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Supporting Online Graduate Students Through the Perspective of the Affective Filter Hypothesis: A Multiple Case Study of Faculty Interactions with Students

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Abstract

Graduate students may begin their studies with confidence in their ability to succeed, but many do not complete their programs. Stress is one of the most significant contributors to the lack of persistence and subsequent failure to complete. In second language acquisition theory and teaching practice, stress is often described within the context of the affective filter hypothesis, which refers to emotional factors, including anxiety and stress, that have been associated with academic success. While Krashen's affective filter hypothesis was developed for second language acquisition, lowering students' stress and their response when being engaged while under stress may be able to be applied to a variety of populations. Given that the faculty member is key to fostering persistence, they may be uniquely situated to help lower stress and thereby decrease the affective filter in the online classroom. The purpose of this multiple case study was to examine how faculty identify students experiencing high levels of stress in online graduate education. A second purpose was to identify strategies that graduate online faculty use to lower the affective filter for students. The setting for this qualitative, multiple case study was a school of education in a non-profit, online university with a focus on master and doctoral level education. Specifically related to online graduate learners, this study adds to the body of knowledge by suggesting that relationship building, institutional support, addressing diverse sources of stress, and considering strategies to support students' interpersonal needs as mitigation efforts may be effective in supporting this population. Findings give stakeholders guidance in supporting faculty and providing resources for student persistence and ultimate completion.

Supporting Online Graduate Students Through the Perspective of the Affective Filter Hypothesis: A Multiple Case Study of Faculty Interactions with Students

The goal of graduate education for any student, regardless of delivery, is persistence and ultimate completion. While students may enter a graduate program with confidence in their ability to meet this goal, many do not (NCES, 2023; Wollast et al., 2018). Numerous interpersonal and academic factors contribute to the persistence of students in graduate online education (Melián et al., 2021; Sosoo & Wise, 2021). These factors contribute to a growing number of online graduate students who experience high stress, resulting in adverse outcomes (Wollast et al., 2018; Yusufov et al, 2019).

Stress is one of the most significant contributors to the lack of persistence and subsequent failure to complete (Arbona et al, 2018; Oducado et al., 2021; Varadarajan et al., 2021). Stress manifests from a variety of sources. Synchronous and asynchronous graduate education is associated with greater competition among students and a desire for higher levels of performance (Hewitt & Stubbs, 2017; Wollast et al., 2018), particularly in the later stages of the process (Rico & Bunge, 2021). As academic demands increase and uncertainty about performance, acceptance, and assessment rise, so does the reported stress among students (Barker, et al., 2018; Moawad, 2020). In addition, interpersonal sources of stress, including unexpected health, family, and professional challenges, further complicate the situation (Melián et al., 2021; Sosoo & Wise, 2021). While strategies such as exercise and adequate sleep have been linked to lowering stress in graduate students (Van Berkel & Reeves, 2017), institutional support that is intentional, proactive, and action-oriented can also help to mitigate the stress associated with such events (Sosoo & Wise, 2021).

In second language acquisition theory and teaching practice, regardless of academic level or delivery, stress is often described within the context of the affective filter hypothesis. The affective filter hypothesis, according to Krashen (1981), refers to emotional factors, including anxiety and stress, that have been associated with academic success. Krashen (2003) believed that for instruction to be effective in language acquisition situations, stress and anxiety within the classroom must be mitigated. Students experiencing a high affective filter are less able to master course competencies (Ling Wang, 2020). As a result, these students are often described as having low levels of motivation and self-confidence (Nath et al., 2017). Lowering the affective filter to minimize negative impacts is a common goal among language learning faculty through the implementation of active learning strategies, attention to the emotional growth of the student, and a student-centered teaching philosophy (Lim, 2020). While Krashen's hypothesis was developed for second language acquisition, lowering students' stress and their response when being engaged while under stress may be able to be applied to a variety of populations to understand how to best support specific student populations.

Review of the Literature

In the fall of 2021, 3.2 million students were enrolled in graduate education, with 33% enrolled in fully online programs (NCES, 2023). For this group of students, how many will continue to degree completion is of concern as, according to Wollast et al. (2018), approximately 50% of PhD students, regardless of delivery, will leave their educational program without a degree. According to Lazarus and Folkman (1984), stress is a product of the relationship between how an individual experiences factors within an environment and the availability of resources for coping. When the resources required for effective coping are not available, an individual can experience stress. When a student experiences stress, their ability to engage in complex cognitive

tasks, such as those required for learning at the graduate level, is impaired (Gallagher & Stocker, 2017). In addition, stress is one of the most important contributors to students' lack of persistence and subsequent failure to complete (Arbona et al., 2018; Oducado et al., 2021; Varadarajan et al., 2021).

While the source of the stressors for post-secondary students is varied, it can manifest from academic or interpersonal challenges (Mishra, 2017; Van Berkel & Reeves, 2017). In either case, it is critically important for stakeholders to acknowledge and identify sources of stress (Damiano et al., 2021) as over 76 % of graduate students reported their stress levels as moderate to high (America College Health Association, 2022). Academic stress in any delivery format can result from various sources, including the faculty members' instructional style. For example, according to Mishra (2017), nearly 20% of post-secondary students surveyed cited faculty actions and behaviors as a primary source of academic stress. Specific actions and behaviors included faculty members who used ineffective teaching techniques, assigned unrealistic workloads, and conveyed a lack of concern for the student's well-being. Conversely, according to Vitonis et al. (2018), stress can be lowered when students perceive faculty as valuing their academic contributions and caring about their well-being. These perceptions result in resilience to persistence and motivation to engage with their learning (Vitonis et al., 2018; Yoo & Marshall, 2021).

While online instructional strategies have been differentiated from face-to-face strategies in how they support the independent learner, foundational instructional techniques transcend delivery. For example, similar to face-to-face successful practices, Fuller et al. (2021) found that project-based assignments, effective communication for knowledge sharing, and instructional feedback from faculty members and peers were important to online learners' success. While

these strategies may be successful regardless of academic level, graduate online education requires design features that take into consideration the needs of these unique learners. Cheng et al. (2021) concluded that for graduate online learners to be successful, the student needs to take personal responsibility for their learning under the guidance of the faculty member. This personal responsibility can lead to the self-directness necessary for online graduate learners to be successful. As described by Jiang and Ballenger (2023), strategies that are associated with vicarious experience, social persuasion, affective states, and mastery experience are viewed by online graduate students as most effective in accomplishing this goal.

Academic stress can also be a result of inadequate resources to understand, navigate or engage with institutional policies and practices (Garriott & Nisle, 2018). However, institutional policies and practices can be developed to support students in managing stress. According to Anderson (2019), a comprehensive approach that considers a myriad of campus conditions, including curriculum, support services, and exam schedules, should be implemented to help students deal with stress. In addition, Babcock et al. (2019) reported that clear communication regarding the availability of support services for online students can also support the reduction of stress.

Post-secondary students, which include undergraduates and graduates, also experience stress due to interpersonal challenges such as tensions at home, health problems, and financial worries (Mishra, 2017). According to Reddy et al. (2018), these issues, as well as other interpersonal difficulties such as feelings of inadequacy and fear of failure, can result in academic success. While activities such as exercise, yoga, meditation, and adequate sleep have been linked to alleviating interpersonal stress in students (Lemay, 2019; Van Berkel & Reeves, 2017), the ability of institutions to address interpersonal challenges is limited.

Online education is uniquely characterized as being unrestrained by geography and time (Bourdeaux & Schoenack, 2016). Other benefits of online learning include opportunities for flexibility, student-centered learning, just-in-time availability of learning resources, and individualized learning (Hewitt & Stubbs, 2017; Soffer & Cohen, 2019). These features create conveniences for adult learners who need flexibility in their schedules due to personal and professional responsibilities. Online learning can also better align with the learning styles and preferences of adult learners, who make up the majority of online learners (Khan et al., 2018; Shaw et al., 2016). At the same time, the characteristics inherent to online learning can cause stress for students due to the unpredictability of interaction, confusion about expectations, and conflict that is difficult to resolve (Millar et al., 2018).

Doctoral students face a myriad of challenges in any modality, but online learning can foster increased isolation on what may seem like an already solitary journey. Graduate education, regardless of delivery, can be a source of stress for students because of the associated competition among students and the expectation for higher levels of performance (Hewitt & Stubbs, 2017; Wollast et al., 2018). In addition to sources of stress associated with post-secondary participation, students in online graduate education may experience additional stress associated with the cognitive effort required to engage in self-directed learning (Yusufov, 2019). These academic demands related to performance, acceptance, and assessment can also result in increased stress among students (Barker et al., 2018; Moawad, 2020).

Theoretical Framework

Krashen's Theory of Second Language Acquisition has been widely accepted to provide insight into the instructional process for second language learners since it was introduced in 1977. The theory of second language acquisition is composed of five hypotheses– the natural

order hypothesis, the acquisition/learning hypothesis, the monitor hypothesis, and input hypothesis, and the affective filter hypothesis (Table 1). The affective filter has been isolated as the framework for this study.

Table 1

Krashen's Theory of Second Language Acquisition

Second-Order Hypotheses	Description
The Natural Order Hypothesis	Rules of language must be acquired in a logical, predictable order
The Acquisition/Learning Hypothesis	Successfully using language to communicate (acquisitions) and having knowledge about how to use the language (learning) are both required
The Monitor Hypothesis	Language learners monitor what they know about language delivery and correct it accordingly
Affective Filter Hypothesis	Stress in the environment is an impediment to learning
Input Hypothesis	Proficiency is improved when the language input is slightly more advanced than their current level of competency.

Source: Krashen, 1981, 2003; Krasen& Terrell, 1983

According to Krashen (1986), motivation, self-confidence, and anxiety are key variables in the successful acquisition of a second language. An affective filter is characterized by a negative emotional reaction to the learning environment that impacts these variables, such as fear, embarrassment, apprehension, or self-doubt. Therefore, through the affective filter hypothesis, Krashen posited that these negative emotions act as a filter in the learning process. They block cognition and prevent the efficient processing of new learning. Research findings into lowering the affective filter suggest strategies that avoid a focus on error correction, enhance motivation, and cultivate self-confidence both in and outside of the classroom, create a more effective learning environment (Chen, 2020; Mehmood, 2018; Raju & Joshith, 2018).

Research into the practical implementation of the affective filter is primarily focused on K-12 students in face-to-face settings (for example, Mitchell, 2019; Szymanski & Lynch, 2020; Uribe, 2019; Wang, 2020; Won Gyoung, 2017). While some research relating to strategies to lower the affective has been conducted in higher education, it is solely focused on language acquisition settings (for example, Chen, 2020; Mehmood, 2018; Tollefson, et al., 2018). Few affective filter studies have focused on online, graduate education. However, in one research study, Chamestzky (2017) juxtaposed the impact of the affective filter with online learning, higher education, and second language acquisition. Their findings indicated four strategies that participants used to deal with negative affective filtering. These strategies are outlined in Table 2.

Table 2

Negative Affective Filter Coping Strategies

Behavior	Description
Isolating	Learners engage in discussion minimally, avoid reaching out to faculty or advisors, and avoid asking questions or emailing.
Interacting	Learners complain and "vent" openly to faculty, staff, and other students. In some cases, learners will identify with those in similar situations and create dialogue groups to share frustrations.
Motivating	Learners become highly interactive in the class; their contributions far exceed the requirements. They may also reach out to faculty and staff with increased intensity to try to "get the most" out of the experience.
Settling	Learners do the minimum that they are asked to do and take grades/feedback without question.

Source: Chamestzky (2017)

Not evident in the literature is whether the application of the affective filter hypothesis beyond its original intent may be beneficial to a broad range of learners, including online graduate students experiencing high levels of stress. Therefore, there is a need to further explore online doctoral student and faculty perceptions surrounding effective techniques to lower the affective filter.

Methodology

Given that the faculty member is key to fostering persistence (Budash & Shaw, 2017), they may be uniquely situated to lower stress and thereby decrease the affective filter in the online classroom. While general strategies for lowering stress among post-secondary students have been reported (for example, Conley, 2015; Elmi, 2020; Vitonis et al., 2018), faculty-initiated strategies for identifying and lowering stress among graduate online learners have not been identified. In their qualitative systematic review of the literature, Melián et al. (2023) identified interpersonal and academic challenges associated with high-stress levels in doctoral students. However, few studies have juxtaposed the affective filter hypothesis with online graduate learners outside of the language acquisition genre. Therefore, the purpose of this multiple case study was to examine how faculty identify students experiencing high levels of stress in online graduate education. A second purpose was to identify strategies that graduate online faculty use to lower the affective filter for students. The guiding research questions for this study were:

RQ1. How do faculty identify students experiencing high levels of stress in online graduate education?

RQ2. What strategies do faculty use to lower the affective filter for online graduate students?

The setting for this qualitative, multiple case study was a school of education in a non-profit, online university with a focus on master and doctoral level education. The population was seventy-seven doctoral faculty members who were members of dissertation committees. The unit of analysis in each of the three cases examined in this study was a single faculty member. In addition to the faculty member, the bounded system for each case encompassed their assigned

online graduate students and the online classroom in which they interacted. Data were collected via two semi-structured interviews via an electronic conferencing platform with each faculty member. In addition to the interviews, open-ended questionnaires were disseminated to each faculty participant's approximately 35 active students. The questionnaire included items to ascertain how the students perceived the affective filter in their classrooms, how they reacted to stressful situations, and the faculty members' actions that resulted in the lowering of their stress.

Each case was initially analyzed separately through an inductive open coding strategy as described by Saldaña (2015). A second analytical step involved categorizing the data using axial coding. The data, codes, and categories were then reviewed through a cross-case analysis to confirm findings and ensure that the diverse perspectives among cases were represented (Richardson, 2003; Yin, 2009). This step resulted in the identification of four themes that incorporate both consistent and divergent data and ultimately provided insight into the research questions.

There were several limitations to this study. First, because the sample was drawn from one online doctoral program in a non-profit institution, the findings may not be transferable to other settings. In addition, the data collection relied on personal accounts, for which participants may have had limited or inaccurate recall. Finally, because of the qualitative methodology employed, no inferences can be made about causation. Similarly, biases within the research processes were purposefully managed. This was accomplished through reflexivity and acknowledgment of researcher positionality in order to ensure the trustworthiness of the data.

Findings

Data analysis resulted in four themes that answered the two research questions: (*1) Building mutually respectful relationships may lower stress response; (2) Collaborative efforts support diverse student skill sets and needs; (3) Addressing stress requires recognizing and acknowledging diverse sources of stress; and (4) Strategies to offset the affective filter address academic and interpersonal areas of need.* Theme one was associated with the reciprocal nature of the student-faculty relationship within adult education settings and included codes such as availability, individualized support, and trust. Theme two emerged as participants described the culture of the university as supportive in their efforts to address student needs. The third theme was developed as a result of participant descriptions of specific strategies they implemented to address the manifestation of student stress within the online classroom environment. Finally, theme four captured issues related to the interpersonal health of both students and faculty. While each of these themes provided distinct insight into the research problem, throughout the analysis, their interconnectivity and dependency on one another became apparent. For example, theme one described the importance of the student-faculty relationship. Theme four expanded this insight by describing how the student-faculty relationship can specifically be supported through a focus on their interpersonal needs. A summary of the findings is outlined in the following subsections.

Theme 1: Building Mutually Respectful Relationships May Lower Stress Response

The importance of relationship building with students transcended interview questions. Faculty participants consistently described building relationships with students as a way to better understand their needs, communicate, and provide support. In some cases, participants described relationship building as a more effective use of their time than content instruction. Faculty Participant 3 summarized this sentiment by saying:

> There is a thing about working relationships with students where they're either going to gain a lot of trust with your mentor, or they're going to make an assessment and… [that they will never understand me], and I can't form a bond with them. But the whole point is, you still got to have the working relationship where they can call you or feel comfortable enough to tell you their problems because we used to say, if they're not bringing you your problems, or their problems, then you're not doing your job. Because that means they've built enough trust with you.

Participants described various strategies for relationship building. Self-disclosure as a strategy to build relationships was described by all three faculty participants. For example, Faculty Participant 3 said:

> I feel that one thing that happens is when I share with them, my own war stories about doing my doctorate and how I felt and how many times I wanted to give up because it was too much, especially as adults, you know like you have a life.

Similarly, Faculty Participant 2 shared the following about an incident in which they chose to self-disclose with a student who experienced a similar life event:

> I let her know, look, I understand a little bit of what you're going through. And that made a connection in her mind that maybe I was someone that would understand. So we talked for about an hour, maybe longer. And we just talked about life and these kinds of tragedies and how it unfolds.

Trust was an additional topic shared by faculty participants as important to relationship-building. They shared specific strategies they used to build trust with students. Faculty Participant 2 shared,

> They say, 'Wow, that was a time that I never thought that I could do this….'. And I think that that that's the trust, you know, I go back to the issue of trust. Trust is something that involves the academic journey.

Similarly, Faculty Participant 1 stated,

> The whole point is, you still got to have the working relationship where they can call you or feel comfortable enough to tell you their problems because we used to say, if they're not bringing you your problems, or their problems, then you're not doing your job. Because that means they've built enough trust with you.

Demonstrating empathy was another strategy that faculty participants indicated they used to build relationships with students. Although not always described using the term empathy, their responses were aligned with inherent empathetic tendencies, which as the participants described, lead to mutually respectful relationships. For example, Faculty Participant 2 shared,

> I look at the whole dissertation experience as a holistic experience. So, we're not only there to I don't believe in being there just to give technical you know, support in terms of academics, but, you know, I am there to show them, hey, you can do this.

Faculty participants also described being available as a strategy to build relationships. One faculty participant, Faculty Participant 3, indicated that they demonstrated their availability by requiring asynchronous meetings each week in order to ensure that the relationship is nurtured. They said,

> Well, first, they gotta, you got to build the relationship, because you can't come in and say, Okay, this is where it's gonna be. It's like, you want to know the students… [We can do that when] they are meeting with me every week.

Conversely, Faculty Participant 1 described how they use synchronous meetings sparingly as a way to show their flexibility in being available. They shared, "A student comes to an online university because they want asynchronous…learning and so I don't do a whole lot of non-request synchronous stuff. But, when a student calls, I'm there for them," demonstrating how they use flexibility as a means to support students and thereby, build relationships.

Students confirmed relationship building as an important component of their academic success. Faculty characteristics that students found most helpful in building relationships were being available and supportive, expressing understanding, and being quick to respond. One student discussed the supportive nature of her faculty member by stating,

> [Faculty member] has been very supportive of my endeavors, especially when I am experiencing stress. She allowed me to take the needed time to get my assignment done to the best of my ability and then turn it in when I am able.

Another student discussed understanding and advice as ways their faculty member provided support. They said, "He always understood and has given me alternatives to pursue until the stress lowered. He has also pointed out to take breaks, work on other things, and come back to the stressful work when I am less stressed." This, according to the student made them feel "like we had a really good working relationship."

Faculty participants acknowledged that having relationships with students was central to identifying and addressing stress-related issues. Correspondingly student responses focused on elements of relationship-building, including how the faculty members provided support, showed empathy, and were available as key strategies that faculty used to help them reduce or prevent stress. These interactions, according to students, made them feel that the faculty members cared about them as individuals and that they were partners in their success.

Theme 2: Collaborative Efforts Support Diverse Student Skill Sets and Needs

Faculty participants described collaboration with students and with the institution as critical to student success. In some cases, they situated themselves as the bridge between the institution and the student. For example, Faculty Participant 2 stated,

> Part of my role is to be that advocate for the student. So, you know, that puts me in a unique position to know the student and know the school. That gives me the ability to bring them together for the good of all.

Faculty participants described the institutional structure as an important factor in their ability to address students' diverse needs. This included support from a variety of sources including leadership and colleagues. Faculty Participant 2 shared how they felt supported by colleagues, "This was a pretty stressful situation and to me it was important. I eventually went and talked to [my colleague]." They continued by saying, "It was important to me to understand that, hey, this is not me. This would be a problem for any chair, you know, and so that was something that made me feel better when I received reassurance from one."

Two of the three faculty participants described the school's leadership role as important to their reflection and planning on how to support students. Faculty participants specifically indicated that they appreciated the flexibility in policies afforded by institutional leadership. They described this flexibility as critical to ensuring students had the time, resources, and confidence to be successful. For example, Faculty Participant 1 shared, "I tried to take away some of the time pressure, stress [for this student] because she's the type that worries about that. I knew that there was flexibility there. I also knew that the Dean would support it." Faculty Participant 2 shared, "I encourage them to [take an incomplete grade]…. I tell them there's

nothing wrong with doing it. If you need this extra time just take it. And leadership supports that."

Faculty participants indicated that they also felt it was important to manage their own stress to have the capacity to support students. For example, Faculty Participant 1 described how stress manifests in their practice,

> I try to be upbeat and optimistic. It's tough. I tell my students I work in structuring how I deal with students. At the same time, I need to consider how I deal with my own emotions. It's important to me [that the institution] supports me in that way.

Faculty participants also cited institutional support for students including access to advisors and tutors as a tool to manage their own stress. They described student referrals to support services as a means to reduce their workload, which resulted in stress management for both them and their students. They described how they felt supported when they could partner with other departments to ensure that students were receiving the instructional guidance they needed while reducing demands on themselves. For example, Faculty Participant 3 stated,

> I just can't do everything or I'd work day and night, 24/7. But I can refer students to [tutoring] or to library help and that takes some things off my plate. I think we are fortunate to have that for the students. It helps them and us.

Collaboration among colleagues, staff, and leadership was viewed by all three faculty participants as community building. Faculty Participant 1 said,

> I tried to make it a sense of community. And I think all of us should be doing that. I mean, here's his one-on-one teaching style, which I really think is great and what it shouldn't be like, but just with a few word changes, we can create community, right? And so I try to do that as best I can in order to best support my students.

Faculty Participant 2 elaborated, “When you have community, you have support. That just takes a load off your shoulders.”

When discussing what resources helped students mitigate stress, students described several university resources such as live, online (via Zoom) meetings with librarians or tutors/coaches as a way to help lower stress by helping answer questions or provide more clarity. One student described, “I have usually felt less stress after meeting with an academic support coach because I was able to get my questions answered.” Similarly, another student shared, “My stress was also lowered when I was able to text the library help center. It was truly grand to be able to get an answer at the touch of a fingertip.” Another student cited both group and individual tutoring sessions as a stress reducer by saying, group sessions have “been a stress relief for me, along with webinars, [and] individual coaching sessions.”

While some students focused on university resources, several described personal strategies to reduce stress, exercise, finding academic-work-life balance, and venting to a trusted person. One student shared,

> Hobbies. Exercising. Walking away for a bit. Talking to my kids (who are in college and graduated from college) just to hear how they're doing and provide them with support. It released the built-up tension and gave me some perspective. It's hard to do that because I take time away from tackling my long to-do list, but it works out better in the long run.

Lowering stress for students, according to both student and faculty participants, also means lowering stress for faculty. Both faculty and students viewed collaboration with individuals and services throughout the institutions as key to that end.

Theme 3: Addressing Stress Requires Recognizing and Acknowledging Diverse Sources of Stress

Faculty participants did not always describe purposeful efforts to identify stress, nor did they indicate they developed strategies specifically designed to alleviate stress. However, upon reflection, they were all able to give examples of students who were experiencing stress and categorized sources of student stress as academic and interpersonal.

With regard to academic stress, faculty participants cited several sources of stress that were observed in students. One source of academic stress identified by faculty participants was the inability of a student to progress in their program because of skill deficits or lack of confidence. Faculty Participant 1 described this phenomenon by stating,

> If a student feels like they're not going to pass a course, if the handwriting is increasingly on the wall, of course, they're stressed out about that. And a deeper level if a student realizes they probably can't succeed in their graduate program, then that's a deeper kind of stress.

Faculty Participant 3's comments provided additional insight into how students experience academic stress created academic concerns. They said,

> They just kind of go down a rabbit hole. They are lost and confused, they lose confidence, and they don't know what to do. Sometimes, I am able to give guide them through this, other times, well…I can't. It depends on the skills they come in with.

Faculty participants indicated that they played a more active role in mitigating students' academic stress through strategies such as goal setting, time management, and chunking. At the same time, they also acknowledged their limited ability to support the students experiencing interpersonal challenges resulting in stress. In these cases, faculty participants shared that they

hoped their support would provide the student with time or energy to deal with their personal challenges outside of the academic setting. For example, Faculty Participant 2 reflected,

> So, it's kind of part of all I do. If I can be flexible, encouraging, supportive… all that, then maybe some of the stress of school can give them the time and energy they need to take care of what's going on in their life.

Similarly, Faculty Participant 1 responded, "There's not much I can do except be there and meet them where they are."

While some faculty participants described their efforts as designed to address student stress as it occurs, others described strategies they used to preemptively lower stress. Faculty Participant 2 shared,

> They are all under stress, I guess. So, whatever I try to maintain a positive, encouraging environment." 1 explained, "Things like my weekly announcement, I think can help. Maybe it's a cartoon and a light-hearted quote. Anything just to shift that mood.

Student responses corroborated faculty participants' acknowledgment that they did not necessarily discuss stress specifically. However, students reported that they interpreted faculty efforts as their attempts to diffuse a stressful event. With regard to academic writing, one student wrote, "We did not discuss my stress level; however, he is super organized in how materials and resources are laid out in his platform. This reduces stress. Also, he attempts to reduce stress with funny videos embedded in feedback." Another student discussed a similar situation in which they identified the faculty members' attempts at reducing stress. They said, "He always understood and has given me alternatives to pursue until the stress lowered. He has also pointed out to take breaks, work on other things, and come back to the stressful work when I am less stressed."

Student responses also confirmed faculty perspectives that interpersonal stress was more difficult for faculty members to support. For example, one student said about their faculty member, “I know he wants to help but these are personal issues so there’s really nothing he can do. But it’s nice to know he understands.” Another student said about Participant 2, “She’s just so nice. She shared stories about how she’s been there. That helps but sometimes the issues are things I need to figure out for myself.”

While faculty members and students indicated that they did not necessarily discuss sources of stress specifically, upon reflection, both groups were able to identify academic and personal sources of stress. In addition, both groups shared strategies that faculty members used to mitigate stress. Overall, participants described stress as a natural part of the academic process and that actions of the faculty members and resources provided by the university as useful. Both groups of participants also acknowledged that interpersonal stress was beyond the scope of the faculty role, but were able to identify actions that the faculty members took that resulted in the mitigation of the stress, even if it was not purposeful.

Theme 4: Strategies to Offset the Affective Filter Address Academic and Interpersonal Areas of Need

Although faculty participants did not describe strategies they use as specific to offsetting affective filters or addressing student stress, their descriptions of their strategies aligned with those concepts. For example, they described specific instructional strategies designed to address academic deficiencies to promote success, which in turn, they observed as mitigating stress. Faculty Participant 1 described how they used chunking and goal setting to support student progress. They described their efforts by saying, “Those that although they can write reasonably well are not able to grasp graduate level concepts are abstract thinkers…I introduce them….to a

reading strategy which…does seem to help with comprehension issues." They continued by describing other instructional strategies they use including giving the student a "recording that I've created and a list of four simple points about how to create a synthesis," and "chunk the assignments …[to] become more manageable for them, so that they can experience some success."

Other instructional strategies shared by participants included the importance of building critical thinking skills to increase success and decrease stress. For example, Faculty Participant 2 shared, "I ask them lots of questions. Try to get them to go out and find the answers so they can build their own skills. Become independent scholars, you know." Another faculty participant described how they incorporated technology into their feedback to students to provide additional support for academic deficiencies. For example, Faculty Participant 1 explained, "It's just things like how to set up spell checker, how to set up a grammar checker in Word and grammar ad and you know how to apply for [tutoring] and that sort of thing. Just give them clear explanations of how to tap into those resources and those tricks of the trade for lack of a better term when it comes to improving your writing."

While faculty participants described specific strategies they used to guide and mentor students academically, many of these strategies also included an interpersonal component. They described situations in which students experienced stress from academic deficiencies or from life events and how they used specific strategies to intervene. In these cases, 1 said, "Just help them see that they are making progress, that they can do that. Encouragement can go a long way when they get feedback that seems overwhelming."

Faculty Participant 1 identified time management as important to their instruction. They said, "Okay, great. I want you to kind of break down your timeline…. How can you fit into your

schedule what you need to do here to make progress." They went on to say, "Setting goals is important. Sometimes the feedback can be a lot. If they break it down into smaller goals, that helps." This faculty participant also described how they suggested peer-to-peer support as a supplement to their instruction. They said, "[I tell them] I need you to develop a group of critical friends that will look over your writing and see what's going to happen."

Students corroborated the faculty responses in a variety of ways. One student exemplified this by saying, "I always get good feedback, but more important is the encouragement." Similarly, one of Participant 1's students said, "He makes it so it is manageable. I don't have to do everything at once. Just set some goals and jump in one step at a time." A third student summarized by saying, "When he helps me realize I can do this, it just lowers that stress level… so much."

Discussion and Recommendations

With over a million students enrolled in online graduate education (NCES, 2023), the focus of this study was to determine how faculty identify students experiencing high levels of stress in this population with the student perspective drawn from secondary data for triangulation. Addressing student stress is important to students' cognition (Gallagher & Stocker, 2017) and persistence (Arbona et al., 2018). Therefore, grounded in Krashen's Affective Filter Hypothesis (1977), a secondary purpose of this study was to identify strategies that faculty use to lower that stress, thereby lowering the affective filter. Data analyzed from three cases consisting of a faculty member and their students resulted in four themes that addressed the research questions.

Theme one focused on the importance of building respectful relationships, which can lower stress. Within this theme, the reciprocal nature of the student-faculty relationship was

explored, with a focus on availability, individualized support, and trust. Aligned with Mishra's (2017) findings, the importance of concern for students' well-being and relationship-building with students was consistently emphasized by faculty participants. They described strategies such as self-disclosure, trust, empathy, and availability as important to the student-faculty relationship. These strategies, as described by faculty participants, align with Jian and Ballenger's (2023) findings in which they described a focus on affective states, or emotions associated with a specific situation, as important to student success. Students confirmed these findings by describing how relationship-building played a significant role in their being able to cope with academic stress and appreciating faculty characteristics such as availability, support, understanding, and responsiveness.

Theme two highlighted the role of collaborative efforts in supporting diverse student needs. Institutional support, as described by Anderson (2019), and clear communication about those supports, as offered by Babcock et al. (2019), are important to both faculty and student stress management. Faculty participants acknowledged their role in facilitating collaboration with students and the institution as critical to student success. In addition, faculty and student participants alike corroborated Soffer and Cohen's (2019) findings that flexibility is an important component in their student success. This study added to these findings to suggest that the importance of flexibility lies in the stress-reducing qualities inherent in a malleable environment supported by institutional policies.

Collaborative efforts were seen as crucial for supporting diverse student skill sets and needs. As part of the overall campus structure, as described by Anderson (2019), faculty participants in this study also described the institutional structure, leadership, and colleagues as essential sources of support. Adding to these findings, in this study, participants linked this

collaboration among colleagues, staff, and leadership to community building which Archambault et al. (2022) describe as critical to a supportive online learning environment.

Theme three addressed issues related to recognizing and acknowledging diverse sources of stress, as described by Damiano et al. (2021). Faculty members disclosed that they did not always know when students were under stress, nor did they recognize behavioral outcomes similar to those identified by Chametsky (2017). Theme three emphasized how faculty members observed that students experience various sources of stress. While faculty participants actively addressed academic stress through strategies like goal setting and time management, they acknowledged their limited ability to support students experiencing interpersonal challenges. Students perceived and appreciated faculty efforts to alleviate stress, even when those efforts could not directly address their interpersonal challenges.

Finally, within theme four, strategies to address both academic and interpersonal needs were discussed. Strategies to offset the affective filter by addressing academic deficiencies and incorporating components focused on students' personal needs emerged from both faculty and student data. These strategies included instructional approaches that aligned with previous research about student well-being (Conley, 2015; Elmi, 2015; Maymon, 2021) and address academic deficiencies, building critical thinking skills, incorporating technology, and suggesting peer-to-peer support. Students confirmed the effectiveness of these strategies in mitigating stress and supporting their academic and interpersonal well-being.

While faculty participants were not able to identify strategies that they purposefully used to identify students experiencing stress or to mitigate that stress, their desire to support students and to promote their success aligns with a desire to lower the affective filter, as described by Krashen (1986). Participants described students' negative reactions to the learning environment

associated with fear, embarrassment, apprehension, and self-doubt. Similar to Krashen's theory, participants also associated these negative reactions with blocking cognition and preventing the processing of new learning. Aligned with previous research (Chen, 2020; Lim, 2020; Mehmood, 2018; Raju & Joshith, 2018), participants embraced a student-centered philosophy. They viewed strategies that cultivate self-confidence and emotional growth of students as effective in reducing stress and, thereby, lowering the affective filter in the online graduate classroom.

Several recommendations for practice emerged from the findings. First, institutions can support relationship-building between faculty and students by providing training and resources to faculty focused on instructional strategies designed to foster relationship-building. In addition, institutions should examine workload policies for faculty to ensure there are opportunities for relationship-building activities with students and to minimize faculty stress that can result from their complex relationships with students. Finally, faculty should engage in targeted training to ensure that they are positioned to identify sources of stress in students.

Recommendations for research expanding the findings of this study include examining how online graduate faculty and students perceive the effectiveness of strategies designed to offset the affective filter. In addition, research related to how other hypotheses in Krashen's (1986) Theory of Second Language Acquisition theory may be applied to online graduate learners as well as other populations could add to the understanding of how this theory might be applicable in other settings. Finally, faculty members in this study indicated that they sometimes had difficulty identifying students experiencing stress. Therefore, research to determine if Chametsy's (2017) negative affective filter coping strategies might apply to online graduate learners to develop strategies for faculty to identify students needing extra support should be considered.

Conclusions

The online classroom is a unique environment where faculty-student relationships and communication are key tenets in productive student-faculty interactions (Sun et al., 2022). Graduate education environments need to facilitate student engagement with rigorous theoretical and practical exercises associated with advanced cognitive skills (Hewitt & Stubbs, 2017; Wollast et al., 2018). Participants in this study describe stress resulting from academic and interpersonal sources as a barrier that can inhibit faculty-student interaction, thus limiting effective instruction from occurring. They also described strategies and attitudes that may help minimize the impact of that stress on student success.

While described in relation to a language learning environment by Krashen (1986), an affective filter, characterized by a negative emotional reaction to the learning environment, can interfere with learning. Given the high cognitive demands of online graduate learning and the associated stress, applying Krashen's affective filter to the needs of this population bears consideration.

A focus on considering the mitigation of stress through lowering the affective filter is important because the affective filter can provide a holistic environmental approach to students' success. While individual faculty members can clearly impact student stress, the commitment of all stakeholders is necessary. The Affective Filter Hypothesis, as described by Krashen (1986), can provide the framework for holistic student support services.

Specifically related to online graduate learners, this study adds to the body of knowledge by suggesting that relationship building, institutional support, addressing diverse sources of stress, and considering strategies to support students' interpersonal needs as mitigation efforts

may be effective in supporting this population. Findings give stakeholders guidance in supporting faculty and providing resources for student persistence and ultimate completion.

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