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Can We Help You with Your Bootstraps?

How First-Generation Graduate Students Can Use Relationships to Transform Universities

A Dissertation

Presented in

Partial Fulfillment of the

Requirements for the Degree of

Doctor of Philosophy

By

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22 May 2024

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Biography

The author was born in Green Bay, Wisconsin on June 27th, 1995. She graduated with high honors from Bay Port High School in the Howard-Suamico School District in 2014. Brianna graduated *summa cum laude* from Beloit College with departmental honors in Psychology in 2018. She is a member of Psi Chi and Phi Beta Kappa.

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Abstract

As a result of the abundance of literature on first-generation undergraduate students, several support programs and resources have been developed to assist this population throughout their undergraduate career. However, graduate school can pose a whole new set of challenges for first-generation graduate students, which can result in poor outcomes (Martinez et al., 2009; Wilcox et al., 2021). It is therefore necessary to increase attention on first-generation graduate students. An explanatory-sequential mixed method research design, with an intersectional lens, was used to answer how first-generation graduate students rely on university relationships to be well and what institutional barriers exist to achieving well-being. First, a quantitative component sought to corroborate what is already known in the literature about first-generation graduate students, but with a specific sample, regarding their needs. Second, a qualitative component explored, in more detail, the institutional barriers that can be eliminated through an increase in community relationships as a way to move towards relational empowerment. A survey asking about sense of belonging, confidence in ability, number of supportive people, and resource need was distributed to graduate students ($N = 485$). Later, five focus groups were held with first-generation graduate students ($N = 18$) in which participants discussed mutual support, well-being, and institutional factors. It was found that first-generation graduate students had greater need for identity-based resources at the university compared with continuing-generation students. In addition, first-generation students who identified as being from other marginalized groups reported higher resource needs. Qualitatively, thematic analysis revealed key themes of absence (of the dissemination) of knowledge, neoliberalism, university supports, isolation, and

mutual support. Together, these results indicate that first-generation graduate students use relationships, primarily in their programs, to get their needs met, but more work needs to be done to transmit knowledge from a university level down to the graduate students.

Keywords: First-generation, graduate students, institutional barriers, relational empowerment

Can We Help You with Your Bootstraps?

How First-Generation Graduate Students Can Use Relationships to Transform Universities

Although "first-generation" has become a commonly understood term to describe students who are the first in their families to complete a college degree (Sharpe, 2017[1]) within undergraduate educational settings, there is a lack of application of this term to the experiences of graduate students. Indeed, national demographic data on first-generation college students (i.e., undergraduates) is collected; however, this is not the case for first-generation graduate students. The lack of emphasis on first-generation graduate students (i.e., first-generation college students who are enrolled in graduate school) is a problem because they face some of the same barriers and challenges, along with new barriers and challenges, while pursuing graduate-level education. For example, first-generation graduate students may experience feelings of not belonging at the university, a lack of confidence in their ability, and financial stress (Gardner & Holley, 2011; Garriott, 2020; Tate et al., 2015; Wilcox et al., 2021). As a result of these barriers and challenges, first-generation graduate students may be especially vulnerable to anxiety, depression, and burnout (Allen et al., 2020; Gin et al., 2021).

First-generation graduate students may be at greater risk of negative mental health outcomes due to compounding barriers which may ultimately lead to attrition (Martinez et al., 2009). Commonly presented solutions to these issues in the literature are to increase social support, sense of community, and empowerment among graduate students

[1] Although there are several definitions for what constitutes a first-generation student in the literature and by the Department of Education, this will be the broad definition used for this project (Nguyen & Nguyen, 2018; Sharpe, 2017; Toutkoushian et al., 2018).

(Charles et al., 2021; Kovach Clark et al., 2009; Peterson et al., 2014). However, it is common for these solutions to not extend beyond an individual-level of analysis and thus, have limited impact on the cultural forces that have the potential to transform university settings to increase well-being.

As a result, it is necessary for universities to allocate more attention to their graduate student population, especially those who come from disadvantaged backgrounds, such as first-generation students. By understanding how institutional and systemic forces overlook the specific needs of first-generation graduate students, these barriers to success can be diminished, and the natural assets of this population can be enhanced. By boosting the relationships among first-generation graduate students, themselves, along with the relationships between graduate students and university community members generally, academic institutions can begin the work of overcoming embedded hardships to enhance community well-being. In the long run, focusing on the changes needed to improve well-being can help to eliminate inequality within educational settings and society at large.

This project addressed a gap in the first-generation graduate student literature through exploring potential solutions to increase well-being among these students. Specifically, this project used a relational empowerment framework to first, identify the tangible and socioemotional needs of first-generation graduate students compared to continuing-generation graduate students; second, understand how this population relies on mutual support to persevere through graduate school and third, explore how they understand barriers within the university and how they imagine potential solutions to these barriers. As a result of these findings, specific changes within universities can be

made to enhance the well-being of graduate students, specifically those who are first-generation.

Why First-Generation Graduate Students?

Graduate school serves as an educational opportunity to deepen one's expertise in their subject of preference in order to increase one's chances of acquiring their desired career. Although not necessary for many career paths, graduate degrees are requirements for certain fields, such as education, counseling, social work, health care, research, and finance (Herman, 2023; U.S. Bureau of Labor Statistics, 2022). Not only does graduate school serve as an opportunity to increase specialized knowledge and skill in one's desired field, it is also associated with higher earning potential (Torpey, 2018). This is significant, given the impact of increasing inflation on the cost of housing, food, and other basic needs (Probasco, 2023). In essence, a graduate degree is not only becoming required to obtain one's preferred career, it is increasingly necessary to simply achieve a livable wage (Glasmeier, 2023; Torpey, 2018).

In addition, graduate school is a particularly important opportunity for first-generation students who come from low-income backgrounds, as it offers a potential opportunity to break generational cycles of poverty within their families and to accumulate generational wealth, although this is becoming increasingly difficult with rising student debt burdens and increasing wealth inequality (Elliot & Lewis, 2015; Pfeffer, 2019; Wilcox et al., 2021). Therefore, while graduate school serves an inherent value in increasing one's knowledge, for first-generation students, graduate school can also be a means to increase socioeconomic status. However, as these students enter the world of graduate school, there is a risk of becoming removed from their home

communities, which can create another kind of break from their families and exacerbate the inherent isolation of graduate school and its potentially harmful effects on mental health (Brown et al., 2020; Gardner & Holley, 2021; Gin et al., 2021).

Intersectionality

A foundational contribution to intersectional theory is Kimberlé Crenshaw's Mapping the Margins (1991). In her article, Crenshaw proposes intersectionality as a counter-theory to identity politics. Identity politics, she argues, strip categories into negative frameworks that marginalize people who are different from the absent norm. In addition, identity politics ignores intragroup differences, which is where the power of intersectionality comes in. Intersectionality provides a lens through which to understand the complexities within a group, such as first-generation graduate students (Garriott, 2020; Nguyen & Nguyen, 2018). Traditionally, students may be divided into an either/or framework of either first-generation or not. However, intersectionality provides a framework for understanding the multiple differences that shape the lived experiences of first-generation and continuing-generation students. In turn, students can better recognize how their oppression and privilege are intertwined within themselves and among each other (Fellows & Razack, 1998).

One's status as a first-generation student typically depends solely on parental educational attainment; however, when trying to understand the lived experiences of first-generation graduate students, one must use an intersectional lens (Garriott, 2020; Nguyen & Nguyen, 2018). Literature shows many first-generation graduate students face compounded barriers due to gender, race, and socioeconomic status (Gardner, 2013; Nguyen & Nguyen, 2018). First-generation students, in particular, were found to be more

likely to take on burdensome debt, take longer to finish their degrees, or drop out of their programs (Gardner, 2013; Miner, 2021). Furthermore, first-generation graduate students may be more likely to report difficulty navigating educational settings (e.g., mentoring relationships and knowledge of resources; Miner, 2021). These barriers are not necessarily only a result of first-generation student status, but rather an amalgamation of racial, ethnic, income, and other statuses. For example, first-generation students may take on more debt as a result of financial illiteracy, a potential consequence of coming from a family with low income (Gardner & Holley, 2011). Through the use of an intersectional lens, it becomes easier to identify subgroups of students who may be in need of more institutional support. In this way, first-generation status allows for a deeper inclusion of vulnerable students into the network of support that universities can build to overcome this institutional inequality through the implementation of tailored support.

First-generation graduate students come from various childhood, educational, and life experiences marked by varying degrees of advantage and disadvantage. These differing experiences of oppression and privilege are created as a result of systems of power that impact students differently based on their race, gender, class, and numerous other factors. When graduate students are labeled as "first-generation," there is a risk of thinking about this population only within the lens of the normalized demographic of those with the most power within the group, which then affects the development of resources and services. As Crenshaw (1991) writes, "These uniform standards of need ignore the fact that different needs often demand different priorities in terms of resource allocation, and consequently, these standards hinder the ability" (p. 1250) to serve marginalized groups. First-generation students typically tend to be women and come

from disadvantaged socioeconomic backgrounds (RTI International, 2019). Additionally, students of color are more likely to be first-generation than not, which is not the case for white students (RTI International, 2019). Although these are the most discussed identities, they are not the only ones. Thus, just as we cannot only focus on those with the most power, we must also not fall into the trap of focusing on only those identities that highlight oppression, while simultaneously dismissing privilege (Fellows & Razack, 1998). For example, when considering potential new services for first-generation graduate students, universities must consider the nuances of power, oppression, and privilege to ensure that services neither marginalize nor alienate various students within the group.

As a further example of the importance of intersectionality, Crenshaw (1991) highlights how social programs, such as those implemented by government agencies or NGOs, fail to help a wide variety of women when only a general or standardized definition of woman is used, because the standard is typically white and upper-class. This ties into Crenshaw's major point that multiple identities must be considered when programs are developed, instead of focusing on just one major identity. Understanding structural intersectionality, for example, offers a valuable analysis of how first-generation students are treated within and served by universities. Considering structural oppression generally, reputable, four-year universities in and of themselves are institutions that many first-generation students are 1) less likely to be accepted into, and 2) need in order to obtain a well-paying job in many fields (Herman, 2023; RTI International, 2019; Torpey, 2018; U.S. Bureau of Labor Statistics, 2022). Offices that serve first-generation students generally may inherently overlook the complex needs of Black first-generation students,

for example, or students with disabilities, and therefore create separate identity-based offices for these populations. Similarly, as Crenshaw (1991) wrote, “intervention strategies based solely on the experiences of women who do not share the same class or race backgrounds will be of limited help to women who because of race and class face different obstacles” (p. 1246). When thinking of potential solutions to the barriers faced by first-generation graduate students, it will be necessary to consider the intersectionality of experiences, oppressions, and privileges of this population to ensure solutions do not further oppress certain students within this group.

Recognizing both the privilege and oppression experienced by different students within the first-generation graduate cohort opens the possibility of fostering a strong network of support among these students, which can decrease competition between these struggling groups (Fellows & Razack, 1998; Garriott, 2020). Building support networks around a single identity can both include and exclude. By only focusing on the label “first-generation” the nuances experienced by this group may become overlooked, with the needs of those with the most power in this group dominating the narrative of action, which can leave some students feeling unrecognized by the university when seeking support. When students are able to share their unique experiences of being first-generation, they can reveal their assets and struggles to each other (Brown et al., 2020). By recognizing these differences and similarities, the students can offer support based on their strengths and assets, while also offering a deeper analysis of where the university may be failing to serve the needs of students who are struggling at the margins (Brown et al., 2020; Garriott, 2020). As Levins Morales (2019) writes, “deep-rooted and lasting change needs a broad base of support” (p. 211).

Overall, intersectionality offers an understanding that categories do not allow for thinking big enough because we are all intertwined (Levins Morales, 2019), and we are not either/or but both/and (Crenshaw, 1991). Recognizing that first-generation graduate students have unique struggles and assets is essential to holistically supporting each other through school. Levins Morales (2019) explains that recognizing one's own specific position on the margin is the first step towards liberation. This first step is necessary to understand that we struggle not because of who we are, but how systems are set up to function. When students are able to come together to build relationships, they can identify these higher-order barriers that may especially affect some first-generation graduate students, in particular, and create solidarity to support each other in creating institutional change, which inevitably benefits everyone.

Graduate Education

In order to understand the first-generation student experience more fully, there will need to be a deeper inclusion of the experiences of graduate students. This is especially true as more careers begin to require advanced post-baccalaureate degrees in order to earn a living wage in the USA (Herman, 2023; Torpey, 2018; U.S. Bureau of Labor Statistics, 2022). Although the experiences of first-generation undergraduate students have been in the national educational agenda since the 1960s (e.g., through the implementation of TRiO programs; OPE, 2011), there is still a lack of knowledge about the experiences of first-generation graduate students. Despite the overall increase in those pursuing graduate degrees, significant portions of the graduate student population can still be considered first-generation (Hanson, 2021; Kang, 2021). This is a vulnerable population due to the increased risk of not completing or taking longer time to complete

their degree due to such factors as access to financial aid, work schedules, and academic preparation. These factors can then contribute to or be exacerbated by an increase in depression and burnout, and thus lead to attrition (Charles et al., 2021; Martinez et al., 2009; Miner, 2021).

Although supporting first-generation undergraduate students is crucial to expanding access to graduate school programs, this support often ends post-graduation. First-generation students are less likely to pursue graduate education in the first place, often citing financial concerns as a barrier (RTI International, 2021). This is especially true given that graduate school is notoriously expensive, at times costing more than $100,000 for a two-year degree (Kerr & Wood, 2023). Many first-generation undergraduates receive scholarships and other forms of aid to assist in their expenses. Graduate students, however, are ineligible for direct subsidized loans (which do not accrue interest while in school) and Pell Grants (which many first-generation undergraduate students receive; Federal Student Aid, 2017). For first-generation students who do make it to graduate school, navigating the new environment can be more overwhelming than the undergraduate experience due to a sudden lack of support, both from the institution and financially (RTI International, 2021).

Because graduate school is becoming increasingly necessary for career success, ensuring vulnerable students (e.g., first-generation, along with economically marginalized and racially oppressed groups) can access and successfully complete their graduate degree is essential to the possibility of eliminating generational inequality (Gardner, 2013). Enhancing the assets of first-generation students and eliminating the structural barriers inherent to the graduate school experience can ensure successful degree

completion, career transition, and career satisfaction (Charles et al., 2021; Kovach Clark et al., 2009; Garriott, 2020).

Neoliberalism

One reason that graduate school can be mentally challenging and difficult to navigate is due to the neoliberal values inherent within universities (Garriott, 2020; Posselt, 2021), especially as these institutions struggle financially and begin to resemble businesses more than places of higher learning (Butrymowicz & D'Amato, 2020). Neoliberalism can be defined as "the process where market-based logics and practices, especially logics of market determinism, commodification, individualization, competitive ritual and self-interest, are dialectically internalized and generated in particular social regimes" (Phelan, 2014, p. 57). Graduate school is a commodity, whereby purchasing a degree has become necessary to achieve higher standards of living. Literature on graduate school culture commonly captures the individualistic, competitive, and self-interested nature of this environment (Garriott, 2020; Posselt, 2021). Neoliberal logic is damaging to us all, but may be especially so for first-generation students, who lack the inherent benefits and protective factors of their continuing-generation peers. One idiom essential to neoliberalism is "pull yourself up by your bootstraps" which reinforces the idea that low-income and otherwise disadvantaged people must rely on their own selves to overcome societal inequalities and achieve success. If they are not able to prosper, it is their own fault, not the fault of the structural barriers present in the environment.

Individualism within graduate school is the most apparent neoliberal feature. The average cohort size among graduate programs is twenty students, with master's programs tending to have a greater number and doctoral programs fewer (Garriott, 2020; Maslach,

2023). Even if programs do have adequately-sized cohorts, over seventy-five percent of all graduate students work full-time jobs while in school (DeRuy, 2015) and are therefore limited in opportunities to socialize with their classmates. For PhD students, individualism is inherent to the entire educational and research process. Although students may work in research labs, research completed for milestone projects is expected to be an individual endeavor, despite an underlying assumption that research is a collaborative effort. And because their cohorts tend to be the smallest in size in higher education, isolation is a major concern, especially for first-generation students, who may not feel as though they belong or as capable of networking (Gardner & Holley, 2011).

One consequence to extreme individualism in graduate school is isolation. First-generation graduate students are particularly vulnerable to isolation, from both academic and personal support networks. From the familial side, first-generation students already become outliers when they graduate from a four-year institution. Now in graduate school, these students may feel more disconnected from their families and may also be coping with feelings of guilt from leaving their family behind (Garriott, 2020; Tate et al., 2015). As a result, these students may not feel like they can lean on their families for support with graduate school challenges. From the academic side, first-generation graduate students may feel like they are supposed to know what they are doing, and therefore may be less likely to reach out for help when needed because they want to avoid feeling like they do not belong in the university setting or that they should know where to get needed information (Lunceford, 2011; Miner, 2021).

Financial Resources. Central to neoliberal, capitalist logics is competition over scarce resources (Garriott, 2020; Phelan, 2014). One resource that has been made scarce is financial aid, especially for students coming from low-income families, who tend to be first-generation students. Unfortunately, graduate students are no longer eligible for some of the same grants and scholarships available to undergraduate students. This is particularly difficult for first-generation graduate students, who are more likely to come from low-income families, and would have therefore been eligible for the Pell Grant as undergraduate students (Garriott, 2020; RTI International, 2019). Because of the limited availability of financial resources, competition among students can occur, which will inevitably diminish the cooperation needed to potentially transform these systems. In addition, the consequences of financial stress have been widely studied among first-generation graduate students (e.g., Gardner & Holley, 2011; Elliot & Lewis; 2015; Wilcox et al., 2021).

As previously mentioned, first-generation students often need to take on higher debt burdens to pay for education (RTI International, 2021). This burden has long-term consequences on this population that hinder equity. For example, graduates with higher debt have lower economic power and fewer opportunities to accumulate wealth, such as through home equity (Wilcox et al., 2021). Traditionally, higher education has been viewed as a tool to escape generational cycles of poverty and inequality. However, long-term outcomes of indebted students raise concerns about the reality of economic (im)mobility (Wilcox et al., 2021). Not only does this affect real people on an individual level, there are also societal consequences with which to reckon, including the growth of wealth inequality and the inaccessibility of higher education, particularly graduate school,

for underrepresented students.

Economic insecurity is most acutely felt by graduate students who come from low-income and racially oppressed backgrounds and are also more likely to be first-generation students (Wilcox et al., 2021). These students are more likely to accumulate insurmountable debt while pursuing higher education, which has long-term impacts on their ability to achieve life milestones, such as having children and buying a home (Elliot & Lewis, 2015; Wilcox et al., 2021). Compared to continuing-generation peers of similar socioeconomic status backgrounds, first-generation graduate students were found to be more likely to report credit-related stress, personal and professional financial stress related to graduate school, and a delay of previously mentioned life milestones (Elliot & Lewis, 2015; Wilcox et al., 2021). All of these can affect long-term outcomes of this population that extend past graduate school.

Not only do financial concerns create burdens for first-generation graduate students, but many universities are also struggling financially (Butrymowicz & D'Amato, 2020). A consequence of institutional financial insecurity is to identify areas that appear to lose and gain money. On the one hand, graduate students are seen as money-makers for universities, as the tuition they pay is more likely to go directly to the university (Moody, 2023). Unfortunately, at the same time, first-generation, low-income students are viewed as financial and resource burdens on the university, as they receive more financial aid and pay less in direct tuition expenses (Moody, 2023). This can create further barriers to support for first-generation graduate students and perpetuates a deficit framework. However, it is necessary to recognize that institutional financial concerns are not a result of these students, but rather a result of larger structural factors and

circumstances that contribute to the hardships faced by first-generation graduate students.

Literature on financial stress among graduate students highlights the extent to which competition over limited resources can have profoundly harmful effects, especially on those who come from low-income backgrounds. Consequently, first-generation graduate students facing financial insecurity are not only at risk for poorer long-term outcomes, but also for experiencing present-time harmful mental health outcomes, such as depression, isolation, and burnout.

Resource Need

One framework through which to understand that resource need (such as mentoring and financial aid) is not a sign of deficit in students but rather a gap in institutional support is the critical cultural wealth model of academic and career development (Garriott, 2020). Overall, this model demonstrates that having needs are not a consequence of defects specific to individual first-generation graduate students, but rather structural and institutional barriers (Garriott, 2020). This framework highlights that first-generation student stress, including financial stress, is a symptom of larger institutional and societal failures, such as those caused by oppressive systems, policies, and practices, which ultimately affect the immediate experiences and long-term outcomes of first-generation students, such as well-being and career satisfaction (Elliot & Lewis, 2015; Garriott, 2020; Wilcox et al., 2021).

Garriott (2020) explains that first-generation students are often described in ways that are deficit-based and pathologizing, such as through emphasizing that they are lacking in certain areas. However, Garriott (2020) highlights that several ecological factors impact students beyond an individual level. These include exploitation (e.g.,

justifying student underpayment by saying it is an educational experience), marginalization (e.g., being unable to participate in on-campus events because of cost), powerlessness (e.g., feeling undervalued and not being heard by the university), cultural imperialism (e.g., emphasizing individualism and capitalism), and violence (e.g., experiencing on-campus hate crimes; Garriott, 2020). These ecological factors bring to light the deeply-rooted structural change that must take place in order to guarantee first-generation graduate students' well-being and success.

Importantly, the critical cultural wealth model of academic and career development (Garriott, 2020) underscores the need for tangible (e.g., financial aid, career counseling, mentorship) and psychosocial (e.g., interventions to foster belonging and social support) resources at multiple levels. For example, a sense of belonging has been shown to be an important factor in first-generation student success (Stebleton et al., 2014). However, the responsibility of cultivating a sense of belonging is often placed on first-generation students, who are unfamiliar with this setting (Gardner & Holley, 2011; Lunceford, 2011), instead of on universities, who hold the power of institutional knowledge and ultimately the responsibility of cultivating a positive campus culture (Garriott, 2020).

The more first-generation graduate students feel like they are incapable, are not supported by their university community (through tangible and social supports), and do not belong at their institution, the more they will feel disempowered (Back & Keys, 2020; Garriott, 2020) and, thus, be more at risk of experiencing negative mental health and long-term life outcomes. Understanding these needs through a lens such as the critical cultural wealth model of academic and career development is necessary because it shifts

student success away from being the sole responsibility of individual students, and instead emphasizes that it takes community to succeed and be well (Back & Keys, 2020; Garriott, 2020; Christens, 2011).

Mental Health

Assisting first-generation graduate students is especially important as they enter a new phase of their educational careers marked by high rates of burnout and mental illness (Allen et al., 2020; Gin et al., 2021; Rigg et al., 2013). Factors related to more severe depressive symptoms include financial stress (e.g., feeling financially uncertain and unable to get by financially), poor mentor relationship (e.g., advisor does not advocate for the student or hinders milestone progress), and negative bias from the student's program (e.g., discrimination or harassment from the campus community; Charles et al., 2021). All three of these mentioned factors are more likely to negatively affect first-generation graduate students, who are more likely to come from low-income or racially oppressed backgrounds, and more at risk for mentor mismatch (Peterson et al., 2014).

Graduate school, overall, is more straining on students than the undergraduate setting, as they are juggling more life responsibilities, such as working full-time jobs or having children. Students are spread thin, which leaves less time for building the social support needed for coping with stress (Gin et al., 2021). In addition, students who are in doctoral programs are often in cohorts of very few students, which further drives isolation (Maslach, 2023). On top of the environmental factors that contribute to isolation, graduate school culture, influenced by the neoliberal logic of individualism, can often promote the idea that students are supposed to know how to succeed on their own (Brown et al., 2020; Gardner & Holley, 2011; Lunceford, 2011; Posselt, 2021). They are, after all,

in an advanced degree program. However, these ideas can diminish mutual support among students and individual help-seeking behaviors. In addition, universities may overlook that graduate students, especially those from marginalized backgrounds, may indeed be facing barriers that lead to mental health challenges.

In addition, graduate students are at risk of being under- or uninsured, as they are more likely to be above 26, which means they are no longer eligible to be on their parents' insurance plans (Smith, 1995; Stapleton, 2023). This is a problem that causes stress in-and-of-itself due to a fear of high unexpected medical bills in the case of emergencies (Tolbert & Drake, 2022). However, this also means that graduate students may be less able to receive preventative or adequate mental health care (Tolbert & Drake, 2022). Overall, it is clear that graduate students as a population face increased vulnerabilities and barriers to well-being, and this is especially true for first-generation graduate students. One consequence of stressors such as financial insecurity, being uninsured, and isolation is burnout.

Burnout. One of the most well-known effects of high-pressure environments is burnout, which is commonly defined as emotional and physical exhaustion caused by exposure to environmental and internal stressors, as well as from having inadequate coping and adaptive skills (Dunn et al., 2008). There is an abundance of literature on burnout in graduate students. Much of the literature details the causes of burnout, such as poor sleep quality (Allen et al., 2021), lack of advisor support or advisor abuse (Goodboy et al., 2015; Kovach Clark et al., 2009), and lack of self-efficacy (Safarzaie et al., 2017). In addition, the literature discusses the effects of burnout, which include substance abuse (Allen et al., 2020), professional misconduct (Bullock et al., 2017), exhaustion (Rigg et

al., 2013), and decreased mental health (Bullock et al., 2017). Because of the scope and seriousness of this issue, researchers have also been studying ways to decrease burnout in graduate students. One strategy to reduce burnout is increasing available social support.

Social Support

Being able to rely on others while completing a graduate degree is essential for managing stress, depression, and isolation (Charles et al., 2021; Gin et al., 2021). This social support can come from friends, family, advisors, or peers (Allen et al., 2020; Halbesleben, 2006; Kovach Clark et al., 2009). In addition, social support can take many forms, such as receiving money (tangible support), feedback (support through appraisal), or an invitation (support through belonging) among others (Cohen et al., 1985). Social support appears in the literature through an individual lens, such that social support is described as beneficial to an individual, even if the source of support comes from a group. Graduate students, for example, may perceive or feel support (or a lack thereof) from any group, including family, friends, and their university (Charles et al., 2021; Rigg et al., 2013).

For first-generation graduate students, this is especially pertinent, as they may be more at risk of feeling a lack of support from both their families and institutions, especially if they come from low-income or racially oppressed backgrounds (Charles et al., 2021; Wilcox et al., 2021). Furthermore, on the family side, many first-generation students come from lower socioeconomic backgrounds, so they may not be able to be financially supported by their families. In addition, these students may feel psychologically distanced from their families as they continue to obtain higher education, which can be a result of feelings of guilt, for example (Covarrubias & Fryberg, 2015;

Covarrubias et al., 2020; Garriott, 2020). From the institutional side, first-generation students can feel as though they do not belong in their advanced program, especially if they are a student of color at a predominately white institution (Peterson et al., 2014; Wallace & Ford, 2021) or that the institution is unable to offer them resources to succeed, such as access to program policies, student organizations, and career fairs (Peterson et al., 2014).

It has previously been demonstrated that increased social support from friends, family, and the university is related to lower levels of stress and increased satisfaction (Charles et al., 2021). In contrast, graduate students who reported a lack of structural support (e.g., in learning how to teach and conduct research), appraisal (e.g., positive reinforcement from mentors), and social support (e.g., from advisors or the university) reported higher levels of depression, isolation, and burnout (Charles et al., 2021; Gin et al., 2021; Kovach Clark et al., 2009; Rigg et al., 2013). This had a negative impact on student research due to decreased motivation and self-confidence (Gin et al., 2021). Furthermore, these factors can have a negative impact on student engagement, which then further affects the advisor relationship, thus furthering student exhaustion and feelings of inadequacy (Rigg et al., 2013).

Although social support can have a positive impact on an individual's immediate concerns while in graduate school, social support is not adequate for creating institutional and cultural change within unhealthy environments. To some extent, social support can be thought of similarly to social capital, which is another concept popular within the literature on first-generation students (Gardner & Holley, 2011; Lunceford, 2011; Miner, 2021). Both social support and social capital focus on individuals acquiring assets to

manage unhelpful environments. Social capital in particular is rooted in neoliberal ideology, which emphasizes the actions of individual actors who want to accumulate capital in order to succeed in oppressive environments, instead of transforming that environment, in order to make individual-level gains (Christens, 2011). In essence, social support, although crucial for day-to-day survival in graduate school, is not designed to solve institutional- or society-level issues.

Sense of Community

Along with social support, another protective factor from the negative effects associated with graduate school on mental health is psychological sense of community (Kovach Clark et al., 2009). Feeling a sense of community goes beyond simply feeling social support, which is typically generalized to specific sources, such as friends, family, and advisors (Kovach Clark et al., 2009). Feeling a sense of community involves a sense of connection to a larger group or environment, and feeling as though one belongs to that group, such as feeling a sense of connection to the university community (Christens, 2011; Kovach Clark et al., 2009; Garriott, 2020). In addition, feeling a sense of community can encompass social support, which includes being able to seek help from a group to meet one's needs, such as obtaining career advice (Christens, 2011; Kovach Clark et al., 2009). As a result of this higher-order form of social support, empowerment can occur (Peterson et al., 2014), but only when that group facilitates the development and exercise of power within the community (Christens, 2011). In this way, psychological sense of community can be conceptualized as a precursor to empowerment (Christens, 2011).

One study that reviewed both social support and sense of community in graduate

students was conducted by Kovach Clark et al. (2009). This study assessed stress, burnout, and career choice satisfaction, with social support and sense of community as potential predictor variables. The authors found that social support did not have significant effects on burnout or career choice satisfaction. However, a lack of a sense of community was a significant predictor of both burnout and career choice dissatisfaction (Kovach Clark et al., 2009). This study demonstrates that these two concepts are indeed distinguishable from each other. Furthermore, it was found that neither social support nor psychological sense of community moderated the effects of stress on burnout (Kovach Clark et al., 2009). However, stress, lack of advisor support, and not feeling a sense of community were all predictors of burnout. Importantly, stress was a stronger predictor of burnout than lack of advisor support or sense of community, suggesting that factors creating stress need more amelioration than what advisor support or sense of community can offer to combat burnout (Kovach Clark et al., 2009).

Similarly to social support, psychological sense of community does not necessitate social change. Although feeling a sense of community can go beyond a basic, individual-level feeling of social support, empowerment is not an inevitable result of feeling as though one belongs to a group and can seek assistance from that group, both of which are still rooted in individual perceptions and self-interest. For empowerment to occur, there must be an explicit desire for transformation of a setting or system (Christens, 2011).

Empowerment

As previously mentioned, empowerment is not inevitable. Specifically, the transformation of individuals, institutions, and societies requires intention and action.

One area in which empowerment has been explored is within universities. This is important because it begins to develop a framework in which universities can think about how to develop assets within their student populations and learning communities to promote wellness, instead of consistently focusing research on individual deficits and individual-level interventions (Garriott, 2020). In fact, it has been demonstrated that the absence of positive factors (e.g., receiving aid, belonging, departmental social climate) has a larger effect on depressive symptoms among graduate student populations compared to the presence of negative factors (e.g., poor mentor relationships, negative bias, financial concerns), signaling the necessity of asset-based, empowerment interventions (Charles et al., 2021; Garriott, 2020).

Empowerment within the university is especially important for under-supported students, such as those who are first-generation and racially oppressed. For these populations, higher education serves as a way to achieve equitable social outcomes, while at the same time they currently experience inequality within academia (Back & Keys, 2020). In this way, they are relying on an oppressive and inequitable system to attempt to achieve equity within society. While testing empowerment among racially underrepresented college students, four factors emerged, including: confidence in one's ability, the university environment, financial confidence, and student racial/ethnic identity (Back & Keys, 2020). These findings highlight the interrelationship between individual and environmental factors necessary for empowerment, specifically in the university setting.

For graduate students, feeling empowered in their university setting can pave the way for professional success. A barrier to that success, especially for first-generation

graduate students, can be the hidden or implicit curriculum inherent to educational settings, which can undermine confidence (Back & Keys, 2020; Garriott, 2020; Peterson et al., 2014). Some aspects of implicit curriculum include navigating advisor and faculty relationships (especially as a racial minority), access to information, support services, and institutional opportunities (such as extracurricular activities and student organizations; Peterson et al., 2014). Factors that may affect the relationship between the implicit curriculum and professional empowerment include student participation, sense of community, and feeling valued at the university (Kovach Clark et al., 2009; Peterson et al., 2014). These are important because understanding implicit curricula can have a positive impact on student socialization processes (Peterson et al., 2014). Students who are better socialized in their programs will have higher levels of optimism, sense of community, and connection to their institutions, which can all be considered precursors to empowerment and have long-lasting impacts on a student's professional success, career prospect optimism, and career choice satisfaction (Charles et al., 2020; Kovach Clark et al., 2009; Peterson et al., 2014).

A specific source of social support is that from friends, such as those from home communities or school settings. Friendships, such as those formed within graduate student cohorts, can provide a source of support when students are struggling, such as through discussing problems one is experiencing in their programs. However, friendship can go beyond support and lead to empowerment (Farias, 2017). This can occur through a production of mutual awareness that social change can and should occur, such as through an awareness that institutional change should occur (Farias, 2017). Friendship as empowerment goes beyond two people, for example, living separate lives and

occasionally coming together to share certain aspects of their respective lives. Instead, through enhancing the experience of going through the world together, friendships can facilitate equality within relationships to achieve a political analysis of lived experience (Christens, 2011; Farias, 2017). It is clear that the process of relationships is crucial to facilitating empowerment, which can lead to individual, institutional, and societal transformation.

Theoretical Framework

Within the discipline of psychology, concepts and theories (e.g., social capital, social support) often tend to be based in an individual perspective. Although concepts like social support are crucial to enhancing the connections one has, it fails to utilize the power that exist within those relationships to create social change (Christens, 2011). Social support and sense of community both focus on an individual increasing a resource for themselves so they can improve their situation. However, both overlook the power of relationships to create change for those around them, and therefore themselves.

Empowerment can fail to go beyond an individual perspective as well. One definition cited within the empowerment literature demonstrates this: “empowerment is a process of increasing personal, interpersonal, or political power so that individuals can take action to improve their life situations” (Gutiérrez, 1990, p. 149). Like conceptualizations of social capital, this definition is framed through an individual perspective. This may create a risk of limiting the full potential of empowerment by drifting towards the neoliberal and masculine characteristics of self-interest and individualization (Riger, 1993). Instead of utilizing relationships and community, definitions of empowerment such as this one highlight the “bootstraps” mentality central

to neoliberal logics. To move beyond individualization and its harmful societal consequences, however, the field of psychology will need to continue to develop more community-centered strategies.

Relational Empowerment

Although psychological empowerment is largely understood through an individual lens, an important contribution is Christens' (2011) concept of the relational component. Some well-established, individual-level components needed for psychological empowerment include emotional, cognitive, and behavioral constructs (Christens, 2011). However, an understudied element is the relational component, which includes collaborative competence, bridging social divisions, facilitating others' empowerment, network mobilization, and passing on legacy (Christens, 2011). Network mobilization, in particular, expands upon traditional conceptions of social support and capital by emphasizing the action potential of relationships (Christens, 2011). Relationships facilitate deeper commitment to changing situations that impact those with whom we are in relationship, while also sustaining motivation and action (Christens, 2011).

For first-generation graduate students, relationships are foundational to their empowerment. Individual-level relationships are commonly featured within first-generation graduate student literature. For example, it has been demonstrated that first-generation graduate students who have more supportive faculty and research mentors have stronger mental health and clearer career goals (Charles et al., 2021; Posselt, 2021). However, there is a lack of research, for example, exploring how mentorship relationships can be utilized to transform harmful educational environments, such as

negative racial campus climates, to authentically foster graduate student well-being (Garriott, 2020; Posselt, 2021). It is necessary to recognize that this process occurs through being in relationship with others. This is important because although it is necessary to transform individuals' emotional, behavioral, and cognitive states (which is the typical aim of empowerment; Christens, 2011), it is crucial to also shift how people are engaging with one another. Within the university setting, for example, mentorship relationships can go beyond helping an individual first-generation graduate student meet their needs and work towards striving for a campus community that is well. The current study aims to explore in what ways relational empowerment is already occurring within the university, and how it can be fostered to decrease barriers and increase well-being for first-generation graduate students.

Although Christens has worked to develop the relational component of psychological empowerment, there is not much psychological literature available on how relationships can facilitate empowerment. Christens is innovative in that he explicitly describes the power of relationships for transforming individuals *and* their environments. However, he does so through expanding on psychological empowerment by adding a relational component. Although the field of psychology has a long way to go in developing relationship-based community psychological theories, there are similar concepts within Women and Gender Studies, including reciprocal solidarity and mutual aid, that can assist in this development.

Reciprocal Solidarity

Queer theory literature is useful for highlighting the difference between allyship and reciprocal solidarity. Traditionally, allyship assumes that one person holds all the

power in the relationship, and they are therefore able to offer resources to those without power (Atshan & Moore, 2014). Reciprocal solidarity, on the other hand, assumes a multidirectional relationship informed by "connections that require a type of self-reflexive work on the parts of both the person who is directly impacted by the very structures [they are] moving against and the ally (the indirectly impacted who might also double as an implicit agent in the very injustices [they are] rallying against)" (Atshan & Moore, 2014, p. 680). This is particularly valuable for first-generation graduate students, who as a group face various barriers and oppression, but within the group will have differing experiences of privilege and oppression due to the inherent differences of the individual students.

When transforming the university to improve the well-being of graduate students, it is helpful to think through why past efforts were not as helpful as they could have been, which then informs future strategies. For first-generation graduate students, it will be necessary to think about the differences within the group, but equally necessary will be to form relationships among students and other members of the university community (e.g., faculty, administrators) who may not identify as first-generation. This is essential to reciprocal solidarity. As Atshan and Moore (2014) write, "What we have failed to experience are the types of solidarities that move social justice advocates beyond the confines of singularity […] into a type of work that is give-and-take and intersectional" (p. 681). When movements build networks of support among people who have differences in what is most important to them (e.g., their identities or goals), social change and transformation can be more inclusive and sustainable.

A particular consideration for first-generation students in movement building will be the fact that students are usually only in the setting for a short amount of time. Master-level students may only be at the university for two or three years, while PhD students could be there for longer, but still fleeting, periods of time. This can serve as a potential barrier to sustainability and action. Among first-generation graduate students, because the group will have varying definitions of the problem (for example, the need to reduce financial barriers versus addressing racial climate versus building more social support spaces, etc.), it will be important to consider, "what is at stake when people with complex identities join in solidarity around a particular struggle and tell their stories despite the risks of erasing their existences in other spheres" (Atshan & Moore, 2014, p. 684). Reciprocal solidarity strives to overcome the traditional logics of resource extraction for individual purposes (such as those demonstrated in typical social support or allyship relationships; Christens, 2011; Atshan & Moore, 2014) in an attempt to work towards higher-order change that can transform the system to be more safe, effective, and compassionate for everybody.

Mutual Aid

Transformation, ultimately, is a process of change, such as that occurring through evolution. Some of these conceptualizations, however, are underscored by a model of survival of the fittest, and mutual aid is seen as a radical, ineffective, and utopian way of organizing society at large. This is parallel to the bootstraps mentality, which glorifies individual success for survival (Phelan, 2014). However, mutual aid can also be seen as a factor for evolution, empowerment, and transformation (Mould et al., 2021). For example, Mould et al. (2021) highlight how mutual aid has roots in Black communities,

who needed to acquire resources within their communities, because they were denied these resources by the government, in order to survive. These themes stem from abolition and work to counter neoliberal mindsets of scarcity and competition over resources in favor of relationship and community building.

Mutual aid can be directly linked to abolition and relates to the concept of reciprocal solidarity touched on in queer theory. Mutual aid is a form of radical care which seeks to address immediate needs while also transforming systems that create conditions of need in the first place. Mould et al. (2021) write, “Mutual aid is part of a broader anarchist movement, which engages in more confrontational activities such as strikes and occupations as well as longer-term co-operative infrastructure and permaculture projects” (p. 871). In this way, mutual aid is more than simply providing for a community’s immediate needs. Although this is a vital component, it is necessary to consider how it operates in rebellion to capitalistic ways of being to change systems. This strategy can be applied to the university setting to dismantle barriers faced by first-generation graduate students because, although the immediate needs of first-generation graduate students must be addressed now, long-term change is the ultimate goal.

Mould et al. (2021) re-conceptualize mutual aid into a three-part model composed of charity, contributory, and activist. Charity aid is similar to allyship and linked closely to NGO-ization, which seeks to affirm social responsibility within market logics. The authors write, “Charities in the twenty-first century operate under strict neoliberal market logics often competing for funding from national governments and philanthropic billionaires to provide aid to marginalized people…. And they do this while trying to keep their own wage budgets low” (Mould et al., 2021, p. 869). This system keeps

communities dependent on the aid provided rather than transforming communities to be able to provide for themselves (Mould et al., 2021). In this way, charity mutual aid does not challenge the system but instead reinforces it. This model strongly resembles the university setting because they are set up to compete for government and donor funding to serve their student populations.

Contributory aid is based on the principle of assimilation into normative society and reinforces the self-help narrative. This form of aid emphasizes the need for individuals (such as first-generation students falling behind in their programs) to find resources within themselves (like self-efficacy) and from their community (like a university writing center) to overcome their problems. This type of aid heavily reinforces the bootstraps narrative of individual success and is apolitical in nature (Mould et al., 2021; Spade, 2020). In addition, this form of aid focuses on getting people back to work so they can be seen as contributing fully to society again. All of these aspects of contributory aid serve to reinforce the current neoliberal system of viewing first-generation students as needing more resources due to individual deficits. As a result, contributory aid, based in assimilation, is in direct contrast to queer theory and reciprocal solidarity.

Activist aid, on the other hand, combines radical mutual aid with vulnerability to create a community model of care rooted in the need for aid but also a need to challenge the system that created the conditions of need in the first place (Mould et al., 2021; Spade, 2020). Importantly, this form of aid, informed by queer and trans theories, suggests that vulnerability is something to be embraced. The authors state that, “vulnerability becomes a process of creating new collectivities via solidarity, care, and

empathy and defiance" (Mould et al., 2021, p. 874). In this way, activist aid is not a state of being a passive recipient of aid but is instead an active way to create new forms of solidarity (Mould et al., 2021; Spade, 2020). This is the type of mutual aid that graduate students and university communities are encouraged to embrace to counter harmful institutional and societal norms and ways of being.

Rationale

There is a dearth of literature on first-generation graduate students, in general, and an explicit lack of literature exploring how tangible and socioemotional resource needs can be fostered through relationships within university communities. To that end, an explanatory-sequential mixed method research study (Creswell & Plano Clark, 2017), informed by an intersectional lens and relational empowerment framework, to understand the first-generation graduate student experience at a large, private, Catholic university was proposed. The mixed method design facilitated, through a quantitative component, a replication of previous first-generation graduate student socioemotional needs, such as social support within the university, while also introducing a tangible needs component. Furthermore, the following qualitative component explained, in a more expanded context, the barriers to and potential solutions for well-being for first-generation graduate students.

This study explored first-generation graduate students' various needs and the extent to which their needs vary as a result of their identity and are addressed by the academic institution. In addition, this study examined university-level structural factors that impact students' ability to attain well-being. As a result of this work, the much-needed process of externalizing deficits can begin, which is much more likely to lead to

an asset-based, empowerment approach to institutional change. Furthermore, this study focused on how first-generation graduate students, who come from various backgrounds and experiences yet may share common struggles within academia, can develop strategies for relying on each other and their university communities to overcome barriers and challenges within their academic institutions.

In this way, this study aimed to move the conversation away from individual deficits towards institutional barriers and explain how relational empowerment can work in direct opposition to neoliberal logics in order to challenge those institutional barriers. As a result, university communities can start to focus on the promotion of well-being, which is notably different than focusing on eliminating individual deficits. This is necessary because students are struggling now and will continue to struggle unless both small- and large-scale intervention and transformation occur. Overall, this study aimed to answer how first-generation graduate students can rely on the power of relationships within the university community to meet their needs, and what institutional barriers exist to achieving well-being, with the explicit intention of being able to offer recommendations to the university based on the findings.

Phase one of this study was designed to reestablish and build upon what is already known about the tangible and socioemotional needs of first-generation graduate students. More explicitly, this phase aimed to replicate findings that first-generation graduate students differ in levels of belonging to the university community (as measured by psychological sense of school membership), confidence in their ability, perceived social support from university members, and tangible resource need compared to their continuing-generation peers. In addition, the first phase also sought to replicate that there

are differences within the first-generation graduate student population, especially among varying gender, racial and ethnic, and income status backgrounds. By viewing the first-generation graduate student population through an intersectional lens, this study addresses gaps in the current literature around the divergent needs of first-generation graduate students that emerge as a result of the various aspects of their identities and their intersections.

This first phase was done to confirm past findings on first-generation graduate students generally and establish what we know about this university's graduate student population specifically. In addition, this phase explored the extent to which belonging, confidence in ability, and social support differences exist between first-generation and continuing-generation graduate students to help inform which needs have yet to be met for relational empowerment to occur at the university. This information was then used as a baseline to understand the university's first-generation graduate student population and to inform phase two. Using an online survey, a large sample of university student quantitative data was gathered, which allowed for a general analysis of these factors. The findings from phase one were then used to inform the second phase of the study to understand the particular tangible and socioemotional needs of first-generation graduate students at this university.

Phase two of the study emphasized how the use of focus groups can offer a deeper qualitative understanding of first-generation graduate student use of relationships to persevere through the challenges of graduate school and their perceptions of what needs to change within the university to aid in their well-being. This phase of the study expanded upon the literature by offering a specific asset-based lens to understand how

first-generation graduate students work to meet their needs while in graduate school. This was done with the use of an intersectional lens because first-generation graduate students have diverse life experiences and, therefore, have different experiences of barriers while also having various assets to offer. Specifically, this phase explored mutual support—the extent to which graduate students both receive and offer various forms of aid to achieve their goals despite the presence of institutional barriers. In addition, this phase offered an opportunity to develop new ways for first-generation graduate students and university community members at large to work together to foster connections to increase well-being generally through the use of relational empowerment, which encompasses mutual support but expands upon it by acknowledging the power of stakeholders in eliminating barriers to transform settings.

Although relational empowerment is the ultimate, long-term goal of this work with first-generation graduate students, it still needs to be established to what extent relational empowerment currently appears within the university. As a result, an amalgamation of relational empowerment, reciprocal solidarity, and mutual aid was used in the current study. This was conceptualized as mutual support. Mutual support ties in the sustainability and motivational aspects of relational empowerment through acknowledging that relationships prolong our attempts for change and success despite barriers and challenges. Similarly, mutual support encompasses the elements of multidirectionality, addressing short-term need, and recognition for long-term transformation apparent in reciprocal solidarity and mutual aid (Atshan & Moore, 2014; Mould et al., 2021). As a result, although relational empowerment may not fully appear in this population in the current moment, this study hoped to understand in what ways it

is occurring and, therefore, how it can be further developed.

Research Questions and Hypotheses

Phase I

For the first phase of the study, the guiding research questions and hypotheses were:

Research Question I. In what ways do first-generation graduate students differ from their continuing-generation peers with regard to belonging, confidence in ability, social support, and resource needs?

Hypothesis I. There will be significant differences between participants who identify as being first-generation graduate students compared to participants who identify as being continuing-generation graduate students, wherein first-generation graduate students will report:

a. lower sense of belonging,
b. lower confidence in ability,
c. fewer supportive people, and
d. higher resource needs

controlling for theoretically-relevant variables such as gender, race and ethnicity, income status, and program aid.

Research Question II. To what extent are aspects of social identity, including gender, race and ethnicity, income status, and their interactions, associated with belonging, confidence in ability, social support, and resource needs among first-generation graduate students?

Phase II

For the second phase of the study, the guiding research questions were:

Research Question III. In what ways do first-generation graduate students believe the university does and does not work to support their well-being?

Research Question IV. How do first-generation graduate students experience mutual support?

Method

The current study used an explanatory-sequential mixed method approach (Creswell & Plano Clark, 2017) informed by a relational empowerment framework across two separate but related phases. The central purpose of the current study was to understand how first-generation graduate students persevere together, despite institutional barriers at a mid-sized, private Catholic university in the midwestern part of the United States. This study used quantitative survey data collected in the spring of 2022 (Phase I) and qualitative focus group data collected in the spring of 2023 (Phase II) to address the research questions and hypotheses.

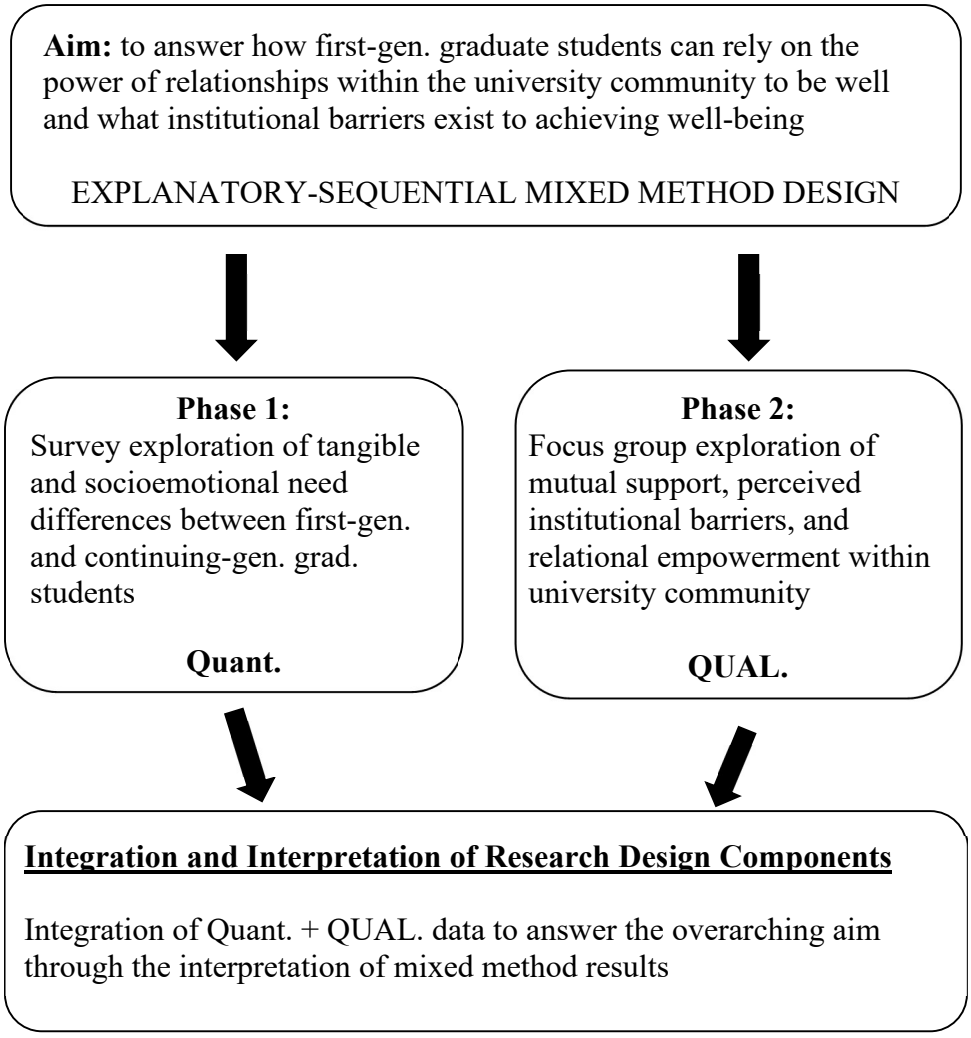
The first phase of the study offered insights into the individual-level needs of first-generation graduate students as compared to continuing-generation graduate students, while the second phase drew inferences regarding how first-generation graduate students rely on each other to meet their needs and how the university community can eliminate barriers so that first-generation graduate students can increase well-being. In addition, the second phase planned to offer a perspective to potential solutions that go beyond solving individual-level resource needs, instead suggesting that the university works with students to eliminate barriers to well-being. The final stage of data analysis integrated the findings from phase one and two to answer the questions of: what first-

generation graduate students' needs are, to what extent do first-generation graduate students rely on the power of relationships within the university community to be well, and what institutional barriers exist to achieving well-being among this population.

This study used an explanatory-sequential mixed method approach (Creswell & Plano Clark, 2017), with quantitative data collection preceding qualitative data collection, as a way to further explore and clarify the quantitative findings. Because of the lack of literature on first-generation graduate students, and a specific lack of asset-based literature focused on well-being for this population, this study has a qualitative emphasis. This two-phase approach was helpful for first, identifying the overall needs of the first-generation graduate student population at the university and then, delving deeper into understanding the nuances in how they attempt to thrive while in graduate school, despite the barriers the institution has maintained, or failed to eradicate. See Figure 1 for a visual conceptualization of this study design.

Figure 1

Mixed Method Design



Context

This study has been conducted in collaboration with DePaul University's Access and Attainment Research (AAR) Lab. The AAR Lab is housed within the Access, Attainment, and TRiO Department at the Division of Student Affairs which strives to expand opportunities for college success. The AAR Lab primarily serves those in Chicago who are seeking to attend school to receive a bachelor's degree, along with

DePaul undergraduates who are first-generation and/or low-income. The center offers several different programs aimed at retaining these students and assisting them in the graduate school application process. Some of these programs, which are all directed towards undergraduate students, include TRiO, McNair Scholars, and the Arnold Mitchem Fellowship.

Positionality

As a first-generation, low-income graduate student, it is obvious that this project is motivated by a self-interested desire to understand the problems I have faced while pursuing my doctoral degree. Given this, I know that my experience is not all-encompassing of the first-generation graduate student experience, but rather a single story. For example, although I have experienced barriers as a result of being low-income and first-generation, I have not experienced barriers as a result of my race, ability status, or nationality.

Furthermore, I recognize that this research project is inherently biased by my own perceptions and desire to learn as a way to cope with my graduate school experience. I do not think it is possible to overcome these biases, not only in this project but in everyday life. However, to maintain and minimize my own biases, I incorporated reflection into my data analyses, especially in my qualitative analyses (Fereday & Muir-Cochrane, 2006; O'Connor & Joffe, 2020). In addition, I discussed my project processes, data analyses, and findings with my lab members and research team to receive feedback to ensure these are rooted in the literature and not my own desire for certain answers.

As a first-generation, low-income graduate student, I believe I can add depth to this research that those without these identities may not be able to or may have

overlooked in previous research studies currently available in the literature. Furthermore, because I have led this project and all associated research activities (such as the focus groups), I have been able to relate to my participants in a more meaningful way than an outsider researcher would have been able to relate to this population. In the end, I believe my positionality, as a first-generation, low-income graduate student at DePaul University, offered a special opportunity to deeply pursue this topic and contemplate potential solutions as a result, so future students do not have to face the same struggles my peers or I have faced.

Research Design

Phase I

Participants. All graduate students enrolled in the partnering university in spring of 2022 were eligible to participate in Phase I of the study. Approximately 5,600 graduate students were contacted for recruitment using their university email addresses. Potential participants were emailed twice: once to introduce them to the study and a second time to remind them. Overall, 1,022 students began the survey. Participants who did not complete all three attention check questions (e.g., Talking with new friends if you are paying attention select not confident) as directed were eliminated from the dataset, which brought the sample size to 510. Due to low sample size, gender non-conforming participants were excluded from analyses. In addition, participants who selected "prefer not to say" for gender were excluded, which brought the final sample size to 485.

Due to low sample size in racially oppressed groups (e.g., Middle Eastern [n = 10], American Indian/Native American [n = 10]) a new variable was created for participants who did not identify as white and only white, racially and ethnically. This

variable was labeled “BIPOC” (Black, Indigenous, and People of Color). Although acronyms such as this one can diminish the differences experienced between and within racially oppressed groups, this specific term is used to highlight the collective activism needed to overcome white supremacy in our culture, which has disproportionately affected Black and Indigenous people in the United States, where this research has taken place (Lane, 2023). See Table 1 for participant demographic data, including collapsed participant racial and ethnic identity, gender identity, and first-generation student status groups.

Table 1

Participant Demographic Information (N = 485)

			n	%
Gender				
	Woman		357	74
	Man		128	26
*Race/Ethnicity				
	BIPOC [a]		232	48
	White		253	52
*Generation Status				
	First-generation		155	32
	Continuing-generation		322	66
	Missing		8	2
Income Status				
	Pell Recipient (Undergrad.)			
		Yes	146	30
		No	278	57
	Missing or "not sure"		61	13

Program Aid			
Full aid		50	10
	Stipend and full tuition waiver		
Partial aid		112	23
	Stipend or waiver, but not both		
No aid		257	53
	No stipend and no tuition waiver		
Missing or "not sure"		66	14

*Denotes groups that were combined for analysis

[a] BIPOC = Black, Indigenous, and People of Color

Measures. For the Qualtrics survey distributed to all DePaul University graduate students, participants were asked to complete demographic questions regarding gender, race and ethnicity, citizenship status, graduate degree type, enrollment status (e.g., full- or part-time), generation status, income status, and program aid. Participants were then asked to complete four other sections pertaining to sense of belonging, confidence in ability, social support, and resource need.

Generation Status. To measure participants' generation status within the academic setting, they read the following: "First-generation student status (please check the one that best describes your parents' education statuses)." Participants chose one of the four following options: "Neither of my parents attended college in the United States (i.e., they did not complete high school or they are high school diploma recipients only)," "One or both of my parents attended college but did not finish their degree," "One or both of my parents are college graduates," "One or both of my parents completed graduate-level degrees (e.g., master's, PhD, JD, MBA)." For the purposes of this study, participants who selected "Neither of my parents attended college in the United States" or

"One or both of my parents attended college but did not finish their degree" were classified as being first-generation graduate students. Although there is not one agreed-upon definition for first-generation student, students whose parents did not complete a bachelor's degree is one widely used definition (Nguyen & Nguyen, 2018; Sharpe, 2017; Toutkoushian et al., 2018). Participants who selected one of the other two response options were classified as continuing-generation graduate students.

Income Status. To determine whether participants came from low-income backgrounds, they were asked the following: "Have you ever been considered a low-income student? (For the purposes of this study, low-income is considered those students who would have been eligible for the Pell Grant during their undergraduate career.)" They selected either "No," "Not Sure," or "Yes." Participants who selected "yes" or "no" were included in analyses.

Program Aid. To measure the extent to which participants were being supported by institutional financial aid, they were asked about stipends and tuition waivers. More specifically, participants were asked, "Do you receive a stipend to cover any costs associated with graduate school?" They chose from three response options: "No," "Not Sure," "Yes." In addition, they responded to, "Do you receive a tuition waiver? If so, does your waiver cover full tuition costs?" The response options included: "I receive a tuition waiver AND it covers full tuition costs," "I receive a tuition waiver and it does NOT cover full tuition costs," "I do not receive a tuition waiver," and "Not Sure." Responses were combined into a new variable in which 1 = no aid (no stipend and no tuition waiver), 2 = partial aid (stipend and/or waiver, but not stipend and full tuition waiver), 3 = full aid (stipend and full tuition waiver). Participants who indicated "Not

Sure" were omitted from analyses.

Psychological Sense of School Membership (PSSM). To measure the extent to which participants felt a sense of belonging to the university, they completed the Psychological Sense of School Membership (PSSM), which has been widely used with first-generation college students (Goodenow, 1993; Hagler et al., 2021). This scale asked participants to reflect on their sense of school belonging within the DePaul University community. Participants rated 18 questions on a 5-point scale with 1 = "Totally disagree," 2 = "Disagree," 3 = "Neither agree nor disagree," 4 = "Agree," and 5 = "Totally agree." Some questions include, "It's hard for people like me to be accepted here" and "There's at least one professor, faculty, or staff member at DePaul University that I can talk to if I have a problem." Responses were reversed coded as necessary and were averaged to create a belonging variable, with higher scores indicating a higher sense of belonging. Cronbach's alpha for the complete sample $n = 481$ was $\alpha = .915$. See Appendix A for the full scale.

Confidence in Ability. To measure the extent to which participants felt a sense of self-efficacy within the university setting, participants completed a Confidence in Ability scale, an adaptation of the General Academic Self-Efficacy Scale (Nielsen et al., 2018). This set of 12 questions was expanded upon and adapted from the original scale for the graduate school context to evaluate participant confidence levels in completing different tasks, such as completing program milestones on time and asking your advisor/mentor questions. Participants rated their responses on a 6-point scale with 1 = "Totally NOT confident," 2 = "Not confident," 3 = "Somewhat NOT confident," 4 = "Somewhat confident," 5 = "Confident," and 6 = "Totally confident." Example questions include,

"How confident are you in your ability to keep up to date with your academic work and responsibilities" and "How confident are you in your ability to make an appointment with your advisor/mentor when you want one." Scores were averaged to create an overall confidence in ability variable, with higher scores indicating higher confidence in ability. Cronbach's alpha for the complete sample $n = 484$ was $\alpha = .874$. See Appendix B for the full scale.

Social Support Network Questionnaire. To measure the extent to which participants felt a sense of social support at the university, an adaptation of the Social Support Network Questionnaire (Gee & Rhodes, 2008; Sánchez et al., 2008) was used. This section asked participants to reflect on their relationship with their primary support person at DePaul University who is not a parent, relative, or partner. Participants answered 10 questions about their social support network, including the number of supportive people they have at the university, the role of that supportive person, and how often they met with the supportive person. For the purposes of this study, the number of supportive people reported was used. This question asked, "How many people like this (e.g., supportive) do you have at DePaul University?" Response options ranged from "One" to "Five or more." Participants who responded "No" to the first question, "Do you have a person like this at DePaul?" were coded as "Zero" in the number of supportive people question. Participants who responded with "Not sure" were excluded from analyses. Higher scores indicated participants who reported having more supportive people at the university. The complete sample for this variable was $n = 412$. See Appendix C for the full scale.

Resource Need. To measure the extent to which participants perceived needing

tangible resources, they were asked to rate their level of need for 18 services of which the university could offer more, such as career development services and identity-based support groups. Specifically, participants read, “Which type of resources do you personally feel DePaul University needs to offer in order to help YOU succeed as a graduate student?” Participants rated their level of need on a 4-point scale, with 1 = “No need,” 2 = “Little need,” 3 = “Moderate need,” and 4 = “High need.” Because this is not an established measure, Cronbach’s alpha was calculated with the complete sample size n = 482 and determined to be $\alpha = .917$ for the 18-item scale. See Appendix D for the full scale.

In addition, a factor analysis was completed to determine what, if any, subscales could be created with these 18 items. The factors were rotated to increase interpretability using an orthogonal rotation method, which assumes each factor is independent of each other (Pett, 2003). A factor analysis was conducted using a varimax rotation, which balances the variance across factors more equally than other methods, and a .4 cut-off point for item acceptance (Pett, 2003). Three factors were found using this method, all with an alpha of .80 or greater. After reviewing the items within each factor, they were labeled as “basic need resources,” “identity-based resources,” and “university-based resources.” See Appendix E for details about each factor. Scores were averaged among each of the three factors to create three resource need variables, with higher scores indicating more need for that type of resource.

Procedure. The DePaul University Institutional Review Board (IRB) approved this phase of the study in April of 2022. An email list of graduate student emails was obtained by one of the project supervisors in the AAR Lab from the university after IRB

approval of the study was received. A link to a Qualtrics survey was sent out to the email list. Data were collected anonymously through the online survey. Email addresses were not connected to the survey responses and used only for recruitment. Before completing the survey, participants read an information sheet and were asked to provide their agreement to participate in the study. Participants were provided with the research team and IRB personnel's contact information. After providing agreement to participate, participants completed the study measures. Participants were informed that the survey would take about 15 minutes to complete. Throughout the survey, three attention check questions were included to ensure that participants were reading the questions carefully. At the end of the survey, participants read a thank you message for participating and then read that they need to follow another link if they wished to enter their email address to be entered into a drawing to win one of fifty $10 Amazon gift cards as incentive for their time.

Phase II

Participants. Participants were recruited for the second phase of this study in the spring of 2023. Study recruitment emails were sent to approximately 3,500 graduate students at the partnering institution. Purposive sampling was employed; participants were eligible to participate if they self-identified as first-generation graduate students. A total of 158 DePaul University graduate students completed the interest survey, however only those who identified as first-generation (n = 83) received a follow-up email with an invitation to participate in a focus group. Twenty-six students confirmed their interest in focus group participation. However, only 18 participants attended one of five scheduled focus group meetings.

Materials. The second phase of this research study relied on the guidance of a focus group protocol developed in preparation of the focus group meetings. Questions were grouped under four themes within the protocol, including introduction to first-generation graduate student status, mutual support, well-being in graduate school, and university factors. Example questions from the protocol include, "What does it mean to you to be a first-generation student," "What helps you navigate the day-to-day of graduate school," and "What resources or services would you like to have more access to as a first-generation grad. student to enhance well-being?" See Appendix F for the focus group interview protocol.

Procedure. DePaul University's IRB approved the second phase of this study in February of 2023. Email addresses for approximately 6,000 graduate students were obtained by the AAR Lab after IRB approval. Emails were sent to students in batches of 500 randomly selected emails at a time until the target number of focus group participants was reached. Participants were first sent an email that contained a link to an interest screener survey. Students interested in participating in a focus group were asked to click the link which took them to a short survey to determine first-generation status. After analyzing the interest survey to filter out students who did not identify as being first-generation, 83 graduate students were sent a follow-up email containing about two times from which participants could confirm their availability for an in-person focus group. Of those, 26 confirmed and 18 participated in one of five focus groups in the spring of 2023. At the specified day and time, participants met with the focus group facilitator and discussed questions posed by the facilitator in seventy-five-minute meetings. Focus groups were audio recorded on Zoom. At the end of the session, participants were

compensated with $25 Amazon gift cards and were informed that they could reach out at any time for more information.

Results

Phase I

To examine the Phase I hypotheses, the Statistical Package for the Social Sciences (SPSS; Version 26.0; IBM, 2019) system was used. Pairwise deletion was used to eliminate all cases with missing data for each separate analysis but retained these cases in other analyses when data were not missing. Therefore, the sample size varied for each analysis and was reported clearly.

Hypothesis testing involved univariate and multivariate analyses of variance (ANOVA/MANOVA). To ensure the data met assumptions, the data distributions were examined by reviewing the histograms, P-P plots, skewness, and kurtosis so that the data distributions were within an acceptable range for each test variable (Field, 2009). In addition, a Levene test for variances was used to test homogeneity of variance between the groups (Field, 2009). These values were within acceptable ranges for each variable except number of supportive people. The skewness of this variable was found to be 1.29 for the complete dataset ($N = 485$) and 1.63 for first-generation graduate participants only ($n = 155$), indicating that the distribution was right-skewed. In samples of more than 200, skew is highly sensitive and, therefore, the histogram with the normal curve was assessed visually (Field, 2009). In addition, this variable was transformed using a square root transformation, because of the use of a zero as a response option (Choueiry, 2024). After the transformation, the skewness was found to be -.31 for the complete dataset and 1.28 for the first-generation only sample. The transformed variables were used in the ANOVA

testing. See Table 2 for descriptive statistics of all Hypothesis I variables.

Table 2

Descriptive Statistics for Hypothesis I Variables

Scale	Variable	*n*	*M*	*SD*
PSSM [a]	First-generation	133	3.85	0.56
	Continuing-generation	280	3.88	0.59
	Women	306	3.86	0.59
	Men	107	3.90	0.57
	BIPOC [b]	196	3.80	0.60
	White	217	3.93	0.56
	Pell recipient	142	3.73	0.61
	Not a Pell recipient	271	3.94	0.56
Confidence in ability	First-generation	133	4.68	0.76
	Continuing-generation	284	4.67	0.72
	Women	310	4.62	0.76
	Men	107	4.82	0.64
	BIPOC	198	4.67	0.77
	White	219	4.67	0.70
	Pell recipient	144	4.58	0.75
	Not a Pell recipient	273	4.72	0.72
Supportive people [c]	First-generation	130	1.48	1.25
	Continuing-generation	282	1.43	1.20
	Women	308	1.49	1.20
	Men	104	1.32	1.24
	BIPOC	196	1.44	1.27
	White	216	1.45	1.16
	Pell recipient	141	1.48	1.31
	Not a Pell recipient	271	1.43	1.16

Basic need	First-generation	115	2.04	0.82
	Continuing-generation	234	1.95	0.77
	Women	260	2.01	0.77
	Men	89	1.88	0.83
	BIPOC	167	2.20	0.84
	White	182	1.78	0.69
	Pell recipient	123	2.19	0.80
	Not a Pell recipient	226	1.87	0.76
	No aid	216	1.94	0.79
	Partial aid	94	1.95	0.79
	Full aid	39	2.30	0.70
Identity-based	First-generation	115	2.39	0.97
	Continuing-generation	234	1.90	0.89
	Women	260	2.13	0.94
	Men	89	1.87	0.95
	BIPOC	167	2.48	0.92
	White	182	1.67	0.79
	Pell recipient	123	2.48	0.95
	Not a Pell recipient	226	1.83	0.86
	No aid	216	2.05	0.95
	Partial aid	94	1.99	0.95
	Full aid	39	2.28	0.90
University-based	First-generation	115	2.72	0.73
	Continuing-generation	234	2.69	0.73
	Women	260	2.78	0.71
	Men	89	2.46	0.75
	BIPOC	167	2.89	0.75
	White	182	2.53	0.67
	Pell recipient	123	2.85	0.69
	Not a Pell recipient	226	2.62	0.74

No aid	216	2.66	0.74
Partial aid	94	2.73	0.72
Full aid	39	2.88	0.68

[a] PSSM = Psychological Sense of School Membership

[b] BIPOC = Black, Indigenous, and People of Color

[c] Reflects the values before square root transformation.

Hypothesis I

Three one-way ANOVAs were conducted with psychological sense of school membership, confidence in ability, and number of supportive people as the dependent variables. Generation status (first-generation vs. continuing-generation) was the primary independent variable in each ANOVA. Additional independent variables were entered as control variables, including gender (woman, man), race and ethnicity (white, BIPOC), and income status (Pell Grant recipient, not a recipient). Analyses revealed no statistically significant differences between first-generation and continuing-generation students in psychological sense of school membership, $F(1, 404) = 1.16$, $p = .282$, confidence in ability, $F(1, 412) = 0.58$, $p = .45$, or supportive people, $F(1, 412) = 0.38$, $p = .536$. See Table 3 for more detailed information.

Table 3

ANOVA Results for Hypothesis I

Scale	Variable	*F*	df	η_p^2	*p*
PSSM [a]	Generation Status	1.16	1, 404	0.003	.282
	Gender	0.37	1, 404	0.001	.545
	Race	1.05	1, 404	0.003	.306
	Income Status	9.32	1, 404	0.022	.002**
Confidence in ability	Generation Status	0.58	1, 412	0.001	.446
	Gender	6.10	1, 412	0.015	.014*

	Race	0.64	1, 412	0.002	.425
	Income Status	4.35	1, 412	0.010	.038*
Supportive people	Generation Status	0.38	1, 412	0.001	.536
	Gender	3.03	1, 412	0.007	.082
	Race	0.43	1, 412	0.001	.514
	Income Status	0.01	1, 412	0.000	.928

*$p < .05$. ** $p < .01$.

[a] PSSM = Psychological Sense of School Membership

A one-way MANOVA was conducted to determine whether there was a difference between first-generation and continuing-generation students among the three scales established for the resource need measure: basic need resources, identity-based resources, and university-based resources. Generation status was the primary independent variable. Additional independent variables were entered as control variables, including gender (woman, man), race and ethnicity (white, BIPOC), income status (Pell Grant recipient, not a recipient), and program aid (full aid, partial aid, no aid). The MANOVA revealed that there was a statistically significant difference between first-generation and continuing-generation students in which first-generation students reported higher resource need on the identity-based scale, $F(1, 342) = 3.95$, $p = .048$. The MANOVA revealed that there was not a statistically significant difference between first-generation and continuing-generation students on the basic need scale, $F(1, 342) = 0.69$, $p = .408$, or the university-based need scale, $F(1, 342) = 1.59$, $p = .208$. See Table 4 for more detailed information.

Table 4

MANOVA Results for Hypothesis I

Scale	Variable	Wilks' Lambda	*F*	df	η_p^2	*p*
Basic need	Generation Status	0.94	0.69	1, 342	0.002	.408
	Gender	0.96	2.35	1, 342	0.007	.126
	Race	0.88	15.01	1, 342	0.042	.000**
	Income Status	0.98	4.16	1, 342	0.012	.042*
	Program Aid	0.97	3.41	2, 342	0.020	.034*
Identity-based	Generation Status		3.95	1, 342	0.011	.048*
	Gender		7.40	1, 342	0.021	.007**
	Race		43.8	1, 342	0.114	.000**
	Income Status		6.94	1, 342	0.020	.009**
	Program Aid		0.68	2, 342	0.004	.505
University-based	Generation Status		1.59	1, 342	0.005	.208
	Gender		15.01	1, 342	0.042	.000**
	Race		15.82	1, 342	0.044	.000**
	Income Status		2.29	1, 342	0.007	.131
	Program Aid		1.95	2, 342	0.011	.143

*$p < .05$. **$p < .01$.

Research Question II

A series of factorial ANOVAs were conducted using the SPSS general linear model function with only the first-generation graduate student sample to explore the extent to which aspects of their identities are associated with the dependent variables: psychological sense of school membership, confidence in ability, and number of supportive people. Independent variables included gender, race and ethnicity, and income status. Additionally, the interaction terms for gender and race and ethnicity, gender and income status, and race and ethnicity and income status were included. Finally, a three-way interaction term for gender, race and ethnicity, and income status was also included.

No significant main effects or interaction effects emerged for psychological sense of school membership, confidence in ability, or the number of supportive people. See Table 5 for more information.

Table 5

ANOVA Results for Research Question II

Scale	Variable	*F*	df	η_p^2	*p*
PSSM [a]	Gender	0.71	1, 133	0.01	.402
	Race	0.88	1, 133	0.01	.351
	Income Status	3.61	1, 133	0.03	.060
	Gender & Race	0.71	1, 133	0.01	.400
	Gender & Income	0.19	1, 133	0.002	.663
	Race & Income	0.66	1, 133	0.01	.418
	Gender, Race & Income	0.11	1, 133	0.001	.742
Confidence in ability	Gender	2.29	1, 133	0.02	.132
	Race	0.27	1, 133	0.002	.603
	Income Status	0.15	1, 133	0.001	.699
	Gender & Race	0.11	1, 133	0.001	.740
	Gender & Income	0.00	1, 133	0.00	.962
	Race & Income	0.10	1, 133	0.001	.752
	Gender, Race & Income	0.47	1, 133	0.004	.493
Supportive people	Gender	0.87	1, 110	0.01	.352
	Race	0.14	1, 110	0.001	.709
	Income Status	0.01	1, 110	0.00	.910
	Gender & Race	0.29	1, 110	0.003	.592
	Gender & Income	2.85	1, 110	0.03	.095
	Race & Income	2.93	1, 110	0.03	.090
	Gender, Race & Income	0.01	1, 110	0.00	.906

[a] PSSM = Psychological Sense of School Membership

A factorial MANOVA was conducted to determine whether there were differences between demographic groups and their interactions on each of the three

resource need scales. See Table 6 for descriptive statistics of the significant outcomes and Appendix G for all descriptive statistics. The model revealed that there were statistically significant differences between white and BIPOC participants in which BIPOC participants reported higher resource needs for the basic need scale, $F(1, 121) = 6.34$, $p = .013$, the identity-based need scale, $F(1, 121) = 9.76$, $p = .002$, and the university-based need scale, $F(1, 121) = 6.70$, $p = .011$. In addition, there were statistically significant interactions of race and income status in which BIPOC participants who had received the Pell Grant reported the highest resource need on the basic need scale, $F(1, 121) = 4.23$, $p = .042$, and the identity-based need scale, $F(1, 121) = 5.29$, $p = .023$. There was also a statistically significant interaction between gender, race, and income status for the basic need scale, in which BIPOC participants who had received a Pell Grant reported higher resource needs, especially if they identified as men, $F(1, 121) = 7.68$, $p = .006$. See Table 7 for more information.

Table 6

Descriptive Statistics for Significant Resource Need Variable Groups (n = 129)

Scale	Variable	*n*	*M*	*SD*
Basic need	BIPOC [a]	85	2.25	0.83
	White	44	1.67	0.58
	Women & BIPOC	65	2.24	0.83
	Men & BIPOC	20	2.26	0.85
	Women & White	30	1.66	0.49
	Men & White	14	1.69	0.77
	BIPOC & Pell	64	2.34	0.85
	BIPOC & No Pell	21	1.96	0.72
	White & Pell	16	1.72	0.55
	White & No Pell	28	1.64	0.61
	Women, BIPOC & Pell	49	2.29	0.87

	Women, White & Pell	10	1.94	0.55
	Women, BIPOC & No Pell	16	2.10	0.72
	Women, White & No Pell	20	1.51	0.40
	Men, BIPOC & Pell	15	2.51	0.80
	Men, White & Pell	6	1.36	0.32
	Men, BIPOC & No Pell	5	1.51	0.56
	Men, White & No Pell	8	1.95	0.92
Identity-based	BIPOC	85	2.64	0.90
	White	44	1.79	0.76
	BIPOC & Pell	64	2.80	0.85
	BIPOC & No Pell	21	2.15	0.91
	White & Pell	16	1.80	0.82
	White & No Pell	28	1.79	0.74
University-based	BIPOC	85	2.89	0.73
	White	44	2.42	0.56

[a] BIPOC = Black, Indigenous, and People of Color

Table 7

MANOVA Table for Resource Need Variables for Research Question II

Scale	Variable	Wilks' Lambda	*F*	df	η_p^2	*p*
Basic need	Gender	0.99	0.06	1, 121	0.01	.436
	Race	0.92	6.34	1, 121	0.05	.013*
	Income Status	0.97	2.46	1, 121	0.02	.119
	Gender & Race	0.99	0.10	1, 121	0.001	.753
	Gender & Income	0.97	0.10	1, 121	0.001	.749
	Race & Income	0.95	4.23	1, 121	0.03	.042*
	Gender, Race & Income	0.93	7.68	1, 121	0.06	.006**
Identity-based	Gender		1.56	1, 121	0.01	.214
	Race		9.76	1, 121	0.08	.002**
	Income Status		2.52	1, 121	0.02	.115
	Gender & Race		0.65	1, 121	0.01	.422
	Gender & Income		0.73	1, 121	0.01	.394

	Race & Income	5.29	1, 121	0.04	.023*
	Gender, Race & Income	2.53	1, 121	0.02	.115
University-based	Gender	1.49	1, 121	0.01	.225
	Race	6.70	1, 121	0.05	.011*
	Income Status	0.27	1, 121	0.002	.602
	Gender & Race	0.14	1, 121	0.001	.714
	Gender & Income	0.30	1, 121	0.003	.583
	Race & Income	3.72	1, 121	0.03	.056
	Gender, Race & Income	0.39	1, 121	0.003	.533

*$p < .05$. **$p < .01$.

Phase II

To answer the research questions, focus group data were collected through audio recordings using Zoom. The audio was transcribed loosely through the Zoom software and reviewed and revised for accuracy by the primary investigator and one undergraduate student volunteer. NVivo was used for coding the data (Version 14; QSR International, 2018). A thematic analytic approach was used to analyze the focus group data, as it allowed for a flexible approach to analysis guided by both inductive (i.e., allowing themes to emerge from the data) and deductive (i.e., developing themes from theory and research questions) processes (Fereday & Muir-Cochrane, 2006; Gibbs, 2007). Specifically, because this project explored relatively understudied concepts within a specific population, the thematic analysis was guided primarily by the research questions. However, an interactive and reflexive approach, guided by both induction and deduction, was also adopted to allow for changes, additions, and modifications to the themes (Fereday & Muir-Cochrane, 2006).

After the focus group transcripts were cleaned, preliminary analysis was completed to create a template for the coding manual. This was done by reading through

the transcripts and identifying general themes that emerged across each transcript, which were then used to inform the coding manual template (Ando et al., 2014; Crabtree & Miller, 1999). In addition to the preliminary analysis, the coding manual template was guided primarily by the research questions and literature review to create general themes to be kept in mind during the open coding process. For example, included in the codebook were deductive codes regarding aspects of participants' self-disclosed identities, wherein participant responses were deductively coded to contextualize findings through an intersectional lens. This helped to ensure that the scope of the thematic analysis did not become too large (Ando et al., 2014), given the breadth of possible themes that could emerge from this intersectional population. However, after the initial template was created, a more thorough coding manual was created by reviewing each transcript closely. Transcripts were reviewed first using open coding to reduce the data. The open coding process involved a line-by-line read-through of the cleaned transcripts, creating codes and memos along the way (Khandkar, 2009). Open codes were reduced and incorporated into the codebook (Khandkar, 2009). This process involved an integration and reorganization of themes into the codebook (Khandkar, 2009; Saldaña, 2016). Themes were defined and organized hierarchically with categories and subcategories (Saldaña, 2016). After this initial code development process, a reflexive process occurred to allow for any new themes to emerge from the data, within the scope of the research questions (Fereday & Muir-Cochrane, 2006).

It was determined that saturation (the extent to which no new information can be meaningfully added to the higher-order concepts within the codebook; Ando et al., 2014) had been reached upon integration of the final focus group transcript into the codebook

and plans for further focus group meetings was not considered necessary. After the initial codes and themes were developed in the codebook, the codebook was entered into NVivo and the team revisited the transcripts in NVivo to apply the codes to the data. The team reviewed the codes again for major themes, categories, and subcategories, while making changes as necessary (Ando et al., 2014). As the last step of this phase, a query matrix was created in NVivo with the final codebook to identify key themes. The themes were summarized and reviewed in the context of the research questions (Ando et al., 2014).

The coding team was composed of the primary investigator and one undergraduate student researcher, who was trained in the coding approach. Although interrater reliability within the context of qualitative analysis is a controversial topic (Ando et al., 2014; O'Connor & Joffe, 2020), steps were taken to ensure there was agreement among coders at the open coding, codebook development, and codebook coding phases. For example, after the team understood the open coding steps to be taken, the same transcript was coded separately by each coder. Afterwards, the researchers came together to discuss their codes in a consensus meeting. Discussion about disagreements occurred until consensus was reached, going back to the literature and research lab team as necessary. During the NVivo stage, each coder disagreement was documented and then discussed. Interrater reliability was calculated for each transcript and was found to be around K = .44, which is considered "fair" agreement (Lange, 2011). The discrepancies were most commonly due to a lack of co-coding and thus the consensus often resulted in the inclusion of both coder's codes for that segment.

Research Question III

When first-generation graduate student participants were asked about the ways

they believe the university does and does not work to support their overall well-being, the following themes emerged: absence (of the dissemination) of knowledge, neoliberalism, and university supports. Overall, participants identified more ways in which the university does not support well-being for first-generation graduate students than ways the university does support well-being. See Table 8 for a summary of the findings.

Table 8

Summary Table for RQ III

Theme	Description	Example Quote
Absence (of the dissemination) of knowledge	First-gen grad student participants expressed a sense of not knowing to where or to whom they should go when they had questions, which was then compounded with a general lack of awareness of institutional processes. This resulted in first-gen grad students having to put in additional labor to learn how the institution works, on top of their already heavy educational loads.	"There's so much you don't know until you try to do it. Any amount of support and resources from someone who has, kind of knows the process or can navigate it and help you navigate it. Having that at all, or feeling like they have that at all, would be a game changer."
Neoliberalism	Neoliberal characteristics emerged in the focus groups, which contributed to first-gen grad student isolation, anxiety, and burnout. This was especially true for participants who were working full-time and going to school simultaneously, as well as for those who were	"So I think, yeah, definitely, not having financial resources has been an issue. And also like asking parents for assistance isn't an option most of the time. So it's been very, I think, isolating. That's been a big thing, especially the

	at the university on a stipend.	financial aspect and stress with it."
University supports	Few participants were able to identify specific university-based resources that aided them in graduate school. Participants did mention that they liked having free food at campus events, professional development opportunities, and free trainings, and access to university programs.	"They have like these Global 40 Leadership. On Friday they have fun and games in the Loop campus. So, even though I'm working, I make sure, like I go over there for some time, because they either play Uno or they are, you know, talking about life experiences, and the themes are also very much related to uplifting. So it really helps. And you get to meet like some people that you have seen again. So it's a good like social event."

Absence (of the Dissemination) of Knowledge. In general, many participants expressed that inherent to being first-generation is not having anyone to go to with questions, especially family. First-generation graduate students may not know how a process works or where to go for information, despite having gone through the undergraduate education system themselves. This is then exacerbated by poor communication from the university such as by not making students aware of available resources and services or systems and processes, poor advisor communication, or university website malfunctioning. For example, Participant 1 described how she was not aware that she had to apply for graduation until she heard from a peer, because neither her parents nor the university informed her. As a result of this lack of communication, combined with first-generation students not being aware of various institutional

processes, they are required to put in more labor to figure out what they do not know, which requires more time and energy. This was described by Participant 2:

> First-generation, I think first and foremost for me, anecdotally, is about, well, kind of, the emphasis is really on, like you're going to make a lot of mistakes because you don't have somebody scaffolding you and really helping you understand all these different systems. And so it's 1) exhausting, but it's 2) I find it to be super unfortunate, because I think a lot of people, including myself, can get really discouraged because of the fact that when the primary focus is supposed to be on education–that's what you're in that space for—you have so many other competing attenuations that are pulling at you to try and sort of destabilize that. And it just really makes it so much more difficult. And it almost puts the education as secondary because of the mistakes that you sometimes make in that process of just trying to figure it out. And those can have really long-term effects. And so I think that it's just kind of a minefield.

In summary, first-generation graduate students want to feel supported at the institutional level through enhanced communication to help them navigate what they do not know, as was described by Participant 3:

> I think it just goes back to the, there's, there's so much you don't know until you try to do it. Any amount of support and resources from someone who has, kind of knows the process or can navigate it and help you navigate it. Having that at all, or feeling like they have that at all, would be a game changer. It doesn't feel like you have any support until you're in a program. And even then it's localized down to your professor or your cohort or anyone you can get your hooks into who's anywhere along the same trail as you.

In summary, first-generation graduate student participants expressed a sense of not knowing to where or to whom they should go when they had questions, which was then compounded with a general lack of awareness of institutional processes (such as how to

apply for graduation). This resulted in first-generation graduate students having to put in additional labor to learn how the institution works, on top of their already heavy educational loads. Students felt that increased communication from the university can ease this burden.

Neoliberalism. Another institutional aspect that hinders first-generation graduate student well-being is neoliberal culture and its consequences. Participants described isolation, resource scarcity, competition among peers, and a high expectation of productivity within the university. In response to the focus group question about experiences of mutual support in graduate school, Participant 4 replied:

> PARTICIPANT 4: Can I say that I have none?
>
> INTERVIEWER: Yeah, absolutely.
>
> PARTICIPANT 4: People are very cut-throat, at least in our program. I haven't had—people are not very willing to like help each other.

Some participants were reluctant to seek out resources to enhance their well-being because of a belief in scarcity. For example, Participant 1 did not want to utilize services from the Center for Students with Disabilities. She said, “But as somebody who has chronic illness, and it's not chronic to the point that, like kind of like, you [another participant] were saying, I don't feel that this—I don't wanna take something from somebody who really needs it.”

At the center of neoliberalism is financial scarcity, which was described in great depth across all focus groups. Participants most notably wanted more financial security while in graduate school, particularly in the form of financial aid from the university, which would ultimately help alleviate anxiety related to finances, and burnout related to

needing to work excessively while in school. Financial challenges were described in relation to family income status, particularly by participants who grew up in low-income families. Because of their family backgrounds, they could not rely on family for financial assistance to get through school and cover living expenses. Participant 5 described the need for more financial resources from the university as it related to her experience as a low-income, first-generation graduate student:

> I think one of my friends, who I think they come from a background where their parents went to university, they had more resources and a lot of them didn't work full-time or even part-time while they were in grad school. But I have to work full-time to be able to pay for grad school and pay for my living expenses in Chicago. So that has caused a lot of strain and stress on just my everyday life. And I think that initially started in undergrad, because I did have to work nearly full time in undergrad as well with the full-time school schedule. And then I am experiencing the same in grad school. So I think, yeah, definitely, not having financial resources has been an issue. And also like asking parents for assistance isn't an option most of the time. So it's been very, I think, isolating. That's been a big thing, especially the financial aspect and stress with it.

As a result of these financial challenges, participants described experiencing major anxiety and burnout. They expressed fear of losing scholarships, graduating with insurmountable debt, having to drop out of the university because of costs, and having to push themselves through school at an unsustainable rate to graduate with less debt. An example of this captures the essence of fear described by several participants, shared by Participant 1:

> I just feel like I kind of always don't know if I'm doing anything right. Like this doesn’t mean anything, but I always feel like there's something I'm forgetting that's gonna come and jump out at me at the very end of the program. Be like,

> "Surprise, you're not graduating!" And for me, I'm fortunate that I'm an assistant, because it does mean that I'm here on scholarship, but at the same time it's almost an additional pressure of like if I mess anything up it becomes a financial burden. And I love writing. But it's definitely not the most profitable degree to get. So the concept of my negligence causing something that could cost me financially is very stressful.

In summary, neoliberal characteristics such as competition, scarcity of resources, independence, and a high expectation of productivity all emerged in the focus groups, which contributed to first-generation graduate student isolation, anxiety, and burnout. This was especially true for participants who were working full-time and going to school simultaneously, as well as for those who were at the university on a stipend.

University Supports. When participants were asked about their day-to-day well-being, and specifically prompted to think of university resources that assist with this, responses were limited. Mostly, participants reflected on sharing their own behaviors that help to manage well-being. However, some university resources that were discussed included free trainings and professional development resources, food provided at campus events, and specific university programs. One participant in particular (Participant 6) seemed to be more knowledgeable of these resources than most others. An example she brought up to her focus group included the Women's Center newsletter:

> PARTICIPANT 6: Oh, and one more thing. DePaul gives us this—there's a good email subscription where I think it's called women something. Okay. But basically you get emails every week.
>
> INTERVIEWER: The Women's Center?
>
> PARTICIPANT 6: I think so. And then you get like, on the bottom part, you get affirmations. You get some, some cool drawings, and I love it. I'm like "Whoa,

okay, I want to read what's today's affirmation." So I look forward to that. Sometimes they have poems, so it's good to read and just enjoy that time.

INTERVIEWER: Yeah, they're great. I love them.

PARTICIPANT 7: I need to subscribe.

Later on, in the conversation about supportive aspects of the university, Participant 6 started discussing a specific program on campus which hosts many events. Notably, Participant 6 is an international student at the university and this program was specifically advertised to international students. This program was commented on positively for its good advertising and fun events:

PARTICIPANT 6: Global DePaul has really good events.

PARTICIPANT 7: Yeah. But yeah, unfortunately, timings don't…. *laughs*

PARTICIPANT 6: They have like these Global 40 Leadership. On Friday they have fun and games in the Loop campus. So, even though I'm working, I make sure, like I go over there for some time, because they either play Uno or they are, you know, talking about life experiences, and the themes are also very much related to uplifting. So it really helps. And you get to meet like some people that you have seen again. So it's a good like social event.

PARTICIPANT 7: Right.

INTERVIEWER: How do you learn about those events?

PARTICIPANT 6: I think we keep getting bombarded with their emails.

PARTICIPANT 7: Yeah. And then they're all on Instagram, specifically.

INTERVIEWER: From a specific like department or?

PARTICIPANT 7: Global DePaul page.

PARTICIPANT 6: ISS is the main department.

PARTICIPANT 7: Yeah, the International Scholars—Student Services.

In summary, few participants were able to identify specific university-based resources that aided them in graduate school. Participants did mention that they liked having free food at campus events, professional development opportunities, and free trainings (such as the Mental Health First Aid certificate), and access to university programs (such as Global DePaul).

Research Question IV

Regarding the question about first-generation graduate students' experience of mutual support, again the responses were mixed. Some students expressed feeling a sense of isolation and others had more positive examples of mutual support. The difference in experiences was driven mostly by the participant's particular program. Overall, the two themes that emerged in this section were isolation and mutual support. See Table 9 for a summary of the findings.

Table 9

Summary Table for RQ IV

Theme	Description	Example Quote
Isolation	Isolation often derived from neoliberal characteristics. Participant isolation derived primarily from program structure. Finally, isolation also emerged from personal barriers like being shy, and also from simply not having the time to meet up with people because of the demands already on them	"The [redacted] program is, I haven't been in it very long, but in my experience is pretty isolated from other grad students. We don't really come into contact with each other. Occasionally come into contact with other liberal arts grad students. Sometimes writing students and things like that. We don't

	deriving from work, school, and home responsibilities.	really have a community, like other grad students, because all our projects are so specialized."
Mutual support	Mutual support primarily occurs in one's program, at the peer-to-peer or student-to-faculty levels. It was easier for first-gen grad students to ask for help from peers when they had a bigger program cohort and took several classes together. Importantly, these students received and provided support to their peers regardless of personal backgrounds.	"I think, with like teachers and stuff, so far I feel like every single one has been really helpful in reaching out, too. Like, especially if you're like struggling, they'll—they're like there to help you, for sure. We have—like the girls that I'm with right now, two of them had a really hard time the first few exams so we spoke with teachers, and then we just kind of made a whole study thing. And we took our final today, they passed with 97, both of them, which I was like, 'Wow!'"

Isolation. When asked about mutual support on campus, participants had a variety of responses. Some expressed, as previously mentioned, not having support due to competition in their programs. Similarly, many participants expressed feeling a sense of isolation in graduate school. This derived from program structure, personal barriers such as social anxiety, and a lack of time for socialization. One example of program structure as a barrier to mutual support was described by one participant then corroborated by another in the same program:

> PARTICIPANT 8: I, the [redacted] program is, I haven't been in it very long, but in my experience is pretty isolated from other grad students. We don't really come into contact with each other. Occasionally come into contact with other liberal arts grad students. Sometimes writing students and things like that. We don't really have a community, like other grad students, because all our projects are so

> specialized. Okay, so actually, I didn't know, until now, I only actually met one other grad student.
>
> PARTICIPANT 9 [in the same program]: Same.

Many graduate students described their experience as commuter students, and some as having moved to the area for graduate school. Both added to a sense of isolation. Participant 10 mentioned the reality of isolation when moving for graduate school: "But, I think, especially if we're coming from different states like, that's something also that could be focused on is like, 'Oh, they're coming to this new place, potentially, with nobody?'"

In summary, it was clear that when talking about questions that related to mutual support, it was necessary to talk about isolation, which often derived from previously mentioned neoliberal characteristics. Participant isolation derived primarily from program structure (e.g., competition, specialization). Finally, isolation also emerged from personal barriers like being shy, and also from simply not having the time to meet up with people because of the demands already on them deriving from work, school, and home responsibilities.

Mutual support. When asked about mutual support, participants offered rich examples of peers helping peers. Additionally, several participants described the efforts of faculty and staff to support students. Mutual support included group text messages with cohort members, socializing with friends made in programs, and asking each other questions about the program or graduate school generally. Participants supported each other despite their various backgrounds and identities, coming together primarily to help fellow graduate students in their programs. Participant 11 described an experience of

mutual support in which students and faculty came together to support those who were struggling:

> I think, with like teachers and stuff, so far I feel like every single one has been really helpful in reaching out, too. Like, especially if you're like struggling, they'll—they're like there to help you, for sure. We have—like the girls that I'm with right now, two of them had a really hard time the first few exams so we spoke with teachers, and then we just kind of made a whole study thing. And we took our final today, they passed with 97, both of them, which I was like, "Wow!" So like, I think, like this, like for friends, and like the teachers working together, it's definitely there. And it's super, super, helpful 'cause you're not scared. Like, I know, for me, I was always kind of scared when you feel like, "I'm kind of struggling, can you help me?" 'Cause I was embarrassed that the other person wouldn't be struggling. But if you speak up, it's like my mom always says, "closed mouths don't get fed." So like, you know you have to speak up and with this program, it's really easy to speak up because everybody's so welcoming to like, give you that support.

Additionally, the focus group itself served as space for first-generation graduate students to support each other in real time. This occurred through resource sharing, providing emotional support when participants shared difficult anecdotes, and participants expressing an interest in helping this research project along. One example of this kind of exchange is as follows:

> PARTICIPANT 6: One thing I really like about DePaul is that they have given us LinkedIn Learning. I would like that if we have Udemy as well, because I think Udemy is a little more advanced now. And oh, I forgot to mention this. I really love that DePaul has—there's so many groups. For example, I was recently learning about 3D Printing and that's a completely free access for us. So I learned about 3D printing and how to like create small buttons, create some kind of prototype, which, if you go outside [the university], it would have been charging

like a bomb. So you already know of some of the resources that, of course, we should be getting access to. But these are also like critical ones that help us to upscale ourselves, which they are providing but I don't think they're marketing as much.

PARTICIPANT 12: Yeah, I was not aware about that.

PARTICIPANT 7: I think, being in college a bit, I don't even know half the things that some of you guys are talking about ‘cause we are so alien to the—and we don't have LinkedIn Learning, or any of those.

PARTICIPANT 6: Oh, all the DePaul students have it.

INTERVIEWER: I didn’t know we had that!

PARTICIPANT 12: Can you just log in for LinkedIn, using the DePaul email address?

PARTICIPANT 7: Oh, ok, mine is personal so, probably I have to…

INTERVIEWER: Never even knew of LinkedIn Learning before, so I learned something new!

PARTICIPANT 13: I have, I’ve just not been using it.

PARTICIPANT 7: No, I’ve done like a course before but, I didn’t know DePaul gives LinkedIn Learning, so.

Overall, participants expressed a desire to help others. This was described in examples of serving as mentors, sharing resources with people throughout the university, and a willingness to answer peers’ questions. A participant described her experience in taking a free training at the university out of a desire to help others, despite having to prepare for midterms:

PARTICIPANT 6: I recently got certified in mental health—mental health first aid certification, because I realized that if I am feeling this, I'm sure that people around me are feeling [similarly], and I wanted to learn how to better support them, in meaningful ways. And if there's somebody having a mental breakdown, then how do I help that?

CROSSTALK: Oh, wow. Yeah.

PARTICIPANT 7: I should look it up!

PARTICIPANT 6: So then, I really thought that, okay, this is something that must be done. And it was, I think, last weekend, which was still close to like midterms and all of those things. So that was another thing.

In summary, it was found that mutual support primarily occurs in one's program, at the peer-to-peer or student-to-faculty levels. For example, it was easier for first-generation graduate students to ask for help from peers when they had a bigger program cohort and took several classes together. Importantly, these students received and provided support to their peers regardless of personal backgrounds, showcasing how students come together to work towards the shared goal of student success.

Integration

Because an explanatory-sequential mixed method approach was used, the quantitative data results have been connected to the qualitative findings in order to offer a deeper interpretation of the quantitative results and answer the overall research questions (Creswell & Plano Clark, 2017), which were: how can first-generation graduate students rely on the power of relationships within the university community to be well and what institutional barriers exist to achieving well-being, with the explicit intention of being able to offer recommendations to the university based on the findings. Overall, the

qualitative data results further explained the quantitative findings regarding first-generation graduate student resource need. Additionally, the qualitative results offered a further understanding of how first-generation graduate students can potentially meet their needs through increasing relationships within the university community. Overall, the qualitative results offered a clearer picture of why first-generation graduate students have unmet needs and how the university can work to address those needs to improve well-being.

To understand how the quantitative survey and the qualitative focus group findings answer the overarching aim of how first-generation graduate students can rely on university relationships to achieve well-being and what institutional barriers exist to well-being, the results were integrated. More specifically, three themes were developed to comprehensively view how the quantitative and qualitative findings relate to each other to answer the study's aim.

Overall, to understand the quantitative findings from the psychological sense of school membership scale and number of supportive people question, these were further explored and contextualized by the qualitative themes of isolation, neoliberalism, and their key components. This theme is described as degree of campus community and demonstrates that the experiences of first-generation graduate students vary depending on factors such as program and income status. Additionally, it highlights the importance of built-in relationships to foster mutual support.

Furthermore, another theme was developed to understand confidence in ability, which is essential to empowerment and therefore relates to the qualitative theme of the absence of (the dissemination of) knowledge and its negative consequences on mental

health. This theme is described as (un)certainty. Although no significant differences were found in confidence in ability between first- and continuing-generation graduate students, lower confidence was found for women and Pell Grant recipients. This lower confidence in reflected in the qualitative findings of a general awareness gap regarding university procedures and available resources, which again contributed to negative emotional outcomes for first-generation graduate students.

Finally, a third theme was created to summarize first-generation graduate student need. This theme, labeled resource need and awareness, summarizes the quantitative findings regarding need, for first-generation graduate students and their intersectional identities. The qualitative findings help elucidate why they are expressing these needs, which was also related to an unawareness of what was available, or related to themes under neoliberalism (e.g., financial scarcity).

In summary, this mixed method integration helps contextualize both the quantitative and qualitative findings to create a more overarching answer to the study's aim. This integration piece highlights that relationships, when fostered by the university, contribute to first-generation graduate student well-being. Conversely, these findings also demonstrate how university barriers can negatively impact well-being and create need.

Discussion

This study was proposed to gain more knowledge about the experiences of first-generation graduate students and their needs to succeed in graduate school. Specifically, the aim of this research was to answer how first-generation graduate students can rely on the power of relationships within the university community to be well and what institutional barriers exist to achieving well-being. Through the use of an explanatory-

sequential mixed method approach, informed by an intersectional lens, this study explored, quantitatively, whether there are differences in tangible and socioemotional needs between first-generation graduate students and their continuing-generation peers. Qualitatively, a more in-depth exploration of mutual support, perceived institutional barriers, and relational empowerment was done. Generally, these findings help identify the specific areas of need for first-generation graduate students that have emerged from various systems of oppression and how people at multiple levels within the university can eliminate barriers for these students through fostering relationships. The mixed method integration of data is presented in-text and in Table 10.

Table 10

Mixed Method Integration

Theme	Phase I: Survey	Phase II: Focus Groups	Literature
Degree of campus community	No differences between first-generation and continuing-generation students for: • Sense of belonging • Number of supportive people	Factors that contributed to isolation: • Neoliberalism (small or competitive program) • Time (school-work-personal life balance) • Distance (living far from campus)	Participants' sense of connection varied as a result of income status, need to work, and one's program (DeRuy, 2015; Garriott, 2020; Posselt, 2021).
	Sense of belonging significantly lower for people who received Pell Grants as undergraduates	Factors that contributed to mutual support: • Supportive faculty and peers in program • Focus group: opportunity to share on- and off-campus resources	
(Un)certainty	No significant differences in confidence in ability between first-generation and continuing-generation graduate students	First-generation graduate students reported an awareness gap regarding university procedures and available resources, which led to negative emotional experiences	Negative experiences in graduate school that lead to negative emotional experiences can decrease self-efficacy (Gin et al., 2021) which can

			prevent the empowerment process (Back & Keys, 2020).
	Lower confidence in ability reported for: • Women • Pell Grant recipients	Participants expressed feelings of: • exhaustion and confusion with having to figure out the system of grad school generally • fear of doing something wrong that could have negative consequences on grad school completion, especially as it related to maintaining needed funding	
Resource need and awareness	Higher identity-based needs for first-gen. students compared to continuing-gen.	Participants expressed a general unawareness of available resources and services at the university or felt that they couldn't use them (because of scarcity or they are marketed to undergraduate students)	First-generation graduate students have unmet needs, and those needs differed as a result of racial and ethnic, gender, and income status identities (Nguyen & Nguyen, 2018; Tate et al., 2015; Wilcox et al., 2021).

Higher basic needs reported for first-gen. students who are also: • BIPOC [a] students • BIPOC, Pell recipients • BIPOC, Pell recipients, who identify as men	Few students were able to identify university resources and services. Identified resources and services included: • free trainings • campus events • departmental newsletters
Higher identity-based needs for first-gen. students who are also: • BIPOC • BIPOC and Pell recipients	First-generation graduate students reported a significant need for financial assistance from the university
Higher university-based needs for first-generation BIPOC students	

[a] BIPOC = Black, Indigenous, and People of Color

Degree of Campus Community

Regarding mutual support experienced among first-generation graduate students, findings were mixed. On the one hand, quantitatively, there were no significant differences between first-generation and continuing-generation graduate students in terms of perceived sense of school membership (belonging) or the number of supportive people reported. This finding could indicate that graduate students, overall, have a different experience of belonging and support as compared to undergraduates, where the differences in belonging and support are starker (i.e., a more established phenomenon) between first-generation and continuing-generation students (e.g., Stebleton et al., 2014; Suwinyattichaiporn & Johnson, 2022). However, among all graduate student survey participants, it was found that psychological sense of school membership differed between Pell Grant recipients and those students who did not receive the Pell Grant as undergraduates. This could be indicative of how financial stressors have the potential to negatively influence academic experiences (Charles et al., 2021; Wilcox et al., 2021) or the reality that many graduate students, regardless of generation status, need to work while in graduate school (DeRuy, 2015), and therefore may have less time to spend on campus.

Furthermore, there were no significant differences between first-generation and continuing-generation students in reported number of supportive people at the university. This may be explained through the qualitative findings. Focus group participants reported that socialization and peer support occurred primarily through one's program. Therefore, one can deduce that social support varies among different programs on campus, not necessarily as a result of individual differences. Overall, graduate students primarily

experience peer support within programs, which indicates a need for more university-wide initiatives for graduate students in programs where peer support is not already occurring. In particular, it was expressed that programs in which peer support is lacking are more individual-based and competitive than supportive programs, which is indicative of the neoliberal culture inherent to graduate school (Brown et al., 2020; Garriott, 2020; Posselt, 2021). These participants were more likely to express a sense of isolation and could not provide examples of mutual support. They also requested more opportunities to form relationships with graduate students outside of their programs through on-campus events.

Qualitatively, it was found that mutual support serves as a way to overcome challenges and gain knowledge about the institution. As was demonstrated by focus group participants, relationships are crucial to gaining knowledge about graduate school processes, available resources, overcoming program-specific challenges, and processing everyday stress. However, the mutual support that primarily exists in programs among students and faculty does not go far enough to address the university-level challenges experienced and is, therefore, only a partial demonstration of relational empowerment. As was expressed in the focus groups, there were gaps in knowledge that transcended program-specific capabilities (i.e., faculty and peers may not have university-level knowledge beyond their specific program). These findings highlight a need for university-level dissemination of knowledge and clear communication of processes and available resources for students. Through fostering relationships between administrators, staff, faculty, and graduate students, communication or awareness gaps can be naturally filled, as has been demonstrated in other settings (e.g., Sievwright et al., 2023; Watts,

2023), which ultimately leads to an empowering setting (Christens, 2011). Consequently, through these relationships, improvements to the university can continually be made with the voices of first-generation graduate students heard directly by those holding the most power.

Due to its characteristics of collaborative competence, network mobilization, and facilitating others' empowerment to create sustainable change (Christens, 2011), relational empowerment should be the ultimate goal for the university. This would occur through relationship building among stakeholders within and across each ecological level, from one specific classroom to the president of the university, and beyond, to the advocacy of policy changes regarding, for example, the exorbitant cost of graduate school. As was demonstrated in the focus groups, first-generation graduate students want to continue to foster relationships and do not feel limited to building relationships only with people within a specific identity group, such as fellow first-generation graduate students (Brown et al., 2020). Currently, relationships are most prominent between graduate students in individual programs; relationships between those with various levels of power (e.g., students and administrators) are not as apparent.

However, first-generation graduate student relationships provide a template for the power of these relationships. These relationships, described in and demonstrated by the focus group participants, provide an example of the reciprocal solidarity practiced among graduate students, which works to transcend the neoliberal values of competition and individualization. Reciprocal solidarity is essential because it acknowledges that we all hold power and thus our relationships need to be multidirectional in that we provide support in ways that work to overcome our own complicity in the oppression of others

(Atshan & Moore, 2014). Instead of competing against each other for limited internship spots, for example, the nursing students in the focus groups exemplified how providing support to their peers was for the benefit of all, as it created a more supportive learning environment. These relationships are used to help each other persevere through and succeed in graduate school (Atshan & Moore, 2014; Garriott, 2020). University administration can learn from the example of first-generation graduate students and embrace a relational empowerment approach to radically change the experiences of all graduate students.

(Un)certainty

Quantitatively, it was found that there were no significant differences in confidence in ability between first-generation and continuing-generation graduate students. This could indicate that, overall, graduate students have a certain level of confidence as a result of being in a graduate program to begin with. After all, to be accepted into a graduate program, one must have a certain degree of skill. However, it was found that participants who identified as being women or Pell Grant recipients in their undergraduate career had lower levels of confidence. Women, generally, are more likely to report lower confidence in a variety of domains (e.g., Rivers et al., 2021; Ross et al., 2012). As for Pell Grant recipients, it has been shown that people of lower socioeconomic status may report lower confidence in ability in different settings as well (e.g., Han et al., 2015; Heckman & Grable, 2011).

Qualitatively, for first-generation graduate students, this lack of confidence is reflected in a feeling of not knowing or uncertainty. More specifically, focus group participants talked about experiencing anxiety related to not knowing if they were doing

something wrong that could potentially impact their ability to continue in graduate school. For example, one participant stated that she was anxious about whether she understood all the requirements of maintaining her graduate assistantship position. She was worried that she would unknowingly do something that could cause her to lose her funding, which would jeopardize her ability to stay in graduate school. As a result of the many uncertainties that exist within universities, first-generation graduate students may have negative experiences that shake their confidence. These systems, which were specifically designed to favor those with privileged backgrounds, are purposely confusing and difficult to navigate for those who are not familiar with them (e.g., first-generation students). These students are made to feel insecure because of a history of elitism, gatekeeping, and oppression at universities and in larger society. Until this changes, first-generation graduate students will continue to have negative experiences that will perpetuate the ever-growing gap in power between those the system was designed for and those it was not (Garriott, 2020). As the literature shows, negative experiences in graduate school that lead to negative emotional experiences (e.g., lacking financial security) can decrease self-efficacy (Gin et al., 2021) which can prevent the empowerment process (Back & Keys, 2020).

Additionally, focus group participants demonstrated an overall lack of awareness of available resources at the university. Traditionally, resource need has been framed through a deficit lens, especially in the first-generation student literature (Garriott, 2020). One could imagine that students may feel less confident in their own ability if they admitted to having needs. However, as was found in the focus groups, participants expressed an urgent desire for more support from the university in order to build

confidence, such as through mentorship programs, improved counseling services, and online "how-to" guides. Relatedly, participants also expressed an uncertainty regarding whether they could use available resources because they either believed that the resources were for undergraduate students only or that there were not "enough" resources. Ultimately, the reassurance of having one's needs met would alleviate stress and increase graduate student empowerment (Back & Keys, 2020; Garriott, 2020).

Resource Need and Awareness

Overall, the study's findings demonstrate that first-generation graduate students, in the context of one specific university, have unmet needs. These needs derive from a long history of oppression that has been systematically designed to hinder on the basis of one's gender or sexual identity, racial or ethnic status, and economic standing. As a result, graduate students experience challenges. More specifically, results indicated that first-generation graduate students do desire additional support from the university in the form of tangible resources and services. First-generation graduate participants reported a higher need for identity-based resources compared to continuing-generation participants. Examples of this type of resource need are identity-based support groups, first-generation student support services, and diversity, equity, and inclusion (DEI) efforts. Although it is not quite clear which resource within the identity-based resource need scale drove the difference, it indicates that first-generation graduate students have needs related to various identities. For example, these students may have reported a higher need for first-generation student support services, DEI efforts, *and* disability services (all identity-based needs). This finding suggests the need to be mindful of the intersectional nature of first-generation graduate students. This means paying attention to the multiple

oppressions these students may face, which has been previously established in the literature on this population (Nguyen & Nguyen, 2018; Tate et al., 2015; Wilcox et al., 2021).

Among first-generation graduate students specifically, participants' needs also differed among racial, gender, and income status demographics. Racially marginalized participants, in particular, reported higher basic resource, identity-based resource, and university-based resource needs compared to white participants, regardless of generation status. Given the systems of power and oppression in society designed to specifically hinder BIPOC, these findings are unsurprising and have been established in previous literature. First-generation BIPOC students, in particular, are underrepresented in doctoral education and may face additional barriers as compared to their white or continuing-generation peers (Gardner, 2013; RTI International, 2019). Additionally, results indicated that BIPOC students who come from low-income backgrounds are especially in need of basic need resources (e.g., food and housing assistance) and identity-based resources (e.g., multi-cultural student support services, and DEI efforts).

When considering the needs of first-generation graduate students, one must consider how people within this group may also face oppression because of racism, and/or classism (or other oppressed identities). First-generation students often have multiple identities that have been historically marginalized and it is therefore crucial to address the overarching systems of white supremacy, patriarchy, and capitalism that perpetuate these systems of power in our everyday institutions. Viewing first-generation graduate students as a monolithic group and ignoring the various oppressions and privileges within the group risks perpetuating inequality (Crenshaw, 1991; Nguyen &

Nguyen, 2018; Wilcox, 2021). Therefore, it is necessary for universities to consider the multiple identities of first-generation graduate students when implementing interventions, as is explained by intersectional theory (Crenshaw, 1991).

In addition to the quantitative findings regarding resource need, first-generation graduate participants in the focus groups also reported a need for more university resources and services, especially in the form of financial assistance. They provided several recommendations for services they would like to see introduced or bolstered at the university. These recommendations were specific to first-generation graduate students and also general for graduate students as a whole. Some examples of these included developing a mentorship program for first-generation graduate students similar to those that exist for undergraduate first-generation students, improvement of the counseling center, and scholarships specifically for first-generation graduate students. These are all needs that have been identified as important to well-being in the graduate student literature (Allen et al., 2020; Rigg et al., 2013; Wilcox et al., 2021). In particular, first-generation graduate students identified a lack of resources specifically for first-generation graduate students. Because many of these students received services as a result of being a first-generation student as undergraduates, they often reflected on how helpful these services could be for them as graduate students but felt that these services were no longer meant for them. This gap is paralleled in the lack of literature on first-generation graduate students, as compared to undergraduates.

Overall, participants did not readily report positive resources and services at the university. They indicated that people within the university are not advertising the resources that may already exist very well and, therefore, students are oftentimes not

aware of them. In the focus group specifically, there was an instance of Participant 6 discussing one resource offered by the university: LinkedIn Learning. Participants (and the interviewer) responded to her saying that they have not heard about this resource. As indicated in the literature, first-generation graduate students may not know where to go for information or may not be aware that such resources or services exist in the first place (Gardner & Holley, 2011; Lunceford, 2011). This lack of communication by the university also resulted in a lack of graduate student awareness of procedures and other "insider" knowledge of how the university functions, such as not knowing how to apply for graduation or use certain university-affiliated websites (e.g., D2L and Campus Connect). This specific phenomenon is well-reported in the literature regarding the challenges of being a first-generation student (Gardner & Holley, 2011; Miner, 2021) and should therefore be a central focus of university administration. As Participant 6 demonstrated with the Mental Health First Aid certification training, having resources available at the university will not only help oneself, but can facilitate the empowerment of students to help other graduate students who may be struggling, thereby increasing mutual support.

Limitations

The findings of this research project are limited by several factors. Quantitatively, the scales used in this study were developed outside of a graduate student context. This is largely because there is a lack of research on first-generation graduate students specifically. Future work needs to occur to adapt or develop scales for this specific population to identify the nuances of their specific experiences. For example, both the PSSM and the Social Support Network Questionnaire have been widely used in

undergraduate populations to demonstrate differences between first-generation and continuing-generation students (Goodenow, 1993; Hagler et al., 2021; Sánchez et al., 2008). However, there were no significant differences found in this study between the two groups. Qualitatively, the focus group protocol questions yielded a disproportionate volume of responses related to there being a lack of university resources and could have been worded differently to allow participants a more blatant opportunity to discuss the positive resources and services offered by the university that contribute to mutual support.

Both quantitatively and qualitatively, small sample sizes served as another limitation. This is especially the case with underrepresented student populations. For example, gender non-conforming survey participants could not be included in the analyses due to underrepresentation. I needed a more intentional method of recruiting gender non-conforming and other underrepresented participant groups, such as through social media use and referral recruitment (Uybico et al., 2007). Because of the low sample size of participants in various demographic groups, there were limitations to the interpretation of certain analyses. More specifically, understanding the intersectional experiences of first-generation graduate students was not fully realized because of the wide range of identities across sub-groups and the small samples within those sub-groups (e.g., there were five BIPOC men who reported that they did not receive the Pell Grant).

Intersectionality has traditionally been applied to qualitative research only and developing quantitative methods to analyze intersectionality quantitatively have proved challenging (Schudde, 2018). One proposed method includes modified regression, which allows for a multiplicative effect of covariates on the dependent variable that goes

beyond a main-effects-only model of regression but also requires sufficient sampling of underrepresented participants (Schudde, 2018). A second approach includes evaluating propensity scores, which examines variation of composite background characteristics. This approach is more flexible than a modified regression because it allows for multiple intersecting identities to be captured in one interaction term, but this also can lead to difficulties in interpretation (Schudde, 2018).

Overall, first-generation students tend to have additional marginalized identities in that they tend to also be BIPOC, women, and low-income (Gardner, 2013; Nguyen & Nguyen, 2018). This adds to the difficulty of understanding the nuances among first-generation graduate students with various privileges. Among the first-generation only sample, more privileged identities (white men) created small sub-group sizes, which may have led to the corrected models being insignificant. Despite these limitations, this study provides a starting point for more in-depth research into first-generation graduate students' intersectional experiences and the use of relational empowerment in university settings.

Another limitation of this study is that there was not a specific focus on the impacts the COVID-19 pandemic may have had on first-generation graduate student experience. The idea for this research study emerged in the spring of 2021, with data collection beginning in the spring of 2022 and concluding in the spring of 2023. Although this was not during the most severe point of the pandemic, its effects could still be felt by students. For example, focus group participants talked in great detail about the counseling center on campus, which had lost much of its staff during the pandemic and was working in collaboration with an online service that students felt was inadequate. Furthermore, many

of these students may have started graduate school during the pandemic, which limited their ability to interact with others on campus, as classes, meetings, and events were held online. This inherently limited the extent to which mutual support could have occurred, which was indeed described by focus group participants. These experiences may have been at the forefront of participants' minds while completing the survey or during the focus groups, which may mean that feelings around isolation and mutual support on campus could have improved since then.

Future Directions

It is evident that more research needs to be conducted in collaboration with first-generation graduate students to understand this segment of their academic careers. Graduate school is a pivotal moment, as it establishes the foundation for one's career. Not completing graduate school because of burnout, grappling with insurmountable debt, or graduating without a sense of what is next can be the reality of many first-generation graduate students, which can all prevent progress towards thriving in life, versus simply surviving (Elliott & Lewis, 2015; Kovach Clark et al., 2009; Garriott, 2020; Wilcox et al., 2021). With this being said, more research is needed generally to understand how one's experience in graduate school can be improved to enhance the long-term outcomes of first-generation students after completing a graduate-level degree. Specifically, more research informed by relational empowerment will need to be conducted to better understand how first-generation graduate students can practice concepts such as network mobilization to increase their reliance on each other and the people within their universities to not only overcome challenges, but also take action to create lasting institutional change that promotes well-being (Christens, 2011).

Other areas of the first-generation graduate student experience not covered in this study that can be explored in future work includes family dynamics, individual characteristics, and societal factors outside of the university that affect first-generation graduate students (such as financial aid policies). In terms of family, for first-generation graduate students, this was a central topic discussed in the focus groups. After all, being first-generation is determined by one's family. Participants discussed family differently. Most notably, some participants relied on family for emotional support and encouragement while in school, while others had blocked all contact with family because of their negative attitudes towards higher education. Understanding how family support can be harnessed and how support for students who do not have family support can be augmented can be the work of future studies. Additionally, individual characteristics, such as being intentional about one's time and expressing gratitude, were central to understanding first-generation graduate student perseverance but were outside the scope of the current study's research questions. These can be explored in future studies to understand how positive individual characteristics can be developed (potentially through relational empowerment strategies) while in graduate school to help first-generation graduate students persevere through challenges.

Additionally, future research into successful intervention programming for first-generation graduate students should be done. It has been shown that programs for first-generation students (e.g., McNair Scholars) have been successful in improving first-generation student outcomes, especially for students who are part of multiple underrepresented groups (e.g., Clayton et al., 2023). Research into how these programs can be adapted to improve the experiences and outcomes of graduate students should be

conducted. Although this poses challenges because of the vast differences in the experiences of graduate students (e.g., master's versus doctoral students, students who receive full aid and students who pay fully out-of-pocket), this signals the importance of first-generation student input. As was found in this study, students want to be heard and to help, and they have many suggestions to improve graduate school for everyone. Future research can be done in collaboration with these students to find the best solutions.

Implications

Relationships, no matter how small, can have positive impacts on those in our communities which can make big differences in everyday well-being. Although the larger goal of universities should be to turn away from the destructive, neoliberal business model, small changes can be made today to get one step closer to relational empowerment. For example, one larger goal of universities should be to provide more financial support to students, especially first-generation, low-income students in master's programs. This can be done through advocating for policy changes at the national level to expand the Pell Grant program to include graduate students not on stipends. However, one small change the university can implement immediately is offering scholarships for first-generation graduate students. These small changes are necessary to relieve some everyday stress experiences by students, but it is crucial to recognize that universities need to be a part of advocating for systemic change. Otherwise, these small changes will only be bandages on an ever-increasing problem. See Table 11 for recommendations first-generation graduate students developed for the university.

Additionally, while these changes are taking place, university administrators need to be including student perspectives, and therefore compensating them for the time they

spend working to improve conditions for their community members. As was mentioned early, first-generation graduate students want to be a part of the process of improving the university (and, in fact, in order for sustainable and well-received changes to be made, student voices must be heard), and they need to be fairly compensated for the work that they do, because too much of their work is already undervalued. In this process, universities can gather a diverse group of first-generation graduate students to help ensure that initiatives are not too focused on a single identity. As was found in this research project, first-generation graduate students have diverse backgrounds, and with those backgrounds comes diverse histories of oppression and gatekeeping. To fully address these disparities, university administrators need to be mindful of the unique ways in which different groups of students have been denied opportunity in institutions of higher education and include these students in the process of change. This happens through building trusting and empowering relationships with students that are receptive to critical feedback.

Table 11

Recommendations for the university

Tangible support	Socioemotional support
Financial aid (e.g., scholarships, Pell Grant)	Peer mentoring
First-gen program expansion to include graduate students (e.g., McNair, TRiO)	Professional and academic mentoring for first-gen grad students
Improved Counseling Center services	Socialization opportunities
Reduced rate at university gym	Peer support groups

Guides on how to navigate university processes and systems (e.g., graduation, D2L, financial aid)	Campus events (e.g., more accommodating times, better food, social and professional events specifically for grad students)

Conclusion

This research study highlights the work that still needs to be done to increase the well-being of first-generation graduate students. Because of structural inequality emerging from a history of racial, gendered, and economic oppression, and not because of individual deficits, these students have tangible and socioemotional needs that the university can work in collaboration with students to provide. Importantly, graduate students have assets, and they want to be more connected to people within the university in order to be a part of that process of addressing systemic inequalities derived from systems of oppression to get needs met. Overall, this study demonstrates how relationships, between those with differing identities and power, can be used to transmit institutional knowledge and provide support through challenges, which ultimately prevents negative emotional states caused by uncertainty and isolation. Through building relationships and therefore listening to first-generation graduate student voices, universities can become empowering places where students' time and effort is spent on learning in their desired field, and not on navigating the system of graduate school. As a result, first-generation graduate students can achieve well-being during and well after graduation.

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Appendix A: Psychological Sense of School Membership

Instructions: Please rate the extent to which you agree with each of the following statements.

I feel like I am a real part of DePaul University.
- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

People here notice when I am good at something.
- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

*It is hard for people like me to be accepted here.
- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

Other students in this school take my opinion seriously.
- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

Most professors in my program are interested in my success.
- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally agree

*Sometimes I feel as if I don't belong here.
- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

There's at least one professor, faculty, or staff member at DePaul University that I can talk to if I have a problem.
- Totally agree
- Agree
- Neither agree nor disagree

- Disagree
- Totally disagree

People at this school are friendly to me.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

*Professors here are not interested in people like me.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

I am included in a lot of activities in my graduate school program.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

I am treated with as much respect as other students.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

*I feel very different from most other students here.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

I can really be myself in my program.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

The professors here respect me.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

**Other students here if you are paying attention select agree.

- Totally agree

- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

People here know that I am capable of doing my work.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

*I wish I were in a different school.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

I feel proud to belong to this school.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

Other students here like me the way I am.

- Totally agree
- Agree
- Neither agree nor disagree
- Disagree
- Totally disagree

*reverse coded items
**attention check item

Appendix B: Confidence in Ability

Instructions: How confident are you in your ability to successfully complete the following tasks.

Contributing to a research paper for publication.
- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Completing program milestones on time.
- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Doing well in your courses.
- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Managing your time effectively.
- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Keeping up to date with your academic work and responsibilities.
- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Participating in academic discussions (e.g., in your classes, research labs, at conferences)
- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident

- Totally NOT confident

Joining a student organization.

- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

**Talking with new friends if you are paying attention select not confident.

- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Making an appointment with your advisor/mentor when you want one.

- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Asking your advisor/mentor questions.

- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Talking to your professors outside of class

- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Talking with academic and support staff.

- Totally confident
- Confident
- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

Making new friends in graduate school.

- Totally confident
- Confident

- Somewhat confident
- Somewhat NOT confident
- Not confident
- Totally NOT confident

**attention check item

Appendix C: Social Support Network Questionnaire

Instructions: Is there anyone at DePaul University who has at least two years more academic experience than you whom you go to for support and guidance? This person is not a parent or the person who raised you, a relative, or a boy/girlfriend/partner **and** must be a part of the DePaul campus community. This person is someone who: a) you can count on to be there for you, b) who believes in you and cares deeply about you, c) who inspires you to do your best, and d) who has really influenced what you do and the choices you make.

Do you have a person like this at DePaul?

- Yes
- Not Sure
- No

How many people like this (e.g., supportive) do you have at DePaul University?

- One
- Two
- Three
- Four
- Five or more

Think about the <u>most important/supportive persons</u> at DePaul and answer the following questions about them.

What is this person's PRIMARY role at DePaul?

- Faculty
- Assigned Academic Advisor
- Advanced graduate student (at least one year advanced)
- DePaul staff member (e.g., program coordinator, Student Support Services staff, etc.)
- Not listed:

Since you met this person, on average, how often do you talk to or see this person (e..g, through a Zoom meeting, email updates, in their office, etc.)?

- Daily
- Weekly
- Every other week
- Monthly
- Once a quarter
- Once an academic year
- Not listed:

If you wanted to talk to someone about something personal or private, would you talk with this person? For instance, if you had something on your mind that was worrying you or making you feel down?

- Yes
- Not Sure
- No

How did you feel about the way things went the times you talked with this person about personal concerns?

- Very good
- Good
- Neutral
- Bad
- Very bad
- Never talked with this person about personal concerns

Would you go to this person if you needed advice or information—for example, if you didn't know where to get something or how to do something you needed to do?

- Yes
- Not sure
- No

How did you feel about the advice or information you received?

- Very good
- Good
- Neutral
- Bad
- Very bad
- Never talked with this person about personal concerns

**How did you feel about if you are paying attention select good.

- Very good
- Good
- Neutral
- Bad
- Very bad
- Never talked with this person about personal concerns

Can you expect this person to let you know that they like your ideas or the things that you do?

- Yes
- Not sure
- No

How did you feel about the way things went the times this person told you that he/she liked your ideas or something that you did?

- Very good
- Good
- Neutral
- Bad
- Very bad
- This person never told you that they liked your ideas or something you did

**attention check item

Appendix D: Resource Need

Instructions: Which type of resources do you personally feel DePaul University needs to offer in order to help YOU succeed as a graduate student?

Academic Services
- No need
- Little need
- Moderate need
- High need

Career Development Services
- No need
- Little need
- Moderate need
- High need

Childcare and Family Assistance
- No need
- Little need
- Moderate need
- High need

Counseling Services
- No need
- Little need
- Moderate need
- High need

Diversity, Equity, and Inclusion Efforts
- No need
- Little need
- Moderate need
- High need

Disability Services
- No need
- Little need
- Moderate need
- High need

Financial Assistance
- No need
- Little need
- Moderate need
- High need

First-Generation Student Support Services
- No need
- Little need
- Moderate need
- High need

Food Assistance

- No need
- Little need
- Moderate need
- High need

Housing Assistance

- No need
- Little need
- Moderate need
- High need

Health Services/Health Insurance Availability

- No need
- Little need
- Moderate need
- High need

“How-to” Online Guides (e.g., presenting at a conference, submitting a paper to a journal, navigating advisor relationship, navigating graduate school)

- No need
- Little need
- Moderate need
- High need

Identity-based Support Groups (e.g., first-generation, low-income, race-based, LGBTQA)

- No need
- Little need
- Moderate need
- High need

Multicultural Student Support Services

- No need
- Little need
- Moderate need
- High need

Peer Mentorship

- No need
- Little need
- Moderate need
- High need

Professional Mentorship

- No need
- Little need
- Moderate need
- High need

Transportation Assistance

- No need
- Little need
- Moderate need
- High need

Undocumented Student Support Services

- No need
- Little need
- Moderate need
- High need

***Other: Please fill in the blank_____

- No need
- Little need
- Moderate need
- High need

***Other: Please fill in the blank_____

- No need
- Little need
- Moderate need
- High need

***not included in final scale construction

Appendix E: Resource Need Factor Analysis

Basic Need Resources (α = .85)

- Childcare and Family Assistance
- Financial Assistance
- Food Assistance
- Housing Assistance
- Health Services/Health Insurance Availability
- Transportation Assistance
- Undocumented Student Support Services

Identity-based Resources (α = .87)

- Diversity, Equity, and Inclusion Efforts
- Disability Services
- First-Generation Student Support Services
- Identity-based Support Groups
- Multicultural Student Support Services

University-based Resources (α = .80)

- Academic Services
- Career Development Services
- Counseling Services
- “How-to” Online Guides
- Peer Mentorship
- Professional Mentorship

Appendix F: Focus Group Interview Protocol

Before we start, did everyone complete the demographic survey with the information sheet that was sent to your emails?

[*hand out information sheets***]**

Hello, and thank you for taking the time to participate in this focus group. My name is Brianna Mabie. I will be facilitating this focus group for DePaul's Access and Attainment Research Lab (AAR).

Introduce everyone else – note taker, co-facilitator, etc.

We are gathering information to learn about the experiences of first-generation graduate students. To that end, researchers at AAR will use this information to expand on a report about first-generation graduate students. This report will describe the experiences, along with resource use and need, of graduate students that will help to guide DePaul University's priorities. This is being done with the aim to improve resources offered by DePaul University, so they may work more effectively within the graduate student community specifically.

I would like to let you know that your participation in this focus group is completely voluntary and all of your responses will be confidential and de-identified. The information will be used in aggregates and never to identify individual students' opinions. You may choose to leave the focus group at any time and you may refuse to answer any question. Your participation is important to the success of the project. In addition, it is important to emphasize that there are no right or wrong answers, and students may have differing definitions, opinions, or experiences from one another. **For the sake of a smooth conversation, before we begin with our discussion, I would like to introduce some ground rules for the group.**

[*Put ground rules on the wall and read them]*

- Respect others when they are talking
- There are no right or wrong ideas or opinions and everyone's is equally valuable
- We want to hear all sides of an issue – both positive and negative
- Everyone should participate fully
- Only one person talks at a time
- No side conversations
- Put away cell phones
- Any that we missed that could be added?

As a reminder, our conversation will be recorded, to help us accurately represent what was discussed; all personal references such as names will not be included in transcriptions, notes or reports. I will be voice recording this session so I am sure not to miss any responses. The audio recordings will be obtained through Zoom, however the video will remain off. After the transcription process is complete, the audio recording will be

destroyed. This process will take about one month to complete. As a reminder, you are not required to respond to any questions, however your participation is encouraged.

Finally, before we start, can I have your verbal consent to the above rules to respect everyone's confidentiality and being recorded?

If you agree, please say "yes." If you do not agree, you are free to leave the session before we start the discussion. We can meet at a later time if you have any additional questions. Thank you for your time and just a reminder that there are no consequences for leaving the study at any point.
Before we begin, does anyone have any questions?

Introduction and Definitions

1. Before each section, I will go over the definitions of a term we will be focusing on. There is nuance in these definitions, and yours may differ from what I read, but I thought I'd offer some definitions from the literature to help us start thinking about some of these ideas. You can find these definitions on the back of the information sheet I provided you with earlier. Our first key term is:
    a. **First-generation:** There are several different definitions of first-generation student, but this is what I find helpful: those students who identify as having had neither parent attend college in the U.S. AND those for whom at least one parent attended college, but did not complete their degree in the U.S.

2. **What does it mean to you to be a first-generation student?** *[PROBES: For example, what do you see as being some oppressions and assets, experiences, or perceptions you attribute to being first-generation? What does it mean to be first-generation in general and for you personally?]*

3. **What have been some of the challenges you have faced in graduate school?** *[PROBES: For example, what are some personal/familial, academic/institutional, or financial challenges you've faced since starting graduate school?]*

Based on our discussion, it is apparent that even though we all identify as being first-generation graduate students, we have different understandings of what that term means to us. In addition, each of us brings various strengths to DePaul. Likewise, we have some similar, but also different challenges.

This will help us switch over to our next topic of mutual support among graduate students.

Mutual Support (Relational Empowerment)

Mutual Support can be defined as helping other people without an expectation of receiving help back, but also with an acknowledgement that you will be able to ask for help in the future if needed; a sense of commonality and integration in a group (Gitterman, 2005).

4. **What are some examples of graduate students helping each other through challenges that you have personally experienced or witnessed?** *[PROBES: Doesn't have to be academic support, could be supporting someone by watching their pet or children]*
    a. **What has that meant to you to see or experience that first-hand?**

5. **How do you use your personal and academic relationships to overcome potential challenges that arise during graduate school?** *[PROBES: Again, doesn't have to be academic support; could be family and friends from hometown; a pastor or therapist]*

Well-Being in Graduate School

Our third key term definition is for the concept of well-being. There is no consensus around a single definition of well-being, but there is general agreement that at minimum, well-being includes satisfaction with life, fulfillment and positive functioning. In simple terms, well-being can be described as judging life positively and feeling good. Researchers from different disciplines have examined different aspects of well-being that include the following dimensions: physical, economic, social, psychological, etc. (CDC).

6. **What helps you navigate the day-to-day of graduate school?** *[PROBE: to explore social support, daily routines, personal and university resources]*
    a. *For example, helping you complete academic requirements*
    b. *Or has made your overall experience better*

7. **What are the ways in which you define well-being for yourself as a first-generation graduate student?** *[PROBE: Doesn't have to be related directly to graduate school, could be achieving personal goals or life milestones, for example]*

8. **What do you think are the strengths you have that help you get through graduate school?** *[PROBE: to explore personal traits, group assets such as cooperation with peers]*
    a. *start with individual level: personal traits, family support*
    b. *connect to a higher level: what are some community or program strengths?*

9. **What are your major concerns for completing your current graduate degree?** *(PROBE: financial factors such as lack of funding and cost of living; your program dynamics; quality of classroom and learning experiences; institutional support)*

Translate to University

Now that we have talked about some of the personal challenges and coping mechanisms of first-gen. grad. students, we will talk about how higher education institutions can support this group.

10. **What resources or services would you like to have more access to as a first-gen. grad. students to enhance well-being?**
    - **a.** *Examples: Financial services, adult services, first-generation services, tutoring, food pantry, counseling, transportation, etc.*
    - **b.** *Resources/services from your program and/or department*
    - **c.** *Resources/services from your college and/or the university*

11. **Here are some examples from previous research conducted with first-gen. graduate students at DePaul that we have not yet talked about (reference point 10a) . Do you have any thoughts about these or examples that you would like to share?**

12. **Finally, can you share thoughts about how graduate students and the university can work together to improve the well-being of graduate students?**
    - **i.** *connecting students to each other: networking, shared spaces*
    - **ii.** *improving well-being as a whole for graduate students: funding, UPasses*
    - **iii.** *changing policies to eliminate bureaucratic barriers*

Thank you for your time and for answering our questions. Before we go, do you have any questions?

Appendix G: Full Research Question II Descriptive Statistics

Scale	Variable	*n*	*M*	*SD*
Basic need	Women	95	2.06	0.79
	Men	34	2.03	0.86
	BIPOC [a]	85	2.25	0.83
	White	44	1.67	0.58
	Pell recipient	80	2.22	0.83
	Not a Pell recipient	49	1.78	0.67
	Women & BIPOC	65	2.24	0.83
	Women & White	30	1.66	0.49
	Men & BIPOC	20	2.26	0.85
	Men & White	14	1.69	0.77
	Women & Pell	59	2.23	0.83
	Women & No Pell	36	1.77	0.63
	Men & Pell	21	2.18	0.87
	Men & No Pell	13	1.78	0.80
	BIPOC & Pell	64	2.34	0.85
	BIPOC & No Pell	21	1.96	0.72
	White & Pell	16	1.72	0.55
	White & No Pell	28	1.64	0.61
	Women, BIPOC & Pell	49	2.29	0.87
	Women, White & Pell	10	1.94	0.55
	Women, BIPOC & No Pell	16	2.10	0.72
	Women, White & No Pell	20	1.51	0.40
	Men, BIPOC & Pell	15	2.51	0.80
	Men, White & Pell	6	1.36	0.32
	Men, BIPOC & No Pell	5	1.51	0.56
	Men, White & No Pell	8	1.95	0.92
Identity-based	Women	95	2.42	0.93
	Men	34	2.15	0.96
	BIPOC	85	2.64	0.90
	White	44	1.79	0.76
	Pell recipient	80	2.60	0.93

	Not a Pell recipient	49	1.94	0.83
	Women & BIPOC	65	2.71	0.88
	Women & White	30	1.79	0.71
	Men & BIPOC	20	2.40	0.95
	Men & White	14	1.80	0.90
	Women & Pell	59	2.71	0.90
	Women & No Pell	36	1.94	0.80
	Men & Pell	21	2.29	0.97
	Men & No Pell	13	1.94	0.96
	BIPOC & Pell	64	2.80	0.85
	BIPOC & No Pell	21	2.15	0.91
	White & Pell	16	1.80	0.82
	White & No Pell	28	1.79	0.74
	Women, BIPOC & Pell	49	2.86	0.83
	Women, White & Pell	10	2.00	0.93
	Women, BIPOC & No Pell	16	2.28	0.93
	Women, White & No Pell	20	1.68	0.56
	Men, BIPOC & Pell	15	2.61	0.92
	Men, White & Pell	6	1.47	0.50
	Men, BIPOC & No Pell	5	1.76	0.80
	Men, White & No Pell	8	2.05	1.08
University-based	Women	95	2.78	0.70
	Men	34	2.59	0.72
	BIPOC	85	2.89	0.73
	White	44	2.42	0.56
	Pell recipient	80	2.82	0.71
	Not a Pell recipient	49	2.58	0.69
	Women & BIPOC	65	2.93	0.71
	Women & White	30	2.47	0.57
	Men & BIPOC	20	2.78	0.79
	Men & White	14	2.32	0.54
	Women & Pell	59	2.86	0.73
	Women & No Pell	36	2.64	0.63
	Men & Pell	21	2.71	0.63

Men & No Pell	13	2.40	0.84
BIPOC & Pell	64	2.96	0.68
BIPOC & No Pell	21	2.68	0.83
White & Pell	16	2.28	0.54
White & No Pell	28	2.50	0.56
Women, BIPOC & Pell	49	2.97	0.71
Women, White & Pell	10	2.33	0.63
Women, BIPOC & No Pell	16	2.78	0.71
Women, White & No Pell	20	2.53	0.54
Men, BIPOC & Pell	15	2.91	0.61
Men, White & Pell	6	2.19	0.37
Men, BIPOC & No Pell	5	2.37	1.17
Men, White & No Pell	8	2.42	0.64

[a] BIPOC = Black, Indigenous, and People of Color