



Commentary

A Focus on Graduate Education: The Impact on our Workforce and our Society

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Abstract

According to the U.S. Department of Education, graduate students make up 17% of the total higher education population. Despite being a distinct demographic, the needs and challenges of graduate students are often explored in conjunction with their undergraduate counterparts. This paper examines the unique needs of graduate students across topics of mental health, retention, work-life balance and institutional resources and barriers. As an expected 2.6 million new and replacement jobs require advanced degrees within a 10-year period, this population needs to be understood, valued, and supported. Noting the value that graduate students bring to the workforce, the researchers offer plausible solutions to promote graduate student retention, enhance student-faculty relations, and enrich the overall learning experience for graduate students.

Keywords: Graduate students; Mental health; Retention; Mentoring

Introduction

According to the U.S. Department of Education [1], graduate students make up 17% of the total higher education population. Despite being a distinct demographic, the needs and challenges of graduate students are often explored in conjunction with undergraduate students [2]. Although there is overlap in the educational experiences of undergraduate and graduate students, research documents a distinct difference between the two student populations. Seventy-five percent of graduate students work at least 30 hours a week outside of their graduate course load, compared to 40% of undergraduate students [3]. In addition, many graduate students are at the age where they are taking on additional responsibilities and experiencing periods of significant change, such as moving to a new area, marriage, and/or the birth of a child [3]. In the US, the average age of students studying for a graduate degree is 33 years old, with 22% of graduates being over 40 years old, and 8% being over 50 years of age [4].

The need for advanced degrees will continue to increase with the current employment market's trajectory. A 2012 report by the Educational Testing Service and the Council of Graduate Schools found that an expected 2.6 million job openings would require advanced degrees within a 10-year period, resulting in a 22% increase in jobs requiring a master's degree and a 20% increase in jobs requiring a doctorate or professional degree [5]. The report also shared the unique value that graduate students from across all disciplines bring to employers. Graduate students are vital for the workforce and contribute to the future growth of the economy, with the average earning of individuals with master's degrees 23% higher than those with bachelor's degrees, and individuals with doctoral degrees earning on average 63% more than those with bachelor's degrees [6].

From both an individual and societal perspective, a graduate education plays a vital role in the success and financial security of individuals and to society. As enrollment rates of graduate students continue to increase, colleges and universities are uniquely positioned to provide supports that target their specific needs and enhance their academic success.

Graduate Student Challenges

As graduate students pursue postsecondary education, they do so with unique challenges. Many graduate students are contending with feelings of isolation, mental health challenges, significant program demands, multiple roles, and balancing personal and professional responsibilities [7-10].

Mental Health

Mental health and well-being are a constant challenge for many graduate students. Evans et al. [8] found that graduate students are currently in a mental health crisis, showing that 41% of surveyed graduate students have moderate to severe anxiety and 39% have moderate to severe depression, compared to 6% of the general population. Many graduate students post-2020 contend with anxiety related to the COVID-19 pandemic, which has further exacerbated mental health challenges. According to Chirikov et al. [7] rates of generalized anxiety disorder among graduate students were 1.5 times higher in 2020 than in 2019, and rates of major depressive disorder nearly doubled within the same timeframe. The mental health needs of graduate students are well documented; however, campus resources such as college counseling centers have historically seen graduate students as an 'add on' to their primary population of undergraduates. There seems to be a faulty perception of graduate students as

being high-achieving and self-sufficient, thus many institutions infer that graduate students do not need additional supports to address their specific developmental and academic needs [11]. Given the pervasive mental health concerns graduate students face, focusing on how to connect with and prioritize graduate student mental health is needed to promote personal and professional success.

Graduate student challenges are further confounded by the rise of remote and hybrid graduate learning modules. According to the U.S. Department of Education [12] the number of students enrolled in online graduate courses steadily increased by over 10% between 2012 and 2019. During the COVID-19 pandemic in 2020, colleges and universities quickly adapted to an online learning module, resulting in a 93% increase in student enrolment in online learning courses [13]. Many universities have sought to merge online learning and in-person instruction; however, this modified teaching platform opens new questions directly connected to the potential long-term effects of distance learning on graduate student retention, mental health, and academic success [14].

Self-efficacy

There is a clear distinction between the undergraduate and graduate student educational experience. In undergraduate programs, the focus is centered primarily on deepening a general knowledge of both a range of subjects and a specific area of interest for the students. Graduate students experience a unique combination of competition and pressure as they transition from these more development-oriented programs to the more performance-oriented faculty interactions of graduate programs, which can increase feelings of anxiety and isolation [15]. Graduate programs shift the focus towards acquiring specialization within one discipline with the goal of developing a professional or scholarly identity [9,16]. Because graduate students' identity is more closely tied to their academic work, self-efficacy is vital for graduate students.

Self-efficacy is a concept first developed by psychologist Albert Bandura [17] and defined as one's own belief about their ability to successfully complete a task, which then influences cognitive, behavioral, and affective processes. Self-efficacy also plays an important role in the quality of an individual's mental health. In a concept analysis of self-efficacy amongst graduate students, Muñoz [18] found that students with high self-efficacy were more likely to handle stress using healthy coping skills, build useful academic habits, and foster resilience. While high self-efficacy has been shown to lead to healthy coping skills and habits, it is also suspected to lead to greater satisfaction with the college education experience [19]. While conducting a study on variables related to college student satisfaction Kupczynski [19], found that there is a relationship between self-efficacy and student satisfaction.

Conversely, low levels of self-efficacy can negatively affect students' mental health. Tahmassian and Moghadam [20], conducted a study of high school students and found that

low self-efficacy correlates with higher rates of depression and anxiety. Liu et al. [21] conducted a similar study and found a negative correlation between self-efficacy and rates of depression and anxiety among doctoral students. Students with lower self-efficacy experienced lower levels of autonomy and personal support. Research supports that there is a causal relationship between self-efficacy and graduate student success and satisfaction [22]. Not only is self-efficacy important for graduate student success and satisfaction, but it also leads to improved mental health outcomes and appropriate coping skills that are instrumental in adapting to the stresses of graduate education. A study conducted by Hardré [23] found that self-efficacy for professional success (not just coursework) was one of the most significant influences on graduate students' dropout intentions. Self-efficacy has been shown to be critical to graduate student success and reducing graduate student dropout intentions [23].

Social Isolation

Research consistently shows the vital role socialization plays in graduate student success and professional development [9,10,24]. Social isolation associated with individualized study such as asynchronous learning is another challenge for graduate students. Individualized study is defined as a program that provides students with a vehicle to design their own unique programs of study. With individualized study, students' complete tasks independently, with little to no peer interaction. Individualized study can be very isolating. Social isolation is complex and does not refer solely to physical isolation from other people. Social isolation is related to the quality of social connections and the support those connections provide [25].

While some risk factors for social isolation pertain to the individual characteristics of the student, there are many organizational and interpersonal factors that increase graduate student isolation. According to qualitative data collected by Ray et al. [26], students identified competitiveness and the tendency for other students to keep to themselves as key interpersonal factors that contribute to student social isolation. The researchers of this study also found that organizational structures such as program and curriculum design could create an atmosphere that places barriers on more peer socialization [26]. According to the organization Enhancing Student Wellbeing [27], the mental health of students can be supported or undermined by the curriculum depending on the extent to which the curriculum fosters students' autonomous motivation. Participants also identified program intensity and time constraints as additional factors that lead to a sense of isolation. Graduate students experience higher rates of social isolation which in turn affects their overall academic success [26]. Dong et al. [28] found a specific correlation between the perception of isolation, reported incidence of depression, and adverse academic outcomes among Asian graduate students studying online during the COVID-19 pandemic. Additionally, there is a strong correlation between isolation and declining mental and physical health [29]. Not only can isolation contribute to graduate student depression and

anxiety, but depression and anxiety can cause graduate students to further isolate, leading to a vicious cycle where isolation and depression or anxiety reinforce each other [25].

Social isolation can also affect the mental health of graduate students. The risk of social isolation is higher for students from diverse backgrounds. Ray et al. [26] found that students who identified as lower socio-economic status experienced higher rates of feeling isolated and excluded during their time in graduate school; in contrast to higher SES students. Additionally, students of color reported increased feelings of isolation due to being misunderstood by predominately white faculty within their programs. These feelings of isolation were further exasperated by students of color, who reported being under-represented on their campuses. Being unrepresented led to feelings of inadequate social support and a limited sense of community within their respective graduate programs [30]. Distance and online learners also report increased feelings of isolation. A comparison of online and in-person graduate students found that online students reported increased levels of isolation and feeling less connected to their graduate school departments [31].

University Counseling Centers

Accessing university counseling centers that target services to the unique needs of graduate students is another challenge for graduate students. While university counseling centers have traditionally grouped graduate and undergraduate student populations, they are two distinctly different demographics with profoundly different needs. Noting these differences, it is important that when graduate students seek out support from university counseling centers that counselors are familiar with and address mental health needs specific to graduate students. In a study focused on graduate students at a large U.S. university, Hyun et al. [32] showed that 46% of participants reported significant emotional distress and 50% reported considering seeking counseling; however, only 26% of students reported utilizing on-campus counseling services. According to the researchers, institutional barriers, commuter-status, and mental health stigma limit graduate student utilization of campus counseling centers. While some graduate students begin programs directly after undergraduate school, many students delay enrolling in graduate programs. As a result of their decision to delay enrollment, many graduate students are adults who are at a different developmental stage than undergraduate students. Drawing on Erikson's developmental theory, Benshoff et al. [11] argued that college counselors should recognize that most graduate students are moved past identity development common among late adolescence and early adulthood development. Instead, the developmental focus of many graduate students is on issues of intimacy and generativity, both of which emphasize the importance of developing meaningful and lasting relationships with family, friends, and community. This developmental perspective reflects the complex lives of graduate students who are often juggling a career, academic, and familial roles [33]. Benshoff et al. [11] also emphasized

the economic, familial, and social sacrifices many graduate students make when returning to school, which can contribute to or further exacerbate their mental health challenges. While attending to common presenting problems like time or stress management, college counselors may want to also recognize that these issues will often point to deeper developmental and social issues unique to graduate students. As a university-offered support for all students, counseling centers have a responsibility to address the specific mental health needs of graduate students. Colleges and universities can also offer "Mental Health First Aid" where faculty and administrators are trained on mental health symptomology and offered an opportunity to participate in treatment interventions when needed ([34] p. 10).

Retention

Retention and degree completion also impact graduate students. A recent longitudinal study of over 10,000 college students found that the three most consistent predictors of student attrition are depressive symptoms, exposure to stressful life events, and antisocial behaviors [35]. While this study does not specifically focus on graduate students, these main factors point to a strong link between mental health and student success. Self-efficacy has been shown to be a critical component of graduate student success and is one of the most significant influences on retention [23]. In a meta-analysis, Muñoz [18] found that high self-efficacy among graduate students creates a positive feedback loop between productive thoughts, feelings, and behaviors and successful outcomes, including retention.

There is also a correlation between student isolation and dropout rates, especially as it relates to diverse student populations [36]. Studying the barriers to recruitment and retention for diverse graduate students, Quarterman [37] found that the two greatest barriers to retention for these students were feelings of isolation and abandonment. Conversely, research has emphasized the vital role socialization plays in graduate student success and retention. Bagaka's et al. [38] qualitative study found support from student peers and faculty advisor support to be two of the three leading factors in predicting student retention. Similarly, Lake et al. [2] found that faculty mentorship and cohort models offer additional support and promote graduate student retention.

There is a relationship between self-efficacy and isolation, thus further supporting the correlation between unmet mental health needs and graduate student retention rates. According to the National Academies of Sciences, Health, and Medicine [39] dropout rates for graduate students with diagnosable mental illnesses range from 43% to as high as 86%. Conversely, when graduate students' mental health needs are met, not only does it reflect higher retention rates, but also leads to other favorable outcomes including increased research engagement and publication rates for colleges and universities [2,38]. Improving the mental health of graduate students not only improves the quality of life for students but

also bolsters the enrollment stability and vitality of academic institutions [40].

Multiple Roles

Finding a balance between school, personal, and professional roles is another challenge primarily unique to graduate students. Undergraduate years tend to be focused on the end of adolescence, emerging professionalism, and young adulthood, while graduate years are anchored in adulthood and career establishment. These differences inform the unique needs of graduate students and should inform the policies that support these students.

Due to their unique life stage and status, graduate students have distinctly different socio-familial and financial needs, in contrast to undergraduate students. Many graduate students are at the age where they are taking on additional responsibilities and experiencing periods of significant change, such as moving to a new area, marriage, and/or the birth of a child. The changing demographics of graduate students have led to many graduate students becoming members of the "sandwich generation" [41]. As members of the "sandwich generation" graduate students find themselves "sandwiched" between serving as caretakers for aging parents; while also caring for their own children, and/or other family members [41].

Traditional academia has assumed that graduate students can operate in silos and separate their student responsibilities from their personal and professional responsibilities [42,43]. There is also an assumption that students put their academic identity first, whereas many graduate students may put their parenting or career identity before their student identity. Many faculty and administrators expect a graduate student to prioritize their studies and demonstrate little flexibility for other outside obligations [44]. Graduate students report that many graduate programs are very rigid and make few concessions for family and employment demands [42]. Lack of support, awareness, and understanding from faculty and administrators forces graduate students to try to resolve problems within each silo independently. Bagaka's et al. [38] found that students experienced benefits from an academic community that includes faculty mentorship within a system that allowed the student flexibility to balance academic, family, and professional responsibilities. In addition, requiring graduate students to operate in silos further contributes to their feelings of isolation and can negatively impact their mental health and academic success. Graduate students report feeling torn between their multiple roles and identify that institutions offer little support to help them navigate expectations and obligations [42,43]. With an increasing number of graduate students juggling school and work responsibilities, this trend ought to resonate as a significant concern for the academic community. Faculty guidance on managing and integrating these multiple roles can greatly improve academic outcomes among graduate student caregivers [45]. Graduate school and life satisfaction are directly linked to satisfaction with work-family balance. If the graduate school experience is more

satisfying for students, they can better manage their work and family priorities [46].

Recommendations

Mental Health

Researchers have turned their attention to the mental health needs and resources for graduate students — and this attention is justified. In 2018, Evans et al. reported that graduate students experience moderate to severe anxiety or depression at rates more than 6 times greater than the general population. More recently, the COVID-19 pandemic has further impacted the mental health of graduate students, doubling rates of depression and anxiety among graduate students since 2019 [7]. The competing demands of personal and professional life on graduate students are also adversely impacting their mental health. To shift this trend, we propose a multi-tiered approach to addressing mental health and wellness among graduate students, as outlined below.

Self-Care

- Implement intentional and proactive programs that target the unique needs of graduate students and promote self-care and stress reduction.
- Offer trainings (either in person or through online modules) where students are educated on the effects of stress and encouraged to participate in stress-reducing self-care activities.
- Facilitate easily access to resources at their university counseling center that emphasize the importance of establishing a self-care routine.
- Provide opportunities for low to no-cost counseling services for graduate students with counselors that are aware of and educated on the unique needs of graduate students.
- Routinely incorporate self-care and resilience into course curriculums.
- Encourage and incentivize faculty to focus on student wellbeing and not just on grades.
- Foster an atmosphere where students are comfortable addressing their mental health needs.
- Train faculty and staff to recognize and address mental health crises and facilitate access to supportive services so that they may serve as mental health advocates within the community.

University Supports

- Establish a supportive environment for graduate students.
- Create support groups that are backed and promoted by their universities and colleges.
- Organize formal faculty-lead mentoring programs for graduate students.
- Strategize ways to increase utilization of career development center resources.

- Train career development professionals to serve as a point of contact for graduate students that can assess their needs and refer them to mental health services if needed.
- Invite counseling and career development staff to provide faculty with training on addressing graduate students' social and mental health needs as they navigate the transition from students to professionals [7,47].
- Continue to facilitate communication between graduate students and administration by helping the students to advocate for their own well-being, while encouraging administrators to promptly address student concerns.

Student Voice

- Consider how the campus climate affects the mental health of graduate students.
- Mind student mental health when policies are being developed and funds are being allocated.
- Allow student mental health needs to guide university partnerships.
- Seek out graduate students to serve on university boards/panels to ensure that student voices are present and heard.
- Encourage a culture of support by investing in training for university administrators and faculty to ensure that they are knowledgeable about campus resources and trained to identify potential mental health symptomology.
- Allocate funding for graduate student social support services such as peer-to-peer mentoring and support groups.
- Implement targeted social support programs geared specifically toward diverse populations, will foster feelings of inclusion and a connection to the broader university community.
- Earmark specific funds to help offset some of the financial hardship graduate students encounter as they attempt to balance educational demands with personal and professional responsibilities ([32] pp. 262–263; [48] pp.1944–1945; [48] p. 41).

Hybrid and Online Learning

Given the already prevalent mental health issues that graduate students face in traditional graduate programs, it's important to also understand the unique mental health challenges facing graduate students in online and hybrid programs. Isolation is a major obstacle to mental health and success. Colleges can use existing social media, websites, and email systems to facilitate engagement with and among online and distance education students ([11] p. 93). Institutional policies should take special care to meet the needs of online and distance learning students. Online spaces should be designed with consideration of their effect on creating a sense of community, avoiding further isolation of students, and on supporting their well-being [50].

Administrators may want to focus on the overall experience of graduate students within their institutions with special attention to policies that affect student health and wellbeing. The importance of flexible instruction (in-person,

online, etc.) methods cannot be ignored when facilitating access to degree programs. In designing these courses, administrators should be sure to include opportunities for interaction with peers and faculty members. Bagaka's et al. [38] found that students experienced benefits from an academic community that includes faculty mentorship within a system that allowed the student flexibility to balance academic, family, and professional responsibilities. Institutions may want to explore rewarding faculty for mentoring graduate students and implementing student development activities that contribute to the relationships between graduate students and their faculty advisors to improve student outcomes [32,45].

University Supports

Graduate students not only have unique challenges in terms of mental health, but they also face distinct barriers that affect their academic success and ability to complete their programs. It is therefore important to understand the factors that affect graduate student success and retention. Many of the previously discussed policies and practices that increase student engagement and improve mental health will also improve graduate student retention. Students can participate in study groups and peer-to-peer mentoring activities, creating a chain of "sustainable scholarship." Newer students will be mentored by more senior students, creating a chain of professional connections that will benefit them throughout and beyond their degree programs [38].

When students perceive that their university is invested in their success by offering support services, they report lower levels of work-school conflict [51]. Therefore, faculty members are vital in the graduate student experience. They heavily influence student perceptions and can be the connector between student satisfaction and dissatisfaction [52]. Bain et al. [53] reported students who did not complete their programs identified poor experiences with faculty as a motivator for leaving. Although the intrinsic characteristics of a successful graduate student can provide some valuable insight, universities should focus retention efforts on training faculty in effective mentoring skills [54].

Formal orientations and structured advising programs for graduate students that include information about degree requirements, course offering schedules, and available resources in conjunction with encouragement of self-advocacy have been shown to have a positive effect on graduate student performance and satisfaction [19,55]. Practices, such as providing clear instructions for course assessments, making syllabi available before registration and an explanation of desired outcomes in relation to professional goals empowers students and contributes to improved student outcomes [42,50,55]. Student-faculty relationships were cited as the top reason for continuing studies among doctoral students [53].

Faculty-student relationships can also help graduate students integrate their classroom, professional, and personal experiences in meaningful ways. Faculty advisors can serve as advisors and liaisons to peer-led student groups that can address the various roles of contemporary graduate students.

Faculty can also support activities, such as graduate student organizations, social mixers, and student chapters of professional organizations, which help foster a supportive environment [56]. Faculty and administrators should be available to help students develop social connections with each other and with the broader university community [53].

Conclusion

If current market trends persist, the demand for prospective employees with graduate degrees will only continue increasing. Making up nearly one fifth of the total higher education population, graduate students enter advanced education with unique needs and specific challenges. Graduate students are at an elevated risk of experiencing mental health challenges. They may also struggle to establish a balance between academic, personal, and professional demands. By better understanding the distinct challenges facing graduate student, colleges and universities can position themselves to be proactive in addressing their needs. Colleges and universities can create programming that targets graduate student needs, thus enriching their learning environment, fostering greater graduate student success, and reinforcing and promoting a teaching pedagogy that is strength-based, and resiliency-focused.

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