COMPARING DISABILITY ACCOMMODATIONS IN ONLINE COURSES: A CROSS-CLASSIFICATION

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ABSTRACT

This study shares similarities and differences in the experiences of graduate students with disabilities receiving accommodations in online courses based on their disability classifications. Data were collected using semistructured interviews and analyzed to identify core ideas through constant comparison, and propositions were formulated according to disability classification. The results indicated that all the participants were self-accommodated in online courses and were successful. The participants with ADHD were most impacted by their disability while those with visual impairments and chronic health impairments appeared least impacted in the online learning environment. Individualized, inclusive approaches for accommodating students in online programs are critical to supporting the development of the learner.

Keywords: postsecondary, disability services, disability classifications, online learning, disability accommodations

INVESTIGATION OF GRADUATE STUDENT EXPERIENCES

Today, 98% of public postsecondary institutions report enrolling students with disabilities as compared to only 3% in 1978 (Erickson & Larwin, 2016). The most recent census data from 2011-2012 indicated that 11% of students with disabilities sought baccalaureate degrees whereas 5% sought a master's degree or higher (U.S. Department of Education, 2016). Also the rate of online learning grew exponentially from the last decade, which created new opportunities for students with various disabilities (Betts et al., 2013). Online learning can produce academic and social benefits. Online learning can provide pedagogical and technological alternatives to face-to-face meetings for students who are unable to attend them due to various disabilities (Heiman & Shemesh, 2012). Additionally, students can choose the best type of environment for themselves based on the flexible pacing of a class (Almari & Tyler-Wood, 2016) and being able to complete work during their preferred time of day rather than during a scheduled class time (Coy, 2014). Socially, students in higher education can better interactive in online courses through using asynchronous tools (Almari & Tyler-Wood, 2016). Even with the benefits online learning affords students with disabilities, many of them do not complete their degree but instead choose to leave college early (Seabrooks-Blackmore & Patterson, 2015). Consequently, "increased *access* to higher education does not necessarily equate to increased *accessibility* in terms of course content, learning activities, and assessment" (Betts et al., 2013, p. 49).

All students need varying levels of support to be successful, but students with disabilities need more purposeful and intentional support (Seabrooks-Blackmore & Patterson, 2015). A major component of this is understanding the learning needs of each individual within the context of a disability classification. While each student with a disability must have learning needs understood individually, it is also beneficial to situate the learning context within the empirical evidence established for each disability classification. This study sought to ascertain the experiences of graduate students with disabilities receiving accommodations in online courses based on their disability classifications and assist in establishing evidence-based practices. Using evidentiary interventions, retention and graduation rates should increase for students with disabilities. However, this study is meant

to supplement the individual characteristics and needs of students and not to supplant prescriptive programming.

ACCOMMODATIONS AND CLASSIFICATIONS

The model for accommodating students in higher education is to classify students by type of disability. While there is no federal law governing classifications in higher education, many disability services have a system similar to elementary and secondary education. Based on the most recent data available, the following are the percentages of students with disabilities within the classification system: 31% learning disabilities, 18% attention deficit hyperactivity disorder, 15% psychological disorders/mental illness/psychiatric condition, 11% chronic health impairments, and 3% visual impairments (U.S. Department of Education, 2011). There are more classifications, yet these are the five illuminated in the study.

Learning Disabilities

The National Institute of Health (2018) reported that Learning Disabilities (LD) affect how a person learns to read, write, speak, and do math. They are caused by differences in the brain, most often in how it functions but also sometimes in its structure. These differences affect the way the brain processes information, but a learning disability is not an indication of a person's intelligence.

According to Heiman and Shemesh (2012), students with LD face academic, social, and psychological challenges, along with significant deficits in reading, writing, and math, that create problems when adjusting to new academic and social requirements. However, assistive technology (AT) can help meet students' needs through programs developed to assist with reading, writing, spelling, editing, organizing, and planning; thus AT is an essential accommodation for students with LD (Heiman & Shemesh, 2012). Online courses often include additional enrichment learning resources, such as online tutoring, that can also assist these individuals' unique learning needs (Heiman & Shemesh, 2012).

Attention Deficit Hyperactivity Disorder (ADHD)

People with ADHD have trouble getting organized, staying focused, making realistic plans, and thinking before acting—all of which are part of executive functioning. Manifestations of these deficits include: difficulty controlling responses, poor planning, being disorganized, and limited self-monitoring to obtain desired outcomes (Barkley, 2012). Consequently these students are likely to benefit from accommodations targeted at improving their executive functioning (e.g., organizing tasks, managing time)(Budd, Fichten, Jorgensen, Havel, & Flanagan, 2016).

Psychological Disorders

An estimated 15% of college students have mental illness (U.S. Department of Education, 2011) with the prevalence of any mental illness among U.S. adults (age 18 and over) being 17.9% (Substance Abuse and Mental Health Services Administration [SAMHSA], 2012). Anxiety and depression are the most prevalent disorders amongst college students.

Students with psychological disorders can be successful in postsecondary education with appropriate accommodations. According to *College students speak: A survey report on mental health* (Gruttadaro, & Crudo, 2012), students identified the following accommodations as critical for their success: excused absence for treatment (54%), medical leave of absence (46%), course withdrawal without penalty (46%), adjustment in testing setting (34%), homework deadline extensions(33%), adjustment in test times (33%), and increased availability in academic advisors (32%).

Chronic Health Impairments

The category of chronic health impairments includes different types of health and systemic disorders, including but not limited to multiple sclerosis, seizure disorders, diabetes, cancer, cardiac conditions, gastrointestinal conditions, renal disease, lupus, sickle-cell anemia, and so on (University of Memphis, 2017). For many people with chronic health impairments, distance learning may be the only means for accessing postsecondary education. Online learning affords them the opportunity to work from home on a flexible, self-paced schedule when medical needs arise.

Visual Impairments

Students with visual impairments have a variety of needs to access course materials in the online environment. Students are typically accommodated by accessing course materials through Braille, large print, screen readers, and screen magnifiers. Screen readers speak letters, words, numbers, punctuation, and elements aloud, whereas screen magnifiers can magnify the screen, enlarge text

and graphics up to 20 times larger, enhance mouse and text cursors for easier tracking, sharpen edges, increase contrast, and change color combinations (American Foundation for the Blind, 2017).

THE ROLE OF SELF

Self-advocacy and self-determination continue to be as important for students with disabilities in postsecondary education as in PK–12 education (Ju, Zeng, & Landmark, 2017). Unfortunately, only 24% of students who received special education services in high school choose to disclose their disability in postsecondary education (Cortiella & Horowitz, 2014), yet students with disabilities have an additional challenge of not only managing coursework but also accommodations (Getzell, 2014). In postsecondary education settings, self-determination is considered especially important in terms of disclosing disability, requesting support services and accommodations, navigating institutional infrastructure, communicating with instructors, and participating in academic and social activities (Newman & Madaus, 2015).

Self-determination and self-advocacy are essential for students with disabilities to successfully transition to, adjust to, and remain in college, as a significant relationship has been found to exist between self-determination and GPA and between self-determination and retention for college students with disabilities (Jameson, 2007). Getzel and Thoma (2006, 2008) conducted foundational research on college students with disabilities to ascertain the skills they believed were essential, which are to self-advocate to stay in college and obtain needed supports and to have self-determination to remain and persist in college. The students also identified the following self-advocacy skills: problem-solving, self-awareness, goal setting, and self-management. Self-determination skills were comprised of seeking services on campus, developing support systems on campus, and gaining self-awareness.

METHOD

A previous study conducted by Terras, Phillips, and Leggio (2015) examined the experiences of graduate students with disabilities receiving accommodations in online courses. The present study sought to build on this initial work by expanding the data set and conducting a separate, distinct analysis. Terras et al. (2015) analyzed the graduate students' experiences holistically rather than by disability classification. This study ascertained the experiences of graduate students with disabilities receiving accommodations in online courses based on their disability classifications. Specifically, the research questions were as follows:

• What are the disability-specific experiences of graduate students receiving accommodations in online courses?

• What are the similarities and/or differences between and among graduate students with varying disability classifications who receive accommodations in online courses?

Qualitative methodology was the research design used for this study. Specifically, phenomenological methods were employed for participant selection, data collection, and data analysis.

Setting and Participants

The research setting was a moderately-sized public university of approximately 15,000 students located in the central northern plains region of the United States. The study was situated in the college of education comprised of five departments. Only one university was selected in order to do an embedded analysis. Three of these departments offered online courses at the graduate level and were selected for the study. At the time the research was conducted, approximately 500 students were enrolled in online graduate degree programs, and 4% of the total student population was registered with disability services with 3% being undergraduate students and 1% graduate students.

Upon approval by the Institutional Review Board, a research announcement was sent electronically to all students enrolled in the online master's degree programs via the program directors. The research announcement solicited students with disabilities who had taken at least one online course and were willing to participate in a study to email the principal investigator for more information. The principal investigator screened potential participants to determine their area of diagnosed disability and to ensure they had taken at least one online graduate course at the university. If a student met both criteria and disclosed a disability that ensured a representative sample of varying classifications, they were electronically provided additional information. If the student consented to participate, they were contacted by one of the

investigators to set up a time to be interviewed. In sum, the participants in this study were 13 graduate students with disabilities. Undergraduate students were not included in this study as there were no fully online undergraduate programs.

Data Collection

Data were collected across two semesters by multiple investigators using a semistructured interview guide. The existing data set from the study conducted by Terras et al. (2015) was utilized and expanded. Specifically, 10 interview transcripts were obtained from the previous study and three additional participants were recruited. Recruitment efforts for additional participants reflected the need for similar distributions across the following five disability classifications: learning disabilities (n = 3), attention deficit hyperactivity disorder (n = 3), chronic health impairments (n = 2), psychological disorders (n = 3), and visual impairments (n = 3).

The same semistructured interview guide was used with the three additional participants for consistency. The guide consisted of 27 items equally distributed across three sections: Section 1. Participant Information; Section 2. Disability and Accommodations; and Section 3. Attitudes toward Accommodations and Receiving Accommodations.

Data Analysis

At the outset of the study, clarifying any researcher bias was discussed to help researchers set aside any preconceived experiences about disability accommodations. In the consensual discussions that ensued, the researchers held each other accountable for potential bias. The researchers assumed two roles during analysis, the first as initial evaluator of data from one of the disability categories, and the second as an auditor of the other evaluators' categorical reviews.

The analysis process consisted of two, distinct phases comprising multiple steps. To begin phase one, a template for each of the five disability classifications was created to populate participants' responses for each of the 27 items on the interview protocol. Each item was analyzed to determine the core idea of each participant's response by an initial evaluator. Next, the initial evaluator completed a cross analysis of core ideas for each item within each disability classification data set (e.g., learning disabilities data set, chronic health impairments data set) to determine emerging patterns of core ideas. Lastly, an independent audit was conducted by a member of the research team to determine a consensus of findings. To begin phase two, data were cross analyzed for core ideas within each data set resulting in final propositions. Next, an independent audit of the entire process was completed resulting in final propositions for each disability classification. Finally, consensus between the evaluator and auditor was achieved. For each disability category the following number of propositions emerged (see Table 1): three for learning disabilities, three for attention deficit hyperactivity disorder, four for psychological disorders, three for chronic health impairments, and three for visual impairments.

RESULTS

The purpose of this study was to ascertain if students with disabilities have similar or different experiences receiving accommodations in online courses based on their disability classification. Upon completion of data analysis, disability specific propositions emerged. Each proposition is presented along with supporting evidence (see Table 1).

Learning Disabilities

Each of the three participants with learning disabilities provided a distinctive response about their experiences in the online learning environment. Two of the three participants expressed disability-related concerns prior to starting their degree programs. Conversely, the third participant with a learning disability stated, "I didn't really have a whole lot of concerns. In my classes professors were more than happy to help me."

Two out of three participants with learning disabilities initially responded that their disability did not impact their ability to succeed in the online learning environment. However, further statements indicated that all three were impacted, although it was not necessarily evident in the quality of their work or their ability to be successful. Participants found not being able to pick up on nonverbal cues in the online environment, taking more time to study, relying on family to help accommodate (e.g., reading materials aloud), and asking many questions of the instructor (being "that student") impacted their learning experiences.

Different accommodation needs and experiences were also noted due to disability-specific learning

Table 1. *Disability Specific Propositions*

Learning Disabilities
- Participants' learning disabilities impacted the online learning experience, although the disability did not necessarily affect work quality or the ability to succeed.
- Participants found a combined approach of self-accommodating and requesting accommodations from instructors helpful.
- Each participant had an individual approach to addressing learning needs that was reflective of personal learning differences and beliefs about disclosure, accommodations, and services.

Attention Deficit Hyperactivity Disorder
- Participants were initially concerned about performance in an online degree program but had the self-determination to succeed.
- Participants' disabilities impacted learning in online courses, yet with formal and self-accommodations all felt they were successful based on grades and GPA.
- Participants believed that the students, instructors, and the university all have a responsibility for accommodating students with disabilities.

Psychological Disorders
- Participants' psychological needs impacted their ability to succeed in the online learning environment, yet the flexible nature of online learning accommodated many of these needs.
- Participants believed addressing needs is a shared responsibility among students, instructors, and the university.
- Participants noted the importance of relationship and communication between students and instructors to directly address accommodations.
- Participants also noted that success in an online graduate program requires self-efficacy, specifically the capacities of self-awareness, self-management, self-accommodation, and self-advocacy.

Chronic Health Impairments
- Participants' chronic health needs did not impact their ability to succeed in the online learning environment; the flexible nature of online learning accommodated their needs.
- Participants believed that addressing disability-specific needs are largely the students' responsibility, but it is the instructors' responsibility to be responsive to both accommodations and the policies of the university.
- Participants had a tendency to self-accommodate and only disclose when the disability created a need.

Visual Impairments
- Participants did not have concerns prior to starting an online program due to it being situated in technology, which was their primary accommodation.
- Participants believed they were successful in an online program as measured by their grades and GPA and gave credit to instructors for being approachable and helpful.

Participants received formal accommodations yet accessed them using different pathways, as well as being self-accommodated. They believed accommodations were important and proactively requested them early in the semester.

needs. These disability-specific needs facilitated an individualized decision to declare a disability with support services and/or the instructor. The need for accommodations was also indicative of a case-by-case basis with various courses, content, and specific assignment requirements.

There was some evidence in all three participants' responses for the need to be proactive and upfront with instructors about personal needs. None of the participants had utilized other campus services outside of disability support services. The participants noted that requests for accommodations were granted. All participants with learning disabilities were satisfied with their online learning experience and determined their success based on academic achievement.

Attention Deficit Hyperactivity Disorder

All three participants diagnosed with ADHD expressed concerns about success in a online program prior to beginning it. One had a concern about the time in between her undergraduate and graduate programs, another was concerned with "a fear of failure," and the third was concerned because her undergraduate program did not go well,

"It was messy getting here," she said. Although all participants stated they had self-determination to succeed, they also felt their disability impacted them in online learning.

The three participants all declared a disability with disability services at the beginning of their programs and at the beginning of each semester. All worked with their instructors to receive accommodations, the most common of which was extended time.

All participants agreed that course content played a role in the need for accommodations. They noted the need to ask more questions with certain areas of difficulty, difficulty in managing multiple due dates, particularly regarding entry and reply dates for online discussion forums, and time management for larger projects. Participants each stated they self-accommodated and also believed all stakeholders (students, instructors, and university) have responsibilities for accommodating disabilities. All felt they were successful in their online learning experiences based on their high level of education achieved and grade point average.

Psychological Disorders

All three participants with psychological disorders agreed that their disabilities impacted their ability to succeed in the online learning environment. The reasons included "the stress of being in school would impact my disability," trouble concentrating, personal life issues, and there is "always a concern when adding things to your plate."

Participants all requested and were granted accommodations from instructors. Flexible/extended deadlines on assignments was a helpful accommodation for all three participants. However, all three participants also reported some level of difficulty in asking and receiving accommodations, and accommodations were mostly worked out directly between the student and the instructor.

A belief in shared responsibility among students, instructors, and the university for student success was expressed, and how increased communication among all would improve the online student experience. Participants with psychological disabilities also noted that success in an online graduate program requires self-efficacy, specifically the capacities of self-awareness, self-management, self-accommodation, and self-advocacy. In addition, two participants noted the

importance of having a "go to person" for support, such as an advisor. All three participants with psychological disorders determined that they were successful in their online programs.

Chronic Health Impairments

Both participants with chronic health impairments indicated that their disabilities did not impact their ability to succeed in the online learning environment. Online courses accommodated their disability-specific needs due to flexibility in format and time. Neither participant declared a disability with disability support services as a graduate student, noting it was not necessary or would not be helpful to do so as they were able to self-accommodate. Neither of the participants felt course content impacted their need for accommodations, nor did they advocate in other ways or access additional campus services for assistance.

Both participants perceived it to be their responsibility to inform instructors and to accommodate and monitor their own disabilities, the instructors' responsibility to allow the accommodations, and the university's responsibility to offer services, provide information to instructors, and set policies. Both participants concluded that they had been successful in their online courses as indicated by completion of graduate work with a high GPA.

Visual Impairments

No concerns were noted prior to starting an online program for the two participants with visual impairments. Neither needed many accommodations due to the nature of online courses; specific accommodations that would address needs of a visual impairment seem to already be implicitly addressed in the online environment.

Both participants acknowledged that their visual impairments did not impact their ability to be successful in an online program. Yet, both provided specific examples of difficulty when assignments extended beyond the online learning environment, even though they felt it did not impact their quality of work. For example, one assignment required driving to meet with a case study student to conduct an interview, but because both participants did not drive due to their visual impairment, the participants self-accommodated by hiring a driver and requesting extended time. Other self-accommodations included using

assistive technology and accessing services from outside agencies, such as an organization for the blind and visually impaired.

Participants felt accommodations were important and should be accessed. Both requested formal accommodations early in the semester but used different pathways to do so—one requested from disability services and one directly from instructors.

Both participants found instructors to be approachable and helpful. They expressed a belief that students, instructors, and the university have responsibilities to make online programs successful for individuals. As one participant articulated, "It does take me more time to do things, but overall there is a lot more 'normal' in me than disability." Overall, the two participants with visual impairments found themselves successful in their online programs as measured by "good grades."

Comparison of Experiences

To ascertain if students have similar or different online learning experiences based on their type of disability classification, a cross-classification analysis was conducted. A number of noted themes emerged and are presented in Table 2.

A pattern of similarities indicated that all participants believed they were successful in their online programs. The participants maintained this despite nine out of 13 of them stating that their disability impacted their ability to succeed. Among the explanations for success, participants noted they were "persistent," "learned from challenges," had the ability to "apply what I have learned," received validation from instructors, and had good grades. Ultimately, they completed their online graduate programs.

Additionally, all participants self-accommodated in their online courses. This included strategies that fit each individual's needs, such as asking for clarification, taking a lot of notes, making lists to keep organized, having someone read aloud to them, and having friends proofread. Overall, the participants accepted responsibility for knowing the specific needs of their disability and communicating these needs to access necessary accommodations. The participants were able to access courses on a timeline that suited their individualized needs, and many assistive technology options were readily accessible within courses (e.g., text enlargement, screen readers, video and audio playback, organizational structure). Another similarity was the limited use of other campus services, such as the wellness center, student health services, and counseling center. Because participants were not living on or near the campus, they did not have an option to use services that were "place-bound." Participants did acknowledge using technology services to support technical issues and online tutoring services.

Despite the participants' overall success in online programs, differences clearly emerged between and among participants within the disability classifications (see Table 2). Participants with ADHD were most impacted by their disability in online courses while those in the classification areas of chronic health impairments and visual impairments appeared to be the least impacted overall.

Notably, there was an increased level of concern prior to beginning a program for students with LD, ADHD, and psychological disorders compared to those with chronic health impairments and visual impairments. These concerns were based on prior positive and negative experiences with requesting and receiving accommodations and taking online courses, understanding their own disability and coping strategies, and the unique way each disability (such as diabetes or chronic migraines) impacted the participants' ability to learn. Yet, the final outcome was that all participants considered themselves successful in their online programs.

There was also a distinguishable difference in the need for accommodations for individuals with LD, ADHD, and psychological disorders compared to chronic health and visual impairments. Predominantly, participants with chronic health impairments and visual impairments were more easily accommodated. The participants stated that technology in online course design eased accommodating a visual impairment or health need in many ways. Some examples included: increasing or decreasing the size of images and text, pausing recorded instructor lectures, accessing class materials and assignments when convenient with one's schedule, and taking frequent breaks. In reference to concerns about online support, one participant with a visual impairment responded, "It is a one stop shop—everything is right there"; another with a visual impairment articulated, "I don't have a huge number of needs related to

Table 2. *Themes Across Disability Classification*

Similarities
• All participants felt they were successful in their online learnig experiences.
• All participants self-accommodated.
• The participants accepted responsibility for knowing their needs and communicating them to disability services and/or instructors for the necessary accommodations.
• Online learning reduced the need for and use of services through personalized learning, flexibility, and access.
• The participants rarely used other campus services as they are less available to students in online programs.
Differences
• There was an increased level of concern prior to beginning the online program, as well as an increased need for accommodations for individuals with LD, ADHD, and psychological disorders compared to those with chronic health and visual impairments.
• Students with LD, ADHD, and psychological disorders were accommodated well in the online learning environment.
• Course content affected the need for accommodations for participants with LD, ADHD, and psychological disorders but not for those with chronic health and visual impairments.
• Participants with LD, ADHD, and psychological disorders noted fewer options for accommodations and less overall disability support.
• Participants with ADHD were most impacted by their disability in online courses while those with visual impairments and chronic health impairments appeared to be the least impacted.
• Invisible or "hidden" disabilities required higher rates of self-advocacy by participants than visible disabilities.

accommodations." Overall, the participants found these chronic health and visual impairments were accommodated well in the online learning environment. Conversely, the participants with LD, ADHD, and psychological disorders noted fewer options for accommodations and less overall disability support. The most frequent accommodation for all disability categories was extended time.

This pattern of increased difficulty for students with LD, ADHD, and psychological disorders remained true for perceived difficulty of course content. Course content affected the need for accommodations for participants with LD, ADHD, and psychological disorders more than for those with chronic health and visual impairments. The type and intensity of impact was again disability and individual specific. For example, participants with visual impairments and chronic health impairments received accommodations and benefits from online accessibility functions (such as a screen reader or asynchronous instruction) that applied across all content areas. In contrast, students with LD, ADHD, and psychological disorders seemed to have disability specific difficulties. For example, a participant with a disability in reading comprehension found the

increased difficulty level of content-related reading materials to be very impactful. Similarly, participants with ADHD found larger projects and discussion forums difficult to manage in terms of due dates and timelines. This is directly reflective of a diagnosis that impacts organization, sustained attention, attention to details, and follow through.

Participants with LD, ADHD, and psychological disorders noted a need to self-disclose their disability, and they received more formalized support, even though it seemed there were fewer services available as viable options. Participants with these invisible, or "hidden," disabilities required higher rates of self-advocacy than participants with visible disabilities. This included early contact with instructors to explain how the broad disability classification specifically impacted the individual. More interaction with both disability support services and individual instructors was documented by these individuals. In general, the participants diagnosed with ADHD seemed to be most impacted by their disability in the online learning environment.

DISCUSSION

Participants in all disability classifications felt successful in their respective online programs,

even though most participants felt their disability impacted their ability to succeed. What is interesting is that at the start of their online programs, participants noted how intrinsic motivation would help them persevere to manage their disability in order to be successful, yet when participants were asked what their measurement was for success, they stated it was mainly grades with no mention of *self* (e.g., self-determination, self-advocacy). While earning good grades are manifestations of internal motivation, the participants did not directly link themselves to their success. Perhaps in part this is because all participants in this study were granted formal accommodations from instructors whom they found helpful, thus good grades were a dual effort. Nonetheless, Summers, White, Zhang, and Gordon (2014) asserted that self-determination and self-advocacy skills have been identified as critical factors for students with disabilities to be successful in postsecondary settings. Further, Barber (2012) conducted a qualitative study on students with disabilities who were defined as successful college completers. Students had physical, emotional [psychological], and learning disabilities. A theme that emerged among these students was the ability to advocate for accommodations.

Participants between and among the disability classifications had similar and varying needs for accommodations. Predominantly, participants with visual impairments and chronic health impairments were more easily accommodated and less impacted than those with LD, ADHD, and psychological disorders in the online learning environment. Accommodations typically serve two purposes: to access the content and to comprehend it. For participants with chronic health impairments and visual impairments, their accommodations were about accessing the course, and after they had access to it, either with technology or with flexible scheduling, their disability-specific needs were met. So it is not surprising that these participants felt less impacted by their disabilities and seemed to have a stronger self-reliance compared to other participants. For those with LD, ADHD, and psychological disorders, their accommodations were about comprehending and/or processing the material and thus more extensive and ongoing. Heiman and Shemesh (2012) compared students with and without learning disabilities enrolled in online courses and found that students with a learning disability logged-in to the course site more often, accessed the forum more regularly, and entered significantly more messages on the forum. Coupled with this, they also found that students with learning disabilities had an increased motivation to find different pathways for attaining their goals as compared to their peers without disabilities. For students with a psychological disorder, the benefits of online education include the flexibility to structure their learning around study and lifestyle preferences, as well as having the opportunity to engage with academic staff and their peers regardless of difficulties with vision, speech, and mobility (Seale, 2013). However, online education can inadvertently introduce learning barriers to students with disability through technology, learning resources, and pedagogical teaching practices (Seale, 2013). Participants with psychological disorders in the study identified the student-instructor relationship as important for success. A final point of interest was that some participants accessed tutorial services that were available online, yet no one mentioned the university's counseling center. In a large part, this may be a result of the center not advertising distant nor telehealth services, even though online students pay fees to support this service.

Historically, all types of disabilities can fall into one of two categories: hidden or visible. Hidden disabilities are not evident by the naked eye, whereas, visible disabilities are immediately apparent. For example, a person who is blind would have a visible disability that is instantly detectable, but a person with a learning disability has a hidden disability as it is not recognizable by the naked eye. Massengale and Vasquez (2016) agreed that it is difficult for instructors to identify students with disabilities in online courses. However, in an online program with no campus presence, do all disabilities remain hidden from instructors and peers until students choose to disclose? For this study, the answer is yes, as all disabilities were hidden until participants chose to disclose. Comparatively, most participants with learning disabilities, ADHD, and visual impairments chose to disclose their disability to instructors at the beginning of the course. Beyond this, those with learning disabilities and visual impairments had the highest levels of acceptance with having a disability. Although this study did not ascertain exactly when

participants were classified as having a disability prior to graduate school, learning disabilities and visual impairments are often times classified and diagnosed in childhood, so these participants may have had more time to both understand and manage their disabilities.

The online learning environment may be a new pathway for students with disabilities to look and feel normal. For half the participants in the study, disclosing their disability and requesting accommodations were difficult due to past experiences of feeling judged and being viewed as different. Online learning initially was about breaking down barriers of geography to give people access to postsecondary education, but today it is creating an inclusive, normalized environment for students with disabilities. In support of this inclusive idea, there are several advantages of online education, and a few include: anonymity of participant, reduction in bias, and ability to recruit diverse populations (Burton & Goldsmith, 2002; Erickson & Larwin, 2016). These aforementioned reasons may be why evidence exists suggesting that students with disabilities increasingly choose to participate in online courses at higher rates than do other student populations (Alamri & Tyler-Wood, 2016; Phillips, Terras, Swinney, & Schneweis, 2012). The implication of this is that the percentage of students impacted by their disability is higher than the percentage of students actually disclosing to receive accommodations (Roberts, Crittenden, & Crittenden, 2011).

Another point of interest in this study was that participants did not address a desire or need for understanding their disability, for more learning strategies to assist with comprehending the content, or coping strategies to manage increased stress. Some students are classified as having a disability while enrolled in postsecondary education and need to understand the disability and learn ways to manage it. Educative interventions to understand and learn skills and strategies are a primary focus of special education services during the elementary and secondary years but not in postsecondary education. Heiman and Shemesh (2012) explained how students with learning disabilities often have to devise special study methods that require extra time and energy, which increases fatigue, so self-determination is critical. Budd et al. (2016) illuminated the importance of self-regulation and executive functioning interventions for students with ADHD in both high school and college. The federal disability laws that mandate reasonable accommodations for students with disabilities focus on access to the course or content, but not on the increased learning and emotional development of the student. This is a stark contrast compared to the PK–12 disability law (i.e., Individuals with Disabilities Education Act). Perhaps if there was better alignment among these laws, students with disabilities would transition more easily into postsecondary education and graduation rates for this special population would increase.

In conclusion, this study's contribution to the literature is that students with disabilities both within and among disability classifications have unique learning and emotional needs in online learning environments. Both individualized and inclusive approaches for accommodating these students are critical to fully understand and promote academic, emotional, and social development of the learner beyond solely providing access to courses, as hallmarked by federal disability laws governing higher education. While each student with a disability must have their learning needs understood individually, it is also beneficial to situate the learning context within the empirical evidence established for each disability classification. The evidence identified in this study is meant to supplement the characteristics and needs of each individual student, not to supplant in a prescriptive manner.

LIMITATIONS AND FUTURE RESEARCH

This study offers further insights about the experiences of students with varying disability classifications in online graduate courses. However, it is limited in that it addresses a small number of student experiences and perspectives from online programs only within a college of education at one institution, thus the generalization of findings is restricted. The fact that these students with disabilities had already completed undergraduate degrees and were engaged in graduate studies indicates a level of motivation, self-direction, and understanding of educational implications of disability that may or may not be representative of the general population of students with disabilities in online graduate programs. Finally, the findings are limited to the disability classifications

represented by self-reporting participants.

Additional studies are needed in order to validate the findings of this project and to better understand the similarities and differences students with a variety of disabilities experience in the online learning environment. It would be particularly important to gather recommendations from students to improve the online experience for students with disabilities in different categories and to examine the options for providing appropriate services and support in the online learning environment. A comparative investigation of disclosure and accommodations related to perceived hidden and visible disabilities in online courses would also be useful to improve support practices and instructional course design.

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