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Understanding the Relationship Between Undergraduate Students' On-campus Employment Status and their Reported Sense of Belonging to the Campus Community Post the COVID-19 Pandemic

By

Samantha J. Martinez

Claremont Graduate University

2023

Approval of the Dissertation Committee

This dissertation has been duly read, reviewed, and critiqued by the Committee listed below, which herby approves the manuscript of Samantha Martinez as fulfilling the scope and quality requirements for meriting the degree of Doctor of Public Health.

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Abstract

Understanding the Relationship Between Undergraduate Students' On-campus Employment Status and their Reported Sense of Belonging to the Campus Community Post the COVID-19 Pandemic

By

Samantha Martinez, DrPH, MPH

Claremont Graduate University, 2023

Belonging has been studied for decades with many researchers concluding that humans have an inherent need to belong. Although each person's level of need to belong differs, it is a deeply rooted human motivation that impacts a person's feelings, thoughts, and behaviors. Individuals develop a sense of belonging when they feel connected to others. The postsecondary journey allows for unique experiences and opportunities that foster a sense of belonging, which can assist college students to flourish in many aspects of their lives. Research has shown that belonging significantly impacts student well-being and academic achievement, making the topic imperative to continue studying and teasing out. More recently, as postsecondary institutions have returned to in-person instruction and campus life, the need for reestablishing connectedness and belonging in the campus community has been substantial. The COVID-19 pandemic changed the postsecondary student experience, forcing institutions to seek alternate strategies for student engagement and community formation. Through a primary data analysis of a mixed methods study (n=100), this paper aimed to explore the relationship between students' sense of belonging and on-campus student employment status post the COVID-19 pandemic. Additionally, analyses of variance were used to identify differences amongst various subgroups: sex assigned at birth, year in school, and ethnicity. To gain a more complete understanding,

coding of the qualitative data collected was used to identify trends in participant responses related to their belonging experience at the university. Key findings emerged from the study related to leadership, social connection, and involvement with DeSBI factors when comparing those who had a history of campus employment and those who did not. These findings assist in better understanding student belonging and on-campus employment, which can guide future research endeavors and postsecondary strategies focused on building campus community, increasing student success, and improving overall student well-being.

Dedication

I dedicate this work to my family and friends who have been so supportive throughout my academic journey. To my husband, this endeavor would not have been possible without your constant encouragement and unwavering confidence in me. There is no one else I would rather do life with. To my parents, I am extremely grateful for the opportunities you have made possible in my life. Thank you for instilling in me the value of hard work and persistence. Lastly, to my son Carson, you have been my source of strength and motivation through this DrPH program. Being your mom is and will always be my greatest fulfillment in life.

Acknowledgements

I would like to thank my committee members, Dr. Jessica DeHart, Dean Jay Orr, and Dr. Rachaline Napier, for their consistent support and encouragement. Words cannot express my gratitude to you all for your invaluable patience and feedback. Dr. Jessica DeHart, your guidance is something I will cherish forever. Thank you for believing in me and being such a wonderful example of mentorship.

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CHAPTER ONE

Introduction and Background

The COVID-19 pandemic left many feeling isolated and lonely, and college students were no exception. As students returned to in-person activities within their campus communities post the COVID-19 pandemic, they struggled to develop social connections (Healthy Minds Network, n.d.). When students lack social connection, they often feel lonely. When students feel lonely, retention rates and academic performance decrease, leading to less successful college experiences. Due to these changes, many postsecondary institutions interested in improving overall student success have looked to strategies to enhance connectedness and belongingness at the university, as research has shown both are protective factors against loneliness (Bond et al., 2007; Brunwasser, 2012). Previous research has shown that campus opportunities, such as club involvement (Astin, 1999), increase students' sense of belonging to the campus community. Although many students participate in clubs, such as Greek organizations, intramurals, and research activities, the most common factor among undergraduate college students—aside from class—is student employment. With the rising costs of postsecondary education, the percentage of full-time undergraduate students with on-campus jobs is around 40% (Hussar et al., 2020. Currently, a plethora of research has shown that a positive relationship exists between on-campus student employment, academic success, and student satisfaction. Although extensive research exists on student belonging and on-campus student employment separately, currently, there is minimal knowledge of the relationship between belongingness and student employment.

Purpose, Study Questions, and Aims

This study explored the relationship between on-campus student employment and students' sense of belonging post the COVID-19 pandemic. The study provides strategies for

postsecondary institutions guided by the data collected in this study. This research is innovative and novel as it fills gaps in understanding belongingness and on-campus student employment for undergraduate students. Although researchers have looked at the relationships between student employment and outcomes such as grade point average (Pike et al., 2008), retention (Kulm & Cramer, 2006), work/life balance (Bradley et al., 2006), institutional engagement (McCormick et al., 2010; Ziskin et al., 2010), and cognitive development (Padgett et al., 2010), little is known post the COVID-19 pandemic about a sense of belonging. The results from this research can inform and advance postsecondary education in the realm of best practices related to student support, specifically regarding students' sense of belonging to the campus community. Postsecondary institutions can also use the data from this study to inform their decisions and initiatives related to student employment opportunities.

Research Question

The following research question guided this study: Post the COVID-19 pandemic, does a relationship exist between undergraduate students' on-campus employment status and their reported sense of belonging to the campus community?

Scope of the Study

The scope of this study focused on undergraduate college students, their employment history, and their reported sense of belonging post the COVID-19 pandemic at Chapman University. Through qualitative and quantitative methods, I sought to understand the relationship between on-campus student employment and a sense of belonging and students' experiences with belongingness and employment at the university. The scope also extended to assessing specific subpopulations' experiences with postsecondary belongingness and employment.

Sense of Belonging

The need for belongingness is universal and applies to all people. Generally, people strive to be accepted by others, valued, and respected as capable, qualified individuals worthy of acceptance by a specific group or in a particular social context (Baumeister & Leary, 1995). Most people are familiar with the term and can identify experiences where they felt like they did belong and experiences where they felt like they did not. The experiences of mattering and feeling cared about, accepted, respected, and valued are paramount to a person's sense of belonging.

Belongingness has a deep history. The esteemed psychoanalyst, Alfred Adler, developed individual psychology, emphasizing interpersonal relationships and connection (Theory of Individual Psychology, 1956). Following Adler, Abraham Maslow dedicated space in his hierarchy of needs to belonging (Maslow, 1943). Various physicians, psychologists, and postsecondary professionals have recently added diverse research into belongingness and its impact on the human experience.

Many studies suggest that the need to belong is often so fundamental that it influences our behavior and the way we think as human beings (Allen, Gallo Cordoba, et al., 2022; MacDonald & Leary, 2005). Specifically, with college students, a sense of belonging often leads to an emotional response that can manifest behaviorally and intellectually, ultimately impacting how the student interacts with the postsecondary environment. Defined in many ways and studied across populations and in thousands of differing environments, the fundamental nature of belonging offers theoretical and scientific support from various disciplines. For the purpose of this dissertation, a sense of belonging is defined as a student's perceived social support on

campus, a feeling of connectedness or that one is important to others (Jacoby & Garland, 2004; Strayhorn, 2018; Taylor & Turner, 2001).

Although everyone shares the need to belong, that desire can lessen and intensify across a person's lifespan. College presents a heightened importance for belonging due to where students are developmentally (Swartz et al., 2005). Often deep in exploring their identity, students contemplate their meaning and purpose and examine their value system. Considerable work has documented the circumstances that promote students' sense of belonging in schools and colleges, which is explored in more depth in the literature review section of this paper.

College Students

Undergraduate student enrollment has been trending upward since the first decade of the 21st century (Aud et al., 2010). With over 16,000,000 students enrolled in postsecondary institutions in 2022 and a projection of an 8% increase in undergraduate enrollment between 2020 and 2030, strategizing to improve student outcomes at the university level is on many postsecondary institutions' priority lists (Hussar et al., 2022). In fact, the adult population in the United States is now more educated than ever (McElrath & Martin, 2021). Although this is an accomplishment, many facets of the student experience must still be explored. As the student population becomes increasingly diverse, expanding the understanding of student success is crucial.

Researchers have identified a variety of postsecondary undergraduate enrollment trends. Identified trends include a growing number of non-White students (Hussar et al., 2020), female-identified students still maintaining the majority (Snyder & Dillow, 2012), and an increase in students from lower socioeconomic backgrounds (Fry & Cilluffo, 2019). Another enrollment

trend shows an increased presence of "adult students" in postsecondary education, but 18–22-year-old students remain the most common age demographic.

Cost is another essential consideration when understanding college students. The average cost of college in the United States for a full-time student at a 4-year postsecondary institution is $35,551 per year, including books, supplies, and daily living expenses (Hanson, 2022). Many factors can impact that cost, such as in- or out-of-state tuition, a public or private institution, full- or part-time enrollment, location of the institution, financial aid awarded, and room and board needs. Financial aid has been a significant factor in facilitating the opportunity for more students from lower socioeconomic backgrounds to access postsecondary institutions (Chen & Nunnery, 2019).

When considering the undergraduate college student success, academic achievement, persistence, and retention are often mentioned. For the purposes of this paper, those markers are defined as follows:

1. Academic achievement includes GPA and degree completion.
2. Persistence is the number of students who return to college at any institution for their second year.
3. Retention is the number of students who return to the same institution (National Student Clearinghouse Research Center, 2022).

Student Employment

Many undergraduate students are employed while they are enrolled in school. Outside of class, working might be the single most commonality among undergraduate students in the United States (American Council on Education, 2006). In 2020, the percentage of full-time undergraduate students employed was around 40% (Hussar et al., 2022). This number is likely to

increase as postsecondary education costs rise. In fact, for the past decade, institutions have seen a steady increase in college students seeking and obtaining employment while attending school (Carnevale et al., 2015). The need for employment ranges from covering costs related to basic needs to paying for books and tuition. In recent years, campuses have focused on increasing their on-campus student employment opportunities and will likely continue to do so as enrollment and job-seeking student numbers climb.

On-campus student employment is defined as research, teaching, work-study, or another related or comparable position at a postsecondary institution. The individual's primary relationship with the institution is educational, and the student's working relationship has been obtained as a result of or in conjunction with their studies (United States Department of Labor, 2023). In 2020, there were around 6,000 accredited postsecondary institutions, many of which had hundreds of on-campus job opportunities for students (Hussar et al., 2020). Thus, thousands of on-campus student employment positions are available in the United States annually with diverse functions and opportunities.

Students may work in campus food service, residence halls, libraries, or other university support resources. One may expect to see student employees almost everywhere on campus as they are woven into almost every aspect of campuses, large and small, public and private. Many employment opportunities are available for students to gain experience, skills, and professional development during their time at the university. Student employment presents an opportunity for students to have a role on campus that assists in preparing for future employment and building their resume. Today, work is a fundamental part of life for many undergraduate students, as the average college student is employed and working a substantial number of hours each week (Perna, 2010). With increasing costs related to the postsecondary experience, students are

becoming more likely to seek on-campus employment due to its accessibility; flexibility; ability to connect with peers, faculty, and staff; and connection to future internships or research opportunities.

COVID-19's Impact on Students

The outbreak and spread of the COVID-19 virus, starting in December 2019, significantly affected postsecondary institutions, with over 180 countries shifting to distance learning in an emergency response to the growing pandemic by April 2020 (Di Pietro et al., 2020). The COVID-19 pandemic caused a paradigm shift in teaching pedagogy as most instruction was technology-based for the following several months. Campuses quickly went from offering many in-person events and activities and large shared community spaces such as libraries or cafeterias to meeting with friends and professors through a computer screen. This shift from vibrant campus life to online, virtual interactions resulted in students navigating uncharted territory with how they related to and communicated with peers, faculty, and staff.

The abrupt shift left many students experiencing disadvantageous changes to their emotional, physical, mental, social, and financial well-being due to lockdowns, illness, and social distancing. COVID-19 significantly impacted undergraduate college students and their postsecondary experience, ranging from border closures, restrictions on social activities, educational institution shutdowns, and economic burdens. Although studies looking at the impact on undergraduate students' overall sense of belonging do exist post the COVID-19 pandemic, there is no literature examining the relationship between on-campus student employment and reported sense of belonging after 2020.

Assumptions

This primary data analysis study was guided by Maslow's hierarchy of needs and the need to belong theory. Both frameworks assume belonging is a fundamental human need. Therefore, this research aimed to advance the understanding of the elements and circumstances that relate to belonging and how that need is met and reinforced in postsecondary communities.

Conclusion

The results of this study were shared with Chapman University along with other postsecondary institutions. The results can help guide the development of strategies focused on increasing student belongingness in campus communities. This study aimed to support postsecondary institutions in their goals related to enhancing retention and graduation rates along with overall student success and well-being. By exploring the relationship between on-campus student employment and a reported sense of belonging, researchers and postsecondary institutions can gain a clearer understanding of the student experience and factors that may impact a student's success and potential to thrive. This research is extremely timely. Postsecondary institutions have returned to in-person activities and are facing new challenges related to the student experience presented by the aftereffects of the COVID-19 pandemic.

CHAPTER TWO

Literature Review

Overview

A sense of belonging matters to students, faculty and staff, and universities. Retention, graduation, and student success rates are improved with increased belonging. Furthermore, research shows that a sense of school belonging is a strong predictor of future education and employment endeavors (Parker et al., 2022). By improving a student's sense of belonging to the campus community, postsecondary institutions can assist a student in thriving during their time at the university and afterward.

Research on a reported sense of belonging and undergraduate college students has been rich. There exists a broad spectrum of research highlighting the benefits of student belongingness including improvements for mental and emotional well-being (Allen et al., 2016; Arslan & Allen, 2022; Zhang et al., 2018), academic achievement (Abdollahi et al., 2020; Brooms, 2016), and increased school retention and engagement (Ibrahim & El Zaatari, 2020). Much is also known about the relationships between an increased sense of belonging and positive outcomes, specifically for undergraduate students. However, researchers continue to explore how to define and enhance campus belonging and identify the factors that impact it. For example, much less is known about the relationship between undergraduate on-campus student employment and a reported sense of belonging, especially post the COVID-19 pandemic.

Like a sense of belonging, student employment research has been vast. Many literature reviews and large-scale studies spotlight the positive relationships between student employment and student outcomes. Specifically, many years of research have associated student employment with academic achievement (Canabal, 1998; Mayhew et al., 2016; Neyt et al., 2017; Pascarella &

Terenzini, 2005). Although this relationship is well understood, other factors associated with on-campus student employment are still being examined, including belongingness. By investigating students' sense of belonging and on-campus employment, postsecondary institutions may garner new strategies to support students' well-being and success both during and after their time at the university.

This chapter discusses the background of belonging, including various frameworks and theoretical bases for belonging, and provides a detailed overview of on-campus employment. It also examines the impact the COVID-19 pandemic had on undergraduate students. Finally, this chapter identifies current gaps and limitations in existing literature related to undergraduate students' sense of belonging and on-campus employment post the COVID-19 pandemic to establish a better understanding of current student belonging experiences at postsecondary institutions.

Historical Context of Belonging

In understanding students' transition into postsecondary communities, a sense of belonging has become an area of interest for many researchers. Many historical frameworks are associated with belonging and connectedness, as many researchers have developed theories based on the connection between belonging and well-being. One well-known concept that includes belonging is Maslow's hierarchy of needs. It is a familiar theory of human motivation that has become common diction. According to Maslow's theory, behavior is driven by the desire to satisfy five basic needs: physiological, safety, belongingness, self-esteem, and self-actualization (see Appendix B). The theory proposes that each of these needs is related and intertwined. However, a hierarchy exists that illustrates that the lower needs demand fulfillment before the higher needs receive attention. The hierarchy suggests humans start with the safety

and security stage, and as those needs are met, they progress through the stages of belongingness and self-concept. For example, Maslow (1954) stated, "if both the physiological and safety needs are satisfied, there will emerge the love, affection, and belongingness needs" (p. 20). Thus, humans will likely strive to belong in a community once their basic needs are met.

Maslow placed love and belongingness needs in the middle of his hierarchy, meaning deprivation of these elements can hinder the ability to acquire knowledge and comprehend concepts, both critical to academic achievement in postsecondary education (Strayhorn, 2018). Maslow's theory also relates to postsecondary education and undergraduate students in the self-esteem and self-actualization needs being accessible to thrive and succeed at the university. Without confidence, achievement, and purpose, an undergraduate student will likely struggle to persist and succeed in the postsecondary environment. Student success is of interest not only to the students and their support networks but also to the universities themselves.

Another more recent framework specific to school belonging is the need to belong theory developed by Roy Baumeister and Mark Leary in 1995 (see Appendix C). The theory has become central to much of the recent belongingness research. The theory declares that humans are "fundamentally and pervasively motivated by a need to belong, specifically by a strong desire to form and maintain enduring and interpersonal attachments" (Baumeister & Leary, 1995, p. 497). The need to belong theory assumes individuals have an innate psychological urge to belong to groups. Baumeister and Leary concluded that "belongingness can be almost as compelling a need as food and that human culture is significantly conditioned by the pressure to provide belongingness" (p. 497). As students integrate into a campus community, they have an instinctive need to find social connection and belonging within a group, much like they need water, shelter, and safety.

Educational psychologists and researchers have explicitly applied the need to belong framework to school belonging (Anderman, 2003; Arslan & Allen, 2022; Pittman & Richmond, 2007; Sánchez et al., 2005). This framework has brought a broader understanding to belongingness and how it is experienced in different environments and stages of life. Although school belonging is defined in many ways, most definitions refer to a student's feelings of being accepted within their school community, which can be seen as fitting in or feeling safe and comfortable in a school setting (Goodenow, 1993). Supporting students in meeting these needs is crucial for them to thrive and succeed in their postsecondary endeavors.

Understanding the historical context of belonging is critical in continuing to build and advance the research. Although Maslow's hierarchy and Baumeister and Leary's need to belong theory are included in detail within this paper, there are many other frameworks and theories that relate to belongingness. These two specific frameworks were selected due to their guidance on belongingness and its impact on human well-being and success, specifically within a postsecondary environment.

Belonging and Student Outcomes

It is well-documented that students are more successful during and after college when they feel connected to various parts of the community (Flett, 2018; Maestas et al., 2007; Ryan & Deci, 2000; Tinto, 1993, 2017; Zhao & Kuh, 2004). Researchers have found that school belonging is associated with greater school achievement, including academic success and social inclusion (Arslan et al., 2020; Arslan & Allen, 2022; Goodenow, 1993; Voelkl, 1995). Feelings of connectedness to school can lead to more positive attitudes toward learning, specifically academic self-efficacy (Battistich et al., 1995; O'Rourke & Cooper, 2010; Roeser et al., 1996). Other research has found belongingness to have a protective effect on school dropouts and peer

conflicts (Mensah et al., 2013; Zhang et al., 2021). Some research suggests that issues of belonging can result in community members needing to resolve where they stand in a particular social setting, or they face difficulty in attending to the tasks at hand (Goodenow, 1993). Specific to postsecondary education, students will likely face challenges to tasks like knowledge acquisition and retention, goal attainment, and identity development until they resolve their need to belong in their community. Academic success and overall well-being are important for the student, their families, and the institution, so understanding the relationship between belongingness and campus activities, including employment, is significant.

Academic achievement is often a major motivation for individuals pursuing postsecondary education. Without a sense of belonging, students' academic motivations often decrease, and they perform inadequately on assignments and tests, resulting in lower GPAs or unsuccessful degree completion (Ryan & Deci, 2000). In addition, research has also shown that school belonging increased student motivation (Croninger & Lee, 2001; Resnick et al., 1997) and classroom engagement (Klem & Connell, 2004). Academic achievement also impacts postsecondary institutions as persistence and retention affect an institution’s revenue. Higher rates of persistence and retention result in a consistent stream of revenue through the payment of tuition and other student fees. Studies have shown that a sense of belonging is critical to student persistence and retention (Castleman et al., 2017; Hausmann et al., 2007; Maestas et al., 2007; Tinto, 2017). As more students continue their education, institutions see higher postsecondary degree completion rates (Connell et al., 1995). With degree completion, students are more likely to achieve career goals and establish occupational wellness postgraduation, making academic achievement important and influential.

A broad spectrum of studies highlights the mental and emotional well-being benefits of belonging for students in a postsecondary setting. Belongingness impacts students' psychological well-being (Stout & Wright, 2016; Walton & Cohen, 2011) as it contributes to the likelihood that a student will remain at a postsecondary institution (Hausmann et al., 2007; Rhee, 2008). Additional research has shown that school belongingness decreases incidents of fighting, bullying, and vandalism (Gasper et al., 2012; Wilson & Elliot, 2003); absenteeism (Croninger & Lee, 2001); disruptive behavior; emotional distress (Tian et al., 2015); and risk-taking behaviors related to substance use (Goodenow, 1993; Wilson & Elliot, 2003). Understanding the belonging experiences students are currently having can assist in improving mental and emotional well-being by identifying factors that may enhance community and belongingness at a postsecondary institution.

One factor that is known to be strongly associated with an increased sense of belonging in undergraduate students is student involvement. Astin's (1999) and Tinto's (1997) research affirmed this idea by noting that student involvement in college can result in a greater sense of attachment to the institution. There are decades of scientific studies supporting the relationship between college student involvement and students' reported sense of belonging to the campus community. Strayhorn (2018) analyzed the 2004–2005 College Student Experiences Questionnaire and found significant associations between various involvement activities. Specifically, the study found that students involved in campus clubs, organizations, and committees tended to have a greater sense of belonging to their campus than their peers not involved in such activities. Although the relationship between involvement in campus activities and belonging is well understood and often leaned on by postsecondary institutions to garner

community, knowledge on the relationship between student employment and belonging is lacking, leaving an unexplored opportunity to enhance the student experience.

Mahar et al. (2013) reviewed 40 articles and named five significant themes to describe belonging: subjectivity, groundedness, reciprocity, dynamism, and self-determination. Successive research has expanded the concept to include the many socioecological factors associated with belonging across multiple systems (Allen et al., 2022). It has even been considered a fundamental human right (Gray et al., 2018). Understanding the impact of belongingness on students highlights the importance of promoting belonging and involvement in schools to support campus communities' growth, success, and diversification. Motivated by the work Astin, Tinto, Deci and Ryan, and Mahar have shared, this dissertation aimed to expand the understanding of student belongingness as it relates to student employment to improve postsecondary institutions' knowledge and strategies to enhance overall student success and well-being through belonging.

On-campus Employment and Student Outcomes

On-campus employment can assist students in meeting their physiological and safety needs and possibly their love and belonging needs. Students employed at the postsecondary institution they attend can increase their connection to their university through relationships built with peers and staff members. On-campus employment provides a space for students to spend significant time connecting with peers, faculty, and staff in an engaging environment that supports their financial well-being. On-campus positions that create environments where student employees feel valued and essential can increase their sense of belonging at the institution (Strayhorn, 2018). A workplace can produce a sense of belonging through respect, connection, and investment, which can ultimately lead to an increase in belonging to the overall campus community. Additionally, research has shown that a student employee with a sense of belonging

in the workplace is more likely to persist there and at the institution (McClellan et al., 2018). By further examining the impact of on-campus student employment, there is potential to better understand the student experience and enhance strategies to assist students in thriving during their postsecondary education.

Existing research supports on-campus student employment in benefiting the overall student experience in various ways. Studies exploring on-campus student employment have investigated aspects related to morale and affinity to the institution (Kellison & James, 2011). An exploratory case study from 2005 found three themes related to working on-campus: informal learning, skill development, and work environment (Carr, 2005). A subsequent study in 2009 found that student employees reported learning skills related to people, teamwork, leadership, and problem-solving through their positions (Lewis & Contreras, 2009). Existing research demonstrates the learning and skill building that can occur through on-campus employment, which can positively impact success during and after time at the postsecondary institution. Expanding research related to on-campus employment, specifically related to belongingness, also provides an opportunity to positively impact student success during and after postsecondary education.

Other research has found that on-campus student employment positively correlates with students' cognitive and affective growth (Astin, 1993). Over the past 3 decades, there have been dozens of studies depicting the relationship between student employment and academic achievement (Canabal, 1998; Mayhew et al., 2016; Neyt et al., 2017; Pascarella & Terenzini, 2005). Many have found an inverse U-shaped relationship where 7–15 hours worked a week in an on-campus position is associated with a higher GPA, whereas over 15 hours a week is

associated with a lower GPA (Gleason, 1993; Hood et al., 1992; Quirk et al., 2001; Rothstein, 2007).

Like academic achievement, student employment has also been associated with increased student satisfaction. A large 2015 study at Indiana University-Purdue University Indianapolis examined undergraduate student employee satisfaction and found that 87.5% of respondents agreed or strongly agreed that being a student employee at the institution had positively impacted their overall college experience (Indiana University-Purdue University Indianapolis, n.d.). Although academic achievement and student satisfaction are well understood in their relationship with student employment, more is needed to know about the relationship between student employment and other student outcomes.

In congruence with research depicting the positive impact student employment can have on undergraduate students, several researchers have suggested that on-campus student employment opportunities serve as engagement opportunities that can support integration into the postsecondary learning environment (Gupton et al., 2009; Pike et al., 2008). Pike et al. (2008) found that on-campus employment was positively related to all five engagement benchmarks in the National Survey of Student Engagement (NSSE). Though student engagement, retention and general student outcomes are associated with factors like student commitment; therefore, the experiences in which these elements occur are meaningful to explore (Quaye et al., 2019). As more is discovered, postsecondary institutions can improve student outcomes throughout their time at the university and afterward, assisting students in their ability to thrive and succeed.

NSSE

The NSSE collects data from first-year and senior students about their undergraduate experience. The measurement assists postsecondary institutions in understanding the engagement students have with research-driven educational practices and initiatives focused on personal development, student learning, persistence, satisfaction, and graduation. In 2020, the NSSE had more than 480,000 students participate from over 600 institutions. This administration also included three prompts related explicitly to belonging. Participants were asked the extent they agreed or disagreed with the following statements: "I feel comfortable being myself at this institution," "I feel valued by this institution," and "I feel like part of the community at this institution." Most (90%) first-year students reported feeling comfortable being themselves at their institution, 80% of first-year students reported feeling valued by their institution, and 80% of students reported feeling like part of the community at their institution. Differences existed in subgroups such as those with nonbinary gender identities and students with diagnosed disabilities, which shows that although overall, students feel like they belong at the institution, there are still areas for growth within specific subpopulations. These data are crucial as a sense of belonging has a strong, statistically significant relationship with first-year student retention at the institution (National Survey of Student Engagement, 2022). Although a sense of belonging is captured in the NSSE measurement and is a reliable tool to inform postsecondary institutions on their students' belongingness experience, it does not provide guidance on improving students' sense of belonging utilizing various factors existing within campus communities, such as student activities, employment, and research opportunities, which have the potential to impact belonging. Furthermore, the survey does not expand further than the three questions listed previously. Therefore, this study explored student employment using a robust set of sense-of-belonging

questions and scales, which complement existing research on belonging and provide an even more complete understanding of student belongingness at postsecondary institutions.

COVID-19's Impact on Students

Since the pandemic's start, several studies have examined the impact on students' abilities to adapt (Sousa et al., 2021; Xhelili et al., 2021). Findings have shown that students' mental health has been impacted by anxiety, fear, and worry (Cao et al., 2020; Elharake et al., 2022; Wang et al., 2020). Compared to their general-population peers, studies have shown that undergraduate college students presented poorer mental health outcomes during the pandemic (Kang et al., 2021). With the shutdown of most postsecondary institutions during the spring and fall of 2020, students were no longer physically sharing spaces with their peers, making the connection much more difficult. According to a nationwide survey of 2,086 students from spring 2020, 63% responded that they were struggling with staying connected with others, and 80% responded that they were experiencing loneliness or isolation (Active Minds, 2020). Humans communicate and connect best when physically together, so the community is much easier to foster by sharing built space. The ability to build camaraderie and a sense of belonging is limited in a virtual class setting (Rashid & Yadav, 2020) due to the lack of physical closeness. With a decreased sense of belonging, research has shown that individuals often experience increased feelings of isolation and loneliness (Baskin et al., 2010; Mellor et al., 2008). Therefore, it is no surprise that student engagement and connectedness look different post the COVID-19 pandemic, as students have experienced a significant life event that resulted in fewer social interactions for a prolonged period. To quantify the impact of COVID-19, this dissertation aimed to understand the experiences related to on-campus student employment and a sense of belonging post the COVID-19 pandemic at a postsecondary institution.

The impact COVID-19 has had related to on-campus student employment has yet to be widely researched. However, a study from 2020 based on 1,500 undergraduate students at Arizona State University found that 40% of the respondents had lost their job, internship, or job offer due to the pandemic (Aucejo et al., 2020). Although no known studies are comparing 2020 employment rates of U.S. college students to noncollege students, there is existing data showing the overall unemployment rate for 16–24-year-olds jumped from 8.4% to 24.4% from spring 2019 to spring 2020, although unemployment for those 25 and older went from 2.8% to 11.3% (Economic Policy Institute, n.d.). Although unemployment increased for all age groups during 2020, those of traditional college age experienced almost a threefold increase during the pandemic. The increase in unemployment rates within the 16–24-year-old population likely translates to on-campus employment positions, resulting in student employment opportunity changes from pre to post the COVID-19 pandemic. To support students' well-being needs post the COVID-19 pandemic, it is essential for postsecondary institutions to consider the role student employment plays in students' financial wellness as well as social connection and belonging. Although very little research has addressed student employment and a sense of belonging among students post the COVID-19 pandemic, this study aimed to fill the current gap and provide insight into the relationship between the two factors.

Summary

This chapter explored the data associated with student belonging, student employment, COVID-19's impact, and the surrounding topics. The relationship between on-campus employment and students' sense of belonging post the COVID-19 pandemic is critical as there is an evident gap in knowledge and existing literature. The literature review highlighted the minimal data available regarding on-campus student employment post the COVID-19 pandemic.

Specifically, studies following the COVID-19 pandemic must examine the relationship between various factors and students' reported sense of belonging. Through the qualitative and quantitative data collected and analyzed in this study, a more complete understanding of the relationship between students' sense of belonging and on-campus employment post the COVID-19 pandemic is presented. This knowledge is necessary to provide better strategies for postsecondary institutions in improving student success and well-being through refined guidance on belongingness.

CHAPTER THREE

Approach and Methods

Approach

Due to the lack of existing knowledge related to the relationship between undergraduate students' sense of belonging and on-campus employment status, specifically post the COVID-19 pandemic, the current study aimed to explore this relationship using primary data collected from a sample of 100 undergraduate students from a small private university in Southern California, Chapman University. The study used a cross-sectional design to answer the following research question: Does a relationship exist between undergraduate students' on-campus employment status and their reported sense of belonging to the campus community post the COVID-19 pandemic?

The primary data were collected from a cross-sectional, mixed methods, exploratory study conducted in the spring of 2023 at Chapman University. The study was reviewed and approved as exempt by the Claremont Graduate University and Chapman University Institutional Review Boards in the fall of 2022. The approved consent form and measurement can be found in Appendix A. A cross-sectional, mixed methods, exploratory design was selected due to the novelty of the research question being investigated. The questions and measurement were chosen to better understand the relationship between on-campus, undergraduate student employment and students' reported sense of belonging.

Research Question and Hypothesis

Primary Research Question: Does a relationship exist between undergraduate students' on-campus employment status and their reported sense of belonging to the campus community post the COVID-19 pandemic?

Exploratory Research

- Do differences exist between various subgroups of students when evaluating the relationships between reported sense of belonging to the campus community and on-campus employment status?
- What factors influence belonging between students with a history of on-campus employment and those with no history of on-campus employment?

Hypothesis: A history of on-campus employment results in an increased sense of belonging reported in the undergraduate student population.

Recruitment and Participants

Participants were recruited using convenience sampling via printed flyers posted around Chapman University in January, February, and March of 2023 (see Appendix D). The flyers included the purpose of the study and a QR code to access the study survey on Qualtrics, an online survey software. To take part in the study, participants needed to be current undergraduate students between the ages of 18–25 years old and be able to read and write in English.

Data Collection

The mixed methods survey was built and administered through the online Qualtrics software. It was designed to be mobile-friendly so participants could efficiently complete the assessment on their phones. To access the survey, participants must have signed the agreement to participate in the study (see Appendix A).

Participants were first asked a series of demographic questions: sex assigned at birth, gender identity, race, ethnicity, and year in school. Participants were then asked about their on-campus student employment history and what department(s) they were employed by. Next, participants were asked questions from the Departmental Sense of Belonging and Involvement

(DeSBI) scale as it assesses students' sense of belonging and is considered highly valid and reliable (Knekta et al., 2020). The DeSBI scale was developed to measure students' sense of belinging to and involvement in a specific department. To develop the questionnaire, factor analysis, descriptive statistics, and correlations between items were examined. Analysis of Mahalanobis distance was used to identify possible outliers. The DeSBI scale questions assisted in quantifying participants' sense of belonging, which aligned with this study's primary and exploratory research questions.

In the current study, we used Version 2 and the Final Version of the DeSBI scale (see Appendices E and F). Version 2 of the DeSBI includes all 35 questions in their final form. The Version-2 scale was analyzed as a whole and by the two validated subscales: (a) sense of belonging (S variables) and (b) involvement (I variables). In the sense-of-belonging section, participants were prompted to rank their agreement on connection, fit, and relationships at Chapman University via Likert-scale prompts. The involvement section had 14 Likert-scale items and asked participants to rate their likelihood of participation and interaction in the community. Each individual question was also analyzed separately.

The Final Version of the DeSBI includes 20 questions from Version 2. The Final-Version scale was analyzed as a whole and by the three validated subscales: (a) valued competence, (b) social acceptance, and (c) involvement. In the valued-competence section, participants were prompted to rank their agreement on five items concerning faculty and staff via a Likert scale. The social-acceptance section had six Likert-scale items and asked participants to rate their agreement with factors concerning peers. Finally, the involvement portion had nine items related to involvement and interaction and participants were asked to rate their likelihood of participation via a Likert scale. Each individual question was also analyzed separately.

At the end of the survey, participants were prompted to respond to an open-ended question designed to learn more about their overall experience as university community members. The measurement can be found in Appendix A. Upon completing the questionnaire, participants received a $5 Target gift card. Participants could share their email to receive an electronic gift card or stop by an office to pick it up in person.

Analyses

Quantitative data analysis was done using the statistical software StataIC 14 (StataCorp.2015. Stata: Release 14. Statistical Software. College Station, TX: StataCorp LP). The primary independent variable of interest was on-campus employment; therefore, an employment variable ("ever" vs "never") was created, which combined "current" employment status (n = 41) and "former" employment status (n = 5). All demographic variables were analyzed by "ever" and "never" employed using Chi-square tests. Two sample t-tests were used to analyze differences in mean scores between "ever" and "never" employed students for the following dependent variables: Version 2 full-scale score, Version 2 subscales scores, Final Version full-scale score, Final Version subscale scores, and individual questions (35). Statistical significance was set at 0.05.

The measurement included one open-ended short-answer question, which asked the participant to describe their experiences as a member of the Chapman community. To analyze qualitative data, participant responses were coded to identify themes and draw conclusions using NVivo12, a data analysis software tool. Each text response was read three times before being coded. To identify trends, a codebook was created with terms related to belonging and then participants' short-answer responses were analyzed to identify the frequency in which codebook items were included. To compare employment status groups, participants' short-answer responses

were either labeled as “never work” or “ever work.” Word clouds were developed using the Qualtrics software to analyze text data collected in the short answers provided by participants. The word clouds provide a graphical representation of trends and themes from participant responses and depict terms that were most utilized when describing participant experiences in the Chapman community.

CHAPTER FOUR

Results

Demographic Description

The study consisted of 100 participants. All participants were undergraduate students currently enrolled at Chapman University located in Orange, California. A demographic description of the sample (N=100) is provided in Table 1. As shown in the table, the sample predominantly identified as female. Half of the participants identified as White with Asian being the next most common response. There were slightly more first- and second-year students compared to third- and fourth-year students. Many of the sample demographics align closely with the undergraduate student population enrolled at Chapman University for the 2022–2023 academic year, including ethnicity, race, and academic year. Of the 100 participants, 54 had no history of on-campus employment and 46 had a history of on-campus employment.

Table 1

Demographics

	Overall	Never worked (coded as "0")	Ever worked (coded as "1")	P-value
Characteristic	N (%)	N (%)	N (%)	
All	100	54	46	
Sex assigned at birth	100	54	46	.617
Female	72 (72)	40 (74.1)	32 (69.6)	
Male	28 (28)	14 (25.9)	14 (30.4)	
Gender identity	100	54	46	.655
Male	28 (28)	14 (25.9)	14 (30.4)	
Female	67 (67)	37 (68.5)	30 (65.2)	
Genderqueer	3 (3)	2 (3.7)	1 (2.2)	
Nonbinary	1 (1)	0 (0)	1 (2.2)	
Prefer not to respond	1 (1)	1 (1.9)	0 (0)	

	Overall	Never worked (coded as "0")	Ever worked (coded as "1")	P-value
Ethnicity	100	54	46	0.620
Hispanic, Latino, or Spanish origin	16 (16)	8 (14.8)	8 (17.4)	
Not of Hispanic, Latino, or Spanish origin	83 (83)	45 (83.3)	38 (82.6)	
Prefer not to respond	1 (1)	1 (1.9)	0 (0)	
Race	100	54	46	0.570
African American/Black	3 (3)	1 (1.9)	2 (4.35)	
Other	1 (1)	1 (1.9)	0 (0)	
American Indian or Alaskan Native	1 (1)	0 (0)	1 (2.2)	
Asian American/Asian	31 (31)	19 (35.2)	12 (26.1)	
Hispanic/Latin(x)	9 (9)	5 (9.3)	4 (8.7)	
Native Hawaiian	4 (4)	1 (1.9)	4 (8.7)	
White	50 (40)	27 (50)	23 (50)	
Prefer not to respond	1 (1)	0 (0)	1 (2.17)	
Academic Year	100	54	46	<0.001
First year	31 (31)	25 (46.3)	6 (13.0)	
Second year	27 (27)	16 (29.6)	11 (23.9)	
Third year	16 (16)	5 (9.3)	11 (23.9)	
Fourth year	26 (26)	8 (14.8)	18 (39.1)	

Differences in DeSBI Results Between Groups

The alternative hypothesis predicted that a difference in sense of belonging existed between those who had a history of on-campus employment and those who did not. The hypothesis predicted a positive relationship, which showed that on-campus employment leads to an increased sense of belonging for students. The DeSBI measurement was tested among two different groups: undergraduate students who had never worked at an on-campus job and undergraduate students who had worked at an on-campus job. Significant differences in sense of

belonging were observed between the two groups. Table 2 lists the individual DeSBI belonging item responses by history of employment status (never vs. ever worked).

Table 2

Individual DeSBI Belonging Items

	Overall	Never worked (coded as "0")	Ever worked (coded as "1")	P-value
Item	Mean (SD)	Mean (SD)	Mean (SD)	
S variables				
I feel like a real part of Chapman University	4.52 (±1.08)	4.43 (±1.16)	4.63 (±0.97)	0.173
People at Chapman University notice when I am good at something	3.96 (±1.16)	3.67 (±1.21)	4.30 (±1.01)	0.003
Faculty and staff at Chapman University value my opinions	4.49 (±1.02)	4.46 (±1.02)	4.52 (±1.03)	0.388
It is hard for people like me to be accepted at Chapman University	2.43 (±1.42)	2.50 (±1.55)	2.35 ± (1.27)	0.701
Other students at Chapman University take my opinions seriously	4.18 (±1.07)	4.15 (±1.22)	4.22 (±0.87)	0.374
Most faculty and staff at Chapman University are interested in me	4.18 (±1.16)	4.26 (±1.18)	4.09 (±1.13)	0.769
Sometimes I feel like I don't belong at Chapman University	2.41 (±1.39)	2.35 (±1.44)	2.48 (±1.33)	0.326
There is at least one instructor or faculty or staff at Chapman that I can talk to if I have a problem	4.67 (±1.44)	4.46 (±1.55)	4.91 (±1.28)	0.060
People at Chapman are friendly to me	4.74 (±1.15)	4.57 (±1.28)	4.93 (±0.95)	0.060
Students at Chapman help each other succeed	4.28 (±1.20)	4.09 (±1.19)	4.50 (±1.19)	0.045
I am included in lots of activities at Chapman	3.95 (±1.33)	3.78 (±1.40)	4.15 (±1.23)	0.081
I am treated with as much respect as other students	4.52 (±1.18)	4.30 (±1.21)	4.78 (±1.11)	0.020
I have a good relationship with other students at Chapman	4.67 (±1.19)	4.56 (±1.28)	4.80 (±1.07)	0.15
I can really be myself at Chapman	4.54 (±1.18)	4.33 (±1.24)	4.78 (±1.05)	0.028

	Overall	Never worked (coded as "0")	Ever worked (coded as "1")	P-value
Item	Mean (SD)	Mean (SD)	Mean (SD)	
S variables				
The faculty and staff at Chapman respect me	4.69 (±1.06)	4.48 (±1.19)	4.93 (±0.83)	0.016
People at Chapman know I can do good work	4.69 (±1.13)	4.63 (±1.54)	4.76 (±1.10)	0.282
I wish I were at a different university	2.05 (±1.33)	1.96 (±1.06)	2.15 (±1.59)	0.240
The instructors at Chapman give me compliments when I do something good	4.15 (±1.10)	4.06 (±1.20)	4.26 (±0.98)	0.178
I feel proud of belonging to Chapman University	4.37 (±1.17)	4.52 (±1.19)	4.20 (±0.98)	0.915
Other students at Chapman like me the way I am	4.48 (±1.11)	4.39 (±1.22)	4.59 (±0.98)	0.189
Faculty and staff at Chapman really want me to succeed	4.91 (±1.05)	4.80 (±1.05)	5.04 (±1.03)	0.120
I variables				
Participate in undergraduate research at Chapman	2.97 (±1.71)	2.89 (±1.64)	3.07 (±1.79)	0.305
Interact closely with Chapman faculty or staff outside of class	3.72 (±1.43)	3.67 (±1.47)	3.78 (±1.40)	0.344
Talk about my career plan with Chapman faculty or staff	4.18 (±1.42)	3.83 (±1.41)	4.59 (±1.34)	0.004
Discuss course topics, ideas, or concepts with Chapman faculty and staff outside of class	4.12 (±1.37)	4.00 (±1.37)	4.26 (±1.36)	0.172
Discuss my academic performance with Chapman faculty and staff outside of class	3.82 (±1.47)	3.74 (±1.47)	3.91 (±1.49)	0.281
Discuss my undergraduate research opportunities with Chapman faculty and staff	3.38 (±1.70)	3.35 (±1.62)	3.41 (±1.81)	0.429
Ask for advice from Chapman faculty or staff who are not my instructor	3.64 (±1.58)	3.57 (1.62)	3.72 (±1.54)	0.327
Attend office hours of a Chapman faculty member	3.98 (±1.45)	3.98 (±1.47)	3.98 (±1.44)	0.504
Read research papers from a Chapman faculty member	2.54 (±1.49)	2.41 (±1.41)	2.70 (±1.58)	0.168
Attend a seminar hosted by Chapman	2.81 (±1.37)	2.93 (±1.49)	2.67 (±1.21)	0.819

	Overall	Never worked (coded as "0")	Ever worked (coded as "1")	P-value
Item	Mean (SD)	Mean (SD)	Mean (SD)	
I variables				
Visit the lab of a Chapman faculty member	2.84 (±1.56)	2.80 (±1.47)	2.89 (±1.68)	0.382
Join a Chapman student group or club	4.43 (±1.47)	4.48 (±1.36)	4.37 (±1.61)	0.647
Participate in Chapman- related volunteer work not connected to research	3.16 (±1.32)	3.24 (±1.23)	3.07 (±1.44)	0.744
Get involved as a leader at Chapman University	3.44 (±1.54)	3.26 (±1.58)	3.65 (±1.48)	0.103

Consistent with the alternative hypothesis, students with a history of on-campus employment reported a statistically significantly higher sense of belonging than those who have not had a history of on-campus employment on the following six DeSBI items: (a) "People at Chapman University notice when I am good at something" (p=.003); (b) "Students at Chapman help each other succeed" (p=.045); (c) "I am treated with as much respect as other students" (p=.020); (d) "I can really be myself at Chapman" (p=.028); (e) "The faculty and staff at Chapman respect me" (p=.016); and (f) "Talk about my career plan with Chapman faculty or staff" (p=.004). Three other DeSBI items showed a strong relationship between on-campus employment history and increased belonging: (a) "There is at least one instructor or faculty or staff at Chapman that I can talk to if I have a problem" (p=.060), (b) "People at Chapman are friendly to me" (p=.060), and (c) "I am included in lots of activities at Chapman" (p=.081). These results were consistent with the hypothesis as students with a history of on-campus employment showed an increased sense of belonging in various aspects, specifically those related to faculty and staff interactions, compared to those without a history of on-campus employment.

Table 3 lists the overall mean scores for the DeSBI measurements (Version 2, Final Version) and subscales for those with no history of on-campus employment (never worked) and those with a history of on-campus employment (ever worked). There were observed differences found between the history of on-campus employment and no history of on-campus employment groups on the overall mean score for the Version 2 DeSBI sense-of-belonging variables (p=.090) and the Final Version DeSBI social-acceptance variables (p=.099). These results show that variables related to belonging and social acceptance had higher mean scores in participants who had a history of on-campus employment.

Table 3

DeSBI Overall Mean Scores (Version 2 and Full Version with Subscales)

	Overall	Never worked (coded as "0")	Ever worked (coded as "1")	P-value
Characteristic	Mean (SD)	Mean (SD)	Mean (SD)	
Version 2 DeSBI				
Full scale	143.13 (±24.71)	140.26 (±26.12)	146.5 (±22.78)	0.105
Sense-of-belonging subscale	94.10 (±16.02)	92.11 (±16.95)	96.43 (±14.71)	0.090
Involvement subscale	49.03 (±13.33)	48.15 (±13.72)	50.07 (±12.94)	0.238
Final version DeSBI				
Full scale	78.42 (±14.62)	77.22 (±15.63)	79.83 (±13.37)	0.189
Valued-competence subscale	21.47 (±4.25)	21.07 (±4.41)	21.93 (±4.07)	0.158
Social-acceptance subscale	26.86 (±5.67)	26.19 (±6.09)	27.65 (±5.10)	0.099
Involvement subscale	30.09 (±8.50)	29.96 (±8.59)	30.24 (±8.49)	0.436

Key Findings

Many DeSBI factors that included faculty and staff interactions with students had statistically strong or significant results when comparing those who had a history of on-campus employment and those who did not. The following faculty- and staff-related DeSBI items had strong or significant relationships with on-campus employment: (a) "There is at least one

instructor or faculty or staff at Chapman who I can talk to if I have a problem"; (b) "The faculty and staff at Chapman respect me"; and (c) "Talk about my career plan with Chapman faculty or staff."

Although the full Version 2 and Final Version DeSBI means were not statistically significant between the on-campus employment history and no on-campus employment history groups, there were sections of the measurements that were strongly associated: Version 2 sense-of-belonging variables (p=.090) and Final Version social-acceptance variables (p=.099). These findings compliment qualitative findings, reported in the next section, as they highlight the relationship on-campus employment history has with various belonging factors. Specifically, the strong and significant differences that present when comparing students' relationships with peers, faculty, and staff in those with on-campus employment history and those without.

Qualitative Results: Response Themes (Leadership)

When asked to describe their experiences as a member of the Chapman community, the words community and involvement were quite common among both groups. Many noted that their involvements led them to be connected and feel supported to take on leadership opportunities: "I love it because I get to be involved & meet a bunch of new people. I have opportunities to become a leader in many roles that push me to want to be better" and "I love being a part of community because it helps me learn how to be a leader."

The above quotes show that participants attributed their positive experiences within the Chapman community to their involvements. Based on the short-answer responses, students see connecting with peers and taking on leadership opportunities as contributing to their overall feelings of belonging to the community.

Qualitative Results: Response Themes (Social Connection)

Participants also explained that they often feel very connected because of the care and support they have received from faculty and staff they interact with in and out of the classroom setting. Some participants shared the following experiences: “The faculty has also expressed their care for us to succeed and have shown us they can help us in any way to achieve our goals”; “As of right now it’s been an awesome experience, I love the people, the faculty and how supportive everyone is. I am proud to be a part of Chapman”; and “Overall, my experience has been good. I’ve made some great friends and connected with staff, especially at my work. They are great.”

These responses highlight the impact that faculty and staff have had on the experience these students have had at Chapman. Specifically, faculty and staff assisted in students feeling a sense of belonging and connection. These qualitative excerpts give more context to what the quantitative data show. Overall, the responses indicate that students feel faculty and staff play an important role in their experience of community at Chapman.

Qualitative Results: Response Themes (Involvement)

Other participants shared difficulties they have faced in finding connection and belonging at Chapman and how getting involved has impacted that. One participant included the experience they have had since attending Chapman:

> I have had many opportunities to get involved in academic work. At times I have found being at Chapman difficult due to class disparities and sometimes feeling like I do not fit in with many students but being involved in campus work and research has made me feel more included in the community.

Another explained, “It [Belonging] was harder at first because I was a commuter, but once I became more involved it changed my experience! Joining clubs and the hockey team helped.” These experiences highlight the impact of involvement on their feelings of belonging. Although

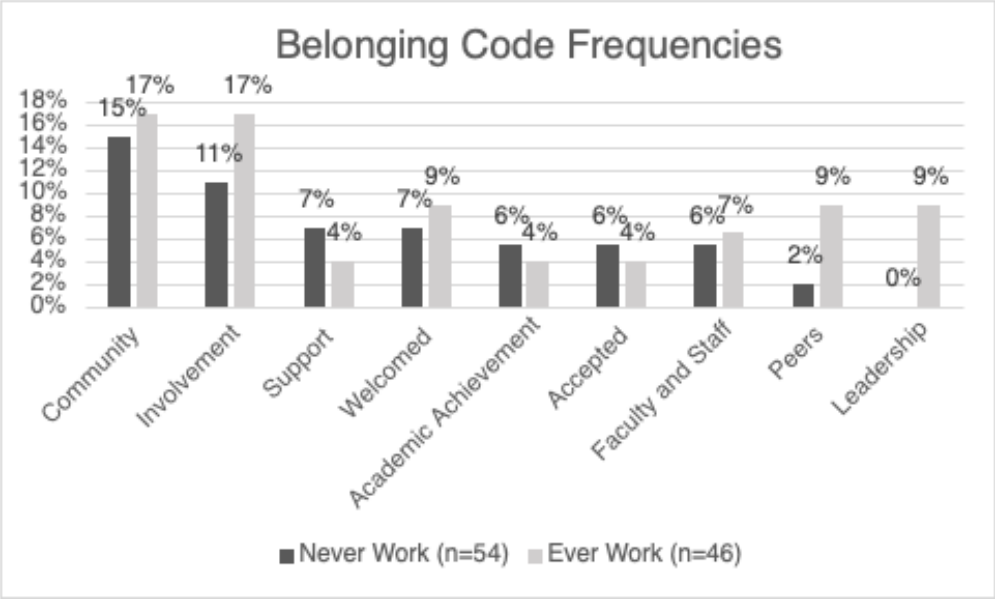
challenges occurred, students found that getting involved was an important factor in them feeling part of the community and gaining a sense of belonging. This theme was prevalent in the quantitative data gathered in the DeSBI involvement items along with the coding trends discussed below.

Qualitative Results: Coding Trends

To identify different themes and organize the qualitative data, a codebook related to student belonging was created through inductive processes. Content analysis was conducted to interpret the results from the measurement. The qualitative results from short-answer responses are presented in Figure 1 and include the frequency of the codebook terms in participant responses for both groups. Figure 1 shows the patterns and trends from participant responses generated by nVivo software. Responses are not exclusive in that participants could have multiple codebook terms in their response.

Figure 1

Belonging Code Frequencies Between Employment History Groups



Results showed that codebook terms were mentioned in 59% of no history of on-campus employment short-answer responses compared to 85% of those with a history of on-campus employment. The findings presented in Figure 1 further support themes from the quantitative data from the survey. Participants with a history of on-campus employment mentioned the terms related to community, involvement, leadership, and peers much more often than those who had no history of on-campus employment. Participants with no history of on-campus employment mentioned the terms related to support, acceptance, and academic achievement more often than those who had an on-campus employment history. Overall, those with a history of on-campus employment used more positive terminology and matched more often to belonging codebook items compared to those without a history of on-campus employment. Results show that students with a history of on-campus employment are more likely to mention positive experiences and words associated with belonging compared to those without a history of on-campus employment.

Qualitative Results: Word Clouds

To provide a visual comprised of terms from the qualitative data collected, word clouds are available in Figures 2 and 3. The word clouds depict the frequency of words from the responses gathered from participants and show that Chapman was the most common word in both sets of responses. The terms student, collaborate, welcome, academic, connected, best, leader, work, accept, better, member, and opportunity are on the history-of-employment cloud, but not on the no-history-of-employment cloud. Whereas the terms pretty, hard, club, fun, life, time, school, lot, don't, I'm, enjoy, and home are found on the no-history-of-employment cloud and not on the history-of-employment.

Figure 2

Word Cloud: No History of On-Campus Student Employment (n=54)

Figure 3

World Cloud: History of On-Campus Student Employment (n=46)

Summary

The analysis of the qualitative and quantitative data collected via the belonging measurement focused on exploring the relationship between on-campus employment and students' reported sense of belonging, specifically answering the primary research question: Post the COVID-19 pandemic, does a relationship exist between undergraduate students' on-campus employment status and their reported sense of belonging to the campus community? Participants provided a plethora of qualitative and quantitative data through the mixed-methods measurement, which offers a deeper understanding of students' sense of belonging following the COVID-19 pandemic.

CHAPTER FIVE

Discussion

Overview

The current study aimed to better understand the relationship between students' sense of belonging and on-campus employment following the COVID-19 pandemic. Interest in exploring this relationship stemmed from the limited research and knowledge available regarding improving students' sense of belonging through existing programs, such as student employment, at the university level following the COVID-19 pandemic. The impact of determining the relationship between a sense of belonging and student employment following the pandemic is twofold: (a) It allows researchers and postsecondary professionals to gain a more detailed understanding of the relationship between on-campus employment status and reported sense of belonging; and (b) It provides insight into undergraduate student experiences within their campus communities following the COVID-19 pandemic. Therefore, the central research question explored whether on-campus employment status was associated with an increased sense of belonging in undergraduate students post the COVID-19 pandemic. Qualitative and quantitative data on students' sense of belonging and on-campus employment status post the COVID-19 pandemic were collected and analyzed to answer this question.

This chapter summarizes the study's findings in the context of previously published literature, including how students experience belonging in postsecondary communities following COVID-19. Additionally, it provides postsecondary organizations with specific recommendations based on the belonging items identified to be impacted by on-campus student employment. The conclusions from this study indicate a positive relationship between a sense of belonging and on-campus employment post the COVID-19 pandemic; specifically, an increased

likelihood of positive belonging experiences related to involvement, leadership, and relationships. The strategies and recommendations provided in this chapter may assist postsecondary institutions and their administration in strengthening and advancing undergraduate students' sense of belonging by maximizing opportunities for students to get involved, lead, and build faculty and staff relationships through aspects of an existing student employment program.

Key Finding 1: On-Campus Employment History Qualitative Data and Belonging Terminology

Key findings emerged from the findings of this study that indicate a positive relationship between on-campus employment and specific belonging items and experiences. The first key finding from qualitative data showed that those with a history of on-campus employment shared more positive experiences and terminology related to belonging. Participant responses included various engagement experiences integrated within their on-campus employment role, highlighting the valuable opportunity to collaborate across postsecondary departments like student employment, student engagement, and career and professional development.

Qualitative data depicted a difference in belonging experiences between those with a history of on-campus employment and those without. I observed differences in the short-answer responses, specifically the use of the terms "involvement" and "leadership" between the status of employment groups. These findings are alike other small studies assessing the experiences and impacts of on-campus employment, often including themes related to leadership, collaboration, and engagement (Hall, 2013; Johnson et al., 2012). Similarly, participants offered examples of leadership, social connection, and involvement that were facilitated by having an on-campus position, such as: "You get what you put in. I have had a great experience at Chapman, mainly due to my involvements on campus. I actively seek to join new clubs and apply to different

jobs"; "Being involved in campus work and research has made me feel more included in the community"; and "I've made some great friends and connected with staff, especially at my work." This connection is unsurprising as many postsecondary institutions, including California State University–Northridge, University of Texas–El Paso, and the University of British Columbia, have already begun incorporating leadership outcomes into student employment processes. Furthermore, data from this study suggest that aspects of belonging, leadership, and involvement are often intertwined with on-campus student employment. Although previous student employment research has focused on leadership and involvement, these results demonstrate the need to further explore student employment's relationship with belonging.

Key Finding 2: DeSBI Faculty and Staff Interaction Items and On-Campus Employment Status

The second key finding highlighted the statistically significant relationship between on-campus employment history and faculty and staff belonging items on the DeSBI scale:

1. There is at least one instructor or faculty or staff at Chapman that I can talk to if I have a problem.
2. The faculty and staff at Chapman respect me.
3. Talk about my career plan with Chapman faculty or staff.

This finding emphasizes the potential of on-campus employment in increasing students' sense of belonging through positive faculty and staff relationships.

Although overall DeSBI scale scores were not significantly different between groups, there were noteworthy trends. Many DeSBI factors related to faculty and staff interactions were statistically significant or strongly associated with a history of on-campus employment. These findings align with Tinto's (2012) Model of Institutional Action, emphasizing staff and faculty

involvement to increase student belonging. On-campus student employment allows student staff members to interact with peers, faculty, and staff in various capacities, often building trust and rapport. Data from this study show these relationships are meaningful to students, which aligns with previous findings, specifically perceived staff and faculty interest in and caring for one's development (Maestas et al., 2007). This seems reasonable because community is fostered when students feel valued and included, and feelings of belonging and connectedness are increased.

Additionally, we found that the qualitative data gathered from participant responses supported this finding. Students shared a wide array of belonging experiences, often influenced by several factors. Although these experiences and factors shared by students varied, more participants with a history of on-campus employment mentioned faculty and staff in their short-answer responses about belonging at Chapman.

This study discovered that student employment has a positive relationship with DeSBI items related to interactions and relationships with staff and faculty, which have been demonstrated to assist in fostering a sense of belonging to the campus community, as shown by qualitative and quantitative results shared in the previous chapter. As depicted in the data, on-campus employment provides opportunities and spaces for students to have positive experiences and beneficial interactions with staff and faculty, impacting student belonging experiences within their campus community following the COVID-19 pandemic.

Key Finding 3: COVID's Impact on Student Belonging Experience

A third key finding from the study showed the poignant impact the COVID-19 pandemic had on students' postsecondary belonging experiences. Participant responses highlighted the belonging and involvement challenges students experienced as a result of several semesters

physically away from campus, which indicates the need for more evaluation and exploration into COVID-19's impact on students' sense of belonging in postsecondary communities.

The research showed that COVID-19 impacted students' undergraduate belonging experiences, as seen by the qualitative responses collected in the study, such as: "My Chapman experience was cut short due to the pandemic, so I did not get to have that full college experience." This result is unsurprising as the COVID-19 pandemic dramatically changed postsecondary learning for several semesters, impacting how students experienced the university. These responses are consistent with what other college assessments have found in that COVID-19 impacted undergraduate students, leaving many feeling robbed of a "traditional" 4-year experience (Brown & Kafka, 2020). Inadequate postsecondary experiences, especially with belonging, may negatively impact various aspects of student success, as described previously. Research has repeatedly shown that students who do not feel they belong in a campus community are less likely to succeed academically or socially (Baumeister & Leary, 1995; Goodenow, 1993; Ryan & Deci, 2000; Strayhorn, 2018). Although a great deal is known about student outcomes related to belonging before 2020, much less is known about how the COVID-19 pandemic impacted belonging and how that influences student outcomes postpandemic. This study's findings begin the conversation and delve even further into the pandemic's impact on students, explicitly highlighting students' campus belonging experiences following COVID-19. Subsequent research is needed to gain a more complete picture of student belonging at the university.

This research is meaningful as it advances what is known about postsecondary student belonging experiences following the COVID-19 pandemic, specifically highlighting the impact of on-campus employment on students' relationships with faculty and staff and positive

experiences with involvement and leadership. This study provides qualitative and quantitative support for the positive relationship between students' sense of belonging and on-campus employment, which extends previous research on the topic by adding further knowledge on the details of the relationship. Although there were not statistically significant correlations between an overall sense of belonging and student employment status, within the qualitative data, there were trends that emphasized student employment experience supporting positive opportunities and relationships within the campus community. Additionally, among the quantitative data, trends highlighted the statistically significant relationship with staff and faculty belonging items providing deeper insights about opportunities and relationships with professional staff, often facilitated by on-campus student employment opportunities.

Although this research has shown student employment to be a promising opportunity for enhancing student belonging following the COVID-19 pandemic, researchers should continue to explore and identify student experiences and outcomes associated with a sense of belonging following the COVID-19 pandemic. By continuing to discover the post-COVID-19 student belonging experience, data can guide postsecondary institutions and their administration in strategies to advance methods of facilitating and promoting a sense of belonging.

Limitations

This study does have data limitations. The study design is cross-sectional and therefore temporality between the independent and dependent variables cannot be determined. However, this was an exploratory study assessing whether further research may be warranted in this area. The demographic data collected were limited and thus the study may be unable to fully understand the relationship on-campus employment has on belonging for some subpopulations of students. Due to the study's exploratory nature, a balance was struck between need of

information and participant survey fatigue. Although research shows college students often provide more detailed information in electronic surveys compared to paper-based surveys (Dommeyer et al., 2004), survey length is negatively associated with completion rate (Liu & Wronski, 2018).

Another possible study limitation is due to the COVID-19 protocols related to in-person recruitment. The lack of in-person recruitment may make enrollment in the study difficult. It could result in the convenience sample being less representative of the general student population, specifically for students who do not spend time in the academic buildings in which the recruitment flyers are posted. However, the demographics of the study population look similar to the demographics enrolled at Chapman University during the 2022–2023 academic year; specifically, the demographics of race, ethnicity, and academic year.

Lastly, due to no data being collected on this specific topic pre-COVID-19 pandemic, we could not assess the true impact COVID-19 has had on the relationship between students' sense of belonging and on-campus employment. However, the main purpose of this study was to gather exploratory information to assess whether further examination is warranted and start developing recommendations and strategies to understand and improve student belonging at postsecondary institutions following the COVID-19 pandemic.

Recommendations

Future research on student belonging and on-campus employment post the COVID-19 pandemic is encouraged, mainly because a very limited amount is known about student belongingness experiences or student employees following 2020. The findings of this study build on existing knowledge and fills gaps; however, more information is still needed on the intricate details and relationships related to postsecondary student belonging post the COVID-19

pandemic. Next steps might include researching graduate students as they have uniquely different experiences related to belonging (Stachl & Baranger, 2020). Higher levels of academia often foster new challenges, uncertainty, and isolation due to the rigor, which can affect feelings of belonging (Smith et al., 2013). Therefore, more belonging research following the COVID-19 pandemic looking at graduate-level students would assist in expanding the understanding of belonging experiences and factors such as on-campus employment.

Exploring the relationship between on-campus employment status and reported sense of belonging should also examine the experiences of various student identities. For example, research has shown that first-generation and international students have different experiences with belonging to postsecondary communities (Cena et al., 2021; Stebleton et al., 2014). Understanding factors that impact belonging for students with salient identities assists in effectively tailoring belonging strategies to impact students in those communities positively.

Also, this research is novel and should be built on by investigating belonging across various postsecondary institutions. Not only including graduate students but also students from institutions of various sizes, costs, student/faculty demographics, and geographic locations. If we aim to truly understand the relationship between students' reported sense of belonging and on-campus employment post the COVID-19 pandemic, continuing to study diverse institutions and student populations is critical.

Including belonging measurements, like the DeSBI, in annual campus climate surveys can assist individual postsecondary institutions in understanding their students' experiences and identify other factors that have a relationship with students' sense of belonging. As more factors are identified as having positive relationships with belongingness, institutions can be more strategic with their resources and approaches to support a sense of belonging in their students.

Guided by what this study presented, Chapman could focus more on the faculty and staff interactions as the data showed those relationships are impacted by on-campus employment.

Continuing to enhance on-campus employment opportunities has the potential to further improve students' sense of belonging, especially in the areas related to student relationships with faculty and staff. A strategy for postsecondary institutions to capitalize on this discovery could include training and education for faculty and staff members supervising on-campus student employees; as research has shown, students with a greater sense of school belonging tend to establish interpersonal relationships with their peers, faculty, and other school staff (Patrick et al., 2007). The current research and Tinto's (2012) Model of Institutional Action can complement one another to better initiatives guiding faculty and staff in providing feedback and creating safe and inclusive environments, ultimately improving student outcomes.

Next Steps

This research can be used in various ways to impact postsecondary institutions, students, and their families. First, the findings of this study can guide strategies for postsecondary institutions related to enhancing student belonging through student employment opportunities. There are factors of belonging that are impacted by on-campus employment, highlighted in this dissertation study. There are also subgroups in which a positive relationship exists between on-campus employment and a sense of belonging. This knowledge can assist postsecondary institutions in more accurately targeting specific subpopulations and factors when promoting on-campus employment opportunities and strategies. For example, this study can provide context and validate the importance of budget enhancements related to student employment opportunities to increase student belongingness and overall well-being. As postsecondary institutions identify short- and long-term goals related to student retention, graduation, and success, the data from

this study can potentially expand and improve institution-level approaches to building and enhancing belonging.

In addition, familiarizing postsecondary institutions with belonging scales such as the DeSBI can assist in gaining more insight and detail on student belonging. Most studies exploring belonging involve questionnaires that use restricted items to describe belonging (Hausmann et al., 2007; Strayhorn, 2018). Adding scales such as the DeSBI to annual campus-specific measurements can provide context to belonging data collected from common larger national studies, such as the NSSE, Healthy Minds Study, Student Well-being for Institutional Support Survey, or the American College Health Association's National College Health Assessment. Furthermore, postsecondary institutions should incorporate mixed methods approaches to collecting belonging data to develop new and better contextual interventions that account for differences across students. Incorporating more belonging-specific measures into annual measurements does not require substantial resources as it is an extension of an already existing initiative.

Considerations specific to student experiences following the COVID-19 pandemic are also crucial. Benchmark data related to student belonging has shifted, so assessments and evaluations are essential to better understand current student experiences. Environments, relationships, and lifestyles look different postpandemic and postsecondary institutions should focus on discovering ways students experience postsecondary education following 2020. Future research should continue to assess and explore the COVID-19 pandemic's impact on belonging, involvement, and community.

Conclusion

This cross-sectional, mixed methods study investigated the relationship between students' sense of belonging and on-campus employment status post the COVID-19 pandemic to better understand belongingness experiences at postsecondary institutions following COVID-19. Guided by Maslow's hierarchy and the need to belong theory, the research intended to expand on student belonging and campus employment knowledge; specifically, to fill a current gap related to these factors post the COVID-19 pandemic. One hundred participants participated in the study and provided insight into their belonging and on-campus employment experiences as students enrolled in postsecondary education following COVID-19. The participants provided comprehensive qualitative and quantitative data explaining their belonging experiences in postsecondary education, most of which were positive and affirmative.

Data trends showed that although the overall DeSBI score means were not significantly different between those with a history of on-campus employment compared to those without, there were significant factors, specifically items related to faculty and staff interactions. Recommendations to foster this relationship include educating and supporting faculty and staff who supervise student employees and providing more on-campus employment opportunities. Data also showed that participants felt the COVID-19 pandemic impacted their college experience, resulting in an altered postsecondary circumstance. Moving forward, institutions must explore factors connected to belonging following the COVID-19 pandemic as student experiences and expectations have changed. Some recommendations to gain an updated understanding of student belonging experiences are to incorporate belonging scales into existing campus measurements and conduct analyses exploring various student identities.

As a result of this study, postsecondary institutions can use the findings and proposed strategies to guide their efforts to enhance feelings of belonging and ultimately improve support for student success and well-being. Supporting initiatives that increase on-campus employment opportunities can find momentum in the study's findings. Subsequent research can build on this study and continue to advance student belonging knowledge and perspectives related to on-campus employment at postsecondary institutions following the COVID-19 pandemic.

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Appendices

Appendix A: Sense of Belonging Measurement

Appendix B: Maslow's Hierarchy of Needs Visual

Appendix C: Need to Belong Visual

Appendix D: Study Recruitment Flyer

Appendix E: DeSBI Version 2 Measurement

Appendix F: DeSBI Final Version Measurement

Appendix A

Sense of Belonging Measurement

Sense of Belonging Study

Start of Block: Default Question Block

Q1 You are invited to volunteer for a research project **assessing the relationship between on-campus student employment and sense of belonging.** Volunteering will be help the researchers better understand the relationship between on-campus employment and sense of belonging. If you volunteer, you will be asked to complete a 5-10-minute survey. Volunteering for this study involves no more risk than what a typical person experiences on a regular day. Your involvement is entirely up to you. You may withdraw at any time for any reason. Please continue reading for more information about the study.

Q2
STUDY LEADERSHIP: This research project is led by Samantha Martinez, a doctoral student of public health at Claremont Graduate University and supervised by Dr. Jessica Dehart, a professor of community and global health at Claremont Graduate University.

PURPOSE: The purpose of this study is to analyze the relationship between on-campus employment and students' sense of belonging.

ELIGIBILITY: To be in this study, you must be between the ages of 18-25 years old, an undergraduate college student enrolled at Chapman University, and be able to read and write in English.

PARTICIPATION: A QR code to access the survey can be found on a variety of flyers across campus. This QR code can be scanned and will route to a Qualtrics survey which includes the informed consent document, sense of belonging scales, and demographic questions. Completion of the survey can be done via smartphone or computer and upon completion, you will provided $5 Target gift card. Gift cards will be provided via online or hard copy if needed. The final question of the Qualtrics survey will ask for

an email address to send the gift card to, if that is the preferred method of delivery.

RISKS OF PARTICIPATION: The risks that you run by taking part in this study are minimal. There are no foreseeable risks associated with this study.

BENEFITS OF PARTICIPATION: We do not expect the study to benefit you personally. This study will benefit the researchers by informing them of the relationship between on-campus student employment and sense of belonging.

COMPENSATION: Your participation will be compensated with a $5 Target gift card.

VOLUNTARY PARTICIPATION: Your participation in this study is completely voluntary. You may stop or withdraw from the study at any time or refuse to answer any particular question for any reason, without it being held against you. Your decision whether or not to participate will have no effect on your current or future connection with anyone at Chapman University.

CONFIDENTIALITY: Your individual privacy will be protected in all papers, books, talks, posts, or stories resulting from this study. We may share the data we collect with other researchers, but we will not reveal your identity with it. To protect the confidentiality of your responses, we will be securing data files, using random ID codes, and reporting only averages or other group statistics. Your information will be assigned a unique study number and stored electronically in encrypted, password-protected computers. Your participant file will be labeled with this unique study ID number and only the Principal Investigator (Samantha Martinez) and Academic Supervisor (Dr. Jessica DeHart) will have access.

FURTHER INFORMATION: If you have any questions or would like additional information about this study, please contact Samantha Martinez at Samantha.Martinez@cgu.edu or (714) 516-5024. You may also contact Dr. Jessica Dehart at Jessica.Dehart@cgu.edu or (909) 607-8235. You can also contact Dr. Chris Hutchison at hutchiso@chapman.edu or (714) 628-7321 The CGU Institutional Review Board (IRB) has approved this project. If you have any ethical concerns about this project or about your rights as a human subject in research, you may contact the CGU IRB at (909) 607-9406 or at irb@cgu.edu. A copy of this form will be given to you if you wish to keep it, please reach out to either researcher to have the consent form emailed to you.

CONSENT: By checking the box below, this means that you understand the information on this form,

that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it.

Q3 Consent: By clicking "I consent" below means that you understand the information on this form, that someone has answered any and all questions you may have about this study, and you voluntarily agree to participate in it.

- ○ I consent (1)
- ○ I do not consent (2)

Display This Question:

If Consent: By clicking "I consent" below means that you understand the information on this form, th... = I consent

Q4

Q5 What was your sex assigned at birth?

- ○ Female (4)
- ○ Male (5)
- ○ Intersex (6)
- ○ Prefer not to respond (7)

Q6 What is your gender identity?

- ○ Male (1)
- ○ Female (2)
- ○ Trans male/Trans man (3)
- ○ Trans female/ Trans woman (4)
- ○ Genderqueer/Gender non-conforming (5)
- ○ Self-identify (6)
- ○ Gender non-binary (7)
- ○ Prefer not to respond (8)

Q7 Are you of Hispanic, Latino, or of Spanish origin?

- ○ Yes (1)
- ○ No (2)
- ○ Prefer not to respond (4)

Q8 How would you describe yourself? (Select all that apply)

- [ ] African American/Black (1)
- [ ] American Indian or Alaskan Native (2)
- [ ] Asian American/Asian (3)
- [ ] Hispanic/Latin(x) (4)
- [ ] Middle Eastern, Arab, or Arab American (6)
- [ ] Native Hawaiian (5)
- [ ] Other (please specify) (10) _____
- [ ] Pacific Islander (11)
- [ ] White (7)
- [ ] Self-identify (please specify) (8) _____
- [ ] Prefer not to respond (9)

Q9 What year of your program are you in during this 2022-2023 academic year?

- First Year (1)
- Second Year (2)
- Third Year (3)
- Fourth Year (4)
- Fifth Year + (5)

Page Break

Q10 Do you currently have an on-campus job at Chapman?

- No (1)
- Yes (2)

Display This Question:

If Do you currently have an on-campus job at Chapman? = No

Q11 Have you ever had an on-campus job at Chapman?

- No (1)
- Yes (2)

Display This Question:

If Have you ever had an on-campus job at Chapman? = Yes

Q19 With which department were you employed?

_____

Display This Question:

If Do you currently have an on-campus job at Chapman? = Yes

Q12 With which department are you currently employed?

_____

Page Break

Q13 The next section will ask you to rate your agreement with the following statements based on how you feel about your experience at Chapman University.

Q14 Please use the following scale to rate your agreement with the following statements
1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, and 6 = strongly agree

	1	2	3	4	5	6

I feel like a real part of Chapman University ()	
People at Chapman University notice when I am good at something ()	
Faculty and staff at Chapman University value my opinions ()	
It is hard for people like me to be accepted at Chapman University ()	
Other students at Chapman University take my opinions seriously ()	
Most faculty and staff at Chapman University are interested in me ()	
Sometimes I feel like I don't belong at Chapman University ()	
There is at least one instructor or faculty or staff at Chapman that I can talk to if I have a problem ()	
People at Chapman are friendly to me ()	
Students at Chapman help each other succeed ()	
I am included in lots of activities at Chapman ()	
I am treated with as much respect as other students ()	
I have a good relationship with other students at Chapman ()	
I can really be myself at Chapman ()	

The faculty and staff at Chapman respect me ()	
People at Chapman know I can do good work ()	
I wish I were at a different university ()	
The instructors at Chapman give me compliments when I do something good ()	
I feel proud of belonging to Chapman University ()	
Other students at Chapman like me the way I am ()	
Faculty and staff at Chapman really want me to succeed ()	

Page Break

Q15 The next section will ask you to rate your agreement with the following statements with the following prompt. "During this academic year, it is likely that I will:

Q16 "During this academic year, it is likely that I will..."
1 = strongly disagree, 2 = disagree, 3 = slightly disagree, 4 = slightly agree, 5 = agree, and 6 = strongly agree

1 2 3 4 5 6

Participate in undergraduate research at Chapman ()	
Interact closely with Chapman faculty or staff outside of class ()	
Talk about my career plan with Chapman faculty or staff ()	
Discuss course topics, ideas, or concepts with Chapman faculty and staff outside of class ()	
Discuss my academic performance with Chapman faculty and staff outside of class ()	
Discuss my undergraduate research opportunities with Chapman faculty and staff ()	
Ask for advice from Chapman faculty or staff who are not my instructor ()	
Attend office hours of a Chapman faculty member ()	
Read research papers from a Chapman faculty member ()	
Attend a seminar hosted by Chapman ()	
Visit the lab of a Chapman faculty member ()	
Join a Chapman student group or club ()	
Participate in Chapman- related volunteer work not connected to research ()	
Get involved as a leader at Chapman University ()	

Page Break

Q17 In a few sentences, please describe your experience as a member of the Chapman community.

_____

_____

_____

_____

_____

Q18 You have now completed this survey! Thank you so much for participating. Your answers will be kept completely confidential.

Please show this completion screen in order to receive your $5 Target gift card.

Please reach out to Samantha Martinez, samantha.martinez@cgu.edu if you have any questions.

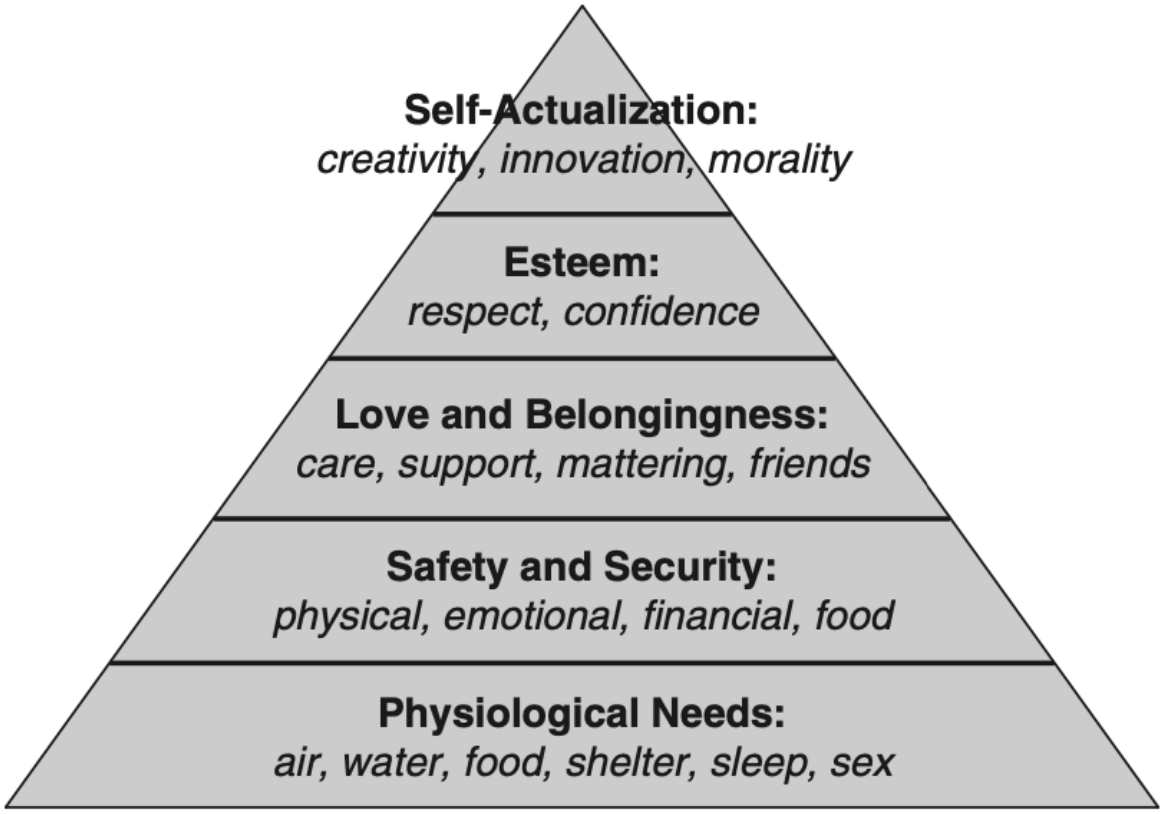
If you would like to receive your gift card via email, please provide your email address below. (Your email address will only be used to provide a link to your gift card. Contact information will be deleted post study.)

_____

End of Block: Default Question Block

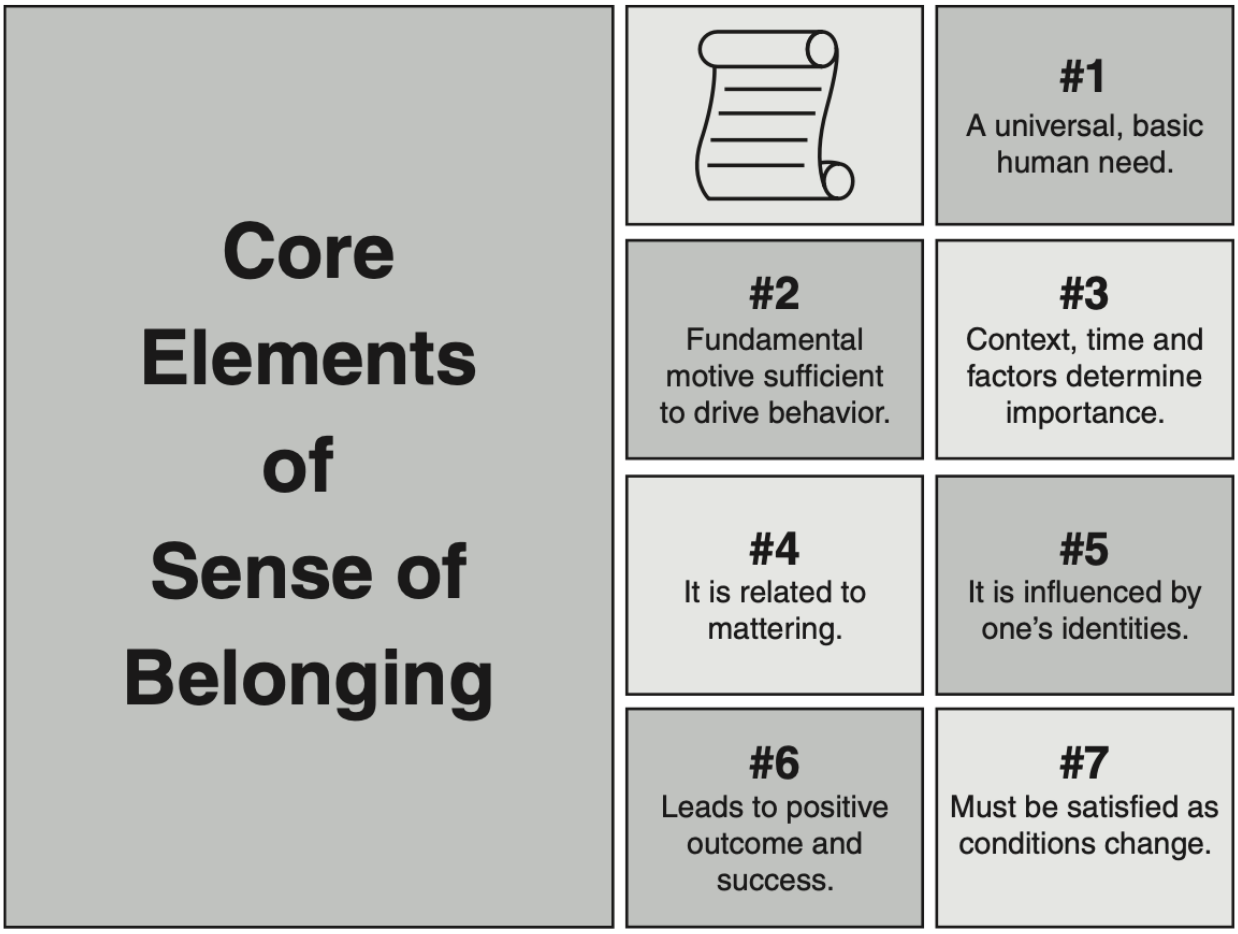
Appendix B

Maslow's Hierarchy of Needs Visual



Appendix C

Need to Belong Visual



Appendix D

Study Recruitment Flyer

Appendix E

DeSBI Version 2 Measurement

Item no.	Version 2
Question prompt: Please rate your agreement with the Department of Biological Sciences at [the unive	
S1	I feel like a real part of the biology department.
S2	People here notice when I'm good at something.
S3	Faculty and staff at the biology department value my opinions.
S4	It is hard for people like me to be accepted here.
S5	Other students at the biology department take my opinions seriously.
S6	Most faculty and staff at the biology department are interested in me.
S7	Sometimes I don't feel as if I belong here.
S8	There's at least one instructor or other biology faculty or staff at the department I can talk to if I have a problem.
S9	People at the biology department are friendly to me.
S10	Students in the biology department help each other to succeed.
S11	I am included in lots of activities at the biology department.
S12	I am treated with as much respect as other students.
S13	I have a good relationship with other students at the biology department.
S14	I can really be myself at the biology department.
S15	The faculty and staff here respect me.
S16	People here know I can do good work.
S17	I wish I were in a different department.

S18	The instructors here give me compliments when I do something good.
S19	I feel proud of belonging to the biology department.
S20	Other students here like me the way I am.
S21	Faculty and staff in the biology department really want me to succeed.
Question prompt: During this academic year, it is lil	
I1	participate in undergraduate research (paid or unpaid) in the biology department.
I2	interact closely with biology faculty or staff outside of class.
I3	talk about my career plans with biology faculty or staff.
I4	discuss course topics, ideas, or concepts with biology faculty or staff outside of class.
I5	discuss my academic performance with biology faculty or staff outside class.
I6	discuss undergraduate research opportunities with biology faculty or staff.
I7	ask for advice from a biology faculty or staff who is not my instructor.
I8	attend the office hours of a biology faculty member.
I9	read research papers from a biology faculty member.
I10	attend a seminar hosted by the biology department.
I11	visit the lab of a biology faculty member.
I12	join a biology-related student group or club at FIU.
I13	participate in biology-related volunteer work not connected to research (e.g., clean up beaches or volunteer in a state park).
I14	get involved as a PLTL leader at the biology department.

[a]All items were rated on a six-point Likert-type sca

Appendix F

DeSBI Final Version Measurement

TABLE 5. The final version of the DeSBI questionnaire (20 items total)[a]

No.	Item
Sense of belonging: valued competence	
S2	People in the biology department notice when I am good at something.
S3	Faculty and staff in the biology department value my opinions.
S6	Most faculty and staff in the biology department are interested in me.
S16	People in the biology department know I can do good work.
S18	The instructors in the biology department give me compliments when I do something good.
Sense of belonging: social acceptance	
S10	Students in the biology department help each other to succeed.
S12	I am treated with as much respect as other students.
S13	I have a good relationship with other students in the biology department.
S14	I can really be myself in the biology department.
S19	I feel proud of belonging to the biology department.
S20	Other students in the biology department like me the way I am.
Involvement	
	During this academic year, it is likely that I will:
I1	participate in undergraduate research (paid or unpaid) in the biology department.
I2	interact closely with biology faculty or staff outside of class.
I7	ask for advice from a biology faculty or staff who is not my instructor.
I8	attend the office hours of a biology faculty member.
I9	read research papers from a biology faculty member.
I10	attend a seminar hosted by the biology department.
I11	visit the lab of a biology faculty member.
I12	join a biology-related student group or club at [name of the university].
I13	participate in biology-related volunteer work not connected to research (e.g., clean up beaches or volunteer in a state park).

[a]S, sense of belonging items; I, involvement items.