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UNDERSTANDING THE ENVIRONMENTS THAT RELATE TO SENSE OF
BELONGING FOR FIRST-GENERATION ASIAN AMERICAN COLLEGE
STUDENTS

A Dissertation Presented

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Jerome Guarin Budomo

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Abstract

Asian Americans are the third largest and one of the fastest-growing racial groups in the U.S. Though they may not be the largest racial ethnic minority on college campuses, they are characterized as high achieving students who persist onto graduation. This portrayal has led to this group of students being under researched. Even more so when they are studied, they are lumped into an assumed homogenous group that could mask issues of Asian sub-groups and/or ethnicities, which could skew how student affairs practitioners understand how students who hold these identities persist on a college campus. When discussing student persistence, sense of belonging on college campuses has emerged as key to student persistence, particularly for students of color. Building on empirical research of students that explored how environments impact student persistence, this quantitative study examined the environments that relate to sense of belonging for first-generation Asian American college students. Using existing data from the American College Health Association (ACHA) through their National College Health Assessment (NCHA), Astin's (1994) Input-Environment-Output (I-E-O) was applied as a methodological framework along with applying Strayhorn's (2012) sense of belonging as the theoretical framework to a stepwise regression model for examining my research question. Results demonstrated that there was a positive relationship to sense of belonging for first-generation Asian American college students (along with first-generation East Asian, Southeast Asian, and South Asian sub-groups) when they had the opportunity to socialize with friends, participated in student organizations, along with spending time with their families. Additionally, psychological wellbeing and mental health also showed a positive relationship. Inversely, the results demonstrated a negative relationship to sense of belonging when they were faced with challenges, stress, and loneliness. The findings from this dissertation can inform student affairs practitioners to apply a Culturally Engaging Campus Environment (CECE) model of college success and change their approach to their work from an assimilation lens to an acculturation approach that creates intervention strategies that specifically target first-generation Asian Americans and subsequent sub-groups. As enrollment of first-generation Asian Americans continue to grow on college campuses, it is the hope that empirical research on this specific student population, more importantly, specifically Asian sub-groups and specific Asian ethnicities also grows so as to better inform practice for student affairs professionals in fostering a sense of belonging on college campus.

Keywords: first-generation, Asian American, sense of belonging, higher education student impact models, student affairs practitioners, equity

Dedication

This dissertation is dedicated to my parents, John Nathaniel Ubarro Budomo and Thelma Guarin Budomo. You immigrated to the United States as young adults with little money in your pockets with a dream to provide your future children with a better life. I hope this milestone in my life is a testament to all that you sacrificed. Those sacrifices were never unnoticed or taken for granted and in some way, I hope your dreams were fulfilled. I am who I am today because of the both of you. I could not have asked for more loving, giving, and supportive parents who sacrificed so much so that I could dream. I hope you feel that all the sacrifices you made for me have paid off. Thank you for allowing me to live my dreams no matter how far those dreams took me from home. I hope I made you proud!

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writing syntax, running numbers through SPSS, and trying to make sense of the results. You were patient and encouraging when I became frustrated when I had to update my regression model. You provided examples of how to write up my results. You even took the time to read the first drafts of my chapters and provided edits and feedback. This dissertation was completed in large part because you and Jay helped mold me into a quantitative researcher I am today. I am eternally grateful for your friendship!

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Introduction

Asian Americans are the third largest and one of the fastest-growing racial groups in the United States. Though they may not be the largest racial ethnic minority on college campuses, they are characterized as high achieving students who persist onto graduation. This portrayal has led to this student population being under researched. Even more so, when studied, they are lumped into this assumed homogenous group that could mask issues of certain Asian sub-groups and/or ethnicities, which could skew how student affairs practitioners understand how students who hold these identities persist on a college campus.

Developing a sense of belonging on college campuses and its positive link to student persistence is not a new concept within higher education. Sense of belonging has emerged as a key concept in studies on college student persistence, particularly for students of color (Museus et al., 2017). Hurtado and Carter (1997) introduced pioneering work that moved empirical research of students from simply fitting in to exploring how environments impacted student persistence, particularly with first-year LatinX students, by examining students' background characteristics and the effects of racial campus climate. More contemporary scholars, such as Hausmann et al. (2007) and Museus et al. (2017), advocate incorporating sense of belonging as a factor in models of student persistence. Sense of belonging allows for a better understanding of actionable ways institutions can cultivate and facilitate belonging among students of color.

In recent years, Strayhorn (2012) developed a model for sense of belonging. In this model, sense of belonging is defined as students perceived social support on campus,

a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group or others on campus. According to Strayhorn (2012), sense of belonging is a basic human need, a fundamental right, and defined as a feeling that members (of a group) matter to each other and to the group, which is largely affirmed, reflected, and signaled in (and through) a constellation of institutional policies, programs, and practices that conspire, converge, and cooperate to clearly communicate belongingness.

Historically, research on student impact models (e.g., Astin, 1984; Schlossberg, 1989; Tinto, 1993) has yielded valuable data allowing student affairs practitioners to increase the likelihood of student persistence on college campuses. However, one major limitation of these theories and past research is that much of the data was collected from the majority student population and was not reflective of the diverse landscape of college campuses today (Mueses et al., 2017). Additionally, these theories guided student affairs practitioners to implement theory into practice by viewing students of color from a deficit model in which faculty and staff developed institutional interventions for these students to assimilate and fit in so that they could successfully integrate into campus life. To address this limitation, researchers (e.g., Hausmann et al., 2009; Hurtado & Carter, 1997; Museus et al., 2017) argued the need for inclusion of belongingness as a factor in understanding student experiences, especially for marginalized student populations. Museus et al. (2017), included sense of belonging as an important factor for understanding how first generation and student of color students establish community on their campus. Drawing on Vincent Tinto's (1975) work on student integration, Museus

and colleagues re-imagined a more culturally conscious view of college success by steering away recommendations of practice that promoted assimilation to fostering sense of belonging. Taking a critical approach by understanding how a specific population, like first-generation Asian Americans, develops a sense of belonging, allows for cultivating experiences that center around the specific student population's needs.

By noting the relevance of belonging as a key factor, researchers began to recognize the limitations of student impact models and uncovered how developing a sense of a sense of belonging may differ as a result of lived experiences. As such, there have been great strides in expanding this research. Hausmann et al. (2009) explored White and African American first-year students and Hurtado and Carter (1997) explored Latinx students. Yet, there are still opportunities to uplift other specific populations. There is existing research on sense of belonging (e.g., Ahn & Davis, 2020; Duran et al., 2020; Gillen-O'Neel, 2021; Hausmann et al., 2009) in Asian American college students (e.g., Museus & Park, 2015; Samura, 2016; Yi et al., 2020), and first-generation college students (e.g., Evans et al., 2020; Ives & Castillo-Montoya, 2020; Museus & Chang, 2021; Pratt et al., 2019; Schwartz et al., 2018). However, there is an opportunity to add current empirical research to the existing literature on first-generation Asian American college students.

With an increase of first-generation college students and students of color student populations entering college (Evans et al., 2020; Hausmann et al., 2007), student affairs practitioners need to be able to understand and address the unique barriers these students face. It is important that student affairs practitioners build on existing research conducted

on both first-generation and specific racial/ethnic student populations so that findings can better guide the work of practitioners to ensure they are supporting marginalized student populations. Doing so can provide the opportunity for student affairs practitioners to implement a culturally engaging campus environment (CECE) model of college success where the voices of diverse student populations are centered in a higher education setting to shape college success (Museus et al., 2017). One gap in the existing research on college student experiences is first-generation Asian American college students. I acknowledge this group represents my own researcher positionality, as I myself am a first-generation Asian American college graduate.

In exploring existing literature on Asian American college students, I discover that there is limited current research on this student population. They have been historically excluded from higher education research due to the model minority narrative, which created an overgeneralization of labeling them as high achieving and academically successful, assuming they were well-adjusted to college life and not needing to be researched (Museus & Park, 2015). The concept of the model minority myth, mostly associated with Asian Americans, is the idea that Asian Americans are often perceived as an exemplary racial group in the United States, mainly because of their comparative educational and financial success. These perceptions result in the assumption that Asian Americans have experienced more success with social upward mobility, compared with other racial minority groups in the United States (Fong, 2008; Yoo et al., 2010). It is assumed that their success is often attributed to a lack of barriers, exceptional work ethic, and inner drive (Kim & Lee, 2014). Thus, this oversimplification with this myth has

masked the educational realities of Asian Americans, as research on this specific student population is limited (Museus & Park, 2015).

Additionally, this purported universal success masks the reality that some Asian American subpopulations hold college degrees at lower rates than other racial groups. Looking closer, past studies (e.g., Kim & Lee, 2014; Museus & Park, 2015; Poon et al., 2016; Palmer & Miramba, 2015; Shih et al., 2019; Yi et al., 2020) have demonstrated Asian American college students still experience similar struggles, such as lower retention and graduation rates, to Black and Latinx students. These findings are counter to the model minority myth and highlight that Asian American college students are not a monolith, serving as reasonable justification that more research on Asian American college students should be done (Museus & Chang, 2009).

Particularly, higher education research on Asian American students needs to recognize that this specific student population cannot be about one homogenous racial category, and recognize that Asian American constitutes a vast diversity of cultural backgrounds, experiences, and outcomes among the different subpopulations within the Asian American classification warranting examination of each of their specific realities by breaking down studies that explore smaller Asian American subpopulations, or better yet, specific Asian ethnicities (Museus & Chang, 2009; Museus & Miramba, 2011). As this specific population of students continues to grow on college campuses, there is a need to better understand the first-generation Asian American student experience so as to guide practitioners in cultivating involvement opportunities within their environment that increase their likelihood of finding a sense of belonging and overall persistence.

Purpose of Study, Research Question, and Significance of Study

Research on first-generation college students tends to examine how their individual characteristics, college preparation and access, and outcomes in higher education differ from their non-first-generation peers. However, the purpose of this quantitative study is twofold. First, this dissertation directly addresses the gap in the research related to how campus environments shape student experiences and outcomes (Museus & Chang, 2021; Yi, 2016). Second, it adds to the body of work that focuses on sense of belonging for students of color, specifically Asian American college students, an under-researched population. The research question for this study is: how do first-generation Asian American students' inputs and environments relate to their sense of belonging at colleges and universities?

Using existing data collected from the American College Health Association (ACHA) through their National College Health Assessment (NCHA), this study takes a quantitative approach to examine the research question. The ACHA-NCHA is a reliable and validated tool that has yielded a large data set. For my study, I have narrowed down to results collected between Fall 2019 - Fall 2022. The existing data constitute 512 institutional data sets and 137 unique institutions, yielding a sample size of 334,957. The data were also narrowed down to only include the two input variables of respondents who identified as being both a first-generation college student and Asian American. Using descriptive statistics as the primary research method by running a simple linear regression analysis through IBM SPSS Statistics 29, existing data and the research methodology

provide insight by identifying which environments relate to sense of belonging for first-generation Asian American college students.

This research is significant because it expands and interprets existing research on the subject; specifically which environments establish a sense of belonging in first-generation Asian American college students. Developing an understanding can inform and guide practitioners in cultivating experiences and intervention strategies by applying the CECE model of college success (Museus et al., 2017). These tools could shape a college campus environment that foster both academic and social engagement opportunities specifically for first-generation Asian Americans. This intentional framework can facilitate building community in the hopes of building a sense of belonging and overall persistence (Museus & Maramba, 2011). In addition, this study provides visibility and demonstrates the need to expand empirical research on sense of belonging for first-generation Asian American college students to debunk the model minority narrative.

Intended Audience

The intended audience for this dissertation is primarily for student affairs professionals as this is the lens that frames the dissertation. These practitioners have direct influence in cultivating intervention strategies that foster sense of belonging on a college campus. Their work plays a pivotal role in shaping environments and experiences inside and outside of the classroom that directly impact whether first-generation Asian American college students develop a sense of belonging. Additionally, university administrators would benefit from this research as they directly influence institutional

policy making, along with faculty and non-student affairs staff (e.g., academic advisors, registrar's, student financial services, etc.), as their interactions with students can also factor into a student's level of belongingness. These key players at a university should understand which environments foster belonging for this marginalized population. More importantly, this understanding can open a discussion on strategies, practice, and policy development to strengthen belonging. Practitioners can then develop specific intervention initiatives to cultivate belonging based on this specific student population's needs rather than helping students of color assimilate to the dominant cultural norms so that they can simply fit in.

Literature Review

To ground my study, I provide a general overview on student impact models that discuss student integration, retention, and persistence to add context on how student affairs professionals foster sense of belonging on college campuses. Integration and belongingness are typically framed on the levels of involvement in a college environment academically and socially.

Following, my study will explore belongingness for students of color and first-generation college students, then honing in on how the Asian American college student experience is portrayed in current empirical literature. This study will explore the various college environments that hypothesizes the increase levels of belongingness and overall persistence. Therefore, literature regarding first-generation Asian Americans environmental ways of belonging particularly looking into the types of engagement that align with the studies' variables in the methodology is imperative. This literature review discusses the methodological framework applying Astin's (1994) input-environment-output (I-E-O) model followed by the theoretical framework of Strayhorn's (2012) sense of belonging to ground the study through student impact models. Finally, it will identify the gaps this dissertation will address.

Student Affairs Student Impact Models

As educators studying the field of higher education, student affairs practitioners have spent the past fifty years studying student attrition, integration, retention, persistence, and now sense of belonging. We are taught about student impact models such as Vincent Tinto's (1975) student integration model, Alexander Astin's (1984) student

involvement theory, Nancy Schlossberg's (1981) transition theory, along with her mattering and marginalization theory (1989), just to name a few. The central theme of these works is to develop an understanding on how college-age students transition into a college setting and the factors that increase their chances to successfully integrate into campus life with a hypothesized result of overall student persistence, retention, and overall degree attainment. These works serve as the core for student affairs professionals that guides practice for student success.

When examining these core texts, these student impact models discuss ways that engagement within their environment increases integration and students' likelihood of developing a sense of belonging. For instance, Astin's (1984) student involvement theory argues that as students become more involved, their chances of persisting increase as they become more integrated into the fabric of campus life, which reflects Vincent Tinto's (1975) argument of student integration. It is believed that as the student transitions and becomes engaged in the campus community, their likelihood to feel like they matter also increases and overall affects their sense of belonging, which relates to Schlossberg's (1981) transition theory, along with her mattering and marginalization theory (Schlossberg, 1989). To better understand the environments that increase sense of belonging, the next part of the literature review will explore how student affairs practitioners frame how engagement increases integrations and overall belongingness by the levels of involvement academically, socially, and physically within the college environment.

Academic Engagement

Academic engagement is described as the level of involvement within a classroom or curricular setting such as interactions with faculty and peers. Tinto's (1975) student integration model theorizes that students are more likely to remain enrolled in college if they become integrated into the academic life of an institution. Tinto suggests that students' personal goals and commitments are strengthened and supported by their faculty and peer-group interactions, which could impact grade performance. Tinto's integration model is one of the first works that describes the concept of belongingness that Strayhorn (2012) describes as a student's commitment to a postsecondary institution determined by their perceived support, mattering, and feeling of respect and value from their faculty and peers. This is a critical facilitator of student retention, achievement, and attainment, particularly for students of color (Strayhorn, 2012).

Social Engagement

Social engagement is described as the level of involvement with experiences outside of the classroom setting. Social engagement includes involvement with one's peers in a social setting such as participation within a student organization, fraternity or sorority, and within one's residence halls, recreational activities, etc.

Student impact models have guided how student affairs professionals cultivate intervention strategies to increase persistence and retention of students, particularly from populations that come from historically marginalized backgrounds that remain underrepresented and underserved. Yet, one critical limitation of these models is they were developed using the majority population (White students) as the key demographic

for these studies which resulted in recommendations for practice from a deficit framework (Mueses et al., 2017). This deficit framework depicted students of color as facing significant challenges in comparison to the majority student population, resulting in recommendations for disempowering practices that required students to assimilate rather than cultivate specific intervention strategies for each specific marginalized populations. Yet, understanding the specific needs of each marginalized student population, particularly Asian American college students requires extensive research, which is not present in current work for various reasons (Museus & Chang, 2009).

One common theme that emerged from these student impact models, particularly for students of color, is that their persistence level increased when they developed a sense of belonging on their college campus. This concept is in line with the work of Schlossberg's (1989) mattering and marginalization theory, which theorized that to the degree a student feels like they matter on a college campus, in other words, feel like they belonging, they are more likely to persist and reach overall degree attainment whereas students who feel marginalized or do not develop a sense of belonging, are more likely to depart the institution. Researchers (e.g., Hausmann et al., 2009; Hurtado & Carter, 1997; Museus et al., 2017) include belongingness as a factor in understanding student experiences, especially for marginalized student populations, in order to take a culturally conscious view of college success by reframing recommendations of practice that promoted assimilation to fostering a sense of belonging that centers around a specific student population's needs (Museus et al., 2017). Yet, what conditions facilitate a sense of

belonging for students of color, first-generation college students, and Asian American college students?

Sense of Belonging for Students of Color

Over the past three decades, sense of belonging has emerged as a key concept in studies on college student persistence, particularly for students of color (Museus et al., 2017). Building on Hurtado and Carter's (1997), groundbreaking work, Hausmann et al. (2007) and Museus et al. (2017) reinforce the need to incorporate sense of belonging as a factor in models when discussing student persistence in order to gain better understanding on how institutions can cultivate and facilitate belongingness amongst their students of color. This is especially critical when persistence rates and degree completion for students of color are lower in comparison to their White peers (Museus et al., 2017).

Sense of belonging is defined as “the extent to which students feel connected to their academic institutions and people within those institutions” (Gillen-O’Neel, 2021, p. 46). Strayhorn (2012) defines sense of belonging as students’ perceived social support on campus, a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group or others on campus. There are several facets of the college environment that have profound effects on students’ sense of belonging, such as interactions with peers and faculty, co-curricular involvement, perceptions of the campus racial climate, and life on-campus (Bowden et al., 2021; Johnson et al., 2007; Means & Pyne, 2017; Museus et al., 2017).

Belongingness is critical for student success, as suggested by past research (e.g., Anh & Davis, 2020; Bowman, 2015; Flynn, 2014; Gillen-O’Neel, 2021; Museus et al.,

2017). There is a positive correlation between students' sense of belonging and academic and social engagement on a college campus. Engagement results in positive academic outcomes, persistence, retention, and potential degree attainment. Anh and Davis (2020) suggest that sense of belonging on a college campus was established through daily in-person levels of involvement that increased student's self-efficacy. Students sense of belonging increased when they built these four domains: 1) Social engagement – Opportunities to get involved; 2) Academic engagement – Connections made with faculty and staff; 3) Surroundings – Adjustment to living space, geographical area, and location; and 4) Personal space – Life satisfaction, attitudes, identity, and personal interests. Environments that increase levels of involvement provide a greater chance for students of color to build a sense of belonging that results in persistence, retention, and potential degree attainment (Anh & Davis, 2020).

Yet, to think of sense of belonging as a static state oversimplifies the concept, so an important consideration is that belonging is a dynamic process that is fluid and is mutable. Experiences can differentiate based on the individual student's identity. Integration may have different meanings for different students (Samura, 2016). This lens is particularly useful for scholars who focus on historically marginalized populations, such as students of color, as this can help contextualize ways of belonging for these groups within their environment.

Environmental Ways of Belonging for Students of Color

Environments that foster social engagement create opportunities for students to become involved and make connections with peers (Anh & Davis, 2020). Students' social

acceptance is a significant positive predictor, particularly for students of color to develop a sense of belonging at a university. One can argue that students' sense of social acceptance, by both fellow students and university personnel, might be the most important variable in relation to the sense of belonging (Freeman et al., 2007). For instance, participation in racial/ethnic student organizations was a positive predictor for promoting racial integration within the university for students of color (Bowman et al., 2015).

Academic engagement involves students connecting with faculty and staff, along with becoming engaged with the learning and content within the classroom (Anh & Davis, 2020). Sense of belonging is also associated with motivation for academic engagement of college-level students. Whether in class or co-curricular experiences outside of the classroom related to their academic courses, belonging was a positive motivational factor for their success. When students' coursework, class discussions, and activities reflected their personal interest, their participation increased. They felt more confident in their learning, mastering the material presented, and accomplishing their academic goals because they perceived the class material as important and useful. Also, students' sense of efficacy for succeeding in class and their perception of the value of tasks required in class were strongly associated with their sense of belonging (Freeman et al., 2007). Adversely, a lack of academic belongingness limited their motivation for interacting with faculty, visiting campus support centers for tutoring and writing, experiencing high-impact educational opportunities such as service-learning, and quality advising. This also compounded their feelings of inadequacy in comparison to their more

affluent peers, who they already believed were more academically prepared resulting in loss of motivation and overall sense of belonging (Means & Pyne, 2017).

Adjustment to a living space, geographical area, and location is vital for building a sense of belonging in new surroundings (Anh & Davis, 2020). Therefore, high impact educational practices that create opportunities for academic and social engagement, along with institutional structures to enhance students' sense of belonging help first-generation students of color integrate into a college or university setting. Means and Pyne (2017) describe some of these high impact practices, which include institutional need-based scholarship programs, social identity-based student organizations, community-building within residence halls, supportive faculty, and academic support services.

Personal space, described as psychological aspects of belonging in higher education, includes elements of satisfaction, attitudes, identity, and personal interests (Anh & Davis, 2020). As these minority student populations enter a college or university, it is important to realize that their perceptions of sense of belonging began prior to matriculation into higher education, and they already held internalized messages that led them to believe and question their potential sense of belonging in higher education, especially along race and class social identities (Means & Pyne, 2017). It is also important to recognize that personal space can be influenced early upon entering college. Students' life satisfaction and attitudes can either shift positively or negatively based on their early experiences. For marginalized students, how they choose to navigate their personal identities will be decided early on by determining whether they choose to assimilate with the majority population, choose to associate with those with similar racial

or ethnic backgrounds, or choose to become involved in opportunities that pique their personal interests. How a student chooses to navigate their personal space is dependent on whether the students begin to develop a sense of belonging.

First-Generation College Students

Generally, first-generation college students are classified as college-age students whose parent(s) have not completed a 4-year college or university degree (Pratt et al., 2019). Other attributes typically associated with first-generation college students are that they tend to come from families with lower socioeconomic status, have lower educational aspirations, lower levels of engagement in high school, and are more likely to be students of color (Means & Pyne, 2017; Museus et al., 2017; Pratt et al., 2019; Schwartz et al., 2018).

Studies on first-generation college students have identified that first-generation students are highly prepared to enter college yet faced various challenges as they transitioned into a higher education setting that decrease their persistence level and overall degree attainment. Means and Pyne (2017) explained that college campuses could feel like a highly privileged space where first-generation college students experienced classism, racism, and other oppression due to inaccurate assumptions. This experience can increase their deficit-thinking negatively, impacting both their personal and classroom relationships, which may result in lower levels of belonging and greater experiences of exclusion, driving down overall persistence and degree attainment (Schwartz et al., 2018).

Financial security is one barrier for first-generation college students (Pratt et al., 2017). Many first-generation students tend to come from lower income families and, as a result, are more likely to work either full-time or part-time jobs while in college in order to meet institutional costs that impeded their ability to integrate into social life on campus (Pratt et al., 2017). They tend to live at home or only go to class part-time to save money, limiting their time on-campus to participate in traditional involvement opportunities that cultivate a sense of belonging (Evans et al., 2020; Means & Pyne, 2017; Scwartz et al., 2017). First-generation students also may feel a level of guilt in that if they spent more time on-campus, it would take away their familial responsibility and end up alienating themselves from their family, which serves as their preexisting support system (Pratt et al., 2017). Less time on-campus can make it difficult for first-generation students to adjust and connect to the new college or university setting, decreasing their likelihood to persist and obtaining a degree. Spending less time on-campus can create an isolating and disconnecting experience, especially if they attend a large institution where classes tend to be bigger and interactions with faculty limited. This type of experience magnifies the challenges these students face in developing a sense of belonging (Scwartz et al., 2017; Soria & Stebleton, 2012).

First-generation college students who were students of color also experienced levels of overt and covert forms of racism that lowered their sense of belonging on campus. For instance, students of color at predominantly White institutions perceived unfair treatment from faculty and expectations to assimilate to the White-centered environments, resulting in both academic and social loneliness (Means & Pyne, 2017).

These experiences negatively impacted their confidence both inside and outside of the classroom, as institutional support structures that were meant to support student success and enhance students' sense of belonging presented challenges should they experience racism in those settings (Means & Pyne, 2017).

Student perception of academic competence is another factor that affects sense of belonging. Though first-generation college students may be academically prepared to enter college, they may be less confident in their academic ability and readiness for college-level work and are more likely to avoid asking questions, seeking help from faculty, and participating in classroom discussions (Pratt et al., 2017; Schwartz et al., 2017). The disconnect decreases the likelihood of first-generation college students developing belonging with faculty and staff. As their classroom belonging decreases, the students tend to have greater confusion over faculty's expectations for assignments and discipline-specific academic expectations because they may be less likely to seek out help or use on-campus support services should they even know that they exist (Collier & Morgan, 2008; Schwartz et al., 2018). Compounding this effect, first-generation college students enter college with little knowledge regarding resources available to them that can improve academic success. Though they receive support in the form of encouragement from their families, these students could not seek guidance from them due to their lack of knowledge and understanding of the college experience. Experiences of first-generation students highlight their lack of social capital when entering a college or university setting.

Social capital (social, cultural, and economic) is characterized as a hierarchy of privileged knowledge, access, resources, and information attained through social networks to describe how people experience class navigation in the United States (Schwartz et al., 2018; Williams & Martin, 2022). Social capital is important within higher education because social and cultural capital are intertwined with economic capital (Williams & Martin, 2022). Understanding students' cultural capital within one's social context shapes students' actions and access to organizations and can be used to make beneficial decisions, including choosing colleges and types of academic and social choices while enrolled in college (Soria & Stebleton, 2012; Schwartz et al., 2018; Williams & Martin, 2022). This knowledge is passed through generations and individuals with highly educated parents may have a distinct advantage over first-generation students in understanding the culture of education and its role in personal development (Soria & Stebleton, 2012; Schwartz et al., 2018). First-generation students do not have parents who attained a baccalaureate degree. Therefore, their parents lack the social capital to pass to them the knowledge of navigating an intricate higher education system. Since first-generation college students did not acquire the knowledge related to being successful in higher education, they are at a disadvantage that can cause struggles when they enter college feeling isolated (Soria & Stebleton, 2012; Schwartz et al., 2018). These challenges also relate to how first-generation college students develop a sense of belonging and the barriers they may have to overcome.

Environmental Ways of Belonging for First-Generation College Students

First-generation college students are less likely to be engaged in both academic and social experiences typically associated with fostering college success, such as studying in groups, interacting with faculty and other students, participating in extracurricular activities, and using support services (Means & Pyne, 2017; Museus et al., 2017; Pratt et al., 2019; Schwartz et al., 2018). Yet, the ability to persist was found to increase in some students if they were able to build community (Evans et al., 2020; Ives & Castillo-Montoya, 2020).

Academic engagement is key for first-generation college student success, but that requires faculty and staff to build trust with these students first. Mentorship can help build this trust as they can advise these students in navigating a complex higher education system (Schwartz et al., 2018). Mentors can help build their social capital and encourage them to seek help from faculty and understand expectations for assignments that can positively influence students' academic success (Schwartz et al., 2018; Soria & Stebleton, 2012). Mentors can provide first-generation students with a community of faculty and staff that could help build their overall confidence and remind them that they are academically prepared to manage and overcome academic challenges they may face and increase their overall academic belonging (Means & Pyne, 2017). Faculty and staff who demonstrate that these students matter can help first-generation students overcome their feelings of insecurity, unworthiness, or embarrassment that prevent them from seeking or accepting help when needed (Pratt et al., 2017).

Another factor in building academic engagement and belonging is through building community within the classroom. First-generation students are interdependent academic learners, meaning they prefer to and tend to benefit from learning from others in a community that allows them to connect their lived experiences. Finding opportunities to persist through involvement in the classroom is critical for these students. This can be contrary to normative ways of learning, and first-generation college students find value in connecting academic content and their lived experiences that enhances their learning (Ives & Castillo-Montoya, 2020). In addition, community building within the classroom increased and positively shaped how first-generation college students perceived themselves on a college campus (Museus & Chang, 2021). The experience provided opportunities to connect with people with whom they share common ground, participate in relevant learning activities, conduct service to give back to their communities, and be in spaces characterized by collectivist orientations (Museus & Chang, 2021). It is important that faculty create these opportunities in the classroom learning environment because these experiences build validation and belonging among first-generation college students, which can open doors for other academic pursuits (Museus & Chang, 2021; Soria & Stebleton, 2012).

Social engagement is also a critical factor in helping first-generation college students find a sense of belonging, especially those who are also students of color. Social engagement refers to the social relationships with friends and peers within one's institution (Anh & Davis, 2020). Race/ethnicity-based organizations, themed residence halls, social identity-based spaces such as multicultural student services, and college

access programs can help first-generation students of color find social connection with those who share various identities and help build a sense of belonging (Means & Pyne, 2017). These spaces can help mitigate the racism that these students may feel on a college campus, especially should the campus be predominantly White.

Whether first-generation college students are academically prepared to enter college, the first step to overcoming lack of confidence in their personal abilities to succeed on a college campus is building community and developing a sense of belonging. Only then will first-generation students be open to using support structures or trust people on-campus who can increase their ability to exercise agency on their educational experience (Means & Pyne, 2017). If not, they do not develop a sense of belonging, may decide not to become engaged, or create self-imposed barriers that generally plague first-generation college students.

Community and belonging are built through academic and social engagement opportunities. Within the classroom, community allows an opportunity for first-generation students to learn among their peers, generates interdependent learning opportunities, and provides an entry point for practitioners to create resource development opportunities that could help first-generation students acclimate and navigate a higher education setting (Ives & Castillo-Montoya, 2020; Museus & Chang, 2021). Community can also connect students of color with those of shared racial/ethnic identities, which can mitigate the overt and covert racism they may feel, particularly in predominantly White institutions. Academic and social engagement opportunities also

build first-generation students' social capital that increases overall persistence and degree attainment.

It is also important to address the environmental limitations on ways of belonging. For instance, building community does take time to cultivate while on-campus, yet first-generation college students may already spend less time on campus due to living at home or work obligations, decreasing their ability to participate in these academic and social engagements (Evans et al., 2020; Schwartz et al., 2018). Should racism appear in these academic and social engagement opportunities, it can increase isolation and a sense of marginalization that is counter to developing belonging (Means & Pyne, 2017). Also, mentorship requires faculty and staff willing to participate. When students of color are looking to be matched with someone that shares the same or similar racial/ethnic identities, this could pose a problem (Schwartz et al., 2018). As Museus and Chang (2021) suggest, more empirical research needs to be conducted to explore how campus environments can positively and negatively impact first-generation college students' sense of belonging. Much of the existing scholarship focuses on individual characteristics, and further research should be conducted on first-generation student experiences, particularly when they also hold a racial/ethnic identity.

Asian American College Students

In examining higher education enrollment rates in 2020 (College Enrollment and Student Demographic Statistics, 2023), the demographic breakdown in the United States was 51.6% White, 19.4% Hispanic, 12.5% Black, 7% Asian, 0.26% Pacific Islander, 0.64% American Indian/Native Alaskan, and 4.01% Multi-Racial (Hanson, 2024). This

makes Asian Americans the third largest and one of the fastest-growing racial groups in the United States (Shih et al., 2019). Yet, when examining higher education retention and graduation rates from 2018 (United States Department of Education, 2022), graduation rates for students of color were 63.2% White, 53.5% Hispanic, 35.3% Black, 71.2% Asian, 49.9% Pacific Islander, 41% American Indian/Native Alaskan, and 65.2% Multi-Racial (National Center for Educational Statistics, 2022). In comparison, Asian American students are a small percentage found on college campuses nationwide but have a high graduation rate in comparison to all students. These rates provide a telling narrative in which Asian American students are portrayed within higher education.

Yet, Asian American college students are not a monolithic population. The lumping of various Asian ethnic identities into one racial category can mask struggles various specific ethnic groups may have on college campuses. For instance, though Asian Americans attain bachelors' degrees at higher rates than other racial groups, Southeast Asian Americans (specifically Vietnamese, Hmong, Cambodian, and Laotian Americans) all hold 4-year degrees at lower rates in comparison to the general population as they struggle navigating U.S. society, along with the education system, and have some of the highest poverty rates amongst communities of color (Maramba, 2011; Museus et al., 2016; Museus & Muller, 2018). This demonstrates the need for conducting research on Asian American college students not as a monolithic culture, but rather digging deeper to understand sub-Asian racial groups, or even more so, specific Asian ethnicities. Their cultural histories of immigration into the United States and lived experiences as first-generation Asian American can play a factor into their college success (Maramba, 2011;

Museus et al., 2016; Museus & Muller, 2018). Continuing to lump Asian American college students in research studies would continue to generate data that would show Asian American college students are academically successful compared to other racial groups, including White students, which perpetuates the model minority myth narrative all while hiding the disparities amongst the Asian diasporas.

Model Minority Myth (MMM)

The model minority myth (MMM) portrays Asian Americans as an exemplary racial group due to their educational and financial success, which is presumed to be attributed to a lack of barriers (e.g., racism) that prevent upward mobility, along with having an exceptional work ethic and achievement orientation (Kim & Lee, 2014). The key aspect of the MMM is the assumption that Asian Americans have experienced more success compared with other racial minority groups (Kim & Lee, 2014). Though this definition can seem like a positive portrayal of Asian Americans, rather, it creates negative consequences as it is built on assumptions (Kim & Lee, 2014). For instance, the model minority stereotype presumes that racism is no longer an issue and that there is truly equal access and opportunity to all and those who fall behind in life are victims of their own poor choices/decisions, since Asian Americans have “made it” (Shih et al., 2019). In actuality, the model minority stereotype perpetuates a cultural deficit model that pits other racial groups against each other and sets a standard of how minorities should behave (Kim & Lee, 2014).

The MMM also carries over into how Asian Americans are perceived within higher education due to educational achievement and degree attainment, which may not

be the case for all Asian subgroups as other factors, such as familial socio-economic status can impact student success (Kim & Lee, 2014). There is an overgeneralization of success for Asian American college students that portrays them as hardworking, well-mannered, well-educated, easily assimilated, successful citizens, who strongly value educational achievements and economic success, but are also, overrepresented at colleges and universities in comparison to other racial minority groups (Kim & Lee, 2014; Palmer & Miramba, 2015).

Asian American Student Sense of Belonging

There is very limited current research on Asian American college students' sense of belonging on-campus, as they have been historically excluded from higher education research due to the overgeneralization narrative associated with the MMM (Museus & Park, 2015). The overgeneralization of being high achieving and successful in higher education and occupation settings adversely impacts how we come to understand first-generation Asian American college students' experiences and the struggles they may face (Yi et al., 2020). Past studies (e.g., Kim & Lee, 2014; Museus & Park, 2015; Palmer & Miramba, 2015; Poon et al., 2016; Shih et al., 2019) discussed that this student population experienced institutional, cultural, and individual racism and discrimination within their environments that negatively impacted their overall sense of belonging. Overall, Asian American college students are significantly less likely to be satisfied with their campus racial climate in comparison to their White peers (Museus & Park, 2015). They feel excluded, isolated, or invisible to co-curricular experiences within campus life

and feel the need that in order to fit in and find connection, they need to assimilate to the cultures of predominantly White institutions (Museus & Park, 2015).

Just as with African American and Hispanic/Latinx college students, Asian American students reported a less strong sense of belonging in comparison to White students (Bowden et al., 2021; Johnson et al., 2007; Means & Pyne, 2017; Museus et al., 2017). Asian American students feel a sense of “othering,” where they feel like they do not fit in and have difficulty building community, along with their specific academic and social needs not being met when they entered a higher education setting. They have a difficult time developing a sense of belonging on college campuses, just like other minority groups, because of their close ties with their cultural heritage even though they are perceived as high achieving and aligning with the model minority attributions (Museus & Park, 2015).

Environmental Ways of Belonging for Asian American College Students

Asian American college students tend to struggle socially connecting with other students on college campuses, particularly if they are predominantly White institutions. Their experience of having Asian American bodies in these White spaces negatively impacts their self-confidence and self-esteem because they often feel like they do not belong due to the misalignment of their racial identities (Samura, 2016). This sense of “othering,” results in Asian American college students feeling as if they do not fit in, making it seem more difficult to find community. To change this, some students take it upon themselves to remake themselves socially and assimilate to align with the dominant campus culture by dismissing their cultural values found in their home (Museus & Maramba, 2011; Samura, 2016). They purposefully reposition themselves to be in White spaces in an effort to increase their sense of belonging to the majority group (Samura,

2016). Their attitudes help perpetuate the “model minority” stereotype. On the other hand, some Asian American students lean into their Asian American-ness and reposition themselves socially to build a sense of belonging by joining groups and organizations that were based on shared social or ethnic identification, highlighting the need for supportive organizations (Palmer & Maramba, 2015; Samura, 2016).

Positive peer and faculty can influence students’ sense of belonging by making complex environments feel more supportive socially and academically (Bowden et al., 2021; Johnson et al., 2007; Means & Pyne, 2017; Museus et al., 2017). Yet, ethnic minority students generally feel less connected in predominantly White spaces as they have difficulty creating opportunities to develop positive peer and faculty interactions, which negatively impacts their sense of belonging (Meeuwisse et al., 2009). Many Asian American students enter college with ideas about their choice of major and the type of career path that they would like to pursue (Samura, 2016). These ideas are heavily influenced by their parents’ explicit and implicit expectations. Many Asian American college students come from immigrant households whose parents left their nation of origin to come to America to seek a better life by increasing their generational wealth for themselves and their families.

Asian American college students tend to select majors that lead into specific career fields that would lead to socioeconomic mobility (Samura, 2016). Therefore, when Asian American college students do not enjoy their major, this leads them to not doing well academically, resulting in a decreased sense of belonging on a college campus and self-esteem. They contend with the stereotype of being high academic achievers not only with faculty, peers, society, but also with family (Samura, 2016). To alleviate this

pressure, Asian American students have to remake themselves academically by learning to negotiate by either adding a secondary major/minor or changing their majors completely to something they could enjoy that would still lead to accommodating their parents' career expectations (Samura, 2016).

Asian American college students face difficulties adjusting to their surroundings, especially in predominantly White institutions. Just as with social engagement, Asian American students either assimilate and reject their culture to fit in with the dominant culture, or they reposition themselves by seeking out strategic affiliations within Asian American spaces, such as clubs and organization or Asian Resource Center. These resources helped define their college life as they find other students with similar shared lived experience, which overall increases their sense of belonging particularly in predominantly White spaces (Samura, 2016). Their experiences highlight the need for supportive organizations and student services to help them build social capital that will allow them to adjust and navigate a college environment in order to persist (Palmer & Maramba, 2015).

As mentioned earlier, the role of family also plays an integral role in their student's collegiate career. First-generation Asian American college students live in an intergenerational world, where if they come from immigrant households, they hold multiple cultural values and customs that come from their traditional Asian household to what is expected of them on college campuses as they begin to acculturate and navigate a university setting (Tsai-Chae & Nagata, 2008). Some dimensions of Asian cultural values include collectivism, conformity to norms, emotional self-control, family recognition

through achievement, filial piety, and humility, which all play into parental expectations (Tsai-Chae & Nagata, 2008). As Asian American college students transition and acculturate into a college setting, they may experience some discrepancies with their Asian values that can sometimes cause conflict with parents (Tsai-Chae & Nagata, 2008). The acculturation gap could then impact Asian American students' college experience and lead to distress, should they have conflict with their parents (Tsai-Chae & Nagata, 2008).

Family influences and cultural values help Asian American students engage in college, particularly around major and career choices (Hui & Lent, 2018). Yuan et al. (2014) suggest that parents play an important role in Asian American college students' academic outcomes, and in turn, heavily influence their academic achievement and self-efficacy. Family support shapes outcome expectations along with self-efficacy, which guide Asian American students' interests and goal choices. This allows them to adhere to their Asian values (enculturate) so that family support is maintained (Hui & Lent, 2018).

Student affairs practitioners should understand that Asian American student engagement is heavily influenced by their parents' academic expectations. This could suggest why Asian American involvement may seem focused more on academic engagement versus social and extra-curricular engagement as those academic activities would be viewed as bolstering the students' academic and overall career progression. Yuan et al. (2014) recommend that educators encourage students to engage in difficult conversations with their parents so that they may communicate their needs in order to continue having their family as a support system and resource to maintain their self-efficacy. Overall, family is a key factor when it comes to Asian American college

students' experiences. Parents are influential and are consistently in the back of Asian American students' minds when making choices about their collegiate experience from major choices, career paths, and types of involvement opportunities. Discussing family engagement is key as parental influence could be a factor when examining sense of belonging for Asian American college students, especially since they are a guiding force of their student's engagement and past literature shows that discrepancies, and conflict due to an acculturation gap with their parents could cause potential distress.

Gap in Literature

As the first-generation Asian American student population continues to grow in higher education, in order to better understand their student experience, there is a need to expand and add to the limited empirical research. Most research studying first-generation college students examines how their individual characteristics, college preparation and access, and outcomes in higher education differ from their non-first-generation peers, yet research on how campus environments shape experiences and outcomes is limited (Museus & Chang, 2021; Yi, 2016). Additionally, the existing literature reveals that empirical research on Asian American college students can seem invisible because this student population has historically been excluded from higher education research due to an overgeneralized narrative of high achievement and academic success perpetuated by the model minority stereotype, which provides a false sense that they have adjusted well into their campus community (Museus & Park, 2015). Existing literature (e.g., Hausmann, 2007; Hausmann, 2009; Museus & Maramba, 2011; Museus & Park, 2015; Poon et al., 2016; Samura, 2016) on sense of belonging, particularly studies on students

of color, demonstrate that they tend to struggle more on college campuses in comparison to their White peers. They also find that, even though Asian American college students are portrayed through a model minority lens, Asian American college students tend to struggle similarly to Black and Latinx college students, with a marked difficulty in developing a sense of belonging (Johnson et al., 2007; Museus & Park, 2015; Samura, 2016; Yi et al., 2020). Additionally, more research needs to be conducted that no longer studies Asian American college students as a monolith, but rather also gathers data of specific racial subcategories, especially specific Asian ethnicities. Doing so may help debunk the model minority myth and allow scholars and practitioners to better understand specific student populations' challenges and needs.

First-generation Asian American college students have generally been left out of the discourse in higher education research agendas due to the perpetuation of the MMM. Though they may be overgeneralized as academically successful and well adjusted, this homogenous representation masks the fact that they still struggle in developing a sense of belonging on college campuses. Scholars such as Museus, Miramba, and Yi can be considered pioneers in conducting research that brings visibility to the Asian American college student experience, particularly with sense of belonging, but more current research needs to be done.

During the examination of existing literature on first-generation Asian American sense of belonging, I discovered that there is limited current empirical research on this specific topic. Much of the existing research was conducted prior to 2014, identifying a temporal gap and a need to explore this specific student population further. As the first-

generation Asian American college student population continues to grow on college campuses across the United States, there is a need to understand this specific student population. As with Museus and Park (2015), this current investigation responds to the invisibility by contributing to more empirically informed understandings of Asian American students in higher education.

Methodology

The purpose of this study was to examine how first-generation Asian American student's inputs and environments relate to their sense of belonging at colleges and universities. To explore this research question, existing data collected from the American College Health Association (ACHA) through their National College Health Assessment (NCHA) was used. I used a quantitative approach to examining the research question by applying a theoretical framework employing Strayhorn's (2012) sense of belonging model through a methodological framework using Astin's (1994) Input-Environment-Output (I-E-O) model. The input variables consisted of student characteristics such as race/ethnicity, visa status, and parents' degree completions to indicate students who identified as Asian American and first-generation college students. I considered environmental variables that highlighted academic and social engagement opportunities. Output variables looked into measures for sense of belonging.

As such, I explored which variables related to first-generation Asian American students' sense of belonging. Therefore, the following section will discuss the research methods of this study; outline the data collection methods, instrumentation, analysis of the study; provide information on how the study will be set; and finally discuss the trustworthiness of the study. Prior to this, I must acknowledge my positionality as I enter the role of researcher.

Researcher Positionality/Identity

As I enter the role of researcher on this topic, it is important to acknowledge my researcher positionality as I immersed myself in the data analysis phase of this study. I

recognize that I examined a student population that I belong to, first-generation Asian American, specifically, Filipino American. My researcher identity was both a strength and a challenge. I was raised and succeeded from a pulling yourself up by the bootstrap mentality. Ingrained from an early age, I believed that education would garner a job that would increase my generational wealth, which is why I worked and earned both my Bachelor's and Master's degree debt free. My lived experience colored my lens to view the world that with hard work, anyone could make it. Though I may have marginalized identities, I did not recognize the powers and privileges I held, such as my assimilated racial and ethnic identity as a Filipino American upbringing, intersecting with my faith, and being a cisgender male, which allowed me to align to dominant cultural norms.

I must acknowledge I benefited from White supremacy culture, which colored the way I navigated my professional life as a student affairs professional and researcher. It was not until my graduate program that I began the lifelong work of decolonizing my lens, started tackling my personal biases, and began seeking to understand the world, particularly student development, from multiple views. These steps are critical especially since I engaged in data analysis and interpretation of a community to which I belong.

To negotiate and balance my personal and professional positionality with my research, I requested data collected from an independent source through the American College Health Association (ACHA) through their National College Health Assessment (NCHA), which is a web-based survey administered nationwide. This helped lessen bias as the survey instrument and questions within it were not created specifically for my study or specific research topic. Implementing feedback into my data analysis processes

from other diverse people and perspectives assisted in minimizing bias. They were able to challenge my rationale for selecting specific variables in the regression analysis, question my interpretations of the findings in the analysis, along with ensuring I reported all findings of the analysis even if the results did not yield a statistical significance or may contradict the literature.

Research Design

Reviewing existing literature on sense of belonging on Asian Americans revealed that current empirical research on Asian American college students can seem invisible. This student population has historically been excluded from higher education research due to an overgeneralized narrative of high achievement and academic success perpetuated by the model minority stereotype, which provided a false sense that they have adjusted well into their campus community (Museus & Park, 2015). Thus, research on how campus environments shape experiences and outcomes on this community is limited (Museus & Chang, 2021; Yi, 2016). Additionally, more studies on Asian American college students need to allow for more data gathering of specific racial sub-categories, especially Asian ethnicities. This reduces the risk of viewing these students as a monolithic group and potentially perpetuating the model minority narrative, masking the challenges and needs of specific student populations.

These observations led me to implement a quantitative research design in this study to help fill this gap. Applying a methodological framework using Astin's (1994) input-environment-outcomes model, a stepwise regression analysis was conducted from data collected from a national study on college student health. This model allowed me to

understand which environments (independent variables) correlated with an outcome of belongingness (dependent variable) for first-generation Asian American college students (inputs). Additionally, this research design also examined intermediate variables that were created applying the theoretical framework of Strayhorn's (2012) model on sense of belonging model. This approach did not allow one to determine which environmental factors cause improved or diminished sense of belonging in first-generation Asian Americans; however the approach still provided valuable insights and deeper understanding.

Methodological Framework

The study's methodological framework applied Astin's (1994) input-environment-output (I-E-O) model. This model derives from Astin's Student Involvement Theory. I-E-O argues that there is a direct relationship between a student's inputs and learning environments that influence outcomes (Astin, 1970, 1984, 1985, 1991, 1993, 1994) The model is divided into three sections: inputs, environment, and outputs. Inputs include the student's demographic characteristics or personal qualities, such as race/ethnicity, socio-economic status, educational background, life goals, and reasons for attending college. The environment refers to the actual involvement that produces learning during the educational program (Astin, 1993). Student involvement refers to the quantity and quality of physical and psychological energy that the student devotes to the college experience such as programs, teaching styles, staff, friends, roommates, co-curricular activities, and organizational affiliations (Astin, 1984). Level of involvement depends on the level of energy required by studying, time spent on campus, participation in student

organizations, and frequent interaction with faculty members and other students (Astin, 1984). Outputs refer to the “talents” the faculty and staff are trying to develop in the educational programs (Astin, 1993). These output variables include consequences or end results, grade point averages, exam scores, degree completion, and overall course satisfaction (Astin, 1993). The outcomes within a higher education context tends to be student success, persistence, and overall graduation.

In my study, the inputs were the filter variables in which students who self-identified as Asian American, whose parents did not complete a college degree, and those who did not hold a visa to establish students are first-generation Asian American students. For environments, to help categorize the various environments, the methodological framework focused on environment by examining social engagement, academic engagement, surroundings, and personal space. This mirrors Ahn and Davis’s (2020) model, in which they demonstrated that student’s sense of belonging was strongly associated to the levels of engagement in four categories. This study explored sense of belonging as a measure representing output, rather than degree completion as this is an indicator for persistence. See Appendix B for more details.

Theoretical Framework

The theoretical framework applied Strayhorn’s (2012) definition and model of sense of belonging. Strayhorn (2012) defines sense of belonging as students perceived social support on campus, a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group or others on campus. Strayhorn argued sense of belonging is a basic human need, a

fundamental right, and defined as a feeling that members (of a group) matter to each other and to the group, which is largely affirmed, reflected, and signaled in (and through) a constellation of institutional policies, programs, and practices that conspire, converge, and cooperate to clearly communicate belongingness (Strayhorn, 2012). The theoretical framework explored which environmental factors positively and/or negatively impacted first-generation Asian American college students' sense of belonging by examining levels of stress within psychological safety, security, and love of the student, which were the intermediate variables and are all components of Strayhorn's (2012) model (see Appendix B). The intent is to demonstrate that these intermediate variables also relate to the overall output variable of sense of belonging.

Data Source and Instrumentation

This study utilized existing data collected from a nationally recognized web-based research survey from the American College Health Association (ACHA) through their National College Health Assessment (NCHA). The survey mapped a range of health issues covering alcohol, tobacco, and other drug use; sexual health; weight; nutrition and exercise; mental health; personal safety and violence; food insecurity and homelessness; hours of sleep; to other issues. The scales of measure of the assessment were Alcohol, Smoking and Substance Involvement Screening Test (ASSIST); The Connor-Davison Resilience Scale (CD-RISC2); Diener Flourishing Scale – Psychological Well-Being (PWB); USDA ERS Food Security 6-Item Short Form; Kessler 6 (K6) – screening for serious mental illness; UCLA Three-Item Loneliness Scale (Hughes, et. al. 2004); and

The Suicide Behaviors Questionnaire – Revised (SBQ-R). The survey has a total of 86 questions and takes approximately 30 minutes to complete.

The reason for choosing this specific instrument to request data from was the appropriateness of the study. Though the ACHA-NCHA asks about various aspects of college students' health, the scales embedded into the assessment used The Connor-Davison Resilience Scale, Diener Flourishing Scale, and the UCLA Three-Item Loneliness Scale, which all can influence sense of belonging. The Connor-Davison Resilience Scale is a self-related assessment of stress coping ability which measures psychological resilience. The Diener Flourishing Scale measures the respondent's self-perceived success in areas such as relationships, self-esteem, purpose, and optimism to provide a single psychological well-being score. The UCLA Three-Item Loneliness Scale is a questionnaire that assesses feelings of loneliness and social isolation, which is the direct opposite of sense of belonging. All three scales can help indicate a respondent's physical and emotional well-being along with their perception of care, support, mattering, and esteem. These scales can relate to sense of belonging as one's ability to cope with stress, their self-perceived success of their relationships, self-esteem, purpose, and optimism, as well as their overall levels of loneliness. These experiences can impact one's overall feeling of safety, security, and love, just as in Strayhorn' (2012) sense of belonging model. Enhanced resilience can contribute to flourishing due to a strong sense of belonging, whereas feelings of loneliness can diminish it. In addition, the assessment directly asked questions regarding variables being examined, such as demographic information for input variables, levels of involvement for environment variables, along

with the output variable regarding sense of belonging. A data request was submitted to ACHA for specific semesters that the survey was administered along with specific questions of the survey to be included as part of the data request.

ACHA-NCHA is an instrument that has demonstrated validity and reliability. The first version of the ACHA-NCHA was launched in 2000 (American College Health Association, 2013). According to American College Health Association (2013), after a few years, the survey was evaluated, and modifications were made to the present version (ACHA-NCHA II) of the survey we see today, which launched in Fall 2008. Two pilot tests of the instrument were conducted first in Spring 2007, which led to revisions, then a second pilot was conducted in Spring 2008.

Reliability and validity analyses were produced using the two pilot data sets. The combined reference group data were subjected to additional analyses using IBM SPSS Statistics to determine groups of items that are related. The principal components factor analysis determined groups of items that were related, and the factor analysis provided a structure to reliability analyses. The reliability analyses focused on multiple groups of items under various topic areas. The two statistics that were the foci included were the standardized alpha and the average inter-item correlation. The purpose of the reliability analysis was to determine if the items were likely to produce the same pattern of results when used again in a similar population. An acceptable standardized alpha, anything over a 0.7, was considered reasonable for forming a scale. A reliability analysis needed a minimum of two items to calculate an alpha. The analysis construct and measurement validity were able to test multiple constructs from two research databases and also

replicate the process, which reinforced its validity and replication increased the confidence in the initial findings (American College Health Association, 2013). In addition, both versions of the survey have been administered for 24 years, demonstrating this instrument's reliability.

Setting, Population, and Sample

To date, 2.2 million students at 1,000 college and universities across the United States have taken the American College Health Association (ACHA) National College Health Assessment (NCHA). The survey has been used by both two-year and four-year public and private institutions. Data were requested from surveys administered between Fall 2019 - Fall 2022 and the existing data constituted 512 institutional data sets, 137 unique institutions, yielded a sample size of 334,957. The population sample had qualifiers such as, must be enrolled in the institution and be at least 18 years of age. For this specific study, the overall sample was reduced specifically to first-generation Asian American undergraduate students who completed the survey instrument and answered all the instrument questions, which yielded a sample size of 6,182 students. This sample was aggregated further down to East Asian American which yielded 2,960 students, Southeast Asian American with 2,596 students, and South Asian American with 925 students. Students who indicated "other" were not included as this was less than 100 students, which would not be reflective of the overall sample.

Data Collection

A data request was made to the American College Health Association (ACHA) for data of the National College Health Association (NCHA) survey administered between Fall 2019 - Fall 2022.

The first step in the data collection included going through the NCHA II Codebook (see Appendix A) to determine which questions would be used in the study. The questions were categorized using the methodological framework of Astin's (1994) input-environment-output (I-E-O) model and the theoretical framework of Strayhorn (2012) model for sense of belonging. The questions were organized based on the demographic questions that were included as part of the input variables. Involvement questions were included as part of the environment being analyzed and served as independent variables. Questions that reflected Strayhorn's (2012) model for sense of belonging, specifically safety, security, love, also served as intermediate/independent variables examined as part of the environment of the methodological framework. Finally, the question on sense of belonging was the output or dependent variable. Once those specific questions were identified, they were included in the data request. The request was granted and results provided. Once the data set was received from ACHA, the NCHA dataset yielded 334,957 respondents, and then I prepared and packaged the data for analysis.

Data Analysis

This quantitative research study utilized IBM SPSS Statistics 29 as its analysis program. Since this study used existing data from ACHA, the data generated from the NCHA instrument underwent data preparation by identifying all the variables from the

data request to be inputted into the IBM SPSS Statistics 29 syntax. A filter variable was created. Variables were categorized reflecting the various environments being studied. Variables were also re-coded to develop intermediate variables to reflect Strayhorn's (2012) sense of belonging model, specifically, safety, security, and love. Syntax for running Cronbach's alpha to analyze reliability of intermediate variables was generated. Syntax was written to run a correlation matrix for all individual environment and intermediate variables to measure statistical significance. Lastly, several syntaxes for a stepwise regression model were created.

The focus of this study was first-generation Asian American, or first-generation East Asian American, first-generation South Asian American, and first-generation Southeast Asian American undergraduate college students, which was the input variable in relation to the methodological framework and stepwise regression model. Thus, a filter variable was created to identify who would be included in the analytic sample. The filter variable also included syntax to limit respondents who answered all the questions included in the model.

After, specific variables generated from the survey questions were organized into categories to reflect the methodological framework, which included social engagement, extra-curricular engagement, academic engagement, work, family engagement, and on-campus housing. Initially, those variables within each category were to be developed into single intermediate variables to reflect those specific categories; however, the Cronbach's alpha score was less than a 0.7 demonstrating low reliability, and therefore I decided to keep each variable separate in the model.

To reflect the theoretical framework of Strayhorn's (2012) model for sense of belonging, questions pertaining to challenges, stress, academic stress, psychological wellbeing, mental health, and loneliness were identified and organized to be transformed into intermediate variables. These would serve as the intermediate variables to be included as part of the environment analysis of the methodological framework. The Cronbach's alpha scores of those intermediate variable was above a 0.7 and therefore were kept as part of the model. The dependent variable of this study was sense of belonging, which served as the output of the methodological framework. The dependent variable was established directly from a question in the survey instrument. A full detailed account of the process in identifying variables and creating intermediate variables is outlined in the key variables section.

Once the data were cleaned to only include the analytic sample, individual variables identified, variables re-coded to establish intermediate variables, and IBM SPSS Statistics 29 syntax developed was completed, the data was run though IBM SPSS Statistics 29. A correlation matrix was created to determine which independent variables that reflected the environment of the methodological framework and intermediate variables derived from the theoretical framework demonstrated a one-to-one significance to sense of belonging. The variables that demonstrated a statistically significant relationship to sense of belonging were included in the stepwise regression model. A full list of key variables used in the model is found in Table 1.

The variables that did not demonstrate statistical significance to sense of belonging across the Asian American, East Asian American, Southeast Asian American,

and South Asian American student population were removed from the stepwise regression model. The following independent variables were removed. From the extra-curricular engagement category, participation in varsity athletics and fraternity and sorority life was removed. The work category was removed since working a paid job did not show statistical significance. From the family engagement category, performing unpaid household responsibilities and taking care of children or other family members (unpaid) was removed. Finally, the housing category was also removed as the variables of living on-campus or in a fraternity or sorority house showed no statistically significant relationship to sense of belonging.

A total of four (4) stepwise regression models were created. Within these models, the filter variable established the analytic sample, which represented the input of the methodological framework. The independent variables were the individual variables that present the environment of the methodological framework. Additionally, intermediate variables established through the creation of scales representing the theoretical framework were also independent variables. The dependent variable was sense of belonging as this was the overall outcome of the study.

Step one of the stepwise regression model considered the environment only, which were individual variables that were organized within the social, extra-curricular, academic, and family engagement categories, which were analyzed cumulatively in relation to overall sense of belonging. Step two of the stepwise regression model included both the environmental variables and added the intermediate variables that were generated to represent the theoretical framework. This stepwise regression model was

applied to the filter variable of first-generation Asian American. Then it was then replicated by changing the filter variables to only include one of the following: East Asian, South Asian, or Southeast Asian to see which variables demonstrated a relationship with having a sense of belonging for those specific Asian sub-groups.

Key Variables

The cleaning process of the data analysis required re-coding of questions and responses to fit both the methodological and theoretical framework. The study used input variables based on demographic information, environment variables based on involvement and environment, along with outputs that include intermediate outcomes such as safety, security, and love with an overall outcome of sense of belonging.

Filter Variables/Input

The filter variable entered into this analysis included race, visa status, and parents' level of degree attainment to represent first-generation Asian American. For the race variable, the survey asked, "how do you describe yourself?" in which participants select from several racial categories, including "Asian or Asian American (2)." The survey also allowed those who selected this response to indicate whether they are from "East Asian (for example: Chinese, Japanese, or Korean) (1), Southeast Asian (for example: Cambodian, Vietnamese, Hmong, or Filipino) (2), South Asian (for example: Indian, Pakistani, Nepalese, of Sri Lankan) (3), or other Asian (4)."

It is important to note that this study only focuses on Asian students who are American citizens. I recognize that a limitation of this study is that the data instrument does not explicitly ask if they were born in the United States, but rather I make an

inference regarding their citizenship based on whether they hold a visa as U.S. citizens do not hold one. I also recognize that this inference does not take into account if one is born outside of the United States, but later receives citizenship prior to entering college. To identify whether a student was American, the survey asked “Do you have a visa (for example: F-1, J-1, or M-1) to study or work in the United States?” to which if the participant responded No (1), they were included into the sample.

For the first-generation status, the survey directly asked, “What is the highest level of education completed by either of your parents (or guardians)?” The answers are broken down to various levels from “Did not finish high school (1)” to “Doctoral or professional degree (PhD, EdD, JD, MD, etc.) (7).” The participants who responded, “Did not finish high school (1),” “High school diploma or GED (2),” and “Attended college but did not complete degree (3)” were identified as first-generation college students and included into the sample. This study is specifically examining undergraduate students and so the filter variable only included students who indicated that they were a “1st year undergraduate (1),” “2nd year undergraduate (2),” “3rd year undergraduate (3),” “4th year undergraduate (4),” or “5th year or more undergraduate (5)” when asked “What is your year in school?”

These filter variables served as the inputs in relation to the methodological framework applied. The sample was limited to students who responded with Asian, East Asian, South Asian, and/or Southeast Asian along with them being an undergraduate, parents whose degree level was less than a completing a college degree, and those without a visa. Finally, only those who responded to all the questions included in the data

request was included in the analytic sample. The final analytic sample size was 6,182 students.

Independent Variables/Environment

Independent variables included the environmental setting and the student’s involvement, just as in Astin’s I-E-O model from the methodological framework. Environmental variables include engagement activities through social, extra-curricular, academic, and family. Initially, work and on-campus housing were categories included, but the correlation matrix demonstrated no statistical significance and thus was not included in the overall model. Additionally, other individual engagement activities within each environmental category that demonstrated no correlation were also removed from the final model. Table 1 displays the individual variables and how they were categorized in relation to the methodological framework of environment. The survey question asked, “How many hours do you spend in a typical week (7 days) on the following activities?”

Table 1

Key Independent Variable Names, Definitions, and Categories

Environmental Category	Variable Name	Variable Question
<i>Social Engagement</i>	Events	Attending cultural events, movies, concerts, sports or other entertainment with others.
	Socializing	Socializing with friends.
	Partying	Partying
<i>Extra-Curricular Engagement</i>	Service/Volunteer	Performing community service or volunteer activities.
	Physical Activity	Participating in physical exercise, team sports, recreational sports, or physically active hobbies.
	Club Sports	Club Sports
	Intramurals	Intramurals

	Religious Activities	Participating in spiritual or religious activities.
	Student Organizations	Participating in student clubs or organizations.
<i>Academic Engagement</i>	Class, Discussion, or Labs	Attending classes, discussion sections, or labs.
	Studying or other Academic Activities	Studying and other academic activities outside of class.
<i>Family Engagement</i>	Family Time	Spending time with family.

All survey items (with the exception of Club Sports and Intramurals) in this table had a response range from “(1) 0 hours, (2) 1 – 5 hours, (3) 6 – 10 hours, (4) 11 – 15 hours, (5) 16 – 20 hours, (6) 21 – 25 hours, (7) 26 – 30 hours, and (8) more than 30 hours.” The survey asked, “Do you participate in organization college athletics at any of the follow levels” which include: “Club Sports,” and/or “Intramurals” and responses were either “No (1)” or “Yes (2).”

Intermediate Variables/Safety, Security, & Love

My study had intermediate variables, which are measures that can affect or influence variation of the independent variable and, in turn, influence the dependent variable (Porta, 2012). Specifically, I examined if intermediate variables are included in the stepwise regression analysis that impact a student’s engagement within the environment (independent variable) and if it influences their overall sense of belonging (dependent variable). The intermediate variables are themed by the theoretical framework of Strayhorn’s sense of belonging of safety, security, and love. The intermediate variables of safety, security, and love came from questions regarding stress from challenges, overall stress levels, academic stress, and questions that utilized Diener Psychological Well-Being Scale (PWB).

Table 2 displays the variable definitions, Cronbach’s Alpha scores, and numerical codes for the key safety, security, and love intermediate variables (i.e., the variables that represent the levels of stress and agreement levels on Diener PWB indicators one may have and how it relates to sense of belonging).

Table 2

Key Safety, Security, and Love Intermediate Variable Names, Cronbach’s Alpha Scores, Definitions, and Numerical Codes

Variable Name	Variable Definition and Codes
<i>Challenges</i> <i>Cronbach’s Alpha Score:</i> <i>0.717</i>	A variable was constructed using nine indicators from the survey question that asked, “Withing the last 12 months have you had any problems or challenges with any of the following?” The response was either “No (1)” or “Yes (2).” The indicators selected were “Academics, Career, Finances, Faculty, Family, Peers, Bullying, Microaggressions, and Discrimination.” These response codes remained the same, however a summative score was generated and divided by the number of variables with a mean of 1.3282 in which the range was 1 and a minimum of 1 to maximum of 2.
<i>Stress Level</i>	This variable was identified using the survey question which asked, “Within the last 30 days, how would you rate your overall level of stress you have experienced? The response level were “No stress (1),” “Low (2),” “Moderate (3),” and “High (4).” For the study, the codes were re-coded to “No stress (0),” “Low (1),” “Moderate (2),” and “High (3).”
<i>Academic Stress</i>	This variable was identified using the survey question which asked, “Within the last 12 months, how have any of the following affected your academic performance?” The indicator selected was “Stress.” The responses included “I did not experience this issue/not applicable (1),” “I have experienced this issue, but my academics have not been affected (2),” “I have experienced this issue, and it negatively impacted my performance in class

Psychological Wellbeing
Cronbach's Alpha Score:
0.891

(3),” and “I have experienced this issue and it delated progress towards my degree (4).”
A variable was constructed using 5 indicators from the survey question that asked, “Below are 8 statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item by indicating that response for each statement. The five statements included were “I lead a purposeful and meaningful life,” “My social relationship are supportive and rewarding,” I am engaged and interested in my daily activities,” I actively contribute to the happiness and well-being of others,” and “I am competent and capable in the activities that are important to me.” The response ranged from “Strongly disagree (1), Disagree (2), Slightly disagree (3), Neither agree or disagree (4), Slightly agree (5), Agree (6), and Strongly agree (7).” The response codes remained the same, however a summative score was generated and divided by the number of variables with a mean of 5.2629 in which the range was 6 and a minimum of 1 to maximum of 7.

Mental Health
Cronbach's Alpha Score:
0.807

A variable was constructed using 2 indicators from the survey question that asked, “Please indicate how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.” The two statements included were “I am able to adapt when changes occur” and “I tend to bounce back after illness, injury, or other hardships.” The response ranged from “Not true at all (0), Rarely true (1), sometimes true (2), Often true (3), and true nearly all the time (4)” The response codes remained the same, however a summative score was generated and divided by the number of variables with mean of 2.7697 in which the range was 4 and a minimum of 0 to maximum of 4.

Loneliness
Cronbach's Alpha Score:
0.832

A variable was constructed using 2 indicators from the survey question that asked, “Indicate how often each of the statements below is descriptive of you.” The three statements included were “How often do you feel that you lack companionship,” “How often do you feel left out,” and “How often do you feel

isolated from others. The response ranged from “Hardly ever (1),” “Some of the time (2),” and “Often (3).” The response codes remained the same, however a summative score was generated and divided by the number of variables with a mean of 1.9141 in which the range was 2 and minimum of 1 to maximum of 4.

Dependent Variable/Sense of Belonging (Output/Outcome)

The dependent variable was sense of belonging, which represents the output of the methodological framework. This variable was self-reported in which the survey asked, “Please select the level of agreement with the following statement” in which one statement reads “I feel that I belong at my college/university.” Participants could rate their response using the following selections “Strongly Disagree (1),” “Disagree (2),” “Somewhat Disagree (3),” “Somewhat Agree (4),” “Agree (5),” and “Strongly Agree (6).”

Trustworthiness

Confirmability, Reliability, Internal/External Validity

To gain both internal and external validity, the study examined multiple independent variables using existing datasets from an instrument that already has demonstrated validity, then running stepwise regression analyses to produce descriptive statistics to develop some generalization. To achieve reliability, steps conducted for data preparation and cleaning such as coding, re-coding to convert and replace values, developing key variables, justifications for excluding missing data, and developing IBM SPSS Statistics 29 syntax was documented to generate a codebook for this study so that replication can be done with other researchers.

Postpositivist worldview assumes and argues that quantitative research in itself is objective. However, growing trends acknowledge that bias can still occur in quantitative research design. In order to gain objectivity, as the researcher, I acknowledged my own researcher positionality and leaned on others to question my own findings, particularly since I hold the two identities that the criterion of the sample population holds, which are first-generation and Asian American. Thus, to obtain confirmability, I worked with my dissertation advisor, committee, and various colleagues to discuss each step of the research process, record and justify all decisions made to how the data was prepared and analyzed, and articulate my final findings. This continuous feedback loop allowed others to challenge my assumptions and help reduce bias.

Limitations

A major limitation is this current study examined an entire race of Asian American students, which the literature review demonstrates perpetuates the MMM. In order to break this cycle, since the data were collected and available, the study dove in deeper and examined Asian sub-groups such as East Asian (for example: Chinese, Japanese, or Korean), Southeast Asian (for example: Cambodian, Vietnamese, Hmong, or Filipino), South Asian (for example: Indian, Pakistani, Nepalese, of Sri Lankan), or other Asian to gain better insight to these groups of students. However, a continued limitation of this study is that the Asian American diaspora is huge, and the racial lived experiences of these students may have similarities, but as a whole, have many differences between each Asian American ethnicity. Therefore, findings may be considered general and

therefore future studies should focus on disaggregating the data into specific ethnicities and run the research design again to gain knowledge for each specific Asian ethnicity.

Another limitation is that the data instrument did not explicitly ask whether a student was born in the United States in order to establish “American” status in “Asian American.” Nor did the data instrument ask if the student was a United States citizen. Therefore, the study made an inference that any student who did not hold a visa was considered an American citizen. I also acknowledge that data instrument does not allow for one to distinguish whether a student was a birthright citizen or received citizenship after they immigrated to the United States, then received their citizenship prior to entering college. I bring up these limitations regarding “American,” as they can impact how one’s lived experience may influence how they view and navigate their surrounding space. It is important to recognize that there is a possibility that some students who may have taken the ACHA-NCHA II survey may be considered undocumented and therefore not considered “American.” Lastly, the survey was administered during the COVID-19 pandemic, but this study did not consider the impact of the pandemic.

Results and Findings

How does first-generation Asian American students' inputs and environments relate to their sense of belonging at colleges and universities? The results and findings of my study can begin to provide new understanding, and potentially, raise more questions regarding the experience of first-generation Asian American college students. The methodological framework of Astin's (1993) I-E-O was applied in this study's linear regression model. A filter variable was created to identify students who were first-generation Asian American undergraduate college students (input). This narrowed down the sample to 6182 students. Table 3 shows the demographic breakdown of students of the analytic sample.

Table 3

Demographic Breakdown

		Asian		East Asian		Southeast Asian		South Asian	
Biological Sex	Male	1902	31.8%	953	32.2%	745	28.7%	283	30.6%
	Female	4271	69.1%	2003	67.7%	1847	71.7%	639	69.1%
Undergrad Year	1st Yr.	1716	27.8%	846	28.6%	681	26.2%	272	29.4%
	2nd Yr.	1395	22.6%	698	23.6%	556	21.4%	221	23.9%
	3rd Yr.	1515	24.5%	717	24.2%	657	25.3%	208	22.5%
	4th Yr.	1163	18.8%	547	18.5%	484	18.6%	186	20.1%
	5+ Yr.	393	6.4%	152	5.1%	218	8.4%	38	4.1%
Enrollment Status	Full Time	5757	93.1%	2782	94.0%	2389	92.0%	869	93.9%
	Part Time	362	5.9%	142	4.8%	184	7.1%	48	5.2%
Parent Education Level	Did not finish high school	1140	18.4%	613	20.7%	489	18.8%	113	12.2%
	High school	3408	55.1%	1617	54.6%	1342	51.7%	587	63.5%

diploma or GED Went to college but did not finish degree	1634	26.4%	730	24.7%	765	29.5%	225	24.3%
TOTAL	6182		2960		2596		925	

In the sample, 2960 students (48%) identified as East Asian, 2596 students (42%) identified as Southeast Asian, and 925 students (15%) identified as South Asian. The sum of all three sub-Asian categories is larger than 6,182, which is to be expected as students were able to select more than one response. In the sample, 4,217 (68%) students identified as female, and 1,902 (31%) students identified as male. The number of students by undergraduate year are fairly close to one another in comparison with 1,716 (28%) first year students, 1,395 (23%) second year students, 1,515 (25%) third year students, and 1,163 (19%) fourth year students. There were 393 (6%) students that were in their fifth or more year. The majority of the students in the study were full-time students with 5,757 (93%) respondents. 362 (7%) indicated they were part-time students. In examining parent highest levels of education, 1,140 (18%) indicated their parents did not finish high school. 3,408 (55%) indicated high school diploma or GED was the highest level of education their parent(s) obtained. Lastly, 1,634 (26%) indicated that their parents attended college, but did not complete their degree.

The questionnaire further disaggregated the Asian American student group into East Asian, Southeast Asian, and South Asian sub-groups. In only examining the East Asian sample of 2,960 students, 2,003 (68%) students were biologically female and 953

(32%) were biologically male. The number of students by undergraduate year were 846 (28.5%) first year students, 698 (23.5%) second year students, 717 (24%) third year students, and 547 (18.4%) fourth year students. There were 152 (5%) students that were in their fifth or more year. The majority of the students in the study were full-time students with 2,782 (94%) respondents. 142 (5%) indicated they were part-time students. In examining parent highest levels of education, 613 (21%) indicated their parents did not finish high school. 1617 (55%) indicated high school diploma or GED was the highest level of education their parent(s) obtained. Lastly, 730 (25%) indicated that their parents attended college, but did not complete their degree.

In only looking at the Southeast Asian sample of 2,596 students, 1,847 (71%) students were biologically female and 745 (29%) were biologically male. The number of students by undergraduate year were 681 (26%) first year students, 556 (21%) second year students, 657 (25%) third year students, and 484 (19%) fourth year students. There were 218 (8%) students that were in their fifth or more year. The majority of the students in the study were full-time students with 2,389 (92%) respondents. 184 (7%) indicated they were part-time students. In examining parent highest levels of education, 489 (11%) indicated their parents did not finish high school. 1,342 (52%) indicated high school diploma or GED was the highest level of education their parent(s) obtained. Lastly, 765 (29%) indicated that their parents attended college, but did not complete their degree.

The South Asian sample had 925 students in which 639 (69%) students were biologically female and 283 (31%) were biologically male. The number of students by undergraduate year were 272 (29%) first year students, 221 (24%) second year students,

208 (22%) third year students, and 186 (20%) fourth year students. There were 38 (4%) students that were in their fifth or more year. The majority of the students in the study were full-time students with 869 (94%) respondents. There were 48 (5%) part-time students. In examining the highest levels of parent education, 113 (12%) indicated their parents did not finish high school. There was 587 (63%) students who indicated the highest level of education their parent(s) obtained was a high school diploma or GED. Lastly, 225 (24%) indicated that their parents attended college, but did not complete their degree.

Prior to the running the stepwise regression models, a correlation matrix among variables used in the stepwise regression analysis was generated. Comparisons of the student's sense of belonging to both the independent variables and intermediate variables for first-generation Asian American students was conducted to assess the one-on-one relationship to sense of belonging. Table 4 presents the correlation matrix. The correlation matrix indicated substantial correlations among some variables of interest for predictors of sense of belonging. Sense of belonging was significantly related to eight out of 25 variables in the study.

From the environmental variables and within the extra-curriculum engagement category, varsity athletics and fraternity and sorority life had no statistically significant relationship to sense of belonging and were removed from the analysis. Unpaid housing responsibilities and taking care of family from the family engagement category also had no statistically significant relationship and were removed from the model. Work, on-campus housing, and fraternity and sorority housing also did not have statistically

significant relationships with sense of belonging. These were removed from the analysis. The intermediate variables all had statistically significant relationships with sense of belonging and were kept in the model. All remaining variables remained in the model as they had statistically significant relationships with sense of belonging.

Table 4

Correlation among Variables Used in the Regression Analysis (n = 6,182)

	1. Sense of Belonging	2. Events	3. Socializing w/ Friends	4. Partying	5. Service/Volunteering	6. Physical Activity	7. Varsity Athletics	8. Club Sports	9. Intramurals	10. Religious Activities	11. Student Organizations	12. FSL	13. Class Discussion, Labs	14. Study or other Academic Activities	15. Working for Pay	16. Family Time	17. Unpaid household responsibilities	18. Taking Care of Family	19. On Campus Housing	20. FSL Housing	21. Challenges	22. Stress	23. Academic Stress	24. Psychological Well Being	25. Mental Health	26. Loneliness
1.	-	.112	.130	.054	.086	.095	.011	.048	.046	.052	.105	.007	.053	.085	-.005	.074	.001	-.002	.010	-.213	-.181	-.154	.434	.248	-.290	
2.	-	-	.344	-.404	.450	.387	.075	.101	.105	.325	.421	.038	.192	.142	.060	.069	.092	.091	-.042	-.029	-.090	-.086	.131	.015	-.083	
3.	-	-	-	.347	.184	.268	.038	.076	.070	.145	.267	.036	.128	.090	-.003	.084	.085	.006	.139	-.033	-.025	-.072	-.035	.147	.039	
4.	-	-	-	-	.317	.323	.078	.082	.130	.239	.331	.142	.074	.039	.064	-.023	.066	.049	.122	-.098	-.035	-.085	-.072	.074	.026	
5.	-	-	-	-	-	.331	.053	.042	.073	.431	.436	.060	.141	.174	.112	.098	.172	.172	.032	-.026	-.019	-.028	-.036	.114	.004	
6.	-	-	-	-	-	-	.239	.183	.156	.308	.260	.034	.132	.113	.074	.051	.117	.072	.059	-.027	-.062	-.129	-.115	.157	.093	
7.	-	-	-	-	-	-	-	.140	.128	.036	.056	.010	.025	-.008	-.009	-.030	-.002	.004	.047	-.077	-.021	-.020	-.038	.050	.004	
8.	-	-	-	-	-	-	-	-	.215	.011	.160	.019	.062	.005	-.037	-.065	-.049	-.042	.137	-.007	-.028	-.062	-.046	.043	.028	
9.	-	-	-	-	-	-	-	-	-	.039	.144	.079	.059	-.001	-.013	-.087	-.055	-.052	.110	-.053	-.019	-.057	-.031	.054	.045	
10.	-	-	-	-	-	-	-	-	-	-	.268	-.007	.084	.106	.099	.173	.204	.214	-.014	-.008	-.024	-.091	-.115	.069	-.033	
11.	-	-	-	-	-	-	-	-	-	-	-	.181	.186	.162	.030	-.069	.004	-.007	.215	-.040	-.033	-.005	-.038	.089	-.033	
12.	-	-	-	-	-	-	-	-	-	-	-	-.007	.005	-.005	.035	-.078	-.029	-.045	-.011	-.278	.029	.028	.005	.033	-.011	
13.	-	-	-	-	-	-	-	-	-	-	-	-	-	.372	-.054	-.024	-.003	-.015	.185	.004	-.020	.023	-.017	.065	-.032	
14.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-.005	.006	.099	.056	.037	.000	.068	.144	.070	.040	.049	
15.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.083	.197	.150	-.179	.007	.104	.052	.029	.038	.097	
16.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.411	.433	-.300	.026	-.043	-.087	-.032	.078	-.041	
17.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.603	.289	.024	.118	.035	.032	.005	-.032	
18.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-.216	.018	.101	.016	.014	.024	.010	
19.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.068	-.031	-.025	-.029	.012	.000	-.012	
20.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-.009	.006	.011	.017	.031	-.002	
21.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.383	.386	-.219	-.122	.326	
22.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.437	-.232	-.121	.311	
23.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-.194	-.117	.250	
24.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	.494	
25.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-.232	
26.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	

Note. Bold indicates significance.

Table 5*Environment, Intermediate Variables, and Sense of Belonging Stepwise Regression**Analysis – Asian American (n = 6,182)*

Variables		R ²	b	b	p
Step 1		.033			
<i>Social Engagement</i>	Events		.041	.039	.015
	Socializing with friends		.065	.089	<.001
	Partying		-.040	-.030	.042
	Service/Volunteer		.024	.020	.197
<i>Extra-Curricular Engagement</i>	Physical Activity		.035	.036	.014
	Club Sports		.092	.022	.095
	Intramurals		.108	.026	.046
	Religious Activities		-.021	-.016	.271
<i>Academic Engagement</i>	Student Organizations		.057	.055	<.001
	Class, Discussion, or Labs		.014	.019	.170
	Studying other Academic Activities		.000	.000	.977
<i>Family Engagement</i>	Family Time		.039	.070	<.001
Variables		R ²	b	b	R
Step 2		.223			
<i>Social Engagement</i>	Events		.021	.020	.169
	Socializing with friends		.034	.046	<.001
	Partying		-.036	-.027	.044
	Service/Volunteer		.013	.011	.421
<i>Extra-Curricular Engagement</i>	Physical Activity		-.014	-.014	.283
	Club Sports		.057	.013	.253
	Intramurals		.042	.010	.392
	Religious Activities		-.019	-.014	.277
<i>Academic Engagement</i>	Student Organizations		.064	.062	<.001
	Class, Discussion, or Labs		.003	.004	.722
	Studying or other Academic Activities		.010	.016	.209
<i>Family Engagement</i>	Family Time		.021	.039	<.001
<i>Intermediate Variables</i>	Challenges		-.401	-.092	<.001
	Stress		-.039	-.027	.041
	Academic Stress		-.014	-.012	.358
	Psychological Well Being		.305	.329	<.001
	Mental Health		.055	.042	.001
	Loneliness		-.159	-.093	<.001

Note. Bold indicates significance.

Table 5 presents the results of the stepwise regression model predicting sense of belonging among Asian American students. After running step one (environment variables only) of the stepwise regression model, for first-generation Asian Americans, the social engagement variables of participating in events ($r = .041, p = .015$) and socializing with friends ($r = .041, p = .015$) demonstrated a positive relationship to sense of belonging whereas partying with friends had a negative relationship ($r = -.040, p = .042$). Participating in physical activities ($r = -.035, p = .014$), intramurals ($r = .108, p = .046$), and student organizations ($r = .057, p < .001$) demonstrated a positive relationship of these extra-curricular engagement activities to sense of belonging. Participating in service/volunteering activities, Club Sports, and religious activities ($p > .05$) did not show a relationship to sense of belonging. Academic engagement activities also demonstrated no relationship to sense of belonging ($p > .05$). Finally, family engagement of spending time with family ($r = .039, p < .001$) demonstrated a positive relationship. For first generation Asian Americans, socializing with friends, participating in student organization, and spending time with family demonstrated a high statistical significance to sense of belonging by having a p value of less than .001.

When adding step two (both environment and intermediate variables) into the stepwise regression model, for first generation Asian Americans, in the social engagement category, socializing with friends ($r = .034, p < .001$) had a positive relationship and partying ($r = -.040, p = .042$) had a negative relationship, all other variables demonstrated no relationship ($p > .05$). Only participating in student organizations ($r = .057, p < .001$) had a positive relationship within the extra-curricular engagement category. Academic engagement activities variables demonstrated no

relationship ($p > .05$). family engagement of spending time with family ($r = .021, p = < .001$) demonstrated a positive relationship. When looking at the intermediate variables of challenges ($r = -.401, p = < .001$), stress ($r = -.039, p = .041$), and loneliness ($r = -.159, p = < .001$), these variables had a negative relationship to sense of belonging while mental health ($r = .055, p = .001$) had a positive relationship. Academic stress showed no relationship to sense of belonging ($p > .05$). Socializing with friends, participating in student organization, spending time with family, and psychological wellbeing demonstrated a positive relationship with a high statistical significance to sense of belonging by having a p value of less than .001. Challenges and loneliness was also highly significant but demonstrated a negative relationship to sense of belonging with a p value of less than .001. Table 5 outlines the full results of the stepwise regression model for first-generation Asian American college students.

Table 6

Environment, Intermediate Variables, and Sense of Belonging Stepwise Regression

Analysis – East Asian American (n = 2,960)

Variables		R ²	b	b	p
Step 1		.044			
<i>Social Engagement</i>	Events		.030	.028	.228
	Socializing with friends		.081	.116	<.001
	Partying		-.031	-.023	.277
	Service/Volunteer		.050	.041	.067
<i>Extra-Curricular Engagement</i>	Physical Activity		.034	.035	.095
	Club Sports		.072	.018	.332
	Intramurals		.123	.031	.097
	Religious Activities		-.057	-.041	.053
	Student Organizations		.078	.075	<.001
<i>Academic Engagement</i>	Class, Discussion, or Labs		.030	.042	.034
	Studying or other Academic Activities		-.005	-.009	.645
<i>Family Engagement</i>	Family Time		.025	.043	.020

Variables		R ²	b	b	p
Step 2		.242			
<i>Social Engagement</i>	Events		.005	.004	.834
	Socializing with friends		.046	.066	<.001
	Partying		-.032	-.023	.214
	Service/Volunteer		.035	.029	.152
<i>Extra-Curricular Engagement</i>	Physical Activity		-.011	-.012	.538
	Club Sports		.030	.008	.654
	Intramurals		.066	.017	.318
	Religious Activities		-.048	-.034	.068
	Student Organizations		.081	.077	<.001
<i>Academic Engagement</i>	Class, Discussion, or Labs		.016	.022	.213
	Studying or other Academic Activities		.013	.022	.184
<i>Family Engagement</i>	Family Time		.013	.022	.184
	Challenges		-.308	-.070	<.001
	Stress		-.041	-.029	.130
<i>Intermediate Variables</i>	Academic Stress		-.014	-.012	.518
	Psychological Well Being		.311	.341	<.001
	Mental Health		.039	.030	.110
	Loneliness		-.193	-.113	<.001

Note. Bold indicates significance.

Table 6 presents the results of the stepwise regression model predicting sense of belonging among East Asian American students. After applying the filter variable of first-generation East Asian American, the sample was reduced to 2,960 students. After running step one (environment only) of the stepwise regression model, for first-generation East Asian Americans, socializing with friends ($r = .081, p = < .001$) from the social engagement category, student organizations ($r = .078, p = < .001$) from the extra-curricular engagement category, attending class ($r = .030, p = .034$) from the academic engagement category, and spending time with family ($r = .025, p = .020$) from the family engagement category all demonstrated a positive relationship to sense of belonging. All other remaining variables had no statistically significant relationship to sense of belonging. For first generation East Asian Americans, socializing with friends and student

organization demonstrated a high statistical significance to sense of belonging by having a p value of less than .001.

When adding two (both environment and intermediate variables) into the stepwise regression model, for first generation East Asian Americans, in the social engagement category, socializing with friends ($r = .046, p = < .001$) had a positive relationship. Only participating in student organizations ($r = .081, p = < .001$) had a positive relationship within the extra-curricular engagement category. Academic and family engagement activities demonstrated no relationship ($p > .05$) to sense of belonging. Looking at the intermediate variables, challenges ($r = .311, p = < .001$) and loneliness ($r = -.193, p = < .001$) had a negative relationship to sense of belonging whereas psychological wellbeing ($r = .311, p = < .001$) had a positive relationship. All other intermediate variables demonstrated no statistically significant relationship to sense of belonging. Socializing with friends, participating in student organization, and psychological wellbeing demonstrated a positive relationship with high statistical significance to sense of belonging by having a p value of less than .001. Challenges and loneliness was also highly significant but demonstrated a negative sense of belonging. Table 6 outlines the full results of the stepwise regression model for first-generation East Asian American college students.

Table 7

Environment, Intermediate Variables, and Sense of Belonging Stepwise Regression

Analysis – Southeast Asian American (n = 2,596)

Variables		R ²	b	b	p
Step 1		.027			
<i>Social</i>	Events		.056	.054	.024
<i>Engagement</i>	Socializing with friends		.054	.076	<.001

socializing with friends ($r = .054, p = < .001$) from the social engagement category, physical activity ($r = .052, p = .014$) from the extra-curricular engagement category, and spending time with family ($r = .029, p = .007$) from the family engagement category all demonstrated a positive relationship to sense of belonging. All remaining variables (none from the academic engagement category) demonstrated no statistically significant relationship to sense of belonging ($p > .05$). For first generation Southeast Asian Americans, socializing with friends demonstrated a high statistical significance to sense of belonging by having a p value of less than .001.

When adding step two (both environment and intermediate variables) into the stepwise regression model, for first generation Southeast Asian Americans, in the social engagement category, socializing with friends had a positive relationship ($r = .031, p = .028$). Participating in student organizations was the only variable within the extra-curricular engagement category that had a positive relationship ($r = .052, p = .016$). Academic and family engagement activities demonstrated no relationship to sense of belonging. Looking at the intermediate variables, challenges ($r = -.418, p = < .001$), stress ($r = -.060, p = .041$), and loneliness ($r = -.101, p = .004$) had a negative relationship to sense of belonging whereas psychological wellbeing ($r = .310, p = < .001$) and mental health ($r = .065, p = .014$) had a positive relationship. All other intermediate variables showed no statistically significant relationship ($p > 0.5$). Psychological wellbeing demonstrated a positive relationship with a high statistical significance to sense of belonging by having a p value of less than .001. Challenges was also highly significant but demonstrated a negative relationship to sense of belonging. Table 7 outlines the full

results of the stepwise regression model for first-generation Southeast Asian American college students.

Table 8

Environment, Intermediate Variables, and Sense of Belonging Stepwise Regression

Analysis – South Asian American (n = 925)

Variables		R ²	b	b	p
Step 1		.043			
<i>Social Engagement</i>	Events		.041	.037	.390
	Socializing with friends		.071	.083	.037
	Partying		-.078	-.060	.148
	Service/Volunteer		.018	.016	.714
<i>Extra-Curricular Engagement</i>	Physical Activity		.040	.039	.326
	Club Sports		.154	.031	.367
	Intramurals		.058	.013	.711
	Religious Activities		.033	.028	.500
	Student Organizations		.029	.028	.484
<i>Academic Engagement</i>	Class, Discussion, or Labs		-.015	-.018	.622
	Studying or other Academic Activities		.017	.021	.570
<i>Family Engagement</i>	Family Time		.075	.124	<.001
Variables		R ²	b	b	p
Step 2		.243			
<i>Social Engagement</i>	Events		.045	.041	.282
	Socializing with friends		.025	.029	.411
	Partying		-.063	-.049	.187
	Service/Volunteer		.032	.028	.472
<i>Extra-Curricular Engagement</i>	Physical Activity		-.029	-.029	.429
	Club Sports		.149	.030	.328
	Intramurals		.061	.013	.666
	Religious Activities		.034	.029	.436
	Student Organizations		.056	.053	.138
<i>Academic Engagement</i>	Class, Discussion, or Labs		-.034	-.040	.214
	Studying or other Academic Activities		.015	.022	.510
<i>Family Engagement</i>	Family Time		.054	.090	.005
<i>Intermediate Variables</i>	Challenges		-.615	-.136	<.001
	Stress		-.003	-.002	.954
	Academic Stress		-.045	-.036	.312
	Psychological Well Being		.254	.273	<.001

Mental Health	.106	.077	.025
Loneliness	-.205	-.114	<.001

Note. Bold indicates significance.

Table 8 presents the results of the stepwise regression model predicting sense of belonging among South Asian American students. After applying the filter variable of first-generation South Asian American, the sample was reduced to 925 students. After running step one (environment only) of the stepwise regression model, for first-generation South Asian Americans, spending time with family from the family engagement category was the only variable that demonstrated a positive relationship to sense of belonging ($r = .071, p = .037$). All other social engagement, extra-curricular engagement, and academic engagement activities demonstrated no statistically significant relationship to sense of belonging ($p > .05$). Spending time with family ($r = .075, p = < .001$) within the family engagement category demonstrated a high statistical significance to sense of belonging by having a p value of less than .001.

When adding step two (both environment and intermediate variables) into the stepwise regression model, for first generation South Asian Americans, only spending time with family within the family engagement category demonstrated a positive relationship to sense of belonging ($r = .054, p = .005$). All other social, extra-curricular, and academic engagement variables demonstrated no statistically significant relationship to sense of belonging. Looking at the intermediate variables, challenges ($r = -.615, p = < .001$) and loneliness ($r = -.205, p = < .001$) had a negative relationship to sense of belonging whereas psychological wellbeing ($r = .254, p = < .001$) and mental health ($r = .106, p = .025$) had a positive relationship. Stress and academic stress variables demonstrated no statistically significant relationship to sense of belonging ($p > .05$).

Challenges, loneliness, and psychological wellbeing also demonstrated a high statistical significance to sense of belonging by having a p value of less than .001, however, challenges and loneliness was negative and psychological wellbeing was positive. Table 8 outlines the full results of the stepwise regression model for first-generation South Asian American college students.

Analysis and Discussion

Historically, research on Asian American college students is limited as their high academic achievement and graduation rates in comparison to other marginalized student populations make it appear that there isn't a concern for them. Additionally, when research is conducted, there is a monolithic approach where studies focus on Asian Americans as a whole race. Conducting studies using race as a whole could mask issues other Asian sub-groups and specific Asian ethnicities may have. Ideally, research instruments would collect not only demographic data where respondents can not only select Asian, but also allow for respondents to select, which Asian sub-group they belong to, and even more so, which specific ethnicity(s) they are. For this specific study, as much as I would have preferred to study the environments that relate to sense of belonging for first-generation Filipino-American college students, the data instrument used only gathered Asian and Asian sub-groups, which is a start to better understanding sense of belonging for this community of students.

The intended audience for this study is student affairs practitioners, thus this analysis will approach implications for practice from a student affairs lens. These results provide a telling story that can influence practitioners on developing and implementing intervention strategies for first-generation Asian Americans on fostering sense of belonging on their respective campuses thus recommendations on practice will also be included in this analysis. The results can also influence practitioners on the need and opportunity to apply the CECE model of college success on their specific campus (Museus et al., 2017).

Literature on student impact models have often suggested that levels of involvement facilitate integration onto a campus community, which bolsters the ability to build a sense of belonging that could result in increasing a student's chance to not only persist but reach degree attainment. Yet, what environments relate to sense of belonging? When intermediate variables that reflect, safety, security, and love are included, which environments would still demonstrate a relationship? More specifically, how do the results compare when looking at specific Asian sub-groups? Finally, how can student affairs practitioners apply these results into guiding their work?

I made a point to break the cycle on conducting research on first-generation Asian American college students from a monolithic approach to see if there were variations on the results for other Asian sub-groups in comparison to Asian American students as a whole. A comparison can shed light to see if lumping Asian Americans as a whole race into one homogenous group does mask and skew the data. Comparing the results can provide a clearer picture on the relationship of the various environments within the study to sense of belonging for Asian American, East Asian American, Southeast Asian American, and South Asian American college students.

Table 9 presents a comparison of the results of step one of the stepwise regression model for sense of belonging amongst Asian American college students along with the East Asian American, Southeast Asian American, and South Asian American college students. The table presents a picture of which environmental categories and specific variables demonstrate a positive or negative statistically significant relationship to sense of belonging. If there is a relationship, was it highly significant? Table 9 provides a full comparison of the results for each variable.

Table 9*Step 1: Result Comparison of Environment Variables to Sense of Belonging*

Type of Engagement	Variables	Asian		East Asian		Southeast Asian		South Asian	
		Sig.	+/-	Sig.	+/-	Sig.	+/-	Sig.	+/-
<i>Social Engagement</i>	Events	Yes	+	No	X	Yes	+	No	X
	Socializing with friends	Yes*	+	Yes*	+	Yes*	+	Yes	+
	Partying	Yes	-	No	X	No	X	No	X
<i>Extra-Curricular Engagement</i>	Service/Volunteer	No	X	No	X	No	X	No	X
	Physical Activity	Yes	+	No	X	Yes	+	No	X
	Club Sports	No	X	No	X	No	X	No	X
	Intramurals	Yes	+	No	X	No	X	No	X
	Religious Activities	No	X	No	X	No	X	No	X
<i>Academic Engagement</i>	Student Orgs.	Yes*	+	Yes*	+	No	X	No	X
	Class, Discussion, or Labs	No	X	Yes	+	No	X	No	X
	Studying or other Academic Activities	No	X	No	X	No	X	No	X
<i>Family Engagement</i>	Family Time	Yes*	+	Yes	+	Yes	+	Yes*	+
Explained Variance (R ²)		.033		.044		.027		.043	

Note. * - <.001.

When examining the results where only environmental variables were considered, for Asian American's social engagement in the form of attending events, socializing with friends, and partying, showed a positive relationship to sense of belonging. The same was for extra-curricular engagement of participating in physical activities, intramural, and student organizations. It is important to note that both social and extra-curricular engagement did not indicate whether those involvements were culturally connected as the instrument did not ask. Therefore, I can only generalize that involvement in these activities had a relationship to sense of belonging and infer that cultural-based involvement was included. This result supports existing literature that Asian American college students find belonging through involvement of student organizations. Family engagement was a highly statistically significant positive relationship to sense of

belonging. Yet, as I begin to look at specific Asian sub-groups, this is where results begin to differ. What did remain constant across the board was that socializing with friends and spending time with family both had a positive statistically significant relationship to sense of belonging. Academic engagement activities consistently demonstrated no relationship either. Though academic engagement demonstrated no relationship, it is not to say that it has no relationship to sense of belonging, but rather highlights the fact that the number of hours spent in the classroom or participating in academic activities outside of the classroom (which the instrument asks) does not demonstrate a relationship to sense of belonging. This result is understandable as academic engagement and sense of belonging usually involves students connecting with faculty and staff, along with becoming engaged with the learning and content within the classroom (Anh & Davis, 2020).

For social engagement, attending events was only significant for first-generation East Asian college students. Though partying signified a relationship for Asian American college students as a whole, none of the Asian sub-groups showed a relationship to their sense of belonging. Looking at extra-curricular engagement, participating in physical activities, intramurals, and student organizations showed a positive relationship to sense of belonging when Asian sub-groups were combined together. However, aggregating the data showed a different story. Physical activities displayed a relationship to sense of belonging only for Southeast Asian students, and as for participating in student organizations, only East Asian students showed a relationship for physical activities and sense of belonging. For all three Asian sub-groups, participation in intramurals showed no relationship to sense of belonging, even though as a whole, intramurals had a positive

relationship. These results nuance between Asian sub-groups along with how lumping together all Asians can skew the data, for example intramurals, in which there was a relationship for Asian Americans as a whole, but not a single sub-group demonstrated a relationship.

Table 9 only examines environments singularly in relation to sense of belonging. Yet, experiences of students do not happen simply within their environments. Life also happens that may impact their student experiences. What happens when students experience challenges, stress, academic stress, state of their psychological well-being, mental health, and loneliness? How does that impact their environments and relationship to sense of belonging?

Table 10 presents a comparison of the results of step two of the stepwise regression model for sense of belonging amongst Asian American college students along with the East Asian American, Southeast Asian American, and South Asian American college students. The table quickly presents a picture of when adding the intermediate variables along with the environmental variables, whether it demonstrates a statistically positive or negative significant relationship to sense of belonging. Additionally, if they do, was it highly significant?

Table 10

Step 2: Result Comparison of Environment and Intermediate Variables to Sense of

Belonging

Types of Engagement	Variables	Asian		East Asian		Southeast Asian		South Asian	
		Sig.	+/-	Sig.	+/-	Sig.	+/-	Sig.	+/-
<i>Social Engagement</i>	Events	No	X	No	X	No	X	No	X
	Socializing with friends	Yes*	+	Yes*	+	Yes	+	No	X
	Partying	Yes	-	No	X	No	X	No	X

<i>Extra-Curricular Engagement</i>	Service/Volunteer	No	X	No	X	No	X	No	X
	Physical Activity	No	X	No	X	No	X	No	X
	Club Sports	No	X	No	X	No	X	No	X
	Intramurals	No	X	No	X	No	X	No	X
	Religious Activities	No	X	No	X	No	X	No	X
<i>Academic Engagement</i>	Student Orgs.	Yes*	+	Yes*	+	Yes	+	No	X
	Class, Discussion, or Labs	No	X	No	X	No	X	No	X
	Studying or other Academic Activities	No	X	No	X	No	X	No	X
<i>Family Engagement</i>	Family Time	Yes*	+	No	X	No	X	Yes	+
	Challenges	Yes*	-	Yes*	-	Yes*	-	Yes*	-
<i>Intermediate Variables</i>	Stress	Yes*	-	No	X	Yes	-	No	X
	Academic Stress	No	X	No	X	No	X	No	X
	Psychological Well Being	Yes*	+	Yes*	+	Yes*	+	Yes*	+
	Mental Health	Yes	+	No	X	Yes	+	Yes	+
	Loneliness	Yes*	-	Yes*	-	Yes	-	Yes*	-
Explained Variance (R ²)		.223		.242		.203		.243	

Note. * - <.001.

When intermediate variables were introduced, some results of the social engagement activities shifted. Attending events no longer demonstrated a positive statistically significant relationship to sense of belonging, not only for first-generation Asian Americans, but also all three Asian sub-groups, including Southeast Asian, which initially demonstrated a positive relationship. Socializing with friends consistently demonstrated a positive relationship to sense of belonging; however, when intermediate variables were introduced, it no longer demonstrated a relationship for first-generation South Asian Americans. In looking at extra-curricular activities, there were no changes between step one and step two of the stepwise regression model where participation in service/volunteer, club sports, and religious activities showed no relationship to sense of belonging for Asian American students including all the Asian sub-groups. Physical

activities no longer had a statistical significance to sense of belonging for Asian American students as a whole along with Southeast Asian American students. Results did not change for East Asian and South Asian students.

Participation in intramurals also changed for Asian American students as a whole where it no longer demonstrated a relationship to sense of belonging. The results of the Asian sub-groups did not change where there was still no relationship. Regarding participating in student organizations, there was one change where it demonstrated that there was a positive relationship to participating in student organization to sense of belonging for Southeast Asian American students. When it comes to academic engagement, there was no change between step one and step two for Asian American students as a whole and the different sub-groups as the variables still showed no relationship to sense of belonging. The most change between step one and step two can be seen in the family engagement category. When it came to spending time with family, initially there was a positive relationship to sense of belonging across the board; however, when adding the intermediate variables to the equation, there was no longer a demonstrated relationship to sense of belonging for both East and Southeast Asian students.

The intermediate variables of challenges, stress, academic stress, psychological wellbeing, mental health, and loneliness were developed to represent a student's feeling of safety, security, and love as depicted in Strayhorn's (2012) model for sense of belonging, which can impact students general feeling of belongingness. Challenges and loneliness presented a negative relationship to sense of belonging for not only all Asian American students, but also all three Asian sub-groups. The same went for psychological

wellbeing, but in the positive direction. Academic stress demonstrated no relationship to sense of belonging for all groups. The results then varied when it came to stress and mental health. These results show that stress was a huge indicator for sense of belonging where there was a high negative relationship to sense of belonging for Asian American students as a whole. However, when disaggregating the data into the Asian sub-groups, there was no relationship for both East Asian and South Asian students. Southeast Asian students did also show a negative relationship for stress and sense of belonging.

As for mental health, overall mental health displayed a positive relationship to sense of belonging for Asian American students as a whole, but the same results occurred only for Southeast and South Asian students. There was no relationship for mental health and sense of belonging for East Asian students. Overall, the one consistent narrative from the results is that in both steps one and two of the stepwise regression model, no matter if participants were first-generation Asian, East Asian, Southeast Asian, or South Asian American college students, challenges, stress, and loneliness have a strong negative relationship to their sense of belonging and psychological well-being and mental health has a positive relationship. Table 10 provides a full comparison of the results for each variable.

Overall, when looking at the results of the regression models, when only taking into consideration the environmental variables, socializing with friends and family, consistently showed a relationship to sense of belonging. The results were consistent with what was revealed in the literature of the various student impact models along with the experiences of Asian American college students. Yet, once the intermediate variables were introduced, the relationship for sense of belonging shifted across the board, not just

with which environment variables no longer demonstrated a relationship. This was true for first-generation Asian American students, but also within the sub-Asian American groups. The results demonstrate that when an entire racial group is grouped together, the results can mask which environments relate to sense of belonging in comparison to when the data is disaggregated down further into sub-Asian American groups.

Implications for Practice and Research

My study has several important implications for practice and future research. As previous literature on student impact models and sense of belonging for students of color suggest, recommendations for practice focus on how institutions can create opportunities for students to integrate into the campus environments through getting involved to build students sense of belonging. To address past critiques of these various student impact models, additional suggestions challenge student affairs practitioners to develop intervention strategies that target these specific student population on top of the traditional ways of involvement so that students have avenues to find belongingness through assimilation. As my study examines first-generation Asian American college students, with limited previous research on this specific student population, what environments relate to their sense of belonging? As these students navigate their experiences on campus, how do safety, security, and love change how an environment relates to their feelings of belongingness? How can student affairs practitioners apply the results of this study to curate targeted opportunities that help foster sense of belonging that is meaningful to the first-generation Asian American and Asian sub-group student experience?

Comparing results of Asian sub-groups to Asian American as a whole demonstrated a wide range of commonalities, along with differences regarding relationships of specific environmental and intermediate variables to overall sense of belonging. A general theme found when looking at Asian American college students as a whole, more variables displayed a relationship to sense of belonging. However, when I looked at specific Asian sub-groups along with introducing intermediate variables, the number of environments that show a relationship to sense of belonging reduced. These results suggest that when Asian American college students are studied as a monolith, results could mask results of the other Asian sub-groups. Additionally, as Asian sub-groups have a positive or negative experience on variables surrounding safety, security, and love, the environment to developing a sense of belonging can change a relationship to their sense of belonging and can differ amongst Asian sub-groups. This can inadvertently perpetuate the model minority and assimilation narratives on Asian American college students. For instance, when looking at environments only, participating in a student organization showed no relationship to sense of belonging for first-generation Southeast Asian students, in which first-generation Asian American college students showed a relationship. This is an example of how examining first-generation Asian American college students as a monolith can mask Asian sub-groups' experiences.

Also, as intermediate variables, which represent students feelings of safety, security, and love on their campus are included in the stepwise regression model, some variables relationship to sense of belonging changed. For instance, for first-generation Southeast Asian students, initially when only looking at environmental variables, there

was no relationship between participating in student organizations to sense of belonging for this community, but when intermediate variables were included, the results changed to demonstrate a significance. These results is an example of the need for researchers to better understand Asian sub-groups and specific Asian ethnicities to get a richer understanding of which environments facilitate a sense of belonging.

From a student affairs practitioner's lens, these results inform and shape practice. The results allow us to infer that student impact models can serve as a foundation for practice as they provide valuable insight to helping the general student population succeed, which includes the first-generation Asian American college student population. However, understanding these results provides an opportunity for student affairs practitioners to directly address the critiques of these impact models and take a culturally engaging approach to how we practice. We have an opportunity to shift our intervention strategies from system of assimilation of helping students fit in by changing who they are to fit the majority campus culture, to acculturation, in which campuses curate experiences specifically designed to meet the needs of first-generation Asian American college students and any subsequent Asian sub-groups and ethnicities with the hopes that it cultivates and bolsters a sense of belonging on their college campus.

Three environments consistently demonstrate a highly positive relationship to a sense of belonging for first-generation Asian American college students and subsequent Asian sub-groups, which were socializing with peers, involvement in student organizations, and engagement with family. The results demonstrate that connection to peers and participating in student organizations do have a relationship to feeling a sense of belonging on campus. These findings reinforce various student impact models'

assertions that involvement within their environment increases integration, a feeling of mattering, and overall sense of belonging. The results also support existing literature on the impact of student organizations regarding sense of belonging for first-generation Asian American college students. Interestingly, academic engagement inversely demonstrated no relationship to sense of belonging, not only for first-generation Asian American, but also East, Southeast, and South Asian college students. Initially, this results was surprising since literature on first-generation Asian American college students typically generalize Asian American students as academically high achieving, where their level of academic success (how well they are doing in school) can relate to their overall sense of belonging.

Social Engagement: Socializing with Peers

When looking at first generation Asian American college students as a whole, the results suggest that when only looking at environmental factors, the engagement categories and specific independent variables show a relationship to sense of belonging that is supported by the literature. Furthermore, this relationships is reflected in the student impact models that student practitioners rely on (e.g., Astin, 1984; Schlossberg, 1989; Tinto, 1993) including the environmental ways of belonging for Asian American students. Social engagements, specifically socializing with friends, demonstrated a positive relationship to sense of belonging. Positive peer interaction can influence students' sense of belonging by making complex environments feel more supportive socially. This result also is indicative for first-generation East Asian, Southeast Asian, and South Asian even though socializing no longer demonstrated a relationship when the intermediate variables were introduced into the stepwise regression model. The

opportunity to make connections with peers, in general, supports existing literature in that positive social engagement increases chances for social acceptance, which may be the most important viable relationship to sense of belonging (Bowman et al., 2015; Freeman et al., 2007). These connections decrease the feelings of loneliness and allow students to feel like they matter instead of feeling marginalized, which Schlossberg (1984) theorizes, and can help them overcome their feelings of insecurity, unworthiness, or embarrassment that prevent them from seeking or accepting help when needed (Pratt et al., 2017). This result reinforces the need for student affairs practitioners to continue to create pathways for first-generation Asian American college students to meet new students and make new friends within their environments.

However, traditional intervention strategies should also be met with an acculturated lens by creating meaningful opportunities for students to connect with other students who share similar racial/ethnic backgrounds, especially at predominantly White institutions. This creates opportunities not only for those first-generation Asian American college students who do not perceive any problems or choose to assimilate to the dominant culture but also creates space for students who choose to associate with students like them to bolster their sense of belonging. These results can inform how professionals who oversee areas such as orientation, student activities offices, and residence life staff create peer connection opportunities for first-generation Asian American college students.

Extra-Curricular Engagement: Participation in Student Organizations

Participating in student organization demonstrated a significant relationship for first-generation Asian and East Asian American college students' sense of belonging, then

included Southeast Asian American college students when intermediate variables were introduced into the stepwise regression model. This results support the assertion of previous research on first-generation Asian American college students that this high impact practice helps students integrate into a college or university setting, which can increase their likelihood to develop a sense of belonging.

Student affair practitioners should continue to facilitate ways to help students become engaged in student groups that pique their specific interests, as it would increase their chances for belongingness. Yet, it is important that aside from special interests, practitioners should make a meaningful effort to highlight racial/ethnic organizations, particularly at predominantly White institutions, as this results supports the claim that involvement in racial/ethnic student organizations is a positive predictor for promoting racial integration within the university for students of color and overall sense of belonging that increases their chance of feeling mattered (Bowman et al., 2015; Means & Pyne, 2017; Schlossberg, 1984). Additionally, the results reinforce the literature on first-generation Asian American students need to socially build a sense of belonging by joining supportive groups and organizations that are based on shared social or ethnic identification as it provides a social outlet for them to meet other students and make friends with shared experiences (Palmer & Maramba, 2015; Samura, 2016).

Family Engagement: Spending Time with Family

In the initial stepwise regression model, family engagement displayed a relationship to sense of belonging for first-generation Asian, East Asian, Southeast Asian, and South Asian American college students. When intermediate variables were introduced into step two of the stepwise regression model, only first-generation Asian and

South Asian Americans still showed a relationship between family engagement and sense of belonging. Though there was a change for first-generation East and Southeast Asian American college students, the results show an importance of family engagement within these populations' engagement on college campuses. This result supports existing literature that for Asian American college students, family plays an integral role in their student's collegiate career, particularly with self-efficacy. Family influences, expectations, and cultural values help guide Asian American students engagement in college, particularly especially since family serve as a preexisting support system for them (Hui & Lent, 2018; Pratt et al., 2017; Tsai-Chae & Nagata, 2008). It is telling that family engagement, specifically the number of hours spent with family, has a high positive relationship to sense of belonging. This results supports Yuan et al.'s (2014) recommendation that educators need to help students engage with their parents so that they may continue to serve as a support system and a resource to maintain their self-efficacy.

The results also supports the need of family engagement as parental influence could be a factor when examining sense of belonging for Asian American college students, especially since they are a guiding force of their student's engagement. Family engagement could reduce discrepancies between student and parents, which could alleviate conflict due to an acculturation gap that could cause potential distress (Hui & Lent, 2018). For instance, as literature suggests, Asian parents may not necessarily be supportive of their student participating in social and extra-curricular engagement opportunities as they may distract them from their overall studies. However, practitioners can work with first-generation Asian American college students by providing them with

the tools to have discussions with their parents on the importance of getting involved in social and extra-curricular activities and how it relates to personal and professional development that will be beneficial and needed for their future career goals. This recommendation equips students to have these difficult conversations that may be counter to their parents expectations, allow for family engagement to be part of the students' decision-making process, with the goal of parents ultimately being supportive of their involvement choices, rather than rejecting their parents' expectations. This recommendation involves family being part of the students' ability to build self-efficacy. Family engagement amongst first-generation Asian American college students and its relationship to sense of belonging can challenge some student affairs practitioners' traditional approach to helping students transition into a college environment as these approaches do not necessarily take family engagement into consideration. However, these results can reframe how faculty and staff can incorporate or at least consider how family engagement can be incorporated into intervention strategies to foster sense of belonging for this community.

One strategy to incorporate this into practice is having orientation or first year experience programs, which have workshops specifically for parents, discussing the changing dynamics of parent and child in a college setting. This includes having discussions about helping parents coach their student to foster self-efficacy to allow parents to still be influential in their child's decision-making process. Another workshop possibility is to discuss the importance of student involvement and its positive relationship to sense of belonging along with leadership development needed to help reach career attainment. For those offices without parent programs, the Career Center can

provide programming regarding supporting their student as they transition from college into the workforce.

The approach of recognizing family engagement as a key influence for first-generation Asian American and subsequent Asian sub-groups allows for an acculturated approach to working with this student population as it recognizes the cultural significance of parents being part of their students collegiate experience and overall decision-making process. For example, this approach equips first-generation Asian American college students with strategies and builds confidence to communicate to their parents about the importance of being academically engaged, but also socially involved in extra-curricular activities. Doing so provides an opportunity for both student and parent to collectively have difficult conversations in the hopes that can broaden parents scope of involvement, yet still nurture self-efficacy, and overall sense of belonging. This is an example where student affairs practitioners can break the cycle of assimilation in which traditional intervention strategies do not take into consideration family engagement in part of a student's decision-making process as a strategy of increasing self-efficacy.

Academic Engagement: Time Spent in Class, Studying, and Academic Activities

Though academic engagement inversely demonstrated no relationship to sense of belonging for not only first-generation Asian American, but also East, Southeast, and South Asian college students, there is still a need to discuss implications for practice. Initially, the results were surprising since literature on first-generation Asian American college students are typically generalized as academically high achieving and academically successful and their sense of belonging can relate to how well they are doing in school. Yet, upon further examination, one plausible explanation to this lack of

relationship is that the survey instrument only asks about the number of hours spent in the classroom, studying, and participating in academic related activities. The instrument did not look at the type of relationships the student had with the faculty or peers in their class. Literature on both first-generation college students and students of color suggests that the relationship between academic engagement and sense of belonging is described as how a student feels connected to the faculty members and their peers in the classroom setting and not the number of hours spent. Therefore, faculty should find opportunities during class to build relationships with students and cultivate ways for the students to interact and learn amongst each other. Doing so allows students, particularly first-generation Asian American college students, to develop connections, learn in community, and potentially build a sense of belonging from an environment of academic engagement. However, these are assertions, and more research is needed since the results of this study did not indicate a relationship to sense of belonging.

Recommendations for Practice and Future Research

What my study revealed is that there is more research and understanding that can, and needs to be done from this initial dissertation. Though the results from my study have added to the body of knowledge regarding sense of belonging, particularly for first-generation Asian, East Asian, Southeast Asian, and South Asian college students, more understanding can be gained regarding which environments impact sense of belonging for not only Asian American and/or Asian American sub-groups, but also for specific Asian ethnicities. When looking at the results, many more questions arose rather than answers. For instance, the results highlights the need for disaggregated demographic data. Looking at the results of first-generation Asian American and comparing it to the other

Asian sub-groups, we begin to see how sometimes results of Asian American students can mask other Asian sub-group results. Family engagement throughout the regression models demonstrated a strong positive relationship to sense of belonging not only for first-generation Asian Americans, but all the other Asian sub-groups as well. However, as intermediate variables were included, though family engagement remained having a high positive relationship to sense of belonging, this was no longer the case for first generation East Asian and Southeast Asian students. The question is, why?

Another question that come to mind is, if socialization with friends and participation in student organizations have a high correlation to sense of belonging for the majority of the Asian sub-groups and Asian American students as a whole, who are they socializing with and in what type of environment are the participating? The literature argues two extremes that in order to fit in and foster a sense of belonging, first-generation Asian American college students either felt pressured to remake themselves by assimilating with the majority student population to make friends, particularly at predominantly White institutions, or acculturate and found community with other students who share similar racial backgrounds through participating in cultural-based student organizations. Therefore, future studies could also include how assimilation versus acculturation plays a role in sense of belonging.

Spending time with family demonstrated a strong positive statistical relationship to sense of belonging. Further studies should look at how family engagement, particularly parental influence, has a large impact on students' sense of belonging. Additionally, academic engagement activities along with academic stress did not demonstrate a statistically significant relationship to sense of belonging, which again can be attributed

to the question asked in the instrument rather than meaning there is no relationship to sense of belonging. Yet, does academic engagement relate to sense of belonging should the question ask about relationship to faculty members rather than number of hours spent in the classroom or studying?

Many of the variables within my study demonstrated that there was not a significant relationship to sense of belonging, across all the categories of social, extra-curricular, academic, and family engagement. This is particularly the case with variables within the extra-curricular and academic engagement categories, which poses the questions, what additional environmental factors relate to sense of belonging and why does academic engagement not correlate to sense of belonging?

This study did not take into consideration gender as an input; however, it is important to note that the findings showed that 69% of the sample were female to the 31% male. This raises more questions such as: is this finding indicative of college enrollment in general? What would be the findings be if the study took into consideration first-generation Asian American males versus females? Which environments will relate to sense of belonging if genders were compared? Will the results be similar? These results can help researchers understand and practitioners cultivate more targeted intervention strategies that better support sense of belonging and overall students' success should results differ amongst gender.

Additionally, the methodological framework of Astin's (1994) Input-Environment-Output (I-E-O) model can also be expanded. Future studies can introduce different variables as part of the input to examine which environments and intermediate variables relate to sense of belonging (output). Therefore, my study can be replicated in a

way to include additional demographic qualifiers as part of the input, such as gender, sexual orientation, gender identity, specific level in school year (e.g., first-year undergraduate students), graduate versus undergraduate, or veterans status, as the survey instrument also provides this demographic information, which would create better understanding of more specific Asian American student populations. Even more so, the methodological framework can be replicated to other racial/ethnic backgrounds other than Asian. As always, more research needs to be done in order to better understand which environments relate to sense of belonging for various sub-groups and better yet, specific Asian ethnicities.

From a student affairs practitioner's standpoint, I recommend that a culturally engaging campus environment (CECE) model of college success (Museus et al., 2017). This model centers the voice of diverse populations and take into consideration students' inputs as they enter higher education settings to shape college success. Museus et al. (2017) argue that a culturally engaging campus environment is positively correlated with higher levels of sense of belonging and a greater likelihood of success in higher education. Creating a culturally engaging campus environment requires cultural relevance, which is achieved when students have opportunities to connect with faculty, staff, and peers who understand their backgrounds and experiences along with having the opportunity to learn about their cultural background and experiences along with giving back to their own community (Museus et al., 2017). Though a culturally engaging campus environment centers, in this case, Asian American voices, CECE also requires students to participate in meaningful cross-cultural dialogue to discuss solving social and political issues with peers from different backgrounds (Museus et al., 2017). In turn, this

creates a culturally validating environment where students feel like their identities matter and are valued by their campus (Museus et al., 2017). Creating a culturally engaging campus environment requires practitioners to be culturally responsive where campus programs and practices respond to the needs of a specific student population (Museus et al., 2017). This requires a holistic approach through teamwork, care through meaningful relationships with students, and providing opportunities and support (Museus et al., 2017).

Within the context of my dissertation, applying a culturally engaging campus environment requires practitioners to not only understand first-generation Asian American experiences, but challenge themselves to dig deeper and develop an understanding of at least Asian sub-groups, but better yet, specific Asian ethnicities. This understanding can guide practices so that intervention strategies can be curated to reach out, develop meaningful relationships, and facilitate programming specific for each population. For instance, student organizations have a strong relationship across all Asian sub-groups. Aside from student organization fairs, practitioners could ensure at least the campus has an Asian and Asian American student organization, especially when the campus is predominantly White. For those larger campuses, practitioners could support opportunities for specific Asian ethnicities to have their own student organization. Programs could include facilitating connections with off-campus Asian community organizations as well. These are a few examples.

Family also has a positive significant relationship to sense of belonging. Practitioners can reframe their thinking and cultivate intervention strategies that incorporate families into the process of building self-efficacy rather than separating

students from family as some student impact models suggest. This could include programs that focus on helping students navigate difficult conversations with parents since literature suggests that cultural conflict could arise due to their lived experience of living in two worlds, one within the home where Asian cultural values hold strong to one within their college experience. As the literature suggests, Asian American college students would rather negotiate and live a dual life to make their parents happy while trying to be successful on campus. Therefore, practitioners should move away from separating, instead recognizing that parents and families are key partners to facilitating a sense of belonging for their first-generation Asian American college students. This is especially true since the findings demonstrate a positive relationship a positive relationship between family engagement and sense of belonging for Asian and all subsequent Asian sub-groups. Equipping first-generation Asian American college students, the skills to have those difficult conversations and bringing the family nucleus into their educational career could positively impact their overall sense of belonging. Yet, in order to do this effectively requires educational training for faculty and staff to build their personal cultural competencies. Without doing so can actually perpetuate harm on the communities that we are trying to serve.

The results of my study show that there are several environments that demonstrate a strong relationship to sense of belonging. When first-generation Asian American college students face challenges, stress, and loneliness that impact their safety, security, and love, this changes the environment and involvement in engagement opportunities that relate to their sense of belonging. Looking deeper at Asian sub-groups compounds this issue, as the environments that correlate to sense of belonging also differs across sub-

groups. Therefore, the results support the argument that research and practitioners cannot continue to view Asian Americans as a monolith but rather begin to understand how environments relate to sense of belonging for each specific Asian ethnicity. Yes, the results demonstrate commonalities such as socializing with friends, participating in student organizations, and spending time with family that show a positive relationship to sense of belonging. However, the findings can be still viewed as a generalization. This is not to say that student affairs practitioners should abandon student impact models' recommendations nor the results of studies on Asian Americans, including this study. Rather, practitioners should continue to create intervention strategies that help this student population make friends, join organizations that meet their specific interest, and have family as part of the process. Yet, they must also go above and beyond to understanding that these intervention strategies are not one size fits all for these first-generation Asian American college students and thus, they must also develop opportunities for connection that centers specific Asian ethnicities.

There will be some first-generation Asian American college students that will continue to use assimilation to find their sense of belonging that fit the "traditional" narrative of involvement. However, practitioners should also be able to apply a culturally engaging campus environment that has the skillset to help first-generation Asian American college student find a sense of belonging through acculturation that strengthens their individual cultural identity to where they still feel like they belong and matter. However, this requires both researchers and practitioners to go above and beyond by not inadvertently perpetuate the model minority stereotype and recognize that the first-

generation Asian American student population faces unique challenges that require serious consideration and study.

Interventions strategies for first-generation Asian American college student should include facilitating connections with peers to foster friendships, introducing them to opportunities of involvement in student organizations, also creating ways to keep their family as an integral role of their academic career, as these factors may bolster not only first-generation Asian American college students and all three Asian sub-groups. The results also demonstrate all the nuances for sense of belonging. For instance, when only taking into consideration the environment, environmental ways of belonging differed not only between variables, but also across the Asian sub-groups. The nuances became more prevalent as intermediate variables were introduced into the stepwise regression model.

Additionally, for student affairs professionals, if diversity, equity, and inclusion is a priority of institutions, practice needs to change from an assimilation approach to acculturation where interventions strategies also focus on specific racial/ethnic minority populations such as first-generation Asian American, Asian sub-groups, and individual ethnicities. Doing so not only addresses the critiques various student impact models, but provide opportunity to implement recommendations for practice from existing literature on Asian American college students, which also includes my study. One way to do this is for student affairs practitioners to apply a culturally engaging campus environment (CECE) model of college success (Museus et al., 2017), where voices of diverse populations are centered and students' inputs are considered as they enter higher education settings to shape college success. Doing so generates higher levels of sense of belonging and a greater likelihood of success in higher education (Museus et al., 2017).

Overall, social, extra-curricular, and family engagement environments play a crucial role to fulfilling Strayhorn's (2012) definition of sense of belonging for first-generation Asian American college students as these environment can increase students' perceived social support on campus, a feeling or sensation of connectedness, the experience of mattering or feeling cared about, accepted, respected, valued by, and important to the group or others on campus. The responsibility of fostering a sense of belonging on a college campus does not fall on the shoulders of one specific office but rather the entire collective campus community, hence the need for a applying a culturally engaging campus environment model. It takes all facets of the university from the admissions team once a student is accepted to the university, to orientation staff as they help transition students onto the campus, the student activities staff to help them get involved and find their place on campus, to the residence life staff to help students find community through their on-campus residential experience, to a team that outreaches commuter students, and of course, faculty and academic advisors for when they are spending time in the classroom. It takes a collective effort to help shepherd students' sense of belonging from the moment they enter campus until they graduate. To do this successfully requires a collaborative effort because not all campuses will have these individual offices nor the human and financial resources to carry out this lofty task, but if the entire campus community works collectively to support one another along with taking a culturally engaging campus environment approach, the goal of fostering a sense of belonging for all students can be achieved.

My study is a step forward to breaking the cycle of viewing Asian Americans as a monolith by exploring Asian sub-groups, yet this study is still constricted by the fact that

the data set used in this study cannot take into consideration specific Asian ethnicities. This highlights the fact that the data we use are only as good as what is collected. Therefore one major critique and recommendation is that all future research instruments, such as surveys, need to apply a race-conscious approach to data collection to where there are questions that directly ask about racial sub-groups and specific ethnicities. Doing so allows data to be collected that can then be disaggregated by the researcher. Only then can researches build a better understanding of specific ethnic student populations, and even more so, use that data to inform decision-making on intervention strategies and overall policies that could uplift marginalized voices. However, until this type of data is collected, we continuously perpetuate a model minority and assimilation narrative.

I would also be remiss if I did not include commentary on recent current events regarding the erasure of diversity, equity, and inclusion (DEI) at the federal level and within higher education that include the stoppage of funding for any type of DEI research, practice, and training initiatives. For me, this dissertation takes on new meaning as race-conscious research is needed more now than ever before to ensure the continued fight for liberation of marginalized voices so we can uplift our student populations that are most negatively impacted. Yet liberation cannot be achieved unless we fight by using data to demonstrate the need, continue to build cultural competencies of faculty and staff, and apply a culturally engaged campus environment. However, resistance to the erasure of DEI can only happen if we expand our understanding and deepen our knowledge past race and explore individual communities beyond first-generation Asian, East Asian, Southeast, and South Asian American college students.

Conclusion

Student affairs professionals have long applied student impact models as a guiding force for practice when developing intervention strategies for college and university students. Yet, one major critique regarding these models is they were developed studying the majority White student population found on most college campuses and may not reflect the experiences for students of color, particularly when these intervention strategies are in the form of an assimilation lens. Thus, sense of belonging has become a more prominent study for understanding student persistence, retention, and graduation as there is a strong correlation between the two, particularly for students of color. Yet, what about the experiences of first-generation Asian American college students? Though they are students of color, past research on this specific student population has highlighted a homogenous approach, which characterizes this student population as academically high achieving and with excellent graduation rates, therefore not posing an issue on college campuses. This line of thinking is problematic in many ways, as this perpetuates the MMM that can pit other students of color, such as Black and Latinx students, amongst each other. Additionally, Asian American students constitute a wide spectrum of ethnicities as the Asian diaspora constitutes close to 48 individual countries, having various lived experiences here in the United States. It is short-sighted to assume that one first-generation Asian ethnicity experience is the same as another Asian ethnicity.

As a student affairs practitioner and a first-generation Filipino-American, I wanted to conduct research for my dissertation that would provide knowledge for other student affairs professionals, also adding to the limited research on a student population I

also identify with. This dissertation posed the research question of which environments relate to sense of belonging for first-generation Asian American college students?

Applying a methodological framework using Astin's (1994) input-environment-output (I-E-O) model and using a theoretical framework applied Strayhorn's (2012) definition and model of sense of belonging to represent psychological safety, security, and love to examine existing data from the American College Health Association (ACHA) National College Health Assessment (NCHA). These data not only collected information regarding environment, involvement, and belongingness, but also allowed the data to be disaggregated into Asian sub-groups such as East Asian, Southeast Asian, and South Asian. Ideally, I would have liked to aggregate the data down to specific Asian ethnicities, but unfortunately the data source did not allow it, so Asian sub-groups was a good first step to breaking the cycle of conducting research of Asian Americans as a whole and leaves opportunity for further research for specific Asian ethnicities.

The stepwise regression model demonstrated that generally, for first-generation Asian, East Asian and Southeast Asian college students, that social engagement particularly socializing with friends and extra-curricular engagement in the form of participating in student organizations all demonstrate a positive relationship to sense of belonging. This was not the case for first-generation South Asian college students. Family engagement in the form of spending time with family demonstrated a positive relationship for first-generation Asian and South Asian college students. These results provide a glimpse on how lumping all Asian students together under one racial category can mask results of Asian sub-groups. Yet, what the results also demonstrate is that involvement in activities in three of the four engagement environments demonstrate a

positive relationship to sense of belonging. This is not to say that academic engagement does not have a relationship to sense of belonging for first-generation Asian American and sub-groups. What it shows is that the question regarding the number of hours spent in class, discussions, labs, studying, or other academic activities does not have a relationship to sense of belonging. This finding is understandable, as past research indicates that sense of belonging from an academic standpoint stems from the feeling of being supported by their faculty and peers within the classroom, which is not what the instrument asked. This result also provides another opportunity for future research on the role of academic engagement to sense of belonging for these student populations. When it comes to safety, security, and love, psychological well-being and mental health (with the exception of East Asian) held a positive relationship to sense of belonging across the board. Inversely, challenges and loneliness demonstrated a strong negative relationship to sense of belonging for all Asian sub-groups. The results both supports and add to the existing knowledge regarding student impact models, sense of belonging, first-generation college students, Asian American college students, and now begins to provide knowledge for Asian sub-groups.

As I reflect on the research process and the findings, I realize that though the results of my study provide a positive step forward for understanding which engagement environments relate to sense of belonging for first-generation Asian American college students along with East Asian, Southeast Asian, and South Asian students, there is so much more work and future research that needs to be conducted. Future research could include expanding specific activities within each engagement environment relating to sense of belonging. Moreover, future research needs to be done on specific Asian

ethnicities. One limitation of this study is that even categorizing specific ethnicities into smaller sub-groups still run the risk of masking results between ethnicities. Finally, when it comes to implications for practice, it is the hope that these results broaden the scope of student affairs professionals. As we continue to use student impact models to guide practice, we must move away from using these results to understand students' of color needs so that intervention strategies can help them assimilate. Rather, we should use these results to understand students' of color needs and co-create intervention strategies that meets their specific needs. Though these intervention strategies may look or sound the same, this nuance in approach allows student affairs professionals to take an acculturated approach and be more inclusive to meet the needs of the specific students we are trying to serve.

Throughout this dissertation journey, what I've learned the most is that there is always an opportunity to dig deeper, uplift, and add to the existing research and practice from those that came before me. It is the hope that others will pick up the work where I left off and continue digging deeper, and I look forward to learning about which environment relates to sense of belonging for first-generation Filipino-Americans.

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Appendices

Appendix A: ACHA-NCHA II Codebook



NCHA III Codebook

Revised 3/27/2023

The ACHA-NCHA III is currently available only as a web-based survey.

National College Health Assessment

The ACHA-NCHA asks about various aspects of your health and is completely voluntary. You may skip any question you do not want to answer. You may complete the survey in multiple sessions. This survey link is unique to you. You may begin the survey on one device and continue where you left off on another device. Use the buttons at the bottom of the survey to navigate through the survey. Do not use your browser's back button. The survey is confidential. When you hit the “Submit Survey” button on the last page of the survey, the link between your email address and your survey responses is destroyed.

In this survey, you’ll be asked about your personal experiences. Some of these experiences include illegal substance use; interpersonal, sexual, and intimate partner violence; mental health and thoughts of suicide; disordered eating; sexual behavior; and incidents of exclusion, harassment, and racism. We know that these topics can be difficult. Your safety and well-being are important to us. If you are feeling overwhelmed at any point, pay attention to your needs. If you would like to talk with someone about the issues addressed in this survey, you are encouraged to reach out to the campus contact or local resources identified in your survey invitation or to contact one these [additional resources](#).

By clicking the 'Begin Survey' button below, you agree that:

- the purpose of this study has been thoroughly explained to you;
- you are at least 18 years of age;
- and you consent to participate in the survey.

Scales embedded in the ACHA-NCHA III (scales used with permission or licensing agreement)	ACHA-NCHA III item numbers
Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)	N3Q22A – N3Q22Q
The Connor-Davison Resilience Scale (CD-RISC2)	N3Q42
Diener Flourishing Scale – Psychological Well-Being (PWB)	N3Q41
USDA ERS Food Security 6-Item Short Form	N3Q12
Kessler 6 (K6) – screening for serious mental illness	N3Q44
UCLA Three-Item Loneliness Scale (Hughes, et. al. 2004)	N3Q45
The Suicide Behaviors Questionnaire – Revised (SBQ-R)	N3Q49 - N3Q52

Overall Health and Community

N3Q1 How would you describe your overall health?

- Excellent (1)
- Very Good (2)
- Good (3)
- Fair (4)
- Poor (5)

N3Q2 Please select your level of agreement with the following statements:

	Strongly disagree (1)	Disagree (2)	Somewhat disagree (3)	Somewhat agree (4)	Agree (5)	Strongly agree (6)
I feel that I belong at my college/university. (N3Q2A)	0	0	0	0	0	0
I feel that students' health and well-being is a priority at my college/university. (N3Q2B)	0	0	0	0	0	0
At my college/university, I feel that the campus climate encourages free and open discussion about students' health and well-being. (N3Q2C)	0	0	0	0	0	0
At my college/university, we are a campus where we look out for each other. (N3Q2D)	0	0	0	0	0	0

N3Q3 How many hours do you spend in a typical week (7 days) on the following activities?

	0 hours (1)	1-5 hours (2)	6-10 hours (3)	11-15 hours (4)	16-20 hours (5)	21-25 hours (6)	26-30 hours (7)	More than 30 hours (8)
Attending classes, discussion sections, or labs (N3Q3A)	0	0	0	0	0	0	0	0
Studying and other academic activities outside of class (N3Q3B)	0	0	0	0	0	0	0	0
Attending cultural events, movies, concerts, sports or other entertainment with others (N3Q3C)	0	0	0	0	0	0	0	0
Performing community service or volunteer activities (N3Q3D)	0	0	0	0	0	0	0	0
Participating in physical exercise, team sports, recreational sports, or physically active hobbies (N3Q3E)	0	0	0	0	0	0	0	0
Participating in spiritual or religious activities (N3Q3F)	0	0	0	0	0	0	0	0
Participating in student clubs or organizations (N3Q3G)	0	0	0	0	0	0	0	0
Socializing with friends (N3Q3H)	0	0	0	0	0	0	0	0
Partying (N3Q3I)	0	0	0	0	0	0	0	0
Spending time with family (N3Q3J)	0	0	0	0	0	0	0	0
Watching TV, streaming movies/TV or other media for entertainment (N3Q3K)	0	0	0	0	0	0	0	0

Gaming (N3Q3L)	0	0	0	0	0	0	0	0
Using social media (N3Q3M)	0	0	0	0	0	0	0	0
Commuting to school and/or to work (N3Q3N)	0	0	0	0	0	0	0	0
Working for pay (N3Q3O)	0	0	0	0	0	0	0	0
Participating in meditation or meditative activities (N3Q3P)	0	0	0	0	0	0	0	0
Performing unpaid household responsibilities (N3Q3Q)	0	0	0	0	0	0	0	0
Taking care of children or other family members (unpaid) (N3Q3R)	0	0	0	0	0	0	0	0

Weight, Nutrition, and Exercise

N3Q4 How do you describe your weight?

- Very underweight (1)
- Slightly underweight (2)
- About the right weight (3)
- Slightly overweight (4)
- Very overweight (5)

N3Q5 Are you trying to do any of the following about your weight?

- I am not trying to do anything about my weight (1)
- Stay the same weight (2)
- Lose weight (3)
- Gain weight (4)

For the next two questions, the levels of physical activity intensity can be characterized in terms of breathing difficulty. A person doing moderate physical activity can typically talk, but not sing while doing the activity. A person doing vigorous physical activity typically cannot say more than a few words without pausing for a breath while doing the activity.

N3Q6 In the last 7 days, how many (total) minutes did you spend doing moderate physical activity? Examples: brisk walking, dancing, or household chores.

_____minutes

N3Q7 In the last 7 days, how many (total) minutes did you spend doing vigorous physical activity? Examples: running, swimming laps, or hiking.

_____minutes

N3Q8 In the last 7 days, on how many days did you do exercises to strengthen or tone your muscles? Examples: push ups, sit ups, or weightlifting/training.

- 0 days (0)
- 1 day (1)
- 2 days (2)
- 3 days (3)
- 4 days (4)
- 5 days (5)
- 6 days (6)
- 7 days (7)

N3Q9A In the last 7 days, how many servings of sugar-sweetened beverages did you drink on average per day?

One serving is 12 oz of soda; 8 oz of sugar-sweetened, flavored water or sports drink; 6 oz of sugar-sweetened coffee, tea, or juice. If you do not drink sugar-sweetened beverages, please enter 0.

_____servings

N3Q9B In the past 30 days, on how many days did you drink energy drinks or energy shots (for example: Red Bull, Monster, Full Throttle, 5 Hour Energy, Rockstar Energy Shot, or Full Throttle Energy Shot, etc.)

_____days

N3Q10 In the last 7 days, how many servings of fruit did you eat on average per day?

One serving is a medium piece of fresh fruit; 1/2 cup of fresh, frozen, or canned fruit; 1/4 cup of dried fruit; or 3/4 cup of 100% fresh fruit juice

- 0 servings per day (1)
- 1-2 servings per day (2)
- 3-4 servings per day (3)
- 5-6 servings per day (4)
- More than 6 servings per day (5)

N3Q11 In the last 7 days, how many servings of vegetables did you eat on average per day?

One serving is ½ cup of fresh, frozen, or canned vegetables; ¾ cup 100% vegetable juice; or 1 cup salad greens)

- 0 servings per day (1)
- 1-2 servings per day (2)
- 3-4 servings per day (3)
- 5-6 servings per day (4)
- More than 6 servings per day (5)

USDA Food Security

N3Q12 For the following statements, please say whether the statement was often true, sometimes true, or never true for you in the last 30 days.

	Often True (2)	Sometimes True (1)	Never True (0)
The food that I bought just didn't last, and I didn't have money to get more. (N3Q12A)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I couldn't afford to eat balanced meals. (N3Q12B)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

N3Q12C In the last 30 days, did you ever cut the size of your meals or skip meals because there wasn't enough money for food?

- Yes, almost every day (3)
- Yes, some days, but not every day (2)
- Only 1 or 2 days (1)
- No (0)

N3Q12D In the last 30 days, did you ever eat less than you felt you should because there wasn't enough money for food?

Yes (1)

No (0)

N3Q12E In the last 30 days, were you ever hungry but didn't eat because there wasn't enough money for food?

Yes (1)

No (0)

Sleep

N3Q13 How long does it usually take for you to fall asleep at night once you close your eyes?

- Under 5 minutes (1)
- 5-15 minutes (2)
- 16-30 minutes (3)
- 31 minutes - 1 hour (4)
- over 1 hour (5)

N3Q14 Over the last 2 weeks, what is the average amount of sleep you have gotten on a weeknight (excluding naps)? (Please select the response closest to your answer)

- Less than 4 hours (1)
- 4 hours (2)
- 5 hours (3)
- 6 hours (4)
- 7 hours (5)
- 8 hours (6)
- 9 hours (7)
- 10 or more hours (8)

N3Q15 Over the last 2 weeks, what is the average amount of sleep you have gotten on a weekend night (excluding naps)? (Please select the response closest to your answer)

- Less than 4 hours (1)
- 4 hours (2)
- 5 hours (3)
- 6 hours (4)
- 7 hours (5)
- 8 hours (6)
- 9 hours (7)
- 10 or more hours (8)

N3Q16 On how many of the last 7 days did you: (Please mark the appropriate column for each row)

	0 days (1)	1 day (2)	2 days (3)	3 days (4)	4 days (5)	5 days (6)	6 days (7)	7 days (8)
Wake up too early in the morning and couldn't get back to sleep? (N3Q16A)	o	o	o	o	o	o	o	o
Feel tired or sleepy during the day? (N3Q16B)	o	o	o	o	o	o	o	o
Have an extremely hard time falling asleep? (N3Q16C)	o	o	o	o	o	o	o	o
Get enough sleep so that you felt rested? (N3Q16D)	o	o	o	o	o	o	o	o
Take a nap? (N3Q16E)	o	o	o	o	o	o	o	o

(if they select “1 day” to “7 days” in N3Q16E) N3Q16F On average, how long are your naps?

- Less than 30 minutes (1)
- Between 30 and 59 minutes (2)
- Between 60 and 119 minutes (3)
- 2 hours or more (4)

Safety

N3Q17 Within the last 12 months, how often did you: (Please mark the appropriate column for each row)

	<u>Did not do this activity within the last 12 months (1)</u>	Never (2)	Rarely (3)	Sometimes (4)	Most of the time (5)	Always (6)
Wear a helmet when you rode a bicycle? (N3Q17A)	o	o	o	o	o	o
Wear a helmet when you rode a motorcycle/ motor scooter? (N3Q17B)	o	o	o	o	o	o
Wear a helmet when you were skateboarding? (N3Q17C)	o	o	o	o	o	o

N3Q18A When, if ever, was the last time you drove a car or other vehicle?

- Never (1)
- Within the last 2 weeks (2)
- More than 2 weeks ago but within the last 30 days (3)
- More than 30 days ago but within the last 3 months (4)
- More than 3 months ago but within the last 12 months (5)
- More than 12 months ago (6)

(if they select that they drove a car in the last 2 weeks in N3Q18A, they will see N3Q18B to N3Q18D)

N3Q18B Within the last 2 weeks, on how many days did you drive a car or other vehicle?

_____ days

N3Q18C Within the last 2 weeks, on how many days did you manually operate a device to text, email, video chat, or use the internet or apps while driving a car or other vehicle?

_____ days

N3Q18D Within the last 12 months, how many times have you been involved in an accident when you drove a car or other vehicle?

- No accidents (1)
- One accident (2)
- Two accidents (3)
- Three or more accidents (4)

N3Q19 Within the last 12 months, did you experience any of the following in an intimate (coupled/partnered) relationship? (Please mark the appropriate column for each row)

	No (1)	Yes (2)
A partner called me names, insulted me, or put me down to make me feel bad. (N3Q19A)	o	o
A partner often insisted on knowing who I was with and where I was or tried to limit my contact with family or friends. (N3Q19B)	o	o
A partner pushed, grabbed, shoved, slapped, kicked, bit, choked, or hit me without my consent. (N3Q19C)	o	o
A partner forced me into unwanted sexual contact by holding me down or hurting me in some way. (N3Q19D)	o	o

A partner pressured me into unwanted sexual contact by threatening me, coercing me, or using alcohol or other drugs. (N3Q19E)

o

o

N3Q20 Within the last 12 months, did you experience any of the following? Do not include intimate relationships. (Please mark the appropriate column for each row)

	No (1)	Yes (2)
I was in a physical fight. (N3Q20A)	<input type="radio"/>	<input type="radio"/>
I was physically assaulted (do not include sexual assault). (N3Q20B)	<input type="radio"/>	<input type="radio"/>
I was verbally threatened. (N3Q20C)	<input type="radio"/>	<input type="radio"/>
I was sexually touched without my consent. (N3Q20D)	<input type="radio"/>	<input type="radio"/>
Sexual penetration (vaginal, anal, oral) was attempted on me without my consent. (N3Q20E)	<input type="radio"/>	<input type="radio"/>
I was sexually penetrated (vaginal, anal, oral), or made to penetrate someone without my consent. (N3Q20F)	<input type="radio"/>	<input type="radio"/>
I was a victim of stalking (for example: waiting for me outside my classroom, residence, or office; or repeated emails/phone calls). (N3Q20G)	<input type="radio"/>	<input type="radio"/>

N3Q21 How safe do you feel: (Please mark the appropriate column for each row)

	Not safe at all (1)	Somewhat unsafe (2)	Somewhat safe (3)	Very safe (4)
On my campus (daytime)? (N3Q21A)	o	o	o	o
On my campus (nighttime)? (N3Q21B)	o	o	o	o
In the community surrounding my campus (daytime)? (N3Q21C)	o	o	o	o
In the community surrounding my campus (nighttime)? (N3Q21D)	o	o	o	o

ASSIST

(If they select 'no' to all items in N3Q22A, they skip to question N3Q23)

N3Q22A In your life, which of the following substances have you ever used?

For prescription medications, please report nonmedical use only. "Nonmedical use" means taking prescription drugs just for the feeling or experience they cause or taking them more often or at higher doses than prescribed.

	No (0)	Yes (3)
Tobacco or nicotine delivery products (cigarettes, e-cigarettes, Juul or other vape products, water pipe or hookah, chewing tobacco, cigars, etc.) (N3Q22A1)	0	0
Alcoholic beverages (beer, wine, liquor, etc.) (N3Q22A2)	0	0
Cannabis (marijuana, weed, hash, edibles, vaped cannabis, etc.) <i>[Please report nonmedical use only.]</i> (N3Q22A3)	0	0
Cocaine (coke, crack, etc.) (N3Q22A4)	0	0
Prescription stimulants (Ritalin, Concerta, Dexedrine, Adderall, diet pills, etc.) <i>[Please report nonmedical use only.]</i> (N3Q22A5)	0	0
Methamphetamine (speed, crystal meth, ice, etc.) (N3Q22A6)	0	0
Inhalants (poppers, nitrous, glue, gas, paint thinner, etc.) (N3Q22A7)	0	0
Sedatives or Sleeping Pills (Valium, Ativan, Xanax, Klonopin, Librium, Rohypnol, GHB, etc.) <i>[Please report nonmedical use only.]</i> (N3Q22A8)	0	0
Hallucinogens (Ecstasy, MDMA, Molly, LSD, acid, mushrooms, PCP, Special K, etc.) (N3Q22A9)	0	0

Heroin (N3Q22A10)	o	o
Prescription opioids (morphine, codeine, fentanyl, oxycodone [OxyContin, Percocet], hydrocodone [Vicodin], methadone, buprenorphine [Suboxone], etc.) [<i>Please report nonmedical use only.</i>] (N3Q22A11)	o	o
Other – Specify: (N3Q22A12)	o	o

N3Q22B In the past 3 months, how often have you used the substance(s) you mentioned? (rows endorsed in N3Q22A are displayed for this question)
Response options: Never (0), Once or twice (2), Monthly (3), Weekly (4), Daily or almost daily (6)

(if they select that they used prescription stimulants in the last 3 months in N3Q22B) N3Q22E Regarding your use of prescription stimulants (Ritalin, Concerta, Dexedrine, Adderall, diet pills, etc.) in the past 3 months, was it prescribed for you?

- Yes (1)
- No (0)
- Don't know (99)

(if they select that they were prescribed stimulants in the last 3 months in N3Q22E) N3Q22F Regarding your use of prescription stimulants (Ritalin, Concerta, Dexedrine, Adderall, diet pills, etc.) in the past 3 months:

	Yes (1)	No (0)	Don't know (99)
Do you ever use MORE of your stimulant medication, that is, take a higher dosage, than is prescribed for you? (N3Q22F1)	0	0	0
Do you ever use your stimulant medication MORE OFTEN, that is, shorten the time between dosages, than is prescribed for you? (N3Q22F2)	0	0	0

(if they select that they used prescription sedatives or sleeping pills in the last 3 months in N3Q22B)

N3Q22G Regarding your use of prescription sedatives or sleeping pills (Valium, Ativan, Xanax, Klonopin, Librium, Rohypnol, GHB, etc.) in the past 3 months, was it prescribed for you?

- Yes (1)
- No (0)
- Don't know (99)

(if they select that they were prescribed sedatives or sleeping pills in the last 3 months in N3Q22G)

N3Q22H Regarding your use of prescription sedatives or sleeping pills (Valium, Ativan, Xanax, Klonopin, Librium, Rohypnol, GHB, etc.) in the past 3 months:

	Yes (1)	No (0)	Don't know (99)
Do you ever use MORE of your sedatives or sleeping pills, that is, take a higher dosage, than is prescribed for you? (N3Q22H1)	0	0	0
Do you ever use your sedatives or sleeping pills MORE OFTEN, that is, shorten the time between dosages, than is prescribed for you? (N3Q22H2)	0	0	0

(if they select that they used prescription opioids in the last 3 months in N3Q22B) N3Q22I Regarding your use of prescription opioids (morphine, codeine, fentanyl, oxycodone [OxyContin, Percocet], hydrocodone [Vicodin], methadone, buprenorphine [Suboxone], etc.) in the past 3 months, was it prescribed for you?

- Yes (1)
- No (0)
- Don't know (99)

(if they select that they were prescribed opioids in the last 3 months in N3Q22I) N3Q22J Regarding your use of prescription opioids (morphine, codeine, fentanyl, oxycodone [OxyContin, Percocet], hydrocodone [Vicodin], methadone, buprenorphine [Suboxone], etc.) in the past 3 months:

	Yes (1)	No (0)	Don't know (99)
Do you ever use MORE of your opioid medication, that is, take a higher dosage, than is prescribed for you? (N3Q22J1)	0	0	0
Do you ever use your opioid medication MORE OFTEN, that is, shorten the time between dosages, than is prescribed for you? (N3Q22J2)	0	0	0

N3Q22K During the past 3 months, how often have you had a strong desire or urge to use the following substance(s)? (rows endorsed in N3Q22B are displayed for this question) Response options: Never (0), Once or twice (3), Monthly (4), Weekly (5), Daily or almost daily (6)

N3Q22L During the past 3 months, how often has your use of the following substance(s) led to health, social, legal, or financial problems? (rows endorsed in N3Q22B are displayed for this question)

Response options: Never (0), Once or twice (4), Monthly (5), Weekly (6), Daily or almost daily (7)

N3Q22M During the past 3 months, how often have you failed to do what was normally expected of you because of your use of the following substance(s)? (rows endorsed in N3Q22B are displayed for this question)

Response options: Never (0), Once or twice (5), Monthly (6), Weekly (7), Daily or almost daily (8)

N3Q22N Has a friend or relative or anyone else ever expressed concern about your use of the following substance(s)? (rows endorsed in N3Q22A are displayed for this question) Response options: No, never (0); Yes, in the past 3 months (6); Yes, but not in the past 3 months (3)

N3Q22O Have you ever tried and failed to control, cut down or stop using the following substance(s)? (rows endorsed in N3Q22A are displayed for this question)

Response options: No, never (0); Yes, in the past 3 months (6); Yes, but not in the past 3 months (3)

(if they select 'yes' in N3Q22A)

N3Q22P Have you ever used any drug by injection?

[RECREATIONAL or NON-MEDICAL USE ONLY]

- No, never (0)
- Yes, in the past 3 months (2)
- Yes, but not in the past 3 months (1)

(if they select 'yes, in the past 3 months' in N3Q22P)

N3Q22Q In the past 3 months, how often have you injected drugs?

[RECREATIONAL or NON-MEDICAL USE ONLY]

- Once per week or less (0)
- More than once per week (1)

Alcohol, Tobacco, and Other Drugs

(if they select that they have used tobacco/nicotine delivery products in the last 3 months in N3Q22B)

N3Q23 Within the last 3 months, which tobacco products have you used?

	No (1)	Yes (2)
Cigarettes (N3Q23A)	<input type="radio"/>	<input type="radio"/>
E-cigarettes or other vape products (for example: Juul, etc.) (N3Q23B)	<input type="radio"/>	<input type="radio"/>
Water pipe or hookah (N3Q23C)	<input type="radio"/>	<input type="radio"/>
Chewing or smokeless tobacco (N3Q23D)	<input type="radio"/>	<input type="radio"/>
Cigars or little cigars (N3Q23E)	<input type="radio"/>	<input type="radio"/>
Other (please specify) (N3Q23F)	<input type="radio"/>	<input type="radio"/>

(if they select ‘never’ in N3Q24, they skip to question N3Q33)

N3Q24 When, if ever, was the last time you used cannabis/marijuana? Please include medical and non-medical use.

- Never (1)
- Within the last 2 weeks (2)
- More than 2 weeks ago but within the last 30 days (3)
- More than 30 days ago but within the last 3 months (4)
- More than 3 months ago but within the last 12 months (5)
- More than 12 months ago (6)

(if they select 'more than 12 months ago' in N3Q25A they skip to N3Q32) N3Q25A When, if ever, was the last time you drank alcohol?

- Never (1)
- Within the last 2 weeks (2)
- More than 2 weeks ago but within the last 30 days (3)
- More than 30 days ago but within the last 3 months (4)
- More than 3 months ago but within the last 12 months (5)
- More than 12 months ago (6)

(if they select that they drank alcohol within the last 3 months in N3Q25A, they will see questions N3Q25B, N3Q26, and N3Q27.

N3Q25B The last time you drank alcohol:

	No (1)	Yes (2)
Did you get drunk? (N3Q25B1)	o	o
Did you intend to get drunk? (N3Q25B2)	o	o

One drink of alcohol is defined as a 12 oz. can or bottle of beer or wine cooler, a 4 oz. glass of wine, or a shot of liquor straight or in a mixed drink.

N3Q26 The last time you drank alcohol in a social setting, how many drinks of alcohol did you have?

_____drinks

N3Q27 The last time you drank alcohol in a social setting, over how many hours did you drink alcohol?

_____hours

(if they select 'within the last 2 weeks' in N3Q25A)

N3Q28 Over the last two weeks, how many times have you had five or more drinks (males) or four or more drinks (females) containing any kind of alcohol at a sitting?

- None (1)
- 1 time (2)
- 2 times (3)
- 3 times (4)
- 4 times (5)
- 5 times (6)
- 6 times (7)
- 7 times (8)
- 8 times (9)
- 9 times (10)
- 10 or more times (11)

(if they select that they drank alcohol within the last 12 months in N3Q25A)
 N3Q29 Within the last 12 months, have you experienced any of the following when drinking alcohol? (Please mark the appropriate column for each row)

	No (1)	Yes (2)
Did something I later regretted (N3Q29A)	<input type="radio"/>	<input type="radio"/>
Blackout (forgot where I was or what I did for a large period of time and cannot remember, even when someone reminds me) (N3Q29B)	<input type="radio"/>	<input type="radio"/>
Brownout (forgot where I was or what I did for short periods of time, but can remember once someone reminds me) (N3Q29C)	<input type="radio"/>	<input type="radio"/>
Got in trouble with the police (N3Q29D)	<input type="radio"/>	<input type="radio"/>
Got in trouble with college/university authorities (N3Q29E)	<input type="radio"/>	<input type="radio"/>
Someone had sex with me without my consent (N3Q29F)	<input type="radio"/>	<input type="radio"/>
Had sex with someone without their consent (N3Q29G)	<input type="radio"/>	<input type="radio"/>
Had unprotected sex (N3Q29H)	<input type="radio"/>	<input type="radio"/>
Physically injured myself (N3Q29I)	<input type="radio"/>	<input type="radio"/>
Physically injured another person (N3Q29J)	<input type="radio"/>	<input type="radio"/>
Seriously considered suicide (N3Q29K)	<input type="radio"/>	<input type="radio"/>
Needed medical help (N3Q29L)	<input type="radio"/>	<input type="radio"/>

(if they select that they drove in the last 30 days in N3Q18A AND drank alcohol within the last 30 days in N3Q25A)

N3Q30A Within the last 30 days, did you drive after drinking any alcohol at all?

- No (1)
- Yes (2)

(if they select that they drank alcohol within the last 12 months in N3Q25A)

N3Q30B Within the last 12 months, to what extent did your alcohol use affect your academic performance? (Please select the most serious outcome below)

- My alcohol use did not affect my academics (1)
- My alcohol use negatively impacted my performance in a class (2)
- My alcohol use delayed progress towards my degree (3)

(if they select that they drove in the last 30 days in N3Q18A AND used cannabis within the last 30 days in N3Q24)

N3Q31A Within the last 30 days, did you drive within 6 hours of using cannabis/marijuana?

- No (1)
- Yes (2)

(if they select that they used cannabis within the last 12 months in N3Q24)

N3Q31B Within the last 12 months, to what extent did your cannabis/marijuana use affect your academic performance? (Please select the most serious outcome below)

- My cannabis/marijuana use did not affect my academics (1)
- My cannabis/marijuana use negatively impacted my performance in a class (2)
- My cannabis/marijuana use delayed progress towards my degree (3)

N3Q32 Do you identify as a person in recovery from alcohol or other drug use?

- No (1)

Yes. Please specify the type of substance: (2)

N3Q32TEX

T

Sexual Health

We recognize this survey asks about a limited number of sexual behaviors, likewise, the questions and response options may not represent your full identity, behaviors you engage in, nor use the language you prefer. Please answer to the best of your ability.

As you answer questions in this section, please include only sexual experiences for which you gave consent and exclude any sexual contact for which you did not consent.

(if they respond ‘never’ in N3Q33, they skip to question N3Q41)

N3Q33 When, if ever, was the last time you had: (Please mark the appropriate column for each row)

	Never (1)	Within the last 2 weeks (2)	More than 2 weeks ago but within the last 30 days (3)	More than 30 days ago but within the last 3 months (4)	More than 3 months ago but within the last 12 months (5)	More than 12 months ago (6)
Oral sex (oral/genital contact)? (N3Q33A)	o	o	o	o	o	o
Vaginal intercourse (penis in vagina)? (N3Q33B)	o	o	o	o	o	o
Anal intercourse (penis in anus)? (N3Q33C)	o	o	o	o	o	o

(if they select that they had oral, vaginal, or anal intercourse within the last 12 months in N3Q33)

N3Q34 Within the last 12 months, with how many partners have you had oral sex, vaginal intercourse, or anal intercourse?

_____ Number of Partners

(if they select that they had 1 or more partner in N3Q34)

N3Q35 Within the last 12 months, did you have sexual partner(s) who were: (Please mark the appropriate column for each row)

	No (1)	Yes (2)
Women or females (N3Q35A)	<input type="radio"/>	<input type="radio"/>
Men or males (N3Q35B)	<input type="radio"/>	<input type="radio"/>
Trans women (N3Q35C)	<input type="radio"/>	<input type="radio"/>
Trans men (N3Q35D)	<input type="radio"/>	<input type="radio"/>
Genderqueer (N3Q35E)	<input type="radio"/>	<input type="radio"/>
Person(s) with another identity (N3Q35F)	<input type="radio"/>	<input type="radio"/>

(if they select that they had oral, vaginal, or anal intercourse within the last 30 days in N3Q33) N3Q36 Within the last 30 days, how often did you or your partner(s) use a condom or other protective barrier (for example: male condom, female condom, dam, or glove) during: (Please mark the appropriate column for each row)

	Never (1)	Rarely (2)	Sometimes (3)	Most of the time (4)	Always (5)
Oral sex (oral/genital contact)? (N3Q36A)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Vaginal intercourse (penis in vagina)? (N3Q36B)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Anal intercourse (penis in anus)? (N3Q36C)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(if they selected that they had vaginal intercourse within the last 12 months in N3Q33B) N3Q37 Did you or your partner use any method to prevent pregnancy the last time you had vaginal intercourse (penis in vagina)?

- Yes (1)
- No, did not want to prevent pregnancy (2)
- No, did not use any method (3)
- Don't know (4)

(if they select 'yes' in N3Q37)

N3Q38 Please indicate which of the following method(s) you or your partner used to prevent pregnancy the last time you had vaginal intercourse. (Please select ALL that apply) ("0" indicates that the option was not selected, "1" indicates that the option was selected)

- Birth control pills (monthly or extended cycle) (A)
- Birth control shots (B)
- Birth control implants (C)
- Birth control patch (D)
- The ring (E)
- Emergency contraception ("morning after pill" or "Plan B") (F)
- Intrauterine device (IUD) (G)
- Male (external) condom (H)
- Female (internal) condom (I)
- Diaphragm or cervical cap (J)

- Contraceptive sponge (K)
 - Withdrawal (L)
 - Fertility awareness (calendar, mucous, and basal body temperature) (M)
 - Sterilization (for example: hysterectomy, tubes tied, or vasectomy) (N)
 - Don't know (O)
 - Other method (P) N3Q38PTEXT
-

(if they selected that they had vaginal intercourse within the last 12 months in N3Q33B)
N3Q39 Within the last 12 months, have you or your partner(s) used emergency contraception (“morning after pill” or “Plan B”)?

- No (1)
- Yes (2)
- Don't know (3)
- Not applicable (4)

(if they selected that they had vaginal intercourse within the last 12 months in N3Q33B) N3Q40 Within the last 12 months, have you or your partner(s) become pregnant?

- No (1)
- Yes, unintentionally (2)
- Yes, intentionally (3)
- Don't know (4)

Diener PWB Scale

N3Q41 Below are 8 statements with which you may agree or disagree. Using the scale below, indicate your agreement with each item by indicating that response for each statement.

	Strongly disagree (1)	Disagree (2)	Slightly Disagree (3)	Neither agree nor disagree (4)	Slightly agree (5)	Agree (6)	Strongly Agree (7)
I lead a purposeful and meaningful life. (N3Q41A)	0	0	0	0	0	0	0
My social relationships are supportive and rewarding. (N3Q41B)	0	0	0	0	0	0	0
I am engaged and interested in my daily activities. (N3Q41C)	0	0	0	0	0	0	0
I actively contribute to the happiness and well-being of others. (N3Q41D)	0	0	0	0	0	0	0
I am competent and capable in the activities that are important to me. (N3Q41E)	0	0	0	0	0	0	0

I am a good person and live a good life. (N3Q41F)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am optimistic about my future. (N3Q41G)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People respect me. (N3Q41H)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Mental Health

N3Q42 Please indicate how much you agree with the following statements as they apply to you over the last month. If a particular situation has not occurred recently, answer according to how you think you would have felt.

	Not at all true (0)	Rarely true (1)	Sometimes true (2)	Often true (3)	True nearly all the time (4)
I am able to adapt when changes occur. (N3Q42A)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I tend to bounce back after illness, injury, or other hardships. (N3Q42B)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

N3Q43 If in the future you were having a personal problem that was really bothering you, would you consider seeking help from a mental health professional?

No (1)

Yes (2)

N3Q44 The next 6 questions ask about how you have been feeling during the past 30 days. For each question, please select the response that best describes how often you had this feeling.

During the past 30 days, about how often did you feel...

	All of the time (4)	Most of the time (3)	Some of the time (2)	A little of the time (1)	None of the time (0)
...nervous? (N3Q44A)	0	0	0	0	0
...hopeless? (N3Q44B)	0	0	0	0	0
...restless or fidgety? (N3Q44C)	0	0	0	0	0
...so sad nothing could cheer you up? (N3Q44D)	0	0	0	0	0
...that everything was an effort? (N3Q44E)	0	0	0	0	0
...worthless? (N3Q44F)	0	0	0	0	0

N3Q45 Indicate how often each of the statements below is descriptive of you.

	Hardly ever (1)	Some of the time (2)	Often (3)
How often do you feel that you lack companionship? (N3Q45A)	o	o	o
How often do you feel left out? (N3Q45B)	o	o	o
How often do you feel isolated from others? (N3Q45C)	o	o	o

N3Q46 Within the last 12 months, how often have you intentionally cut, burned, bruised, or otherwise injured yourself?

- Never (1)
- Once or twice (2)
- Monthly (3)
- Weekly (4)
- Daily or almost daily (5)

N3Q47A Within the last 12 months, have you had problems or challenges with any the following?

	No (1)	Yes (2)
Academics (N3Q47A1)	o	o
Career (N3Q47A2)	o	o
Finances (N3Q47A3)	o	o
Procrastination (N3Q47A4)	o	o
Faculty (N3Q47A5)	o	o
Family (N3Q47A6)	o	o
Intimate relationships (N3Q47A7)	o	o
Roommate/housemate (N3Q47A8)	o	o
Peers (N3Q47A9)	o	o
Personal appearance (N3Q47A10)	o	o
Health of someone close to me (N3Q47A11)	o	o
Death of a family member, friend, or someone close to me (N3Q47A12)	o	o
Bullying (for example: making threats, spreading rumors, physical or verbal attacks, or excluding someone from a group) (N3Q47A13)	o	o

Cyberbullying (use of technology to harass, threaten, embarrass, or target another person) (N3Q47A14)	o	o
Hazing (rituals, challenges, and other activities involving harassment, abuse, embarrassment, ridicule, or humiliation used as a way of initiating a person into a group) (N3Q47A15)	o	o
Microaggression (a subtle but offensive comment or action directed at a minority or other non-dominant group, whether intentional or unintentional, that reinforces a stereotype) (N3Q47A16)	o	o
Sexual Harassment (unwelcomed sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature) (N3Q47A17)	o	o
Discrimination (the unjust or prejudicial treatment of a person based on the group, class, or category to which the person is perceived to belong) (N3Q47A18)	o	o

N3Q47B Within the last 12 months, to what extent did the following issue(s) cause you distress? (rows endorsed in N3Q47A are displayed for this question)

Response options: No Distress (1), Minimal Distress (2), Moderate Distress (3), High Distress (4)

N3Q47C Within the last 12 months, to what extent did the following issue(s) negatively affect your academic performance? (Please select the most serious outcome below) (rows endorsed in N3Q47A are displayed for this question)
Response options: This issue did not affect my academic performance (1), This issue negatively impacted my performance in a class (2), This issue delayed progress towards my degree (3)

N3Q48 Within the last 30 days, how would you rate the overall level of stress you have experienced?

- No stress (1)
- Low (2)
- Moderate (3)
- High (4)

N3Q49 Have you ever thought about or attempted to kill yourself?

- Never (1)
- It was just a brief passing thought (2)
- I have had a plan at least once to kill myself but did not try to do it (3)
- I have had a plan at least once to kill myself and really wanted to die (4)
- I have attempted to kill myself, but did not want to die (5)
- I have attempted to kill myself and really hoped to die (6)

N3Q50 How often have you thought about killing yourself in the past year?

- Never (1)
- Rarely (1 time) (2)
- Sometimes (2 times) (3)
- Often (3-4 times) (4)
- Very often (5 or more times) (5)

N3Q51 Have you ever told someone that you were going to kill yourself, or that you might do it?

- No (1)
- Yes, at one time, but did not really want to die (2)
- Yes, at one time, and really wanted to die (3)
- Yes, more than once, but did not want to do it (4)
- Yes, more than once, and really wanted to do it (5)

N3Q52 How likely is it that you will attempt suicide someday?

- Never (0)
- No chance at all (1)
- Rather unlikely (2)
- Unlikely (3)
- Likely (4)
- Rather likely (5)
- Very likely (6)

N3Q53 Within the last 12 months, have you attempted suicide?

- No (1)
- Yes (2)

Services Used

The following section asks about whether or not you have received services from different types of healthcare or mental health professionals.

N3Q54A Have you ever received psychological or mental health services (in-person or via telehealth)?

- No (1)
- Yes (2)

N3Q54B Within in the last 12 months, have you received psychological or mental health services (in-person or via telehealth)??

- No (1)
- Yes (2)

(if they select 'yes' in N3Q54B)

N3Q54C Were the psychological or mental health services you received (in-person or via telehealth) in the last 12 months provided by:

	No (1)	Yes (2)
My current campus health and/or counseling center? (N3Q54C1)	o	o
A mental health provider in the local community near my campus? (N3Q54C2)	o	o
A mental health provider in my home town? (N3Q54C3)	o	o
A mental health provider not described above (please specify) (N3Q54C4)	o	o

N3Q55A Within the last 12 months, have you visited any medical provider (for example: a nurse practitioner, physician assistant, primary care doctor, or other type of medical doctor) for a check-up or any other medical reasons (in-person or via telehealth)??

- No (1)
- Yes (2)

(if they select 'yes' in N3Q55A)

N3Q55B Were the medical services you received (in-person or via telehealth) in the last 12 months provided by:

	No (1)	Yes (2)
My current campus health center? (N3Q55B1)	<input type="radio"/>	<input type="radio"/>
A medical service provider in the local community near my campus? (N3Q55B2)	<input type="radio"/>	<input type="radio"/>
A medical service provider in my home town? (N3Q55B3)	<input type="radio"/>	<input type="radio"/>
A medical service provider not described above? (please specify) (N3Q55B4)	<input type="radio"/>	<input type="radio"/>

N3Q56 Have you had a gynecologic visit or exam (for example: contraception, STI testing, pelvic exam, or Pap test) with a healthcare provider (for example: OB-GYN, nurse practitioner, or physician assistant)?

- No (1)
- Yes (2)
- Don't know (3)
- Not applicable (4)

Medical

N3Q57 Have you had a dental exam and cleaning in the last 12 months?

- No (1)
- Yes (2)
- Don't know (3)

N3Q58 When you are outdoors in the sun, how often do you wear sunscreen?

- Never (1)
- Rarely (2)
- Sometimes (3)
- Usually (4)
- Always (5)

N3Q59 When you are outdoors in the sun, how often do you do the following to protect your skin from ultraviolet (UV) exposure?

	Never (1)	Rarely (2)	Sometimes (3)	Usually (4)	Always (5)
Wear a shirt with sleeves (N3Q59A)	o	o	o	o	o
Wear sunglasses (N3Q59B)	o	o	o	o	o
Stay in the shade (N3Q59C)	o	o	o	o	o
Wear a hat (N3Q59D)	o	o	o	o	o

N3Q60 In the last 12 months, how many times have you spent time outdoors with the intention of getting a tan?

_____ times

N3Q61 The Human Papillomavirus (HPV) vaccine (for example: Gardasil, Silgard, or Cervarix) is recommended, but usually not required, and is given in a series of 2 or 3 shots based on your age. Which of the following best describes your vaccination status for HPV:

- I have not received any of the HPV vaccine series (1)
- I have started, but not yet completed the HPV vaccine series (2)
- I have completed the HPV vaccine series (3)
- I don't know my HPV vaccination status (4)

N3Q62 Did you have a flu vaccine within the last 12 months?

- No (1)
- Yes (2)
- I don't know (3)

COVIDVAXA Have you been vaccinated against COVID-19? (added Fall 2022)

- Yes (1)
- No (2)

(if they select “yes” in COVIDVAXA)

COVIDVAXB How many total doses (or shots) of COVID-19 vaccine have you received? Include total doses (of any brand) given for your initial/primary vaccination as well as booster shots. (added Fall 2022)

_____ (enter number of doses/shots)

(if they select “yes” in COVIDVAXA)

COVIDVAXC Was your first COVID-19 vaccine the Johnson & Johnson vaccine? (added Fall 2022)

- No (1)
- Yes (2)

COVAXSTATUS – Computed variable using COVIDVAXB AND

COVIDVAXC Received one dose of two-dose primary series (0)

Received primary dose(s) (1)

Received primary dose(s) and one booster dose (2)

Received primary dose(s) and two or more booster doses (3)

COVIDINF Have you tested positive for COVID-19 within the last 12 months? (added Fall 2022)

- Yes (1)

No (2)

N3Q63A Within the last 12 months, have you been diagnosed by a healthcare professional with any of the following?

	No (1)	Yes (2)
Bronchitis (N3Q63A1)	o	o
Chlamydia (N3Q63A2)	o	o
Chicken Pox (Varicella) (N3Q63A3)	o	o
Cold/virus or other respiratory illness (for example: sinus infection, ear infection, strep throat, tonsillitis, pharyngitis, or laryngitis) (N3Q63A4)	o	o
Concussion (N3Q63A5)	o	o
Gonorrhea (N3Q63A6)	o	o
Flu (influenza) or flu- like illness (N3Q63A7)	o	o
Mumps (N3Q63A8)	o	o

Mononucleosis (mono) (N3Q63A9)	<input type="radio"/>	<input type="radio"/>
Orthopedic injury (for example: broken bone, fracture, sprain, bursitis, tendinitis, or ligament injury) (N3Q63A10)	<input type="radio"/>	<input type="radio"/>
Pelvic Inflammatory Disease (N3Q63A11)	<input type="radio"/>	<input type="radio"/>
Pneumonia (N3Q63A12)	<input type="radio"/>	<input type="radio"/>
Shingles (N3Q63A13)	<input type="radio"/>	<input type="radio"/>
Stomach or GI virus or bug, food poisoning or gastritis (N3Q63A14)	<input type="radio"/>	<input type="radio"/>
Urinary tract infection (N3Q63A15)	<input type="radio"/>	<input type="radio"/>
Other short-term, temporary illness <u>not listed above</u> (please specify) (N3Q63A16)	<input type="radio"/>	<input type="radio"/>

(follow up question N3Q63B will only display rows from N3Q63A for which “yes” is selected) N3Q63B Within the last 12 months, to what extent did the following negatively affect your academic performance? (Please select the most serious outcome below)

Response options: This issue did not affect my academic performance (1), This issue negatively impacted my performance in a class (2), This issue delayed progress towards my degree (3)

N3Q64 Have you ever been tested for HIV?

- Yes, within the last 12 months (1)
- Yes, more than 12 months ago (2)
- No (3)
- Unsure (4)

N3Q64B Are you taking PrEP (Pre-Exposure Prophylaxis) to prevent HIV infection?

Yes (1)

No (2)

Chronic Conditions

(if they do not select “yes” on any conditions in N3Q65A, they will skip to N3Q66)

N3Q65A Have you ever been diagnosed by a healthcare or mental health professional with any of the following ongoing or chronic conditions?

	No (1)	Yes (2)
Acne (N3Q65A1)	o	o
ADD/ADHD – Attention Deficit/Hyperactivity Disorder (N3Q65A2)	o	o
Alcohol or Other Drug-Related Abuse or Addiction (N3Q65A3)	o	o
Allergies - food allergy (N3Q65A4)	o	o
Allergies - animals/pets (N3Q65A5)	o	o
Allergies - environmental (for example: pollen, grass, dust, mold) (N3Q65A6)	o	o
Anxiety (for example: Generalized Anxiety, Social Anxiety, Panic Disorder, Specific Phobia) (N3Q65A7)	o	o
Asthma (N3Q65A8)	o	o
Autism spectrum (N3Q65A9)	o	o
Bipolar and Related Conditions (for example: Bipolar I, II, Hypomanic Episode) (N3Q65A10)	o	o
Borderline Personality Disorder (BPD), Avoidant Personality, Dependent Personality, or another personality disorder (N3Q65A11)	o	o
Cancer (N3Q65A12)	o	o
Celiac disease (N3Q65A13)	o	o

Chronic pain (for example:
back or joint pain, arthritis,
nerve pain) (N3Q65A14)

o

o

Depression (for example:
Major depression, persistent
depressive disorder,
disruptive mood disorder)
(N3Q65A15)

o

o

Diabetes or pre-diabetes/insulin resistance (N3Q65A16)	o	o
Eating Disorders (for example: Anorexia Nervosa, Bulimia Nervosa, Binge-Eating) (N3Q65A17)	o	o
Endometriosis (N3Q65A18)	o	o
Gambling Disorder (N3Q65A19)	o	o
Genital herpes (N3Q65A20)	o	o
Gastroesophageal Reflux Disease (GERD) or acid reflux (N3Q65A21)	o	o
Heart & vascular disorders (for example: atrial fibrillation or other cardiac arrhythmia, mitral valve prolapse or other valvular heart disease, congenital heart condition) (N3Q65A22)	o	o
Hepatitis B or C (N3Q65A23)	o	o
High blood pressure (hypertension) (N3Q65A24)	o	o
High cholesterol (hyperlipidemia) (N3Q65A25)	o	o
HIV or AIDS (N3Q65A26)	o	o
Human papillomavirus (HPV) or genital warts (N3Q65A27)	o	o
Insomnia (N3Q65A28)	o	o

Irritable bowel syndrome (spastic colon or spastic bowel) (N3Q65A29)	o	o
“Long COVID” or having a Post-COVID Condition (N3Q65A41) (added Fall 2022)	o	o
Migraine headaches (N3Q65A30)	o	o
Obsessive-Compulsive and Related Conditions (for example: OCD, Body Dysmorphia, Hoarding, Trichotillomania, other body- focused repetitive behavior disorders) (N3Q65A31)	o	o
Polycystic Ovarian Syndrome (PCOS) (N3Q65A32)	o	o
PTSD (Posttraumatic Stress Disorder), Acute Stress Disorder, Adjustment Disorder, or another trauma- or stressor-related condition (N3Q65A33)	o	o
Schizophrenia and Other Psychotic Conditions (for example: Schizophrenia, Schizoaffective Disorder, Schizophreniform Disorder, Delusional Disorder) (N3Q65A34)	o	o
Sleep Apnea (N3Q65A35)	o	o
Thyroid condition or disorder (N3Q65A36)	o	o
Tourette’s or other neurodevelopmental condition not already listed (N3Q65A37)	o	o

Traumatic brain injury (TBI)
(N3Q65A38)

o

o

Urinary system disorder (for
example: bladder or kidney
disease, urinary reflux,
interstitial cystitis)
(N3Q65A39)

o

o

Other ongoing or chronic
condition not listed above
(N3Q65A40)

o

o

(if they select “other” in N3Q65A, they will see these questions)

You indicated that you have been diagnosed by a healthcare or mental health professional with an ongoing or chronic condition not already listed. Please use this list to indicate only additional conditions not already reported in another question.

N3Q65B Please indicate in which of the following categories you have an *other* ongoing or chronic condition that has been diagnosed by a healthcare or mental health professional.

	No (1)	Yes (2)
Allergic & immunologic disorder (N3Q65B1)	o	o
Autoimmune disorder (N3Q65B2)	o	o
Blood disorder (N3Q65B3)	o	o
Brain & nervous system disorder (N3Q65B4)	o	o
Hair, skin, nails disorder (N3Q65B5)	o	o
Digestive system disorder (N3Q65B6)	o	o
Endocrine system disorder (N3Q65B7)	o	o
Eye/ear/nose/throat disorder (N3Q65B8)	o	o
Heart & vascular disorder (N3Q65B9)	o	o
Infectious disease (N3Q65B10)	o	o
Mental health/psychological disorder (N3Q65B11)	o	o
Musculoskeletal disorder (N3Q65B12)	o	o
Reproductive system disorder (N3Q65B13)	o	o
Respiratory disorder (N3Q65B14)	o	o
Sleep-wake disorder (N3Q65B15)	o	o
Urinary system disorder (N3Q65B16)	o	o

Other ongoing or chronic condition not previously reported (please specify) (N3Q65B17)

(if they select “yes” in N3Q65B, they will see the corresponding question(s) from N3Q65C to N3Q65R)

N3Q65C Have you ever been diagnosed with any of the following ongoing or chronic allergic & immunologic disorders?

	No (1)	Yes (2)
Anaphylaxis (N3Q65C1)	<input type="radio"/>	<input type="radio"/>
Medication allergy (N3Q65C2)	<input type="radio"/>	<input type="radio"/>
Latex allergy (N3Q65C3)	<input type="radio"/>	<input type="radio"/>
Insect/bee sting allergy (N3Q65C4)	<input type="radio"/>	<input type="radio"/>
Immune deficiency (N3Q65C5)	<input type="radio"/>	<input type="radio"/>
Other allergic or immunologic condition <u>not previously reported</u> (please specify) (N3Q65C6)	<input type="radio"/>	<input type="radio"/>

N3Q65D Have you ever been diagnosed with any of the following ongoing or chronic autoimmune disorders?

	No (1)	Yes (2)
Other allergic or immunologic condition (N3Q65D1)	<input type="radio"/>	<input type="radio"/>
Rheumatoid Arthritis (N3Q65D2)	<input type="radio"/>	<input type="radio"/>
Scleroderma (N3Q65D3)	<input type="radio"/>	<input type="radio"/>
Systemic Lupus Erythematosus (N3Q65D4)	<input type="radio"/>	<input type="radio"/>
Other autoimmune disorder <u>not previously reported</u> (please specify) (N3Q65D5)	<input type="radio"/>	<input type="radio"/>

N3Q65E Have you ever been diagnosed with any of the following ongoing or chronic blood disorders?

	No (1)	Yes (2)
Anemia (N3Q65E1)	<input type="radio"/>	<input type="radio"/>
Hemophilia (N3Q65E2)	<input type="radio"/>	<input type="radio"/>
Hypercoagulable states (N3Q65E3)	<input type="radio"/>	<input type="radio"/>
Platelet Conditions (N3Q65E4)	<input type="radio"/>	<input type="radio"/>
Sickle Cell Disease (N3Q65E5)	<input type="radio"/>	<input type="radio"/>
Other blood condition <u>not previously reported</u> (please specify) (N3Q65E6)	<input type="radio"/>	<input type="radio"/>

N3Q65F Have you ever been diagnosed with any of the following ongoing or chronic brain & nervous system disorders?

	No (1)	Yes (2)
Cerebral Palsy (N3Q65F1)	<input type="radio"/>	<input type="radio"/>
Epilepsy (N3Q65F2)	<input type="radio"/>	<input type="radio"/>
Seizure Conditions (N3Q65F3)	<input type="radio"/>	<input type="radio"/>
Multiple Sclerosis (N3Q65F4)	<input type="radio"/>	<input type="radio"/>
Other brain or nervous system condition <u>not</u> <u>previously reported</u> (please specify (N3Q65F5)	<input type="radio"/>	<input type="radio"/>

N3Q65G Have you ever been diagnosed with any of the following ongoing or chronic hair, skin, nail disorders?

	No (1)	Yes (2)
Alopecia (N3Q65G1)	<input type="radio"/>	<input type="radio"/>
Eczema (N3Q65G2)	<input type="radio"/>	<input type="radio"/>
Hirsutism (N3Q65G3)	<input type="radio"/>	<input type="radio"/>
Hyperhidrosis (N3Q65G4)	<input type="radio"/>	<input type="radio"/>
Photodermatitis (N3Q65G5)	<input type="radio"/>	<input type="radio"/>
Psoriasis (N3Q65G6)	<input type="radio"/>	<input type="radio"/>
Vitiligo (N3Q65G7)	<input type="radio"/>	<input type="radio"/>
Other hair, skin, or nail condition <u>not previously reported</u> (please specify) (N3Q65G8)	<input type="radio"/>	<input type="radio"/>

N3Q65H Have you ever been diagnosed with any of the following ongoing or chronic digestive system disorders?

	No (1)	Yes (2)
Crohn's Disease (N3Q65H1)	<input type="radio"/>	<input type="radio"/>
Diverticular Disease (N3Q65H2)	<input type="radio"/>	<input type="radio"/>
Esophageal Disease (N3Q65H3)	<input type="radio"/>	<input type="radio"/>
Gallbladder Disease (N3Q65H4)	<input type="radio"/>	<input type="radio"/>
Ulcerative Colitis (N3Q65H5)	<input type="radio"/>	<input type="radio"/>
Other digestive system condition <u>not previously reported</u> (please specify) (N3Q65H6)	<input type="radio"/>	<input type="radio"/>

N3Q65I What other endocrine system disorder (not previously reported) were you diagnosed with?

N3Q65J Have you ever been diagnosed with any of the following ongoing or chronic eye, ear, nose, throat disorders?

	No (1)	Yes (2)
Hearing loss (N3Q65J1)	<input type="radio"/>	<input type="radio"/>
Uveitis (N3Q65J2)	<input type="radio"/>	<input type="radio"/>
Vertigo (N3Q65J3)	<input type="radio"/>	<input type="radio"/>

Other eye/ear/nose/throat
condition not previously
reported (please specify)
(N3Q65J4)

o

o

N3Q65K Have you ever been diagnosed with any of the following ongoing or chronic heart & vascular system disorders?

	No (1)	Yes (2)
Cardiac Arrhythmia (N3Q65K1)	<input type="radio"/>	<input type="radio"/>
Coronary Artery Disease (N3Q65K2)	<input type="radio"/>	<input type="radio"/>
Congenital Heart Condition (N3Q65K3)	<input type="radio"/>	<input type="radio"/>
Congestive Heart Failure (N3Q65K4)	<input type="radio"/>	<input type="radio"/>
Heart Murmur (N3Q65K5)	<input type="radio"/>	<input type="radio"/>
Valvular Heart Disease (for example: Mitral valve prolapse) (N3Q65K6)	<input type="radio"/>	<input type="radio"/>
Other heart or vascular condition <u>not previously reported</u> (please specify) (N3Q65K7)	<input type="radio"/>	<input type="radio"/>

N3Q65L Have you ever been diagnosed with any of the following ongoing or chronic infectious diseases?

	No (1)	Yes (2)
Lyme Disease (N3Q65L1)	<input type="radio"/>	<input type="radio"/>
Other infectious disease <u>not previously listed</u> (please specify) (N3Q65L2)	<input type="radio"/>	<input type="radio"/>

N3Q65M What other mental health/condition(s) (not previously reported) were you diagnosed with?

N3Q65N Have you ever been diagnosed with any of the following ongoing or chronic musculoskeletal disorders?

	No (1)	Yes (2)
Carpal Tunnel Syndrome (N3Q65N1)	<input type="radio"/>	<input type="radio"/>
Fibromyalgia (N3Q65N2)	<input type="radio"/>	<input type="radio"/>
Gout (N3Q65N3)	<input type="radio"/>	<input type="radio"/>
Muscular Dystrophy (N3Q65N4)	<input type="radio"/>	<input type="radio"/>
Osteoarthritis (N3Q65N5)	<input type="radio"/>	<input type="radio"/>
Osteoporosis (N3Q65N6)	<input type="radio"/>	<input type="radio"/>
Temporomandibular Joint Dysfunction (N3Q65N7)	<input type="radio"/>	<input type="radio"/>
Other musculoskeletal condition <u>not previously reported</u> (please specify) (N3Q65N8)	<input type="radio"/>	<input type="radio"/>

N3Q65O Have you ever been diagnosed with any of the following ongoing or chronic reproductive system disorders?

	No (1)	Yes (2)
Amenorrhea (N3Q65O1)	<input type="radio"/>	<input type="radio"/>
Cervical Dysplasia (N3Q65O2)	<input type="radio"/>	<input type="radio"/>
Premenstrual Syndrome (PMS), Premenstrual Dysphoric Disorder (PMDD), or painful periods (Dysmenorrhea) (N3Q65O3)	<input type="radio"/>	<input type="radio"/>
Prostatitis (N3Q65O4)	<input type="radio"/>	<input type="radio"/>
Sexual Dysfunction (N3Q65O5)	<input type="radio"/>	<input type="radio"/>
Other reproductive system condition <u>not previously reported</u> (please specify) (N3Q65O6)	<input type="radio"/>	<input type="radio"/>

N3Q65P Have you ever been diagnosed with any of the following ongoing or chronic respiratory system disorders?

	No (1)	Yes (2)
Cystic Fibrosis (N3Q65P1)	<input type="radio"/>	<input type="radio"/>
Sarcoidosis (N3Q65P2)	<input type="radio"/>	<input type="radio"/>
Active Tuberculous (N3Q65P3)	<input type="radio"/>	<input type="radio"/>
Other respiratory system condition <u>not previously reported</u> (please specify) (N3Q65P4)	<input type="radio"/>	<input type="radio"/>

N3Q65Q Have you ever been diagnosed with any of the following ongoing or chronic sleep-wake disorders?

	No (1)	Yes (2)
Hypersomnolence (N3Q65Q1)	<input type="radio"/>	<input type="radio"/>
Narcolepsy (N3Q65Q2)	<input type="radio"/>	<input type="radio"/>
Restless Leg Syndrome (N3Q65Q3)	<input type="radio"/>	<input type="radio"/>
Sleep Paralysis (N3Q65Q4)	<input type="radio"/>	<input type="radio"/>
Sleep Terrors (or night terrors) (N3Q65Q5)	<input type="radio"/>	<input type="radio"/>
Sleep Walking (N3Q65Q6)	<input type="radio"/>	<input type="radio"/>
Other sleep-wake condition <u>not previously reported</u> (please specify) (N3Q65Q7)	<input type="radio"/>	<input type="radio"/>

N3Q65R Have you ever been diagnosed with any of the following ongoing or chronic urinary system disorders?

	No (1)	Yes (2)
Bladder disease (N3Q65R1)	<input type="radio"/>	<input type="radio"/>
Kidney disease (N3Q65R2)	<input type="radio"/>	<input type="radio"/>
Kidney stone (N3Q65R3)	<input type="radio"/>	<input type="radio"/>
Urinary Incontinence (N3Q65R4)	<input type="radio"/>	<input type="radio"/>
Other urinary system condition <u>not previously reported</u> (please specify) (N3Q65R5)	<input type="radio"/>	<input type="radio"/>

(if they select 'yes' in N3Q65A16)

N3Q65S You indicated that you had been diagnosed with Diabetes or Pre-Diabetes. Were you told that you had:

	No (1)	Yes (2)
Type 1 Diabetes (N3Q65S1)	<input type="radio"/>	<input type="radio"/>
Type 2 Diabetes (N3Q65S2)	<input type="radio"/>	<input type="radio"/>
Pre-diabetes or insulin resistance (N3Q65S3)	<input type="radio"/>	<input type="radio"/>
Gestational Diabetes (N3Q65S4)	<input type="radio"/>	<input type="radio"/>

(if they select "yes" in N3Q65A, they will see the corresponding question(s))

N3Q65T Have you had an appointment and/or discussion with a healthcare or mental health professional for the following condition(s) within the last 12 months?

	No (1)	Yes (2)
Acne (N3Q65T1)	<input type="radio"/>	<input type="radio"/>
ADD/ADHD – Attention Deficit/Hyperactivity Disorder (N3Q65T2)	<input type="radio"/>	<input type="radio"/>
Alcohol or Other Drug-Related Abuse or Addiction (N3Q65T3)	<input type="radio"/>	<input type="radio"/>
Allergies - food allergy (N3Q65T4)	<input type="radio"/>	<input type="radio"/>
Allergies - animals/pets (N3Q65T5)	<input type="radio"/>	<input type="radio"/>
Allergies - environmental (for example: pollen, grass, dust, mold) (N3Q65T6)	<input type="radio"/>	<input type="radio"/>
Anxiety (for example: Generalized Anxiety, Social Anxiety, Panic Disorder, Specific Phobia) (N3Q65T7)	<input type="radio"/>	<input type="radio"/>
Asthma (N3Q65T8)	<input type="radio"/>	<input type="radio"/>
Autism Spectrum (N3Q65T9)	<input type="radio"/>	<input type="radio"/>
Bipolar and Related Conditions (for example: Bipolar I, II, Hypomanic Episode) (N3Q65T10)	<input type="radio"/>	<input type="radio"/>
Borderline Personality Disorder (BPD), Avoidant Personality, Dependent Personality, or another personality disorder (N3Q65T11)	<input type="radio"/>	<input type="radio"/>
Cancer (N3Q65T12)	<input type="radio"/>	<input type="radio"/>
Celiac disease (N3Q65T13)	<input type="radio"/>	<input type="radio"/>

Chronic pain (for example: back or joint pain, arthritis, nerve pain) (N3Q65T14)	o	o
Depression (for example: Major depression, persistent depressive disorder, disruptive mood disorder) (N3Q65T15)	o	o
Diabetes or pre- diabetes/insulin resistance (N3Q65T16)	o	o
Eating Disorders (for example: Anorexia Nervosa, Bulimia Nervosa, Binge- Eating) (N3Q65T17)	o	o
Endometriosis (N3Q65T18)	o	o
Gambling Disorder (N3Q65T19)	o	o
Genital herpes (N3Q65T20)	o	o
Gastroesophageal Reflux Disease (GERD) or acid reflux (N3Q65T121)	o	o
Heart & vascular disorders (for example: atrial fibrillation or other cardiac arrhythmia, mitral valve prolapse or other valvular heart disease, congenital heart condition) (N3Q65T22)	o	o
Hepatitis B or C (N3Q65T23)	o	o
High blood pressure (hypertension) (N3Q65T24)	o	o
High cholesterol (hyperlipidemia) (N3Q65T25)	o	o

HIV or AIDS (N3Q65T26)	o	o
Human papillomavirus (HPV) or genital warts (N3Q65T27)	o	o
Insomnia (N3Q65T28)	o	o
Irritable bowel syndrome (spastic colon or spastic bowel) (N3Q65T29)	o	o
“Long COVID” or having a Post-COVID Condition (N3Q65T41) (added Fall 2022)	o	o
Migraine headaches (N3Q65T30)	o	o
Obsessive-Compulsive and Related Conditions (for example: OCD, Body Dysmorphia, Hoarding, Trichotillomania and other body-focused repetitive behavior disorders) (N3Q65T31)	o	o
Polycystic Ovarian Syndrome (PCOS) (N3Q65T32)	o	o
PTSD (Posttraumatic Stress Disorder), Adjustment Disorder, or another trauma- or stressor- related condition (N3Q65T33)	o	o
Schizophrenia and Other Psychotic Conditions (for example: Schizophrenia, Schizoaffective Disorder, Schizophreniform Disorder, Delusional Disorder) (N3Q65T34)	o	o
Sleep Apnea (N3Q65T35)	o	o

Thyroid condition or disorder (N3Q65T36)	<input type="radio"/>	<input type="radio"/>
Tourette's or other neurodevelopmental condition not already listed (N3Q65T37)	<input type="radio"/>	<input type="radio"/>
Traumatic brain injury (TBI) (N3Q65T38)	<input type="radio"/>	<input type="radio"/>
Urinary system disorder (for example: bladder or kidney disease, urinary reflux, interstitial cystitis) (N3Q65T39)	<input type="radio"/>	<input type="radio"/>
Other ongoing or chronic condition <u>not listed above</u> (N3Q65T40)	<input type="radio"/>	<input type="radio"/>

(if 'Yes' is selected in N3Q65T to any mental health conditions, they will see the corresponding question(s))

N3Q65U In the last 12 months, what treatment(s), if any, have you used for the following conditions?

	No treatment (1)	Medicine only (2)	Therapy only (3)	Both medicine and therapy (4)	Other Treatment (5)
ADD/ADHD - Attention Deficit/Hyperactivity Disorder (N3Q65U2)	0	0	0	0	0
Alcohol or Other Drug-Related Abuse or Addiction (N3Q65U3)	0	0	0	0	0
Anxiety (for example: Generalized Anxiety, Social Anxiety, Panic Disorder, Specific Phobia) (N3Q65U7)	0	0	0	0	0
Autism Spectrum (N3Q65U9)	0	0	0	0	0
Bipolar and Related Conditions (for example: Bipolar I, II, Hypomanic Episode) (N3Q65U10)	0	0	0	0	0
Borderline Personality Disorder (BPD), Avoidant Personality, Dependent Personality, or another personality disorder (N3Q65U11)	0	0	0	0	0

Depression (for example: Major depression, persistent depressive disorder, disruptive mood disorder) (N3Q65U15)	0	0	0	0	0
Eating Disorders (for example: Anorexia Nervosa, Bulimia Nervosa, Binge-Eating) (N3Q65U17)	0	0	0	0	0
Gambling Disorder (N3Q65U19)	0	0	0	0	0
Insomnia (N3Q65U28)	0	0	0	0	0
Obsessive-Compulsive and Related Conditions (for example: OCD, Body Dysmorphia, Hoarding, Trichotillomania and other body-focused repetitive behavior disorders) (N3Q65U31)	0	0	0	0	0
PTSD (Posttraumatic Stress Disorder), Acute Stress Disorder, Adjustment Disorder, or another trauma- or stressor-related condition (N3Q65U33)	0	0	0	0	0

Schizophrenia and Other Psychotic Conditions (for example: Schizophrenia, Schizoaffective Disorder, Schizophreniform Disorder, Delusional Disorder) (N3Q65U34)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Tourette's or other neurodevelopmental condition not already listed (N3Q65U37)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Traumatic brain injury (TBI) (N3Q65U38)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

(if "other" treatment is selected in N2Q65W)

N3Q65V In the last 12 months, what other treatment did you receive?

(if "yes" is selected in N3Q65T for physical conditions, they will see the corresponding question(s))

N3Q65W Have you received treatment for the following condition(s) by a healthcare or mental health professional within the last 12 months?

	No (1)	Yes (2)
Acne (N3Q65W1)	o	o
Allergies - food allergy (N3Q65W4)	o	o
Allergies - animals/pets (N3Q65W5)	o	o
Allergies - environmental (for example: pollen, grass, dust, mold) (N3Q65W6)	o	o
Asthma (N3Q65W8)	o	o
Cancer (N3Q65W12)	o	o
Celiac disease (N3Q65W13)	o	o
Chronic pain (for example: back or joint pain, arthritis, nerve pain) (N3Q65W14)	o	o
Diabetes or pre-diabetes/insulin resistance (N3Q65W16)	o	o
Endometriosis (N3Q65W18)	o	o
Genital herpes (N3Q65W20)	o	o
Gastroesophageal Reflux Disease (GERD) or acid reflux (N3Q65W21)	o	o
Heart & vascular disorders (for example: atrial fibrillation or other cardiac arrhythmia, mitral valve prolapse or other valvular heart disease, congenital heart condition) (N3Q65W22)	o	o

Hepatitis B or C (N3Q65W23)	<input type="radio"/>	<input type="radio"/>
High blood pressure (hypertension) (N3Q65W24)	<input type="radio"/>	<input type="radio"/>
High cholesterol (hyperlipidemia) (N3Q65W25)	<input type="radio"/>	<input type="radio"/>
HIV or AIDS (N3Q65W26)	<input type="radio"/>	<input type="radio"/>
Human papillomavirus (HPV) or genital warts (N3Q65W27)	<input type="radio"/>	<input type="radio"/>
Irritable bowel syndrome (spastic colon or spastic bowel) (N3Q65W29)	<input type="radio"/>	<input type="radio"/>
Migraine headaches (N3Q65W30)	<input type="radio"/>	<input type="radio"/>
Polycystic Ovarian Syndrome (PCOS) (N3Q65W32)	<input type="radio"/>	<input type="radio"/>
Sleep Apnea (N3Q65W35)	<input type="radio"/>	<input type="radio"/>
Thyroid condition or disorder (N3Q65W36)	<input type="radio"/>	<input type="radio"/>
Urinary system disorder (for example: bladder or kidney disease, urinary reflux, interstitial cystitis) (N3Q65W39)	<input type="radio"/>	<input type="radio"/>

(if “no” is selected in N3Q65W)

N3Q65X Did a healthcare or mental health professional tell you that you do not need treatment, or that you can stop treatment, for the following conditions?

	No (1)	Yes (2)
ADD/ADHD – Attention Deficit/Hyperactivity Disorder (N3Q65X1)	o	o
Acne (N3Q65X2)	o	o
Alcohol or Other Drug-Related Abuse or Addiction (N3Q65X3)	o	o
Allergies - food allergy (N3Q65X4)	o	o
Allergies - animals/pets (N3Q65X5)	o	o
Allergies - environmental (for example: pollen, grass, dust, mold) (N3Q65X6)	o	o
Anxiety (for example: Generalized Anxiety, Social Anxiety, Panic Disorder, Specific Phobia) (N3Q65X7)	o	o
Asthma (N3Q65X8)	o	o
Autism spectrum (N3Q65X9)	o	o
Bipolar and Related Conditions (for example: Bipolar I, II, Hypomanic Episode) (N3Q65X10)	o	o
Borderline Personality Disorder (BPD), Avoidant Personality, Dependent Personality, or another personality disorder (N3Q65X11)	o	o
Cancer (N3Q65X12)	o	o
Celiac disease (N3Q65X13)	o	o

Chronic pain (for example: back or joint pain, arthritis, nerve pain) (N3Q65X14)	o	o
Depression (for example: Major depression, persistent depressive disorder, disruptive mood disorder) (N3Q65X15)	o	o
Diabetes or pre- diabetes/insulin resistance (N3Q65X16)	o	o
Eating Disorders (for example: Anorexia Nervosa, Bulimia Nervosa, Binge- Eating) (N3Q65X17)	o	o
Endometriosis (N3Q65X18)	o	o
Gambling Disorder (N3Q65X19)	o	o
Genital herpes (N3Q65X20)	o	o
Gastroesophageal Reflux Disease (GERD) or acid reflux (N3Q65X21)	o	o
Heart & vascular disorders (for example: atrial fibrillation or other cardiac arrhythmia, mitral valve prolapse or other valvular heart disease, congenital heart condition) (N3Q65X22)	o	o
Hepatitis B or C (N3Q65X23)	o	o
High blood pressure (hypertension) (N3Q65X24)	o	o
High cholesterol (hyperlipidemia) (N3Q65X25)	o	o

HIV or AIDS (N3Q65X26)	o	o
Human papillomavirus (HPV) or genital warts (N3Q65X27)	o	o
Insomnia (N3Q65X28)	o	o
Irritable bowel syndrome (spastic colon or spastic bowel) (N3Q65X29)	o	o
Migraine headaches (N3Q65X30)	o	o
Obsessive-Compulsive and Related Conditions (for example: OCD, Body Dysmorphia, Hoarding, Trichotillomania and other body-focused repetitive behavior disorders) (N3Q65X31)	o	o
Polycystic Ovarian Syndrome (PCOS) (N3Q65X32)	o	o
PTSD (Posttraumatic Stress Disorder), Acute Stress Disorder, Adjustment Disorder, or another trauma- or stressor- related condition (N3Q65X33)	o	o
Schizophrenia and Other Psychotic Conditions (for example: Schizophrenia, Schizoaffective Disorder, Schizophreniform Disorder, Delusional Disorder) (N3Q65X34)	o	o
Sleep Apnea (N3Q65X35)	o	o
Thyroid condition or disorder (N3Q65X36)	o	o

Tourette's or other neurodevelopmental condition not already listed (N3Q65X37)	<input type="radio"/>	<input type="radio"/>
Traumatic brain injury (TBI) (N3Q65X38)	<input type="radio"/>	<input type="radio"/>
Urinary system disorder (for example: bladder or kidney disease, urinary reflux, interstitial cystitis) (N3Q65X39)	<input type="radio"/>	<input type="radio"/>

N3Q65Y Within the last 12 months, to what extent did your ongoing or chronic condition(s) negatively affect your academic performance? (Please select the most serious outcome below)

- My condition(s) did not affect my academic performance (1)
- My condition(s) negatively impacted my performance in a class (2)
- My condition(s) delayed progress towards my degree (3)

Impediments to Academic Performance

N3Q66

Within the last 12 months, have any of the following affected your academic performance? (Please select the most serious outcome for each item below)

	I did not experience this issue/not applicable (1)	I have experienced this issue, but my academics have not been affected (2)	I have experienced this issue and it negatively impacted my performance in a class (3)	I have experienced this issue and it delayed progress towards my degree (4)
Assault (physical) (N3Q66A)	0	0	0	0
Assault (sexual) (N3Q66B)	0	0	0	0
Allergies (N3Q66C)	0	0	0	0
Anxiety (N3Q66D)	0	0	0	0
Attention-Deficit/Hyperactivity Disorder (ADHD) or Attention-Deficit Disorder (ADD) (N3Q66E)	0	0	0	0
Concussion or Traumatic Brain Injury (TBI) (N3Q66F)	0	0	0	0
COVID-19 (N3Q66S) (added Fall 2022)	0	0	0	0
Depression (N3Q66G)	0	0	0	0
Eating disorder/problem (N3Q66H)	0	0	0	0
Headaches/migraines (N3Q66I)	0	0	0	0
Influenza or influenza like illness (the flu) (N3Q66J)	0	0	0	0

Injury (for example: burn, sprain or broken bone) <u>excluding</u> concussion or TBI (N3Q66K)	0	0	0	0
PMS (Premenstrual Syndrome), painful periods, or menstrual cramping) (N3Q66L)	0	0	0	0
Post Traumatic Stress Disorder (PTSD) (N3Q66M)	0	0	0	0
Short-term illness, excluding upper respiratory illness and influenza (N3Q66N)	0	0	0	0
Upper respiratory illness (for example: sinus infection, colds, or sore throat, etc.) (N3Q66O)	0	0	0	0
Sleep difficulties (N3Q66P)	0	0	0	0
Stress (N3Q66Q)	0	0	0	0
Other issue <u>not</u> <u>previously reported</u> (please specify) (N3Q66R)	0	0	0	0

Demographic Characteristics

This part of the survey will help us understand your personal characteristics. There may be limitations to the response options provided, and the response categories offered may not represent your full identity nor use the language you prefer. We care about all identities and experiences and ask that you indicate which choice best describes you.

N3Q67A What sex were you assigned at birth?

- Female (1)
- Male (2)
- Intersex (3)

N3Q67B Do you identify as transgender?

- No (1)
- Yes (2)

N3Q67C Which term do you use to describe your gender identity?

- Woman or female (1)
 - Man or male (2)
 - Trans woman (3)
 - Trans man (4)
 - Genderqueer (5)
 - Agender (7)
 - Genderfluid (8)
 - Intersex (10)
 - Non-binary (9)
 - My identity is not listed above (please specify) (6) N3Q67CTEXT
-

Notes on recoding N2Q67C:

- Students who select “my identity is not listed above” (6) on N3Q67C and indicate a cisgender response for N3Q67CTEXT are recoded either female (1) or male (2) for N3Q67C.
- No additional recoding is done for N3Q67C.
- Students original text responses in N3Q67CTEXT remain unchanged in the data file. To identify cases recoded by ACHA, look for responses in N3Q67CTEXT that have a code other than 6 in N3Q68.
- You may choose to adopt different recoding rules in working with this data and are encouraged to document those rules.

N3Q68 What term best describes your sexual orientation?

- Straight/Heterosexual (9)
 - Bisexual (2)
 - Gay (3)
 - Lesbian (4)
 - Pansexual (5)
 - Queer (6)
 - Questioning (7)
 - My identity is not listed above (please specify) (10) _____ N3Q68TEXT
-

Notes on recoding for N3Q68:

- Students selecting “my identity is not listed above” (10) and specifying Asexual, Ace, or Aces in N3Q68TEXT are recoded Asexual (1) for N3Q68.
- Students selecting “my identity is not listed above” (10) and specifying “straight” in N3Q68TEXT are recoded Straight/Heterosexual (9) for N3Q68.
- Students who indicate more than one sexual orientation in N3Q68TEXT are NOT recoded.
- No additional recoding is done for N3Q68.
- Students original text responses in N3Q68TEXT remain unchanged in the data file. To identify cases recoded by ACHA, look for responses in N3Q68TEXT that have a code other than 10 in N3Q68.
- You may choose to adopt different recoding rules in working with this data and are encouraged to document those rules.

N3Q69 How old are you?

_____ Years

What is your height in feet (') and inches (")?

Click [here](#) for a centimeter to feet/inches conversion calculator

N3Q70A _____ feet N3Q70B ____ inches

N3Q71 What is your weight in pounds?

Click [here](#) for a kilogram to pound conversion calculator
_____ Pounds

N3Q72 What is your year in school?

- 1st year undergraduate (1)
- 2nd year undergraduate (2)
- 3rd year undergraduate (3)
- 4th year undergraduate (4)
- 5th year or more undergraduate (5)
- Master's (MA, MS, MFA, MBA, MPP, MPA, MPH, etc) (6)
- Doctorate (PhD, EdD, MD, JD, etc) (7)
- Not seeking a degree (8)
- Other (please specify) (9) _____ N3Q72TEXT

N3Q73 What is your enrollment status?

- Full-time (1)
- Part-time (2)
- Other (please specify): (3)

N3Q73TEXT

N3Q73A

I am taking classes this term:

- Entirely in-person (1)
- Entirely online (2)
- A mix of in-person and online classes (3)

N3Q74 Do you have a visa (for example: F-1, J-1, or M-1) to study or work in the United States?

- No (1)
- Yes (2)

N3Q75A How do you usually describe yourself? (Please select ALL that apply) (“0” indicates that the option was not selected, “1” indicates that the option was selected)

- American Indian or Native Alaskan (1)
- Asian or Asian American (2)
- Black or African American (3)
- Hispanic or Latino/a/x (4)
- Middle Eastern/North African (MENA) or Arab Origin (5)
- Native Hawaiian or Other Pacific Islander Native (6)
- White (7)
- Biracial or Multiracial (8)
- My identity is not listed above (please specify) (9) _____ N3Q75TEXT

(if they select “Hispanic or Latino/a/x” in N3Q75A)

N3Q75B Are you? (Please select ALL that apply) (“0” indicates that the option was not selected, “1” indicates that the option was selected)

- Mexican, Mexican American, Chicano (1)
 - Puerto Rican (2)
 - Cuban (3)
 - Another Hispanic, Latino/a/x, or Spanish origin (please specify)(4)
- N3Q75BTEXT

(if they select “Asian or Asian American” in N3Q75A)

N3Q75C Are you? (Please select ALL that apply) (“0” indicates that the option was not selected, “1” indicates that the option was selected)

- East Asian (for example: Chinese, Japanese, or Korean) (1)
- Southeast Asian (for example: Cambodian, Vietnamese, Hmong, or Filipino) (2)
- South Asian (for example: Indian, Pakistani, Nepalese, or Sri Lankan) (3)
- Other Asian (please specify) (4) N3Q75CTEXT

N3Q76 What is your relationship status?

- Not in a relationship (1)
- In a relationship but not married/partnered (2)
- Married/partnered (3)

N3Q77A Are you a member of a social fraternity or sorority?

- No (1)
- Yes (2)

N3Q77B Do you live in a fraternity or sorority residence?

- No (1)
- Yes (2)

(only if they select “no” in N3Q77B, they will see this question) N3Q78 Where do you currently live?

- Campus or university housing (1)
- Parent/guardian/other family member’s home (2)

- Off-campus or other non-university housing (3)
- Temporarily staying with a relative, friend, or “couch surfing” until I find housing (4)
- I don’t currently have a place to live (5)
- Other (please specify) (6) N3Q78TEXT

The next question asks about your access to health insurance. Health insurance helps pay for things like hospitalizations, surgery, emergency care, and specialty care. Health insurance typically covers medical care beyond what a registered student might be eligible for at a campus student health center.

N3Q79 What is your primary source of health insurance?

- I have a college/university Student Health Insurance Plan (1)
- I am covered by my parent/guardian’s plan (2)
- I am covered by my employer-based plan (or my spouse/partner’s employer-based plan) (3)
- I have Medicaid, Medicare, SCHIP, or VA/Tricare coverage (4)
- I bought a plan on my own (5)
- I don’t have health insurance (6)
- I don’t know if I have health insurance (7)
- I have health insurance, but I don’t know the primary source (8)

N3Q80 What is your approximate cumulative grade average?

- A+ (1)
- A (2)
- A- (3)
- B+ (4)
- B (5)
- B- (6)
- C+ (7)
- C (8)
- C- (9)
- D+ (10)
- D (11)
- D- (12)
- F (13)
- N/A (14)

N3Q81 Do you participate in organized college athletics at any of the following levels?
(Please mark the appropriate column for each row)

	No (1)	Yes (2)
Varsity (N3Q81A)	<input type="radio"/>	<input type="radio"/>
Club Sports (N3Q81B)	<input type="radio"/>	<input type="radio"/>
Intramurals (N3Q81C)	<input type="radio"/>	<input type="radio"/>

N3Q82 Do you have any of the following? (Please mark the appropriate column for each row)

	No (1)	Yes (2)
Attention-Deficit/Hyperactivity Disorder (ADD or ADHD) (N3Q82A)	<input type="radio"/>	<input type="radio"/>
Autism Spectrum Disorder (N3Q82B)	<input type="radio"/>	<input type="radio"/>
Deaf/Hearing loss (N3Q82C)	<input type="radio"/>	<input type="radio"/>
Learning disability (N3Q82D)	<input type="radio"/>	<input type="radio"/>
Mobility/Dexterity disability (N3Q82E)	<input type="radio"/>	<input type="radio"/>
Blind/Low Vision (N3Q82F)	<input type="radio"/>	<input type="radio"/>
Speech or language disorder (N3Q82G)	<input type="radio"/>	<input type="radio"/>

N3Q83 Are you currently or have you been a member of the Armed Services?

- No (1)
- Yes and I have served in a geographic area of hazardous duty (2)
- Yes and I have not served in a geographic area of hazardous duty (3)

N3Q84 What is the highest level of education completed by either of your parents (or guardians)?

- Did not finish high school (1)
- High school diploma or GED (2)
- Attended college but did not complete degree (3)
- Associate's degree (AA, AS, etc.) or trade/technical training (4)
- Bachelor's degree (BA, BS, etc.) (5)
- Master's degree (MA, MS, MFA, MBA, MPP, MPA, MPH, etc.) (6)
- Doctoral or professional degree (PhD, EdD, JD, MD, etc.) (7)
- Don't know (8)

N3Q85 Are you a parent or guardian of a child under the age of 18 or do you have primary responsibility for someone else's child/children under the age of 18?

- No (1)
- Yes (2)

The optional firearms/gun violence questions will appear next if your campus selected to include them

Firearms

The following section asks about your access to firearms and your level of concern about gun violence on campus.

N3Q86A Do you have access to a gun/firearm?

- No (1)
- Yes (2)

N3Q86B During the last 30 days, on how many days did you carry a gun/firearm on campus?

_____ Days

N3Q86C To what extent are you concerned about gun violence on campus?

- Not at all concerned (1)
- Slightly concerned (2)
- Moderately concerned (3)
- Very concerned (4)
- Extremely concerned (5)

Any campus-specific extra questions will always begin with N3Q87

SCHOOLID is a variable used to identify cases coming from the same institution within a given survey period.

HT_INCH height in inches

WTKG weight in kilograms

Estimated Blood Alcohol Concentration (BAC) is based on the reported number of drinks consumed the last time they “partied” or socialized (N3Q26), their approximate length of time of consumption (N3Q27), sex (N3Q67A), weight (N3Q71), and an average rate of ethanol metabolism (.015 g/100mL/hour.) BAC is a continuous variable and only computed for students reporting alcohol in the last 3 months.

RBAC1 collapses the continuous variable, estimated BAC, into a categorical variable where (1= YES) for those students with an estimated BAC under 0.08% the last time they “partied” or socialized.

RBAC2 collapses the continuous variable, estimated BAC, into a categorical variable where (1= YES) for those students with an estimated BAC under 0.10% the last time they “partied” or socialized.

Estimated Body Mass Index (BMI) is based on self-reported height (N3Q70A and N3Q70B) and weight (N3Q71) and is a continuous variable. The calculation for computing BMI is $\text{weight (kg)} / [\text{height (m)}]^2$.

RBMI is the continuous BMI variable recoded into the following categories identified by the World Health Organization:

- (1) BMI <18.5 Underweight
- (2) BMI 18.5-24.9 Healthy Weight
- (3) BMI 25-29.9 Overweight
- (4) BMI 30-34.5 Class I Obesity
- (5) BMI 35-39.9 Class II Obesity
- (6) BMI \geq 40 Class III Obesity

USDAFI – USDA Food Security 6-item Short Scale Score (5 items when self-administered) (0- 6)

RUSDAFI – USDA Food Security 6-item Short Scale Score collapsed

- (1) Very low food security (5-6)
- (2) Low food security (2-4)
- (3) High or marginal food security (0-1)

KESSLER6 – Kessler 6 Screening for Non-Specific Serious Mental Illness Score (0-24)

RKESSLER6 – Kessler 6 Screening for Non-Specific Serious Mental Illness Score Collapsed

- (1) Negative for serious psychological distress (0-12)
- (3) Positive for serious psychological distress (13-24)

ULS3 – UCLA Loneliness Scale Score (3-9)

RULS3 – UCLA Loneliness Scale Score Collapsed

(1) Negative for loneliness (3-5)

(2) Positive for loneliness (6-9)

SBQR – Suicide Behavior Questionnaire-Revised (SBQR) Screening Score (3-18)

RSBQR – Suicide Behavior Questionnaire-Revised (SBQR) Screening Score

(1) Negative suicidal screening (3-6)

(2) Positive suicidal screening (7-18)

DIENER – Diener Flourishing Scale – Psychological Well-Being (PWB) Score (8-56), with higher scores reflecting higher PWB.

CDRISC2 – The Connor-Davison Resilience Scale (CD-RISC) Score (0-8), with higher scores reflecting greater resilience

Alcohol, Smoking and Substance Involvement Screening Test (ASSIST) Substance Specific Involvement Scores (SSIS)

SSISTOBACCO – SSIS Tobacco Score (0-39)

SSISALCOHOL – SSIS Alcohol Score (0-39)

SSISCANNABIS – SSIS Cannabis Score (0-39)

SSISCOCAINE – SSIS Cocaine Score (0-39)

SSISRXSTIMULANT – SSIS Prescription Stimulant Score (0-39) – Adjusted for students with prescriptions for use and report using only as directed (does not take more than prescribed, nor more often than prescribed)

SSISMETH – SSIS Methamphetamine Score (0-39)

SSISINHALANT – SSIS Inhalant Score (0-39)

SSISSEDATIVE – SSIS Sedative or Sleeping Pill Score (0-39) – Adjusted for students with prescriptions for use and report using only as directed (does not take more than prescribed, nor more often than prescribed)

SSISHALLUCINOGEN – SSIS Hallucinogen Score (0-39)

SSISHEROIN – SSIS Heroin Score (0-39)

SSISRXOPIOID – SSIS Prescription Opioid Score (0-39) – Adjusted for students with prescriptions for use and report using only as directed (does not take more than prescribed, nor more often than prescribed)

SSISOTHER- SSIS Other Drug Score (0-39)

TOBACCORISK – SSIS Tobacco Score
Collapsed CANNABISRISK – SSIS
Cannabis Score Collapsed COCAINERISK
– SSIS Cocaine Score Collapsed
RXSTIMULANTRISK – Adjusted SSIS Prescription Stimulant Score Collapsed
METHRISK – SSIS Methamphetamine Score Collapsed
INHALANTRISK – SSIS Inhalant Score Collapsed
SEDATIVERISK – Adjusted SSIS Sedative or Sleeping Pills Score Collapsed
HALLUCINOGENRISK – SSIS Hallucinogen Score Collapsed
HEROINRISK – SSIS Heroin Score Collapsed
RXOPIOIDRISK – Adjusted SSIS Prescription Opioid Score Collapsed
OTHERSSISRISK – SSIS Other Drug Score Collapsed

(1) Low Risk (0-3)

(2) Moderate Risk (4-26)

(3) High Risk (27-39)

ALCOHOLRISK – SSIS Alcohol Score Collapsed

(1) Low Risk (0-10)

(2) Moderate Risk (11-26)

(3) High Risk (27-39)

RSEX* - uses the responses to N3Q67A, N3Q67B, and N3Q67C to create a new variable, SEX AND GENDER. This variable is used to sort respondents into female and male categories in the ACHA-NCHA report documents.

- If a student's gender identity (N3Q67C) is consistent with their sex at birth (N3Q67A) AND the student selects "no" for transgender (N3Q67B), then RSEX is coded as female or male.
- If a student selects "yes" for transgender (N3Q67B) OR their sex at birth (N3Q67A) is not consistent with their gender identity (N3Q67C), then RSEX is coded as non-binary.
- If a student selects "intersex" for sex at birth (N3Q67A), then RSEX is coded as nonbinary even if transgender (N3Q67B) or gender identity (N3Q67C) are missing, with one exception:
 - If a student selects "intersex" for sex at birth (N3Q67A), transgender (N3Q67B) is "no" or missing, and gender identity (N3Q67C) is "female" or "male," then RSEX is coded as female or male, respectively.
- If a student skips any of the three questions used to compute RSEX, then they are sorted as missing, unless they selected "intersex" for sex at birth (N3Q67A).

(1) Female

- (2) Male
- (3) Non-Binary

**Note that you are under no obligation to use the variable RSEX, and you are welcome to recalculate it using different decision rules if you like. Responses from the original questions N3Q67A, N3Q67B, and N3Q67C remain in the data file for your use.*

PAAERO – uses the responses to N3Q6 and N3Q7 to determine if the respondent met the US recommended guidelines for *only* aerobic physical activity for adults (150 or more minutes per week of moderate aerobic activity, where 1 minute of vigorous activity equals 2 minutes of moderate activity.)

- (1) No
- (2) Yes

PAGUIDE – uses the responses to N3Q6, N3Q7, and N3Q8 to determine if the respondent met the US recommended guidelines for physical activity for adults (at least 2 days of muscle strengthening activity AND 150 or more minutes per week of moderate aerobic activity, where 1 minute of vigorous activity equals 2 minutes of moderate activity.)

- (1) No
- (2) Yes

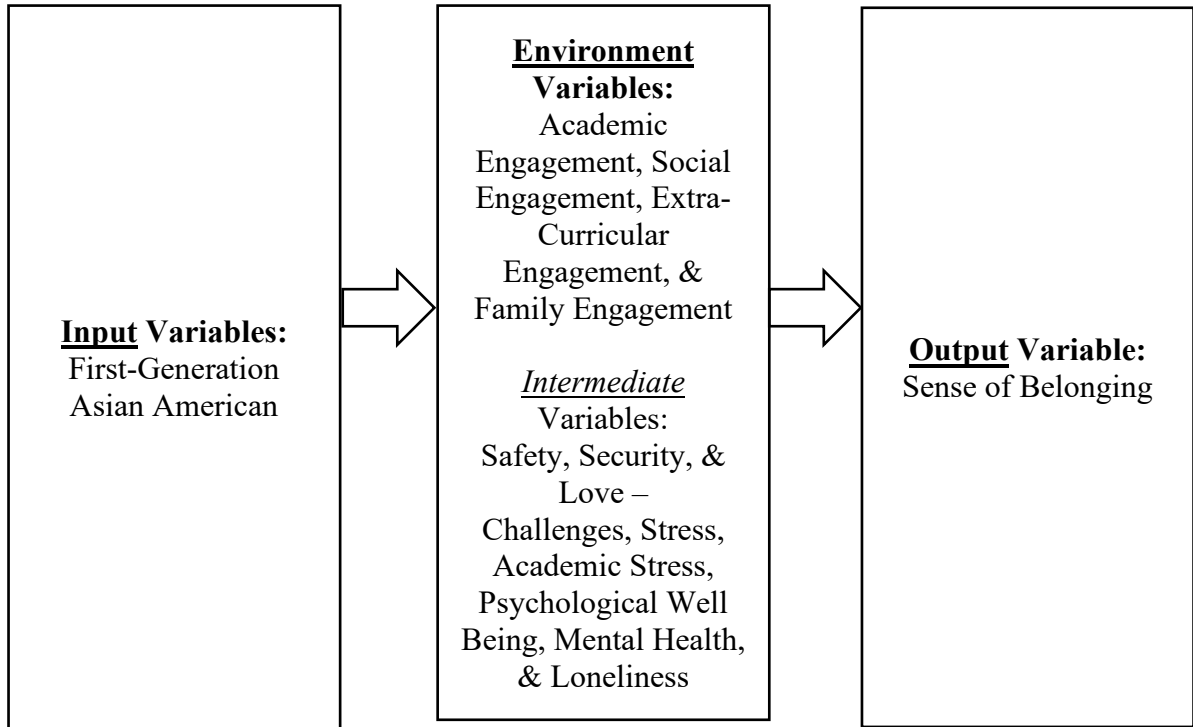
HAPAGUIDE – uses the responses to N3Q6, N3Q7, and N3Q8 to determine if the respondent met the US recommended guidelines for physical activity for *highly active* adults (at least 2 days of muscle strengthening activity AND 300 or more minutes per week of moderate aerobic activity, where 1 minute of vigorous activity equals 2 minutes of moderate activity.)

- (1) No
- (2) Yes

(US Department of Health and Human Services. Physical Activity Guidelines for Americans, 2nd edition. Washington, DC: US Department of Health and Human Services;

Appendix B: Methodological Framework Model

Based on Astin's (1994) Input-Environment-Output (I-E-O) Model



Appendix C: Theoretical Framework Model

Based on Strayhorn's (2012) Sense of Belonging Model

