role as a teaching assistant instead of a student. This finding reminds us that university belonging is a complex psychological feeling which can be influenced by diverse personal, psychological, and interpersonal factors. The association between intersectionality of identities and belonging can be an interesting topic to explore in the future.

Experiences with Campus Resources

This category refers to students' perception of the resources and support they can get from the university. The university resources discussed by participants included academic reputation and resources, counseling services, and research opportunities. Six interviewees emphasized their experiences in this aspect.

Positive Experiences of University Belonging. The university's educational resources and reputation were found to facilitate students' sense of belonging (Gray et al., 2018). Rose, a bi-racial Middle Eastern & African American female senior student, illustrated her appreciation of studying in "one of the best universities" in the United States:

> I'm at one of the best universities, I'm getting amazing education, this campus is beautiful, like all of these things, and I'm working good in my classes and getting good grades … I think that's why, like you would be able to see that through my responses, that the sense of belonging to university never really changed.

Based on Rose's praise for her "amazing" education and description of the campus as "beautiful," it seems that she was more than satisfied with the educational resources and opportunities received here.

Victor, a non-binary Asian freshman, also shared their appreciation of studying and working in a university that provided them with plenty of opportunities:

> I think pursuing different opportunities gave me a better view of the school because I was getting to know better what different opportunities it had to offer but it's also like they're hard to come by you know, like it's not easy for a freshman to get into a research lab … so it's like you get your opportunity handed to you on a platter, but once you get in, it's like hey now it's really just up to you … the school has plenty of room for you to reach out into.

Victor illustrated that the opportunity of working in a biology lab made them feel proud about their achievement in the lab. In other words, the array of campus resources positively influenced Victor's own sense of belonging.

Other than educational resources, counseling services seemed to affect students' university belonging as well. Anthony, a Latinx male freshman, shared how university counseling services made him feel better mentally, which in turn made him feel more university belonging:

> I wasn't able to handle or process my feelings until I went to counseling. That's where you start to see the upticks, which is maybe around when I first went to counseling. I learned how to process these feelings of not belonging and understanding how other people might be feeling and how that relates to me.

In mentioning that he had learned "how to process" negative feelings of belonging, moreover, Anthony showed his potential to maintain positive sense of belonging in the face of adversity.

Bruno, a Latinx female student, also talked about her appreciation of the support she received from the university, making her feel a sense of university belonging:

> I was struggling, and the university really supported me in a way that I honestly didn't expect, to be quite honest with you, so that's

why there's the growth [in university belonging] … I made a lot of realizations and I felt like this is truly where I was supposed to be, where I needed to be, getting the support from university really helped me a lot, and reassured me that Illinois is where I belong.

Bruno explicitly connected her sense of university belonging with receiving the vital support she needed when she had been struggling.

Negative Experiences of University Belonging. Although university support, especially counseling, had a positive influence on students' university belonging, not all students were able to receive support timely and responsively. David stated that university support was generic and failed to meet the diverse needs of different students:

> I know there're places to go for support, but in the past, I haven't had the greatest experiences with school support. Usually, I go in and I start talking about it, I find that most frequent solutions they give are very generic. And it's like, "Well, what if you just like plan a little bit better? Like, "You just need to be consistent" and it's like, "Well, it doesn't pertain exactly to me," and I know they can't be exact when you have so many students on campus, but usually campus resources are just never … it's like stuff I already know that I try but I need more.… That's why I have a personal therapist, finding stuff more specific to my situation, so I don't usually use those resources.

Here, David shows that despite having university resources that seemed inadequate, he continually tried to identify and access other support, such as a personal therapist, that he knew he would benefit from.

Nyleon, an African American female student, highlighted the limited accessibility to counseling services. She struggled to get the timely therapy she needed in the middle of the semester when she was stressed out:

> I had short therapy sessions at the counseling center, but it's a limited amount sessions you can have one-on-one and getting into the group therapy is hard in general, and then I did like the mindfulness thing, but those are usually like two days, one hour. It's a group thing, and I need more help, like personal help, but with those services, I reached my limit with those. I couldn't benefit in the instance that I felt I didn't have that support, and then I felt discouraged, and I also ran into little bumps this semester trying to get those services.

Nyleon highlights institutional factors that students often encounter, such as a limited amount of sessions or not enough personal or group therapy resources to meet students' needs.

Our analysis show that college counseling services played a significant role in addressing students' sense of university belonging and psychological wellbeing. Minoritized students tend to face more challenges in developing a sense of university belonging (Vaccaro & Newman, 2016). They also tend

to underutilize counseling resources on campus (Sampe et al., 2021; Stebleton et al., 2014). Based on our interviewees' reflections, the current counseling resources on campus were limited and inaccessible. It is necessary for the university to provide easily accessible and culturally responsive counseling support for students from minoritized backgrounds in a timely manner.

Emotions and Stress. This category refers to the cases when the students' university belonging was solely affected by their emotions or perceived stress at that moment. Six interviewees shared their viewpoints in this regard. For example, Kiana explicitly talked about how emotions can affect her perception of the world, which in turn, lead to a decrease or increase in her university belonging on a specific day:

> I think your emotions, can really affect how you perceive the world and perceive things around you so if you're already in a bad mood, everything else is going to seem very negative, but if you're in a positive mood, your outlook on things is going to be a lot happier.

Positive Experiences of University Belonging. Similar to Kiana, David also agreed that emotions can influence one's university belonging. He mentioned that he was in a good mood after Fall break, and this mood related to his increasing university belonging during that time:

> Beginning of November was not great. I think it took until after thanksgiving vacation where I kind of got a reset …then I went back, and kind of get back into the groove of things.… After that, I was able to get back to being consistent with my classes.

Yavorsky (2017) found that positive academic emotions such as pride, confidence, and excitement can significantly increase students' university belonging, whereas emotions like anger, shame, and hopelessness are negatively associated with students' university belonging. Lam and colleagues (2015) and Gillen-O'Neel (2021) also state that the higher the students' university belonging, the more positive emotions and feelings toward school they would experience. Our findings partially aligned with these studies in the way that positive emotions were associated with better university belonging. It was unknown to us, however, which specific emotion(s) were contributing to students' university belonging and whether students could intentionally foster those emotions to gain a better sense of university belonging.

Negative Experiences of University Belonging. Positive emotions can increase one's university belonging, whereas negative emotions can make one feel like they do not belong. Mathew, a male Latinx sophomore, reflected on his university belonging as "low lows" on a day of a bad mood:

> I must have had a bad day, maybe I was in a really bad place, and I was pretty depressed about it, and I just decided to rate my score to fit that, but I don't remember exactly what happened.

Similarly, interviewees most frequently mentioned stress in describing their negative experiences of university belonging. The busy schedule made the interviewees feel exhausted and stressed, which Happy, a Chinese international student, illustrated:

> At the end of October, I had to work two jobs … and I was working on my application for graduate school, even though now I have finished, but I started at that time. I was also having midterms and my team projects due at the end of October, so probably that affected my mood at that time.

Jenny shared a similar story as Happy. She mentioned she was trying to manage classes, work, grad school applications, and other miscellaneous things, which was a stressful time for her:

> I'm a senior, so I'm applying to grad school programs, I think actually the survey starts at the time that I just submitted the application … so between 10/18 and 11/15 I'm applying to schools and hadn't heard back from any yet, so that might have been why, like the ups and downs, because it was a stressful process.

Overall, our finding was consistent with Gillen-O'Neel's (2021) work that explains students with low university belonging tend to perceive lower emotional engagement in daily college life. This finding also aligns with Yavorsky's (2017) study which shows that negative emotions can lower students' university belonging. Both positive and negative emotions had a significant impact on students' university belonging.

Discussion

Literature shows evidence of inter-individual differences in university belonging among diverse college students. Notably, college students who espouse minoritized social identities typically report lower levels of university belonging than their peers (Gopalan et al., 2022). For example, students of color enrolled at a predominantly white institution may feel a lower sense of university belonging than their white peers (Strayhorn, 2019). First-generation college students may feel a cultural mismatch between their culture of origin and their new university culture, thus feeling a lower sense of university belonging than their peers (Phillips et al., 2020). However, university belonging is not static. College students' sense of university belonging fluctuates over time such that students have moments where their university belonging is low, and other moments when their university belonging is high (Gillen-O'Neel, 2021). Understanding and addressing these intra-individual differences in university belonging is critical to directly increasing university belonging among diverse college students and indirectly increasing academic achievement, motivation, and wellbeing.

Our qualitative analysis confirms aspects of the belongingness theory (Baumeister & Leary, 1995) that suggests an individual's belonging experiences must be affectively pleasant for the individual to experience high belonging. In line with theory, our findings show that unpleasant experiences led to low belonging while pleasant experiences led to high belonging. More specifically, belongingness theory specifies that belonging experiences (even those within a specific context) can be positive or negative. Our findings show that students experienced moments of both positive and negative experiences of university belonging within the same context. In fact, students' memories of belonging moments reflected five distinct categories. Consistent with previous literature, our results suggested that students' sense of university belonging can be cultivated and influenced by a range of academic to extracurricular university provisions (Masika & Jones, 2016). Some students experienced fluctuation in university belonging when signaled by their environment, whether it be their job or roommate. Others experienced a fluctuation in university belonging when participating in events that were designed to build community. Previous studies suggest that a sense of university belonging is highly associated with students' academic motivation and achievement (Pedler et al., 2022; Strayhorn, 2019). Consistent with previous literature, interviewees in our study also illustrated how academic achievement affected their daily university belonging, as a source of university belonging fluctuation was the college classroom and exams and interactions within a course. Additionally, students' experiences with access to and engagement with campus resources contributed to fluctuations in university belonging. Lastly, individuals' emotions and stress were another instance where university belonging fluctuated.

Our results contribute to better understanding the university belonging experiences of diverse college students. This study demonstrates that fluctuations in university belonging can be due to various experiences in college including experiences in their courses, with student support services, and in social interactions. In other words, students draw from various college-related contexts to ascertain whether they belong at their university. Signals of university belonging exist in all facets of college life. This important contribution to the literature allows us to understand *reasons* for changes in university belonging.

Our findings have implications for universities seeking to support the retention and wellbeing of their diverse student body. First, universities need to recognize that signals of university belonging exist in every aspect of the college experience. It is not enough to support university belonging efforts in the classroom or in research labs. Universities must also support the development of university belonging efforts in clubs and organizations where students interact with each other. Universities must also improve students' access to and experience with student support services, as positive experiences with these services can foster university belonging. Second, universities should capitalize on the fact that signals of university belonging exist in many aspects of the college experience by financially supporting their development. Positive experiences with university-sponsored events, clubs, and organizations can boost university belonging, so administrators should ensure there are plenty of diverse events, clubs, and organizations that students reflecting many different social identities can engage with.

Pandemic Statement

Moreover, it is important to remember the larger context that sense of belongingness is functioning under. The COVID-19 pandemic has made an undeniable impact on psychological processes and educational experiences. Research is beginning to understand this impact. However, we have yet to fully understand how the pandemic has influenced various aspects of the research process – from how researchers conceptualize studies, to how past theoretical frameworks do (or do not) apply. Data for this study was collected in Fall of 2021, a year and a half after the COVID-19 shutdown forced higher education institutions to switch to an online format. Although the students in our sample were back to an "in-person" schedule, the university as well as the students within it were still transitioning back to this in-person schedule. Thus, psychological processes like sense of university belonging experienced during this time should be situated within this socio-historical context.

Limitations

While our study highlights various types of experiences of university belonging among culturally diverse students, limitations exist. First, our study focused on students enrolled in one large, public grant, predominantly white institution in the Midwest. Since university belonging experiences are specific to the college environment one is in, future studies should explore students enrolled at different types of universities (e.g., Historically Black Colleges and Universities) to explore how different campus climates influence university belonging experiences. Second, our methodology allowed for only a subset of our sample to be interviewed. Thus, the experiences reported in our results are restricted to only this sub-sample. Future studies should conduct a larger mixed-methods design where the entire sample is also interviewed to better capture the sample's collective experiences rather than viewing a snapshot. Third, although using self-reported data can be beneficial, asking participants to recall a past experience (e.g., a lower level of belonging up to 28 days prior to the interview date) can introduce recall error. While recent literature suggests highly accurate recall of past events is possible (93–95% accuracy; Diamond et al., 2020), future studies may consider including an option for qualitative responses each time the student completes the daily quantitative questionnaire, so that the student has a reminder of contextually informative events during that day or moment.

Conclusion

As our results highlighted, students experienced changes in university belonging in a variety of different college-related contexts. These experiences matter for the way that college students develop a sense of university belonging. This is important because university belonging is crucial for college completion and psychological wellbeing. Therefore, it is important for the field to understand where college students are picking up signals of university belonging—or non-belonging—throughout their college tenure.

Appendix A: Interview Questions

Reflective piece: Now, remember the daily surveys you filled out earlier this semester? Thank you for filling those out! In addition, we drew up a graph showing how you self-rated your sense of university belonging over time. I will now share my screen so you can see your unique graph.

[Describe the x axis, y axis, and what the line stands for. Ask if there are any questions regarding the graph and what it stands for]

- What (if any) are your initial thoughts on what you see here?
  o Probe: do you feel like this graph accurately describes that time in your semester?
  o [For any specific events] Probe: Why do you think that particular timepoint(s) was [low/high]?
  o Probe for descriptors (e.g., What time of day, what did it look like, how did you feel, who was there, etc.)

[Point out any changes in belonging one by one and ask the following questions]

- Can you recall how you felt in that moment or what happened that led you to score in this way?

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Taiylor Rayford is a doctoral student in the Department of Educational Psychology at the University of Illinois Urbana-Champaign. Her work centers on understanding the psychosocial development of Black students. She is especially interested in understanding how Black graduate students' expectations and experience of belonging (i.e., belonging fulfillment) impact their education experience and trajectory.

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