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Special Issue: Accommodations

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Congratulations to:

**Janet Medina, Psy.D., McDaniel College,
Associate Professor of Education Emerita
JPED 2019 Research Reviewer of the Year**

Special Issue on Accommodations, and a Tribute to a JPED Legend: From the Editor

This special issue of the *Journal of Postsecondary Education and Disability* (JPED) focuses on the process of identifying and providing reasonable accommodations to facilitate academic success and educational equity in postsecondary education. The lead article examines disability accommodation requests, specifically the prevalence and preference of review processes at postsecondary institutions in the United States. Among their findings, **Sydney Miller, Ryan Zayac, Amber Paulk, and Stacy Lee (University of North Alabama)** found that 59% of requests were reviewed by the Disability Support Services (DSS) director/coordinator and 21% were reviewed by a single DSS staff member. The majority of respondents were satisfied with their current review process and noted efficiency as the primary advantage of having a single individual review accommodation requests. In the next article, **Yung-Chen Jen Chiu (Hunter College), Hsiao-Ying Vicki Chang (Cornell University), Ann Johnston, Mauricio Nascimento, James Herbert, and Xiaoyue Maggie Niu (The Pennsylvania State University)** addressed the impact of disability services on academic achievement among college students with disabilities. They found that sex, race/ethnicity, college major, type of disability, and time when students registered for disability services predicted semester grade point average.

In the third article, the perceptions and experiences of college students with disabilities is portrayed as a "constant fight." **Grace Francis, Jodi Duke, Megan Fujita, and Jason Sutton (George Mason University)** described participants' empowering and disempowering experiences, and reported information about the impact of their families. In the next article, **Vanessa Costello-Harris (Indiana University Kokomo)** analyzed inclusion on college websites. The author examined Midwestern college and university websites and their evidence of providing an inclusive environment for students with disabilities as displayed by academic accommodations and human support. The author suggested that efforts should be made to increase the visibility of resources on campus websites, and provided recommendations for website improvements.

In the fifth article, information about academic, social, and occupational functioning is identified as essential to accommodation decision-making, planning, and monitoring. **Robert Weis (Denison University), Christina Till (Duquesne University) and Celeste Erickson (Tufts University)** asserted that many clinicians who assess college students for At-

tention-Deficit/Hyperactivity Disorder (ADHD) focus chiefly on symptom number or severity rather than on the barriers experienced by students in their everyday life activities. Several practical recommendations are offered to disability professionals, such as the use of adaptive functioning rating scales, which can facilitate the assessment of functional limitations and the provision of effective accommodations to students with ADHD. In the final article, **Christopher Toutain (Chapman University)** provided a review of literature on the barriers to accommodations for students with disabilities in higher education. The review identified several themes that emerged across 23 empirical research studies. Barriers to accommodations were found in the lack of student knowledge or awareness of campus resources, the inability to provide appropriate documentation of a disability or receive accommodations that students found useful, and the negative reactions of peers and faculty members that students experienced upon their disclosure of a disability or their request to implement accommodations.

The issue concludes with two practice briefs and a book review. Accommodating students with disabilities studying English as a foreign language was examined by **Davey Young, Matthew Schaefer, and Jamie Lesley (Rikkyo University)**. These authors explained an eight-stage framework created to accommodate students with disabilities enrolled in mandatory English as a foreign language course at a university in Japan. This framework includes initial referral and class placement, the creation of multidisciplinary teams, specific interventions, and review. In the next practice brief, **Janette Boney (Stockton University), Marie-Christine Potvin, and Monique Chabot (Thomas Jefferson University)** described the Greater Opportunity for Academic Learning and Living Successes (GOALS²) program. The program intends to expand the traditional accommodations offered to students with disabilities on college campuses through the provision of occupational therapy services to address student-selected academic learning and living goals. The final item in this issue is a book review by **Tammy Berberi (University of Minnesota, Morris)** on *Disability and World Language Learning: Inclusive Teaching for Diverse Learners*.

Dr. Joan McGuire (Professor Emerita, Senior Research Scholar at the University of Connecticut), a member of the research review board for the *Journal of Postsecondary Education and Disability* and a former editor of JPED, has decided it is time

to step away from some of her academic work, including her work with JPED. For more than forty years Joan's work has improved the lives of students with disabilities through her multiple professional roles and her commitment to the literature in disability studies. How do you measure the influence of such a respected educator? I asked **Dr. Manju Banerjee (Vice President for Educational Research and Innovation/Associate Professor)**, to share some thoughts about her former professor and mentor.

If one asked the JPED membership and others in our field for a spontaneous word association with the name—Joan McGuire—it would go something like this: an amazing lady, pioneer in the field, so classy, inspiring, high standards, changed my life, wonderful mentor, a dear friend, passionate about her work, a consummate scholar, leader, down to earth, very good listener, always respectful, and on and on it would go. Joan is all that and more. Dr. Loring Brinckerhoff, Director of Educational Policy at ETS noted, “Joan McGuire is a pioneer in our field. She set a standard for excellence in her scholarship, professional pedagogy, and fairness towards college students with disabilities. I know I have benefited greatly from her pearls of wisdom over the decades.” As co-editor of JPED with Dr. Stan Shaw, she raised the bar for scholarship and standards in publications, while always encouraging new authorship. JPED is now a premier journal in the field, due in part to Joan and Stan's early foundational work with the journal.

I got to know Joan McGuire after she interviewed me for my doctoral program without my knowing that I was being interviewed. She switched roles from colleague, mentor, and friend to thesis advisor many times during my program, and she did so with grace, respect, and collegiality. My Ph.D. program was a gift that I enjoyed much more because of Joan. I remember the academic rigor, excitement, and curiosity she brought to the then emerging framework of Universal Design for Instruction (UDI). Together with Drs. Stan Shaw and Sally Scott, Dr. McGuire has been the recipient of more than \$3 million in demonstration project grants focusing on UDI.

Those of you who know Joan will agree that she is, at heart, a consummate writer and editor. She has more than 80 peer-reviewed journal articles to her credit, as well as, two books and eight book chapters. Working on my Ph.D. thesis under her tutelage was rigorous and exciting, at the same time. I still recall Joan cautioning me to

avoid anthropomorphisms in my writings. I didn't know what the word meant at that time and had to look it up. In many ways, Joan was the perfect editorial board member for JPED; and, in her retirement from the board, she will be sorely missed.

There are so many career high points in Joan's professional trajectory that it is impossible to list them all, but a few are indelible in my memory. One is her presentation with Sally Scott at the Postsecondary Training Institute on UDI. Both of them were wearing ruby slipper pins, an allegoric reference to being in the new world of universal design. Another memory is our trip to Innsbruck to present on the UDI research findings. Joan believed in working, but she was equally enthusiastic about fun and relaxation. This is what Sally Scott said about Joan: “Joan McGuire has been a mentor and role model for many of us in the field. Her cutting edge-work in college programming for students with LD, her exemplary research and writing, and her willingness to push the envelope with new ideas and practices in Universal Design have benefited the field in so many ways! It's been such a privilege to work with Joan and enjoy her ‘work hard, play hard’ approach to life.”

It is not a hyperbole when I say Joan is a living legend. It has been a privilege and an honor to call her a colleague, mentor, advisor, and above all, dear friend. Her legacy at JPED will continue even after she retires; and that is indeed a gift.

The editorial team and review boards associated with the *Journal of Postsecondary Education and Disability* are proud to provide this special issue on academic accommodations and to offer a tribute to Dr. Joan McGuire, whose commitment to students with disabilities and to the academic literature has informed our practice.

Roger D. Wessel, Ph.D.
Executive Editor

Disability Accommodation Requests: Prevalence and Preference of Review Processes at Postsecondary Institutions in the United States

Sydney Miller¹
Ryan Zayac¹
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Stacy Lee¹

Abstract

As the number of students with disabilities attending college in the United States continues to rise, the workload of Disability Support Services (DSS) offices has also increased. No study to date has examined the primary method (e.g., individual office member, accommodations committee) for reviewing disability accommodation requests. The purpose of the current investigation was to determine the prevalence and preference of review processes for accommodation requests at postsecondary institutions in the U.S. A total of 98 DSS professionals from U.S. institutions participated in an online survey. The findings indicate the majority of accommodation requests are reviewed by a single individual within the DSS office. This study indicated that 59% of requests were reviewed by the DSS director/coordinator and 21% were reviewed by a single DSS staff member. DSS offices that served fewer than 250 students were more likely to use directors/coordinators as reviewers, while offices that assisted more than 250 students were more likely to use department/office staff members. The majority of respondents were satisfied with their current review process and noted efficiency as the primary advantage of having a single individual review accommodation requests. Respondents who indicated they were dissatisfied noted the single reviewer process may contribute to employee burnout.

Keywords: accommodation reviews; disability support services; postsecondary education; accommodation requests

The National Center for Education Statistics estimates that approximately 11% of college students in the United States report having one or more disabilities (U.S. Department of Education, National Center for Education Statistics, 2016), which is a dramatic increase from the 1970s when individuals with disabilities represented approximately 2-3% of the student population in U.S. postsecondary education (National Council on Disability, 2015). The rise of college attendance among individuals with disabilities has been largely attributed to two pieces of U.S. legislation (Hart, Grigal, & Weir, 2010; Konur, 2006; Madaus, Kowitt, & Lalor, 2012; Madaus & Shaw, 2006). Section 504 of the Rehabilitation Act was passed in 1973 and required any institution receiving federal funds to grant equal access to individuals with disabilities. The rights to individuals with disabilities in postsecondary education were expanded in the 1990 Amer-

icans with Disabilities Act (ADA) and amended in 2008 (ADA Amendments Act [ADAAA]), which required institutions to provide reasonable adjustments to the physical and educational environment, or accommodations, and imposed penalties on institutions for noncompliance.

To ensure compliance with ADA standards, most postsecondary education institutions in the United States have Disability Support Services (DSS) offices (Stodden, Whelley, Chang, & Harding, 2001; U.S. Department of Education, Office for Civil Rights, 2011). DSS offices are responsible for enforcing inclusive policies and facilitating students' access to reasonable accommodations (Scott, Markle, Wessel, & Desmond, 2016). In accordance with Section 504 of the Rehabilitation Act of 1973 and the ADAAA (2008), reasonable accommodations are any necessary means of assistance (e.g., special equipment, extra time on

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tests) that will aid students with disabilities in meeting course requirements without fundamentally altering the academic standards of the course (Hartman, 1993; U.S. Department of Education, Office for Civil Rights, 2011). These accommodations must be provided to any student who possesses a qualifying disability, which is defined in the ADAAA (2008) as an impairment that substantially limits one or more major life activities, a record of such an impairment, or being regarded as having such an impairment.

While the timeline and process of requesting and receiving accommodations varies from institution to institution (Cory, 2011), accommodation requests always involve the student self-reporting, an interactive process between the student and DSS office (e.g., interview/assessment), and review of documentation. A more detailed overview of what the process may entail is provided below. To receive accommodations, students must first submit a request for accommodation to their institution's DSS office. Once the request has been submitted, students schedule an initial assessment with a DSS professional. During this assessment students provide a written report describing the functional limitations of their disability and their educational accommodation history. A DSS professional may then discuss this report with the student, using the meeting as an opportunity to make behavioral observations of the student and obtain more detailed information regarding their disability. Following the assessment, the student may be asked to provide additional documentation from a licensed clinical professional who is familiar with the functional implications of their respective disability. This clinical professional should be qualified to make judgements regarding the specific disability (e.g., a psychologist verifies depression), as documentation requirements vary between different types of disabilities. Although third-party documentation of students' disabilities can be helpful in allowing DSS professionals to determine appropriate accommodations (Banerjee, Madaus, Gelbar, 2015), prior research suggests the validity of clinical professionals' diagnoses and recommended accommodations may be questionable (Sparks & Lovett, 2009; Sparks & Lovett, 2013; Weis, Dean & Osborne, 2016). Ultimately, DSS professionals must determine what information and documentation (e.g., student reports, objective data, clinicians' reports) is necessary for them to make an informed decision. Therefore, students who are seeking accommodations are expected to familiarize themselves with their institution's guidelines in order to ensure adequate documentation is provided in a timely manner.

After appropriate documentation is received, students meet again with a DSS professional to discuss a potential accommodation plan. The accommodation plan is submitted as a formal request for accommodation, which is reviewed by either a DSS professional (i.e., office director, coordinator, or staff member) or by a committee composed of DSS members, various staff and faculty members at the institution, and/or professionals from outside the university. If the request is approved, students receive authorized documentation of the procedures necessary to meet their accommodation, which they present to each of their instructors throughout their educational career. Instructors are expected to provide accommodations to the fullest extent possible and must contact DSS if they are unable to do so without outside resources, such as specialized equipment (e.g., screen readers) or the assistance of a disability service professional (e.g., testing in a distraction reduced environment).

Research has consistently linked receipt of effective accommodations with increased academic performance and persistence to graduation in individuals with disabilities (Datta & Talukdar, 2017; Nolan, Gleeson, Treanor, & Madigan, 2015). However, pursuing accommodations at the college level is more difficult than the high school level, as students are expected to navigate through the unfamiliar territory of self-advocacy rather than having accommodations arranged by their guardians (Graham-Smith & Lafayette, 2004). The DSS staff helps to ease this transition into self-advocacy by serving as a caring and helpful support system, working to ensure that all students feel comfortable in the classroom environment and receive the most effective accommodations possible. Therefore, a great deal of research has been focused on various aspects of the effectiveness of DSS in postsecondary education. For example, numerous studies have examined the various types of services available to students (Stodden et al., 2001; Tagayuna, Stodden, Chang, Zeleznik, & Whelley, 2005), the likelihood of students reporting their disability and utilizing the available resources (Lyman et al., 2016; O'Shea & Meyer, 2016; Sparks & Lovett, 2009; White, Summers, Zhang, & Renault, 2014), and the use of documentation in the accommodation decision-making process (Banerjee et al., 2015; Lindstrom, 2007; Lovett, Nelson, & Lindstrom, 2015; Ofiesh, Hughes, & Scott, 2004; Shaw, 2012; Weis et al., 2016). However, no study to date has examined the primary method (e.g., individual office member, accommodations committee/panel) for reviewing accommodation requests, the advantages and disadvantages of each method, or the preferred review methods of DSS staff members.

Given the growing number of students seeking accommodations, it is essential that DSS offices utilize the most effective, accurate, and timely method(s) possible. The authors conducted a systematic literature review of articles listed in the Education Resources Information Centre (ERIC), Academic Search Complete, and PsycINFO databases using a combination of the following keywords “accommodation review,” “accommodation decision making,” “accommodation requests,” “disability accommodation,” “accommodation review process,” and “postsecondary education.” The authors were unable to locate any currently published articles that have examined the primary method for reviewing accommodation requests at postsecondary institutions. As the workload in DSS offices across the country continues to increase, research assessing the accommodation review process is necessary. Given the positive correlation between overall job satisfaction and overall job performance (Judge, Thoresen, Bono, & Patton, 2001), as well as the high rate of burnout from individuals working in the mental health field (Morse, Salyers, Rollins, Monroe-DeVita, & Pfahler, 2012) these data may be beneficial to administrators when developing office policies and making personnel decisions. Therefore, the purpose of the current investigation was to determine the prevalence and preference of various review processes for accommodation requests at postsecondary institutions in the United States.

Methods

Procedures and Materials

All protocols were approved by the university Institutional Review Board prior to data collection. DSS professionals at U.S. institutions were recruited to participate in an online survey. Participants were recruited at the Association on Higher Education and Disability (AHEAD)® conference through direct conversation and posted flyers. An email request for participation was also sent to the ADA Coordinators Listserv and the Disabled Student Services in Higher Education Listserv (DSSHE-L).

After providing informed consent, participants were given a survey developed by the authors that asked a series of demographic questions (e.g., job title, years of experience); professional experience questions (e.g., How are requests reviewed at your institution?); and open-ended questions related to the disability accommodation request review process (e.g., Are there any advantages/disadvantages to the current review process utilized by your office?). Following the completion of the survey, a content analysis was conducted on the participants' responses to the

open-ended questions. The primary author (a senior undergraduate psychology major) and two additional investigators (the interim DSS director at the authors' institution; a faculty member in the Department of Psychology with fifteen years of experience working with individuals with disabilities) first worked independently on identifying common themes between responses. The three investigators then met and collaboratively grouped similar responses into categories. For example, when listing disadvantages of their current review process, a response of “too much work for one person” and a response of “overloaded staff members” would have been categorized under “employee burnout.” In order to be placed into a category, all three investigators had to agree on the interpretation and categorization of the participant's response.

Participants

The recruitment process resulted in 98 ($N = 98$) individuals participating in the study. Eighty-five percent (85%) of the sample identified as female ($n = 83$) and 15% identified as male ($n = 15$). Most participants reported that they worked at a private, four-year institution (40%; $n = 39$) or public, four-year institution (36%; $n = 35$), while 18% reported that they worked at a community college ($n = 18$), and 6% reported working at a technical college ($n = 6$). Approximately 57% of the respondents ($n = 56$) indicated that they were a director/coordinator of disability services or a related office at their campus, with 42% ($n = 41$) of the participants identifying themselves as a disability service staff member or working in a related unit (e.g., academic resource center). One individual did not provide their job title.

Participants were asked to indicate the number of students served by their office and given the following ranges: less than 100; 100-250; 250-500; 500-1,000; or greater than 1,000. Eight individuals did not respond to this question, resulting in a total of 90 respondents. Twenty percent (20%) reported they served less than 100 students ($n = 18$); 31.1% reported that they served 100-250 students ($n = 28$); 8.9% reported that they served 250-500 students ($n = 8$); 21.1% reported that they served 500-1,000 students ($n = 19$); and 18.9% reported that they served over 1,000 students ($n = 17$). Participants were asked to indicate the number of years they had worked in Disability Support Services. Respondents' professional experience ranged from one to thirty-five years. The median number of years of professional experience was 9.00, with a mean of 10.46 years of service.

Results

The type of accommodation review process utilized by the sample and their preferred process of review is presented in Table 1. Approximately half of respondents served 250 or fewer students (51%) and approximately half served 250 or more (49%); these categories were collapsed so that respondents were distributed into one of those two categories. A significant association was found between the number of students served and who was responsible for reviewing requests, with institutions with less than 250 students being more likely to use directors/coordinators and institutions with more than 250 students being more likely to use department/office staff members, $\chi^2(3, n = 87) = 12.75, p = .005$. The effect size was small (Cramer's $v = .012$) but statistically significant. A significant association was also found between the number of students served and the preference for how requests are reviewed, $\chi^2(3, n = 88) = 7.88, p = .05$. Again, the effect size was small (Cramer's $v = .012$) but statistically significant. Respondents who served less than 250 students were more likely to prefer that the director/coordinator individually review requests, while respondents who served more than 250 students were more likely to prefer department/office staff members to review requests. A medium, positive correlation between the number of students served and the number of staff members working in the DSS office was found ($r = .53, p < .001$).

Participants were also asked if their institution utilized a collaborative approach between DSS staff and other constituencies when discussing individual accommodation requests. Of the individuals who responded to this question ($n = 84$), 69% indicated that a collaborative approach was utilized on a case-by-case basis. Table 2 provides the estimated percentage of cases that accommodation consultations/collaborations are utilized at the respondents' institutions. Respondents reported consulting with individuals from the following departments/units on an as-needed basis: housing and residential life, academic affairs (e.g., faculty with training in clinical psychology, school psychology, or special education), student counseling services, veterans affairs, food services, health services, and outside medical/psychological consultants.

A small number of participants (7.7%; $n = 7$) indicated that their institution currently uses a committee to make accommodation request decisions. Although the composition of this committee (e.g., residential life staff, student counseling services staff, faculty members) may look very similar to those individuals who are asked to consult on individual cases, mem-

bers of this committee have a vote when determining students' accommodation requests.

When asked if they were satisfied with the current accommodation review process, 84% indicated they were and 16% reported they were not satisfied. Ninety-three percent (93%) of the participants who reported not being satisfied with their current review process ($n = 14$), indicated that their institution utilized a single reviewer method (Director/Coordinator, $n = 10$; Individual office member, $n = 3$). The remaining participant was not satisfied with their institution's use of an accommodation request committee.

Of the participants who identified advantages of their institution's current review process ($n = 77$), a content analysis of these responses revealed that the major strengths were a timely review process (44%), decisions being made by qualified DSS professionals (31%), and access to consultants (e.g., housing director, psychiatrist) as needed (25%). Comments from several participants are provided below that are representative of these strengths.

We are open enrollment, so requests come in all the time. We do have an established committee that is called upon when an accommodation is questionable – this is to get more perspectives. But when an accommodation is evident, we streamline it and avoid wasting time.

I strongly believe that the individuals who should be determining disability status and reasonable accommodation are the disability services staff. Although others on campus may have some knowledge of mental or physical conditions, the DSS staff are the only people on campus that have specific training in interpreting the ADA and its application to higher education.

We recently switched from individuals reviewing accommodation requests to a DS panel review. We meet once a week to review files and then schedule an appointment with the student to finalize. Thus far, this takes longer than when I just reviewed files on my own. I did not (nor did the student) have to wait for our group to review and then schedule an appointment.

Common disadvantages that were noted by participants about their institutions' current review process included employee burnout (37%), increased responsibility as a sole reviewer (18%), and inconsistencies across reviewers (14%). Comments from several respondents are provided below that highlight these concerns.

It is difficult being the only person to make decisions when there are complicated cases. I am overworked and have no time to focus on development or campus awareness.

We consult as a two person team for student requests whenever possible, but due to time constraints of having a heavy caseload we can't always consult on all students' accommodation plans. This can create situations where a student may have a more comprehensive plan if they meet with one staff member over another.

It is a lot of responsibility to place on one person. Having a committee might allow me to come up with creative alternatives that had never occurred to me, and having a faculty member involved might help faculty feel more included and open to universal design.

Discussion

The purpose of the current investigation was to determine the prevalence and preference of various review processes for accommodation requests at post-secondary institutions in the United States. The findings indicate that most accommodation requests are reviewed by a single individual within a DSS office (80%; $n = 72$). A significant association was found between the number of students served and who was responsible for reviewing requests, with institutions with less than 250 students being more likely to use directors/coordinators and institutions with more than 250 students being more likely to use department/office staff members.

Fortunately, the vast majority of respondents (84%) indicated that they were satisfied with their current review process. However, a number of respondents (16%) indicated a dissatisfaction with their current structure in large part due to the occupational stress of serving as a lone reviewer of requests and the high workload contributing to feelings of burnout. This feeling of burnout is not uncommon for individuals working for non-profit organizations (Licht, 2000), especially in a mental health field (Morse et al., 2012). For those institutions that utilize a single reviewer process and are concerned about employee burnout, a brief discussion of other review options is discussed below.

Contingent upon sufficient staffing in the DSS office, institutions may consider having two members of the office review accommodation requests. For situations in which there is a disagreement, a third staff member or the director may serve as the tie breaker.

Several respondents noted that this two member approach was beneficial in allowing for a timely review while simultaneously hearing other DSS professionals' perspectives.

By having two DSS professional staff members review requests, we are able to have a thorough review by utilizing various areas of expertise. It also allows for consistency and discussion when it comes to more complicated requests.

Being a relatively 'green' staff member, our collaborative approach [two-person review team] provides me an opportunity to learn from other colleagues while still allowing for a timely review process.

Respondents also recommended that for any situation where one of the reviewers has concerns about the student's request/documentation, the case be sent for a full committee review that includes all relevant constituencies (e.g., faculty, student counseling services).

Another way to potentially reduce the occupational stress on these employees would be to implement an advisory committee that includes key stakeholders (i.e., faculty members, residential life staff, student counseling services staff) that can be consulted on an *as-needed* basis. Collaboration between faculty and DSS staff has been shown to improve accommodation services, create a broader campus support for students with disabilities, and enhance students' educational experiences (Scott et al., 2016). One such case study is Ball State University, where faculty members and DSS staff members have collaborated to reform their practices and develop innovative services for students on their campus through partnering on various research projects (Scott et al., 2016). Similarly, Beyer, Moore, and Totino (2016) describe the utilization of a focus group of administrators, faculty, staff, and students with disabilities to identify policies, procedures, and services in need of change at individual unit/departmental levels and institution-wide.

A more recent example of the benefits of collaborative decision-making between faculty and DSS professionals can be seen in a case study at the University of the Pacific (Hsiao, Zeiser, Nuss, & Hatschek, 2018). Hsiao and her colleagues provide insight into the challenges of providing effective accommodations when members in DSS and faculty members have a lack of knowledge in each other's respective areas of expertise. By utilizing a collaborative decision-making model, information was shared amongst stakeholders (e.g., DSS professionals, faculty, the student) related to: (1) disability awareness, (2) es-

sential functions/technical standards/foundational skills (Roush & Sharby, 2009) of the faculties' discipline, and (3) specific learning activities and outcomes of the course. The sharing of this information in a collaborative manner allowed for the student's discipline/course-specific challenges to be identified, and for DSS staff to suggest reasonable accommodations that ultimately proved to be successful.

As recommended in the AHEAD Program Standards and Professional Indicators (AHEAD, n.d.), departmental collaborations that involve various faculty members in the disability accommodation process enable institutions to better meet the needs of students with disabilities, promote research into best practices, and establish an academic environment that is conducive to student success. Furthermore, implementing an advisory committee on an *as-needed* basis may improve the accommodation request review process by ensuring the efficacy of accommodation decisions, as studies have indicated that decisions made by committees are superior to decisions made by individuals (Chalos, 1985; Lombardelli, Proudman, & Talbot, 2002). Committees that are strategically composed of key stakeholders can offer a more well-rounded bank of knowledge than individuals (Altisent, Martin-Espildora, & Delgado-Marroquin, 2013; Bates, 2014) and previous studies have found that the accuracy of committee decision making has been beneficial in a variety of disciplines, ranging from health care ethics (Altisent et al., 2013), to monetary policy (Lombardelli et al., 2002). Collectively, these findings suggest that the use of an advisory committee could increase the likelihood that student requests are sufficiently vetted, while also eliminating inconsistencies across reviewers and some of the other disadvantages (e.g., responsibility as a sole reviewer) noted by respondents in the current study.

Nevertheless, the potential benefits of using an advisory committee as outlined above appear to be largely underutilized, as 31% of the current study's respondents indicated that their institutions do not use any form of consultation when making accommodation decisions. Furthermore, of those institutions that do use a collaborative approach, the vast majority (72.4%) use this approach on less than 10% of their cases (see Table 2). As evidenced by the sample comments from participants, this may be in part due to the time and resource constraints of committees potentially outweighing the benefits, making them less efficient than alternative procedures (Yuker, Holmes, & Davidovicz, 1972). Other studies also indicate that utilizing individual decision makers allows for increased flexibility and privacy (Altisent et al., 2013). Of course, it is also possible that the majority of ac-

commodation requests are straightforward and would not substantially benefit from a collaborative decision-making process.

When deciding what type of accommodation review process to utilize, another issue to consider is the amount of power and personal responsibility given to disability accommodation request reviewers. As the current study's respondents noted, a downside to utilizing individual reviewers is the burden of sole responsibility, whereas an advisory committee can solve this issue by dispersing responsibility among members (Lombardelli et al., 2002). As Bates (2014) noted, the use of a committee in higher education allows individuals to work towards a common goal and accomplish crucial tasks while avoiding sole responsibility.

Despite such advantages, the sharing of power and responsibility amongst a diverse committee does present additional challenges related to communication between office staff members and faculty of various disciplines. The establishment of an advisory committee may offer less power to disability service professionals and more control to faculty members – a dynamic that may create issues related to conflicting motivations, as faculty members' decisions may be affected by bias related to their own curriculum and classroom settings (Bates, 2014). For example, professors who must incorporate specialized equipment to accommodate students may be more reluctant to speak in favor of accommodation requests if they view the accommodations as inconvenient or cumbersome.

Efficiency, workload, accuracy, and maintaining balanced power and responsibility are all issues to be taken into consideration when choosing which process to utilize when reviewing disability accommodation requests. Based on the current study, the majority of DSS staff members believe that their office is operating efficiently and contributing greatly to student success. Although most respondents indicated that they prefer their current method of review, definitive conclusions cannot be drawn yet regarding which review process is the most beneficial.

Limitations and Future Research

Although the results from the current study are interesting, they are limited. In relation to the total number of postsecondary Title IV degree-granting institutions in the United States (4,583; U.S. Department of Education, Institute of Education Sciences, National Center for Education Statistics, 2018, Table 105.50), the current study has a very limited sample size and it is possible that these data do not represent the viewpoint of the larger DSS community. Of

the 98 individuals that completed the survey, approximately 60% of them report working at institutions that serve fewer than 500 students with disabilities. In fact, only 18.9% of respondents worked at institutions where more than 1,000 students were receiving services through their office. Therefore, caution must be used when interpreting the current data as the results are at least partially skewed towards smaller institutions. Future research is necessary to collect additional data, with a focus on data collection from universities with higher enrollments in order to provide a more representative sample. Additional data collection may also allow for a comparison between types of institutions (i.e., small liberal arts colleges, historically black colleges/universities, community colleges, for-profit colleges). Future studies should also focus on identifying which aspects of the accommodation review process contribute to positive gains in employee performance and satisfaction, as well as which methods provide the greatest benefit to students. Additional research that assesses students' perspectives regarding their DSS office's accommodation request review process may also be beneficial in providing a different viewpoint on the efficiency and ease of each method.

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Table 1

Prevalence and Preference of Disability Accommodation Request Review Processes

Number of Students Served	Current Method of Review		Preferred Method of Review	
	<250	>250	<250	>250
Director/Coordinator	73.9% <i>n</i> =34	43.2% <i>n</i> =19	63.0% <i>n</i> =29	43.2% <i>n</i> =19
Individual Office Member	8.7% <i>n</i> =4	34.1% <i>n</i> =15	8.7% <i>n</i> =4	31.8% <i>n</i> =14
Two Office Members	4.3% <i>n</i> =2	13.6% <i>n</i> =6	17.8% <i>n</i> =8	13.6% <i>n</i> =6
Committee	6.5% <i>n</i> =3	9.1% <i>n</i> =4	8.7% <i>n</i> =4	9.1% <i>n</i> =4
Other	6.5% <i>n</i> =3	NA	NA	NA

Note. Not applicable (NA).

Table 2

Estimated Percentage of Accommodation Requests that Utilize Consultations/Collaborations

Percentage of Requests	<i>n</i>	Valid %
Less than 5%	27	46.5
6-10%	15	25.9
11-15%	4	6.9
16-20%	3	5.2
21-25%	3	5.2
Greater than 25%	6	10.3

Impact of Disability Services on Academic Achievement Among College Students with Disabilities

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Abstract

Disability service offices within postsecondary educational institutions exist to provide students with disabilities (SWD) reasonable accommodations needed to facilitate educational equity and promote inclusion and access to postsecondary education. Little is known, however, regarding how services provided by these offices contribute to academic success that predicts college persistence and graduation. Using the *International Classification of Function, Disability, and Health* (ICF) as a framework to examine the impact of student disability services and other contextual factors on academic achievement, results from this study found that sex, race/ethnicity, college major, type of disability, and time when students register for disability services predict semester grade point average (GPA). Recommendations for practitioners and researchers are discussed.

Keywords: disability services, postsecondary education, students with disabilities

According to the National Center for Education Statistics (NCES), about one in ten undergraduate students report having one or multiple disabilities (Snyder & Dillow, 2015). With the passage of the Americans with Disabilities Act (ADA) and earlier legislation provided by Section 504 of the Rehabilitation Act of 1973, educational institutions are prohibited from discriminating against students with disabilities (SWD). Postsecondary educational institutions that receive federal funds are mandated to provide SWD with reasonable accommodations for academic activities, such as classroom accommodations (e.g., reserved front row seating); exam accommodations (e.g., extended time); assistive technology (e.g., Smart Pen[®]; a ballpoint pen that has an embedded computer and digital audio recorder); auxiliary aids (e.g., reader or interpreter); and housing and transportation support services. To ensure these accommodations are provided, colleges and universities often charge disability services offices to monitor that

academic accommodations and school-related activities are provided to all qualified students. These academic supports not only promote SWD's learning, but also contribute to the development of social networks important to college success.

Using a broad set of strategies to evaluate and determine appropriate accommodations, disability service personnel offers a range of support services that include career counseling; study skills training; resource identification (e.g., housing, psychological services, and tutoring centers); and disability advocacy. Although disability services are intended to support college persistence and graduation, little is known as to whether these supports as well as other factors actually contribute to academic performance and access to school-related activities. This study examined the impact of disability services on academic achievement, as well as factors that predict academic achievement of SWD. Using the *International Classification of Function, Disability, and Health* (ICF)

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framework, which suggests that academic outcomes of SWD are influenced by an amalgam of health conditions, individual considerations, and environmental influences (World Health Organization [WHO], 2002), the current exploratory study examines the impact of student disability services on academic achievement.

Assessing Academic Achievement Using the ICF

The *International Classification of Function, Disability, and Health* (ICF) was developed by the WHO in 1980 and updated in 2002 to serve as a universal framework and classification system. The ICF is a biopsychosocial model that provides a holistic view of one's health conditions within an individual-environmental context. Rather than focusing on disability itself, the ICF model places emphasis on health and the interaction between individual functioning and contextual environmental and personal factors. This model has been widely applied in clinical assessment, outcome measurement, program evaluation, and research as a tool to help conceptualize one's level of functioning and disability with regard to health and associated contextual factors. Applications of the model have examined personal and environmental factors on long-term immune system health outcomes among people living with HIV (Chiu, Boomer, & Conyers, 2018), persons affected by fibromyalgia (Muller et al., 2017), and the impact of assistive devices on functional outcomes among children with disabilities (Henderson, Skelton, & Rosenbaum, 2008). We applied the ICF to better understand academic performance within the context of associated personal and environmental factors. In the following sections, we describe how the selected outcome variables are predictive of academic achievement within the ICF framework.

Academic Achievement as a Functional Outcome

Within the ICF model, a functional outcome consists of three personal domains: (a) impairments such as body functions and structures, (b) activity which refers to tasks or actions a person undertakes in major life areas, and (c) participation in life situations within the community (WHO, 2002). The ICF model uses performance and capacity to measure one's level of activity and participation to understand what a person does in a specific context and to understand the person's current ability to execute a task without assistance. For example, a common functional outcome operationalized in many education research studies is student grade point average (GPA).

Contextual Factors Contributing to Academic Success

As noted earlier, contextual factors that include personal, interpersonal, and environmental influences contribute to learning experiences and ultimately academic outcomes. An examination of each of these contextual factors as part of the ICF framework will be reviewed and how it is applied to this study.

Personal factors. Perhaps more than any other applied criterion, GPA is the predictor used most often in determining academic success (i.e., persistence and graduation) (Crisp, Nora, & Taggart, 2009). Although somewhat simplistic as a measured outcome, as we have seen among SWD, GPA involves an understanding of contextual factors associated with personal and environmental influences. Within the literature, influences associated with academic achievement noted among the general college population include age, aptitude, education, enrollment status (full-time vs. part-time), ethnicity/race, sex, first-generation college student, sense of belonging, socioeconomic status, study skills, and self-perceptions pertaining to advocacy, determination, efficacy, and social capital (Dutta, Schiro-Geist & Kunda, 2009; Field, Sarver, & Shaw, 2003; Getzel, 2008; Herbert et al., 2014; Lackaye & Margalit, 2006; Lombardi, Murray, & Gerdes, 2012; O'Neill, Markward, & French, 2012). Although these influences are, for the most part, similar to those for SWD, there is a unique perspective that living with a disability provides that most college students without disabilities have limited understanding or appreciation of when dealing with challenges needed to succeed in college. For example, because of the continued stigma associated with disability, SWD will often report a fear of disclosing one's disability, lack knowledge in terms in the documentation process needed to establish eligibility for student disability services, and/or express uncertainty about the types of classroom accommodations available to promote learning as well as the ability to discuss and secure them with faculty (Collins & Mowbray, 2005; Dutta et al., 2009; Herbert et al., 2014; Mamiseishvili & Koch, 2011).

Environmental factors. Environmental factors are external considerations that include architectural barriers, stigma, legal and social structures, and service provisions (WHO, 2002). Research has shown that environmental factors such as campus climate (e.g., faculty attitudes toward SWD), disability-related policies, campus location, and financial aid resources are associated with SWD's academic performance and educational outcomes (Collins & Mowbray, 2005; Herbert et al., 2014).

Academic accommodations. Providing academic accommodations is one of the essential functions of disability services. The availability and types of accommodations, as well as university policies, have been identified in various studies as important environmental factors but, given the available literature, it is difficult to make sweeping recommendations across disability groups given the diversity that exists. As one example to demonstrate this problem, Gregg and Nelson (2012) conducted a meta-analysis on the effectiveness of providing extra time to students with learning disabilities and concluded that inconsistent findings could be explained by varying samples as a function of age, educational background, and severity of functional reading levels. These findings have, in fact, led to difficulties in making decisions about appropriate academic accommodations even when students have the same identified disability and, as a result, generate evidence-based practices that the disability services personnel may implement.

Use of disability services. The first step in securing services for SWD is to register with the disability services office on campus (Reilly & Davis, 2005). Typically, this process involves medical, psychological, or other specialized evaluations to determine if the students are eligible for disability services. Interestingly, despite the important role that these services provide to SWD, there is limited empirical evidence as to how disability services impact postsecondary outcomes. Of the available studies, the evidence is mixed. For example, Getzel, McManus, and Briel (2004) found that SWD who met more frequently with disability specialists had higher GPAs than those who did not follow through with their appointments. O'Neill, et al. (2012) compared a model that included student personal factors to a second model that included these same factors and the receipt of disability services and found that the later model was significantly better at explaining graduation outcomes. In contrast, a ten year longitudinal study by Herbert et al. (2014) compared students who initially sought disability services but either was found ineligible, did not provide documentation to establish the existence of disability, or did not follow required procedures to those students who followed through and ultimately were determined eligible services. A comparison to both groups found that graduation rates were within 1% of one another with both being approximately 66%. Although it was one of the few longitudinal studies, one limitation was that it did not consider at what point students attempted to secure disability services and, as such, we do not have a clear understanding how this variable and related factors as noted in this literature review contribute

to college persistence. Given the limited number of studies available that have examined the impact of student disability services on persistence and graduation, further investigation is warranted to better understand nuances of person and environmental influences using the ICF as a framework.

The current exploratory study was undertaken to examine contextual factors that contribute to students' academic performance as measured by semester-by-semester GPA and to determine whether the use of disability services impacts students' academic outcomes. The specific research questions were as follows: (1) To what extent does registration with the disability services office impact semester GPAs among SWD; and (2) To what extent do personal and environmental factors contribute to SWD's semester GPAs?

Methods

Data Source

The current study used secondary data to examine the impact of personal and environmental factors on semester GPAs for SWD with an intention to understand the impact of disability services on SWD's academic performance. The data source is the disability services office at a mid-Atlantic land-grant public university. Among the 40,552 undergraduate students enrolled in 2017-2018 academic year, there were approximately 1,935 SWD registered with the disability services office. The office is housed within the Office of the Vice Provost for Educational Equity, which serves as an advocate for diverse student populations. The professional staff includes a director, six disability specialists, four administrative assistants, one exam coordinator, and two graduate assistants. Each student must provide documentation to support the existence of disability and then complete an intake evaluation to determine eligibility in order to receive academic and related accommodations. Accommodations are determined based on an evaluation of the students' functional limitations; examples may include exam accommodations, classroom accommodations, note-taking assistance, alternative textbook, assistive technology, housing accommodations, accessible transportation, and other related services.

Longitudinal data was extracted from the disability services office database at the end of Spring 2015. Demographic information, academic standing, disability-related information, and approved accommodations were entered into the database at every student appointment. One of the administrative assistants helped compile the dataset for the research team with the permission of the director. Academic records

documenting each student's semester GPA were retrieved from the university registrar's database.

Participant selection criteria included students who (1) were undergraduate students enrolled in a degree program at the main campus of the university, (2) registered themselves with the disability services office, (3) completed their intake assessments with a disability specialist, and (4) received services during the 2009-2011 academic years. Of the 566 students who met the study criteria, four individuals had missing data on gender, time of registering student disability services, and types of accommodations. We removed them from the dataset, as these variables are important for data analysis. The records of 562 students were tracked from the time they enrolled in the university until the point they graduated or by the end of spring 2015.

Outcome Variable

We used semester GPA as the outcome variable for measuring SWD's academic achievement. Beginning with each student's enrollment date until either the last recorded semester of enrollment or graduation, we recorded the individual GPAs of each successive fall and spring semester. Semester GPA was used as a continuous measure of semester academic performance based on the standard of a 0.0 to 4.0-point grading scale.

Predictor Variables

Personal factors pertaining to the ICF model were: race/ethnicity, sex, college major, disability type, intake year, gaps in academic years, and semester standing. Student demographic information was recorded at intake assessment and updated each semester if there were any changes. It should be noted that more exacting categories as they pertained to gender and race/ethnicity were not available. As a result, we had to use data as recorded. Thus, rather than examining gender categories, we used biological sex (female/male) as a categorical variable. In terms of race/ethnicity the following designations were used: Asian (Asian and Asian American), Black (Black and African American), Hispanic (Hispanic and Latino), White (White and Caucasian), oOthers (Multiracial, International, or unknown).

As far as disability categories, there were 30 different codes recorded in the database. For data analysis purposes, we used the primary disability type and grouped them into one of four broader categories: Cognitive (e.g., learning disabilities, ADHD); Psychological (e.g., psychological disabilities); Physical (e.g., hearing impairment, physical health); and Other (e.g., neurological disorder). Additionally, "*Semester*

Standing" (number of semesters with a reported GPA at the time of each GPA observation) was included as a predictor to allow for the study of longitudinal trends in GPA. Please see Table 1 for descriptions of other variables, including *College Major*, *Year of Intake*, and *Gap*.

Environmental factors were operationalized as student disability services-related variables in this study, including use of disability services, types of academic accommodations, and semester during which each student registered with student disability services. With regard to whether disability services had an effect on student GPA, we created a binary variable "*AfterService*," which indicates the timing of the outcome GPA. We also created a categorical variable "*RegTime*" to identify when, on the students' college timeline, they had had their intake appointments (i.e., registered with the disability services office). We used three classifications to indicate when students had first contacted the disability services office: "Early" (registered prior to the end of their fourth semester), "Middle" (registered during their fifth or sixth semesters), and "Late" (registered during or after their seventh semester). Table 2 presents sample demographics including race/ethnicity, sex, college major, disability type, and timeline of registration with disability services.

With regard to types of academic accommodations, we referred to the accommodations requested by students and approved by the disability services personnel. At intake and at the beginning of each semester, disability specialists would meet with students to understand their accommodation needs and, if warranted, provide a letter students could use with their instructors to insure compliance. Our database captures approved accommodations that were identified at the most recent appointment. There were more than 150 types of accommodation in the database and we grouped them into five categories: exam accommodation (e.g., extended time for exams and quizzes, testing in a distraction reduced environment, consideration with regard to rescheduling exams and quizzes); classroom accommodation (e.g., consideration to arrive late or leave early, consideration regarding absence); note taking (permission to record lectures, note taking services); assistive technology (alternative materials, use of assistive technology); and Smart Pen©. It should be noted that we considered the Smart Pen© as its own technology, as previous research (Kobayashi, 2005) indicated that different learning outcomes can occur as a function of note-taking strategies. Therefore, we differentiated the Smart Pen© from traditional note-taking services and other assistive technologies. Since each student

could receive approval for one or more accommodations, we used five separate predictors (each of which was a binary indicator of the student's approval for an accommodation in the grouping) to record student accommodation approval information. Table 3 presents the numbers of students who requested and received approval for each type of academic accommodations.

Data Analysis

Since this is a longitudinal study and there were multiple GPA records for each participant, a linear mixed effects model is appropriate to analyze data given the research questions of interest (Dean, Voss, & Draguljić, 2017). Prior to any formal analysis, a visual inspection was made to ensure data accuracy. Linear mixed effects model assumptions (i.e., linearity, absence of collinearity and heteroskedasticity, normality of residuals) were also evaluated using residual diagnostics. This process revealed multicollinearity between predictors *Gap* and *RegTime* and, as a result, *Gap* was deleted from the model. Additionally, because year of intake was not pertinent to our central research questions and, when it was included in the model, its coefficient was not statistically significant, we decided to remove *IntakeYear* from our final model. Our final tested model for predicting semester GPA was:

$$\text{GPA}_{ij} = \beta_0 + b_{0i} + \beta_1 \text{Semester}_{ij} + \beta_2 \text{AfterService}_{ij} + \beta_3 \text{Gender}_i + \beta_4 \text{Race}_i + \beta_5 \text{Disability}_i + \beta_6 \text{Major}_i + \beta_7 \text{Notes}_i + \beta_8 \text{Exam}_i + \beta_9 \text{SmartPen}_i + \beta_{10} \text{Classroom}_i + \beta_{11} \text{Technology}_i + \beta_{12} \text{Other}_i + \beta_{13} \text{RegTime}_i + \beta_{14} \text{AfterService}_{ij} * \text{Semester}_{ij} + \beta_{15} \text{AfterService}_{ij} * \text{RegTime}_i$$

In this model, GPA_{ij} denotes the j^{th} semester GPA record of the i^{th} individual. Predictor variables that have the subscript i vary only between participants, while the subscript ij indicates that the predictor varies also between semesters. To account for correlation among multiple observations per participant, a mixed effects model assigns to each individual a different intercept. In this model, for the i^{th} study participant the intercept is $\beta_0 + b_{0i}$, where b_{0i} is the random effect for the i^{th} individual.

The interaction of *AfterService* with *Semester* was included in this model to allow for an assessment of the relationship between registration with student disability resources and longitudinal trends in semester GPA. The interaction of *AfterService* with *RegTime* was included in this model to allow for an assessment of whether students who registered with student disability services during one of three designated periods (Early/Middle/Late), experienced different

semester GPA outcomes after registration in comparison to students who registered at other stages of their matriculation.

For each non-binary categorical predictor (*Race/ethnicity*, *Major*, *Disability*, and *RegTime*), we conducted an ANOVA to assess this predictor's overall statistical significance. If the ANOVA indicates significance, further analysis incorporating multiple comparisons adjustments is required to test which values are different than other values. This procedure is needed, because mixed effects model coefficients provide only a comparison to a specified base value of the predictor, as opposed to a comparison between all possible pairs of the predictor's values (Dean et al., 2017). Separate from the primary linear mixed effects model analysis, which we used to examine the relationship between selected variables and student GPA, we were also interested in the relationship between type of disability and type of provided disability accommodations. For each of the six accommodation type groupings (*Exam*, *Notes*, *Smart Pen*®, *Classroom*, *Technology*, and *Other*), we used a two-way contingency table relating accommodation approval to disability type to explore this relationship, and with either, a Chi-squared or Fisher's exact test to assess association significance. All analysis was done using R 3.2.3 extensions program (R Core Team, 2015) with supporting packages *nlme* (Pinheiro, Bates, DebRoy, Sarkar, & R Core Team, 2018), *lmerTest* (Kuznetsova, Brockhoff, & Christensen, 2017), *multcomp* (Hothorn, Bretz, & Westfall, 2008), *MuMIn* (Bartoň, 2018), and *ggplot2* (Wickham, 2009).

Results

The coefficient table from the mixed effects model regression analysis is shown in Table 4. This table identifies both interaction terms in the model (*AfterService* with *Semester* and *AfterService* with *RegTime*) as significant predictors of semester GPA. While the regression coefficients of *Race/Ethnicity*, *Major*, and *Disability Type* are not significant, ANOVA identifies each of these variables as significant, having F -statistics 2.66 ($p=.03$), 12.04 ($p<.00$), and 4.92 ($p=.00$), respectively. Full ANOVA results are provided in Table 5. The analysis of pairwise contrasts for these variables is summarized in Table 6.

Personal Factors Associated with Changes in GPA

The mixed effects model analysis of our sample (see Table 4) identifies *Sex*, *Race*, *Major*, and *Disability Type* as significant predictors of semester GPA. Inferences from the sample data suggest that the semester GPAs of female students were, on average,

0.25 grade-point higher than male SWD with other characteristics being the same. It also suggests that, on average, Black students had lower semester GPAs than White students, with the sample revealing no other racial/ethnic group pairings to have statistically significant semester GPA differences. For example, there was no statistically significant difference in the average semester GPA of White students in comparison to that of Asian students. When comparing semester GPA differences by student major, findings demonstrate that, on average, students majoring in the STEM fields had lower semester GPAs than those in Education fields or fields grouped as "Other;" moreover, on average, students majoring in Liberal Arts and Social Sciences fields had lower semester GPAs than those in fields grouped as "Other." When comparing semester GPA differences by student disability type, the model suggests that students with physical disabilities had higher semester GPAs than those with cognitive disabilities.

Environmental Factors Associated with Changes in GPA

Figure 1 shows a scatterplot illustrating the relationship between the longitudinal behavior of semester GPA and the variable *AfterService*. For those records in the sample that occurred before/after registration with disability services, the figure shows the linear best fit lines. There is a clear decreasing time trend in semester GPA for those records that occurred before registration, with no such clear trend apparent among records that occurred after registration. The linear mixed effect model analysis (see Tables 4 and 5) also demonstrates that, for any fixed semester, if all other predictors are held constant, there was a statistically significant difference between the mean semester GPA of records occurring before registration with disability services and that of those occurring after registration, with the size of this effect dependent on when the student registered with disability services. This analysis suggests that SWD who registered early in their college timeline had higher semester GPAs after registration on average than those who registered later in their college timeline. This GPA difference was statistically significant only between Early registrants and Late registrants, however.

In terms of accommodations requested and approved, results indicate that only the provision of note-taking services had a significant effect on SWD's semester GPA (see Tables 4 and 5). Specifically, SWD who qualified for note-taking services achieved lower semester GPAs. Additionally, the separate 2-way contingency table analysis gives strong evidence for an association between *Disability Type*

and *Classroom Accommodations*, with 73% of students with Physical Disabilities being approved for an accommodation in the classroom grouping, while fewer than 33% of students with any of the other disability types were approved for accommodation in this grouping. Inferentially, all six accommodations categories resulted in statistical association between the disability grouping and the accommodation received.

Discussion

The current study revealed the impact of personal and environmental factors on SWD's academic achievement. This study applied the ICF to examine the impact of personal and environmental factors on SWD's academic achievement. Among personal factors, sex, race/ethnicity, college major, and type of disability were significantly associated with SWD's semester GPA. We also found that environmental factors, specifically the time when disability service registration occurs, also affected their GPA trajectories. Given these findings, we present implications of each factor, as well as how our findings align with those from prior studies.

Personal Factors Influencing Semester GPA

Sex. Our finding shows that female SWD had higher semester GPAs than their male counterparts; this is consistent with previous findings that suggest female SWD are more likely to graduate than their male peers (Newman et al., 2011). Although gender differences have been reported, reasons for these differences have not been examined. Research on gender differences and academic performance within the general postsecondary literature has offered a variety of explanations including differences in career choice (Olivieri, 2014), work expectations (Goldin, Katz, & Kuziemko, 2006), perceptions regarding the value of education (Diprete & Buchmann, 2006), and support-seeking behaviors (e.g., Conger & Long, 2010). To what extent these gender-related factors as well as other variables impact academic achievement among SWD have not been explored and could be a potential area for future research.

Race/ethnicity. We also found that race/ethnicity is associated with academic achievement among SWD. Specifically, Black/African-American SWD reported lower GPAs than White/Caucasian students. This finding is consistent with that reported in other studies indicating disparities in postsecondary education across racial groups. For example, the National Longitudinal Transition Study-2 (Wagner, Newman, Cameto, Levine, & Garza, 2005) revealed that the college degree attainment of African-American SWD

was less than half than what it was for White SWD. As applied to SWD, Pellegrino, Sermons, and Shaver (2011) found that African-American SWD were less likely than Caucasian students to seek the evaluation required to document their need for accommodations in college settings. In attempting to account for this outcome, Banks (2014) conducted a qualitative study interviewing three African American SWD in college. Their stories reveal that the ways that these students manage their, often marginalized, identities and construct social capital influence their decisions on seeking support from disability services. In essence, the academic performance barriers African-American SWD face seem to result more from external social and cultural factors than a lack of academic capability. Given the importance of this influence, a review of multicultural resources should be described as part of the disability eligibility evaluation intake process to students of color.

To address the intersectionality of race, ethnicity, and disability, disability services professionals also need to collaborate with faculty and staff on campus to examine the broader diversity issues locally and nationally. Kimball, Friedensen, and Silva (2017) maintained that SWD are a remarkably diverse population and it is important to apply an intersectionality approach to better understand their experiences in educational settings. Shallish (2017) encouraged administrators and disability professionals include disability as part of diversity initiatives and proactively advocate for educational equity instead of simply meeting minimum federal legal requirements. Faculty should also adapt a culturally relevant pedagogical approach work working with diverse students, such as the Culturally Relevant Pedagogy (Ladson-Billings, 1995) that emphasizes student-centered and holistic teaching.

College major. Our study demonstrates that SWD in STEM majors had lower semester GPAs than SWD in education, liberal arts and social science, and other majors. Within the general population, students in STEM fields are more likely to receive lower grades than students in non-STEM fields (Westrick, 2015). For example, Bridgeman, Pollack, and Burton (2008) found more non-STEM students reported cumulative GPAs of 3.5 or higher than did STEM students, despite the non-STEM and STEM students having similar SAT scores, high school GPAs, and school selectivity. One reason for these GPA differences cited in the literature is that grade inflation is more likely to occur in non-STEM fields (Stinebrickner & Stinebrickner, 2014). In addition, Street et al. (2012) maintained that STEM courses usually demand higher levels of executive functioning (i.e., organization,

planning, time management), which were major barriers for students with learning disabilities, ADHD, and other cognitive disabilities. Using the National Survey of Student Engagement (NSSE), Hedrick, Dizen, Collins, Evans, and Grayson (2010) conducted a study examining perceived academic differences among students with and without disabilities, as well as differences between students with STEM and non-STEM majors. Their results indicated that students with STEM majors perceived higher levels of enriching academic experiences than non-STEM students; there was no significant difference between disability status and STEM status, however. Cardoso et al. (2016) conducted a qualitative study examining experiences in the STEM majors among racial and ethnic minority SWD who participated in the MIND Alliance project in which they received individualized academic and career support services. Results indicated that interpersonal and individual factors, accommodations provided, and disability services received were major themes that impact SWD's academic success. Cardoso et al. suggested that disability services professionals should collaborate with faculty and staff to identify teaching and assessment strategies that promote academic success among SWD enrolled in STEM majors. Although impact of person and environmental influences on academic achievement of STEM students has been explored, it is clear that limited studies have considered disability services as an important consideration for SWD who pursue these academic majors.

Type of disability. In examining the impact of disability types on achievement outcomes in postsecondary education, we found that students with physical disabilities have higher semester GPAs than students with cognitive disabilities. This finding is consistent with those of other studies that used graduation as a binary predictor (O'Neill et al., 2012); such studies found that students with physical disabilities were twice as likely to graduate than students with cognitive disabilities and 30% more likely to graduate than students with psychological disabilities. This result may be because students with physical disabilities usually experience fewer or less severe cognitive functional impairments than students with cognitive and psychological disabilities, which may impact their experiences of requesting and receiving academic support and thus influence GPAs. Although we found statistical significance regarding GPAs among SWD with different disability types, these differences were minimal. Parallel findings from this study also suggest that semester-by-semester GPA is an appropriate indicator of academic outcomes.

Environmental Factors Influencing GPA

Environmental factors examined in this study included time of disability services registration and types of accommodation approved.

Impact of disability services. To understand the impact of disability services, we examined the relationship between disability services and academic outcomes for SWD. Our analysis yielded two promising findings. First, trajectories of students' GPAs improved after they registered with the disability services office. Moreover, there was a significant association between registering with the office early in their matriculation and higher semester GPAs than registering later. These findings support previous studies' arguments regarding the positive relationship between student disability services and SWD's academic achievement. O'Neill and colleagues found when disability services were made available and accessible to SWD, they were more likely to graduate. Thus, it appears that disability services personnel play an important role in fostering and facilitating positive academic outcomes through services such as providing academic accommodations; advocating for educational access; and making academic, physical/mental health, and other service referrals. In fact, SWD who interacted with student disability services personnel were more likely to meet with their faculty and to report higher levels of satisfaction with other university services (Cawthon & Cole, 2010). These findings offer disability service personnel evidence as to the importance of continued funding when consulting with university administrators responsible for budgetary decisions.

Types of academic accommodations. Our analysis shows that only the provision of note-taking services significantly predicted student GPAs but in a negative direction. Specifically, SWD who qualified for note-taking services achieved lower semester GPAs. Similar to our findings, O'Neill et al. (2012) found that use of note-taking services and other assistive technologies significantly decreased the odds of graduation among SWD. One possible explanation is that SWD who qualified for note-taking services were those who encountered more academic challenges initially. According to the director of the student disability services at the study's university (K. Jervis, personal communication, June, 29, 2018), note-taking services should only be offered to students who demonstrate significant challenges and who cannot take notes on their own in class; other students are encouraged to take notes on their own using the Smart Pen©. It should be noted, however, that other studies have demonstrated that SWD find note-taking and other similar services helpful in terms of improving

their academic achievement. The current study did not examine the extent to which students used these services or their perceived quality which makes it difficult to evaluate the impact of note-taking services.

In our study, provisions of other classroom accommodations and assistive technologies (e.g., Smart Pen©) did not impact GPA. This finding is inconsistent with those of earlier studies investigating the impact of accommodations on academic achievement. For example, Kim and Lee (2016) found that the providing test accommodations (extended time, alternative test format) predicted SWD's cumulative GPAs when controlling for demographic and disability variables. When considering graduation rates, O'Neill, et al. (2012) found that providing test accommodations was the greatest predictor of graduation, followed by assistive technologies and classroom accommodations. It may be that in our study, the lack of statistical significance as it pertains to the use of academic accommodations may be because students did not actually use them throughout the semester. According to the disability services director affiliated with the university where data were collected (K. Jervis, personal communication, June, 29, 2018), many SWD would not register with student disability services until they experienced challenges in their classes. Even for those who were granted accommodations at the beginning of the semester, many of these students did not use them until their grades were affected. As a result, it may have had limited impact on course grades (K. Jervis, personal communication, June, 29, 2018). This practice is consistent with our finding in regards to SWD who registered with disability services early were more likely to achieve better grades, compared to those who registered late.

There are many reasons that explain why SWD do not register with disability services or use approved academic accommodations. Squires, Burnell, McCarty, and Schnackenberg (2018) conducted a qualitative study looking at college students who self-identified as SWD and their reasons for not requesting academic accommodations. Major themes included wanting to be independent and self-sufficient and wanting to avoid disability stigma. Squires et al. suggested disability services professionals should provide greater focus on the process of disability identity and self-advocacy to help SWD understand their needs to achieve greater independence. Further, disability services professionals should become more involved with faculty as it pertains to the accommodation process. By doing so, they believe more collaborative relationships will follow that results in better student learning outcomes. In addition to these recommendations, providing an orientation regarding student

disability services procedures (eligibility, academic accommodations) should be included as part of the general orientation that SWD receive. Finally, student disability services could also partner with other student affairs offices, such as mental health services, tutoring services, and other learning centers to promote visibility and to decrease disability stigma.

Limitations and Future Research

A limitation of this study is that data were collected from a single four-year public university and, as a result, may not generalize to other university settings. Indeed, student disability services offices at different institutions vary in terms of their eligibility criteria, quality of staff, and the scope of services provided (Kasnitz, 2011). Second, we categorized types of disabilities as physical disabilities, cognitive disabilities, and psychological disabilities. As noted earlier, we used this grouping given the number of disability codes in this dataset which would not have permitted analysis of this variable in the predicted model. In addition, we also noted that many participants had multiple disability codes and, as a result, this made it difficult to identify independent categories. In the future, a larger dataset involving multiple institutions would allow for a finer differentiation among specific disability categories. The problem of coding specific disabilities, however, is one that exists within the field as there is no uniform standard that exists across universities. As a result, it makes comparisons across studies as it pertains to types of disability very difficult to analyze.

Third, as far as type of academic accommodations, although we examined the impact of each type of approved academic accommodation on SWD's academic achievement, the extent to which SWD used these accommodations was unknown. The dataset only captured the most recent records of accommodations (K. Jervis, personal communication, June, 29, 2018), which means that we were unable to know whether participants used different types of accommodations throughout their education. Fourth, due to the nature of the dataset, we could only examine a limited number of personal (mostly demographic) variables. As evident from prior studies, other factors that impact academic performance were excluded from the present study including information about first-generation college student status (Lombardi et al., 2012) as well as type of financial situation, living situation, and college location (Herbert et al., 2014). Additionally, malleable student variables such as strategies to achieve academic and personal goals and enhance self-advocacy have been identified as

contributing factors to student persistence and graduation rate for SWD (Herbert et al., 2014; Hong, Ivy, Humberto, & Ehrensberger, 2007).

Other environmental variables that may impact persistence and graduation outcomes but have seemingly been unexplored include perceived levels of faculty and disability services personnel support, qualifications of disability services personnel (work experience and academic training), and/or perceived working alliance between students and disability services personnel. Given the interaction complexity of environmental variables and its interaction with person variables articulated in the ICF model, it is clear that there are other potential influences that can impact academic achievement of SWD. Finally, we considered GPA as the sole outcome variable in this study. Future studies may consider exploring other outcomes as it relates to persistence and graduation.

Conclusion

Given the increased awareness of the importance of educational equity, there is a growing need to understand the factors that predict the academic achievement of college students with disabilities. The ICF model serves as a useful conceptual framework for examining academic performance through a comprehensive lens that includes both personal and environmental factors. A longitudinal approach to assessing academic achievement allows us to observe continuous change over time and factors associated with changes. The current study reveals that personal factors differentially impact SWD who were racial and ethnic minorities, male, had cognitive disabilities, and those in STEM majors had lower semester GPAs. Practitioners (i.e. disability specialists, rehabilitation counselors, disability services staff) may provide target services to these student populations. For example, disability services professionals could facilitate peer support groups for racial and ethnic minority SWD or provide study skills training for students with cognitive disabilities.

The current study also underscores how disability services contribute to SWD's academic achievement. Students' longitudinal GPA trajectories positively changed after they registered with the student disability services office. Student disability services should work coordinately with academic departments to facilitate academic success. Many disability services offices, including the one in this study, do not have a systemic way to track whether SWD actually use approved accommodations or monitor the effects of the accommodations on academic achievement. In this age of fiscal accountability, with higher education

leadership held responsible for the targeted spending of funds, disability services offices must provide data to inform evidence-based practice.

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Table 1

Variable Descriptions

Variable	Short-Hand	Description
Semester-by-Semester GPA	GPA	Range: 0.00 - 4.00; Its observations are longitudinal in Semester and observation dependent in AfterService, with all other variables changing only at the participant level.
After Service	AfterService	Values: Before, After. Identifies which of a student's GPA records occurred after their intake appointment with student disability resources.
Sex	Sex	Values: 0 ("Male"), 1 ("Female"). Identifies student's reported gender; Students without a response were excluded.
Race/Ethnicity	Race	Values: Asian, Black (Black and African American), Hispanic (Hispanic and Latino), White (White and Caucasian), Others; Students without a response were classified with Others.
Disability Type	Disability	Values: Cognitive, Psychological, Physical, Others.
College Major	Major	Values: EDU (Education), LASS (Liberal Arts & Social Sciences), STEM (Science, Technology, Engineering & Mathematics), OTH (Other).
Year of Intake	Intake Year	Values: 2009, 2010, 2011. Identifies student's cohort within the study by year of disability services registration.
Academic Gap	Gap	Values: 0 ("No Gap"), 1 ("Gap"); Identifies whether or not a student's academic record has a missing fall or spring semester GPA record, indicating that the student took time off.
Semester Standing	Semester ^a	Values: 1 - 9, and "10" (10 or higher); Identifies the student's number of Fall/Spring semesters that have had a reported GPA, at the time of each of their GPA records.
Semester of Registration	RegTime ^b	Values: Early (registered prior to the end of 4th semester), Middle (registered during 5th or 6th semesters), Late (registered during/after 7th semester); Identifies when in students' college timeline they had their intake appointment.
Accommodations	Exam	Values: 0 (not approved), 1 (approved); Exam accommodations (e.g. extended time on exams).
	Notes	Values: 0 (not approved), 1 (approved); Note taking services (e.g. note taker).
	SmartPen	Values: 0 (not approved), 1 (approved); Smart Pen (i.e. computerized and digital audio recorder)
	Classroom	Values: 0 (not approved), 1 (approved); Classroom Accommodations (e.g. audio recording in class).
	Technology	Values: 0 (not approved), 1 (approved); Assistive Technologies (e.g. screen reader).

Note. ^aWe grouped unusually late records as "10" to protect against influential points. Semester is treated as continuous in the analysis. ^b All six are binary variables, where "1" indicates presence and "0" indicates absence of approval for one or more accommodations in the grouping.

Table 2

Sample Characteristics (N=562)

Variable	Frequency (n)	Percent
Gender		
Male	322	57.30
Female	240	42.70
Race		
Asian	12	2.10
Black	35	6.20
Hispanic	31	5.50
White	433	77.00
Other	51	9.10
Disability		
Cognitive	338	60.14
Physical	114	20.28
Psychological	67	11.92
Other	43	7.65
Major		
EDU	34	6.04
LASS	178	31.67
STEM	293	52.13
OTH	57	10.14
RegTime		
Early	433	77.04
Middle	65	11.56
Late	64	11.38
Gap		
Yes	208	37.02
No	354	62.98

Table 3

Types of Academic Accommodations

Variable	Frequency (<i>n</i>)	Percent
Accommodations		
Exam	461	82.02
Notes	201	35.76
SmartPen	33	5.87
Classroom	130	23.13
Technology	124	22.06
Other	48	8.54

Note. The frequencies are the number of students who requested and got approval for each type of academic accommodation.

Table 4

Mixed Effects Model Coefficients

Variable/Category	Estimate	Standard Error	P(> t)
Intercept	2.74	0.20	0.00*
Semester	-0.06	0.01	0.00*
AfterService	-0.06	0.05	0.26
Sex Female	0.25	0.05	0.00*
Race Black	-0.08	0.18	0.67
Race Hispanic	0.16	0.18	0.36
Race Other Disabilities	0.16	0.17	0.35
Race White	0.21	0.15	0.17
Disability Other	0.14	0.09	0.12
Disability Physical Disabilities	0.27	0.07	0.00*
Disability Psychological Disabilities	0.13	0.07	0.08
Major LASS	-0.25	0.10	0.01*
Major OTH	0.12	0.12	0.31
Major STEM	-0.31	0.10	0.00*
Notes	-0.18	0.05	0.00*
Exam	0.11	0.06	0.08
SmartPen	-0.12	0.09	0.22
Classroom	0.04	0.06	0.54
Technology	0.03	0.06	0.63
Other	0.08	0.08	0.32
RegTime Late	-0.16	0.09	0.06
RegTime Middle	0.11	0.08	0.19
Semester: AfterService	0.08	0.01	0.00*
AfterService: RegTime Late	-0.15	0.07	0.03*
AfterService: RegTime Middle	-0.37	0.06	0.00*

Note. While *Race/Ethnicity*, *Major*, and *Disability Type* did not have statistically significant regression coefficients, separate ANOVA tests revealed each of them to be significant predictors of semester GPA (p-values: 0.002, 0.000, and < 0.000, respectively).

Table 5

ANOVA Table

Variable	Sum of Squares	Mean Squares	Numerator Degrees of Freedom	Denominator Degrees of Freedom	F Value	P(>F)
<i>Semester</i>	4.91	4.91	1	3748.10	16.88	0.00*
<i>AfterService</i>	5.93	5.93	1	3772.80	20.38	0.00*
<i>Sex</i>	7.70	7.70	1	520.20	26.49	0.00*
<i>Race</i>	3.22	0.81	4	526.60	2.77	0.03*
<i>Disability</i>	4.45	1.48	3	522.30	5.10	0.00*
<i>Major</i>	10.93	3.64	3	519.00	12.53	0.00*
<i>Notes</i>	3.72	3.72	1	518.80	12.79	0.00*
<i>Exam</i>	0.87	0.87	1	527.00	2.99	0.08
<i>SmartPen</i>	0.43	0.43	1	495.00	1.48	0.22
<i>Classroom</i>	0.11	0.11	1	519.50	0.37	0.54
<i>Technology</i>	0.07	0.07	1	523.50	0.24	0.63
<i>Other</i>	0.28	0.28	1	516.70	0.98	0.32
<i>RegTime</i>	2.22	1.11	2	864.90	3.82	0.02*
<i>Semester:AfterService</i>	8.64	8.64	1	3737.80	29.69	0.00*
<i>After Service: RegTime</i>	9.87	4.93	2	3752.10	16.98	0.00*

Note. Pseudo-R squared for the full model (fixed and random effects) is 0.5393; for the fixed effect only is 0.1611.

Table 6

Pairwise Contrasts (Adjusted for Multiple Comparisons)

	Estimate	Standard Error	P(> t)
Race/Ethnicity			
Black - Asian = 0	-0.07	0.17	0.99
Hispanic - Asian = 0	0.16	0.17	0.88
Other - Asian = 0	0.16	0.17	0.86
White - Asian = 0	0.21	0.15	0.61
Hispanic - Black = 0	0.23	0.13	0.33
Other - Black = 0	0.23	0.11	0.24
White - Black = 0	0.28	0.09	0.01*
Other - Hispanic = 0	0.00	0.12	1.00
White - Hispanic = 0	0.05	0.09	0.98
White - Other = 0	0.05	0.07	0.96
Disability			
Other - Cognitive = 0	0.13	0.08	0.38
Physical - Cognitive = 0	0.27	0.07	0.00*
Psychological - Cognitive = 0	0.13	0.07	0.28
Physical - Other = 0	0.13	0.09	0.51
Psychological - Other = 0	0.00	0.10	0.99
Psychological - Physical = 0	-0.14	0.09	0.37
Major			
LASS - EDU = 0	-0.25	0.10	0.06
OTH - EDU = 0	0.11	0.11	0.72
STEM - EDU = 0	-0.30	0.09	0.00*
OTH - LASS = 0	0.36	0.08	0.00*
STEM - LASS = 0	-0.05	0.05	0.65
STEM - OTH = 0	-0.42	0.07	0.00*

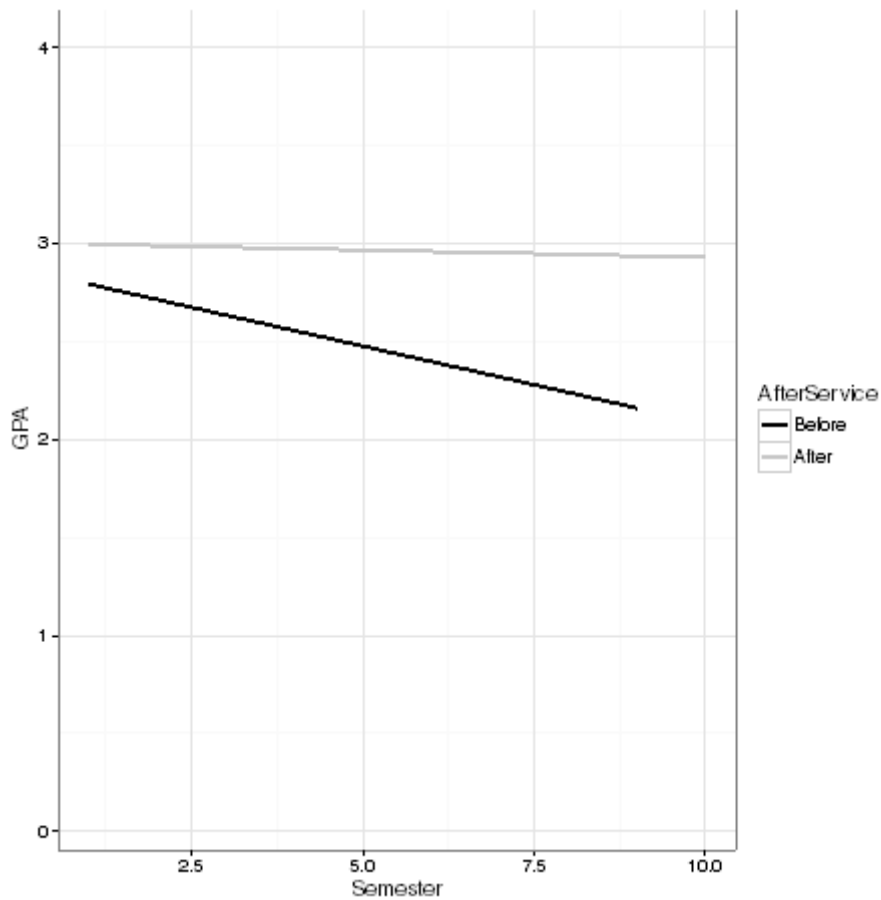


Figure 1. Scatter plot of semester GPA records vs. semesters before and after disability service.

“It’s a Constant Fight:” Experiences of College Students with Disabilities

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Abstract

Despite the increase in students with disabilities attending college, the graduation rates of these students consistently lag behind their peers without disabilities. Although services provided by college disability service offices are designed to prevent discrimination and support student success, a limited body of research documents the effectiveness of services delivered to students with disabilities in college. Further, little is known about the perspectives of students with disabilities in the U.S., including in-depth qualitative research among diverse students. The purpose of this qualitative study was to explore the perceptions and experiences of eight college students with disabilities. Participants described disempowering experiences, empowering experiences, reported information about the impact of their families, and provided recommendations for stakeholders to better support individuals with disabilities. Implications for practice and future research are reported.

Keywords: college, disability, services, barriers, qualitative

The rate of students with disabilities attending college in the U.S. continues to rise (Smith, 2007), with some researchers estimating the number of students tripling or even quadrupling over the past two decades (Barnard-Brak, Lechtenberger, & Lan, 2010; Brown & DiGaldo, 2011). This rise may be due to several factors, including effective transition planning in high school (Morningstar & Mazzotti, 2014); parental education (Wang, Chang, & Lew, 2009); external motivation (e.g., enhanced job prospects; Reed, Kennett, & Emond, 2015); and greater rates of disclosure among individuals with disabilities attending college (Vickerman & Blundell, 2010). Despite this increase in students with disabilities attending college, the graduation rates of these students consistently lag behind their peers without disabilities (Anastopoulos & King, 2015; Grogan, 2015). For students with disabilities, postsecondary degree completion rates range from 29% at four-year universities, 30% at two-year colleges, and 55% at vocational or technical schools, with no significant differences in completion rates by

race or ethnicity, gender, disability category, or parents' household income (Sanford et al., 2011).

Section 504 of the Rehabilitation Act (1973) aims to support college students with disabilities through disability service offices located on campuses. These offices provide services and supports such as extended time to complete assignments, extended deadlines to receive a degree, course substitutions, instructional adaptations, use of tape recorders, audio texts, interpreters, and adapted classroom equipment (34 C.F.R. Part 104). However, students must disclose their disability and maintain an up-to-date evaluation in order to receive these services (Van Hees, Moyson, & Roeyers, 2014). Further, although these services are designed to prevent discrimination and support student success, a limited body of research documents the effectiveness of services delivered to students with disabilities in college (Gelbar, Smith, & Reichow, 2014; Grogan, 2015). Moreover, additional barriers, including (a) a lack of preparation for college in high school (Francis, Duke, Brigham, & Demetro, 2018);

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(b) limited student understanding of the nature of their disability and needs (Anastopoulos & King, 2015); (c) executive functioning needs (Cai & Richdale, 2016); (e) social and communication needs (Cai & Richdale, 2016); (e) mental health needs (Anastopoulos & King, 2015; Cai & Richdale, 2016); (f) challenges adjusting to change and unstructured environments (Wenzel & Rowley, 2010); (g) student hesitancy to advocate or disclose their disability in order to receive support (Burgstahler & Russon-Gleicher, 2015); and (h) college faculty uncertainty about how to support the needs of students with disabilities (Barnard-Brak et al., 2010; Dipeolu, Storlie, & Johnson, 2015; Odom & Wong, 2015) stymie the progress and success of students with disabilities in college.

Research demonstrates college students with disabilities reporting struggling with organization and assignment management as well as time management and setting a daily schedule (Van Hees et al., 2014). Students have also reported feeling overwhelmed, anxious, depressed, lonely, and tired and that they frequently procrastinated on assignments because they had no idea where to start (Sayman, 2015). As a result of these experiences, Van Hees and colleagues (2014) reported that students indicated that they would have benefited from a transition coach who could monitor and support their activities in choice making, study skills, daily and vocational organization and skills, clarifying ambiguities, and interacting socially and could provide feedback on issues and advice.

Although research documents general barriers experienced by college students with disabilities, little is known about the in-depth perspectives of students with disabilities in the U.S. For example, few researchers have investigated the experiences of transitioning into college (Anderson & Butt, 2017) and participants included in studies about college students with disabilities are not representative of the diverse population of students with disabilities attending college, including the number undergraduate and graduate students, and students of varying genders, ages, and disability types (Accardo, Kuder, & Woodruff, 2018; Anderson & Butt, 2017; Francis et al., 2018; Kendall, 2016). Further, the limited body of research that has studied the perceptions of college students with disabilities does not report their perceptions of family involvement (Francis et al., 2018) and lacks in-depth qualitative analysis (Reed et al., 2015).

This lack of information hinders an understanding of how to maximize positive college experiences and outcomes for students with disabilities. Therefore, the purpose of this study is to explore the perceptions and experiences of college students with disabilities, including their preparation for college. Three prima-

ry research questions guided this work: (a) How do participants describe their preparation for college? (b) How do participants describe their experiences in college? and (c) What recommendations to participants have to support the success of students with disabilities in college?

Method

The principal investigators (i.e., two special education faculty members) used convenience sampling techniques (Maxwell, 2005) to recruit participants for this study. The principal investigators recruited participants through the distribution of a researcher-developed online survey to college students with disabilities registered with the disability service office located at a large, public university in the mid-Atlantic region of the U.S. (Francis et al., 2018). Survey participants were overwhelmingly White/Caucasian (67%), female (63%), spoke English as their first language (93%), and reported their age between 18 and 24 years (70%). This survey included 33 questions related to (a) basic demographic information, (b) the degree to which they felt prepared to enter college, (c) services received at the university, (d) perceptions of university services, (e) suggestions for improving services, and (f) perceptions of family involvement in college. The survey also offered an opportunity for participants to provide contact information to participate in a follow-up interview about their experiences. Of the 109 participants who agreed to participate in the survey, 23 individuals provided their name and preferred email address to engage in a follow-up interview. One principal investigator attempted to contact the 23 individuals a maximum of three times over three weeks via email to schedule an interview. During this time, one email bounced back as invalid, 13 individuals did not respond, one individual indicated that they were no longer able to participate, and eight individuals scheduled interviews.

Participants

According to the demographic questions completed by participants, over 60% of participants identified as female ($n=5$) and White/Caucasian ($n=5$). All but one participant reported speaking English in their home. Six of the eight participants lived off campus with their families or in apartments located near the university. Participant ages ranged from 18 to sixty years old and the number of years in college ranged from undergraduate students ($\underline{n}=3$) with less than one year spent in college to graduate students ($n=5$) with five or more years in college. Participants self-reported primary disabilities (e.g., mental health,

specific learning disabilities, hearing impairment, visual impairment) and primary support needs (e.g., self-management, academic, vocational support) among participants reported varied. Table 1 displays participant demographic information.

Data Collection

The principal investigators conducted one interview in-person, four over the phone, and three via Skype or Facetime, depending on participant preference and availability. The investigators conducted interviews in a private room at the university with a noise-canceling machine placed outside of the door to protect participant privacy.

The principal investigator who facilitated interviews began by explaining the purpose of the study and related risks and benefits and obtained written informed consent, including participant permission to record the interviews, prior to interviewing. One investigator facilitated interviews, while the second recorded field notes and asked follow-up questions, as appropriate. All interviews were conducted in spoken English, as no participants indicated needing accommodations to participate. The investigators used a semi-structured protocol (Merriam, 2009) developed from previous research on the experiences of college students with disabilities (Francis et al., 2018; Francis & Reed, 2019). The protocol included questions related to (a) basic information about the participants (e.g., “Can you tell us a little bit about yourself?”); (b) experiences in high school (e.g., “Tell us about your experiences in high school.” “What supports, classes, or other experiences helped prepare you for college?”); (c) experiences in college (e.g., “Talk to us about when you started college.” “What supports have been the most or least helpful?”); and (d) recommendations to facilitate student success (e.g., “Pretend we are going to teach professors and staff at [University] how to support students with disabilities in college. What should we teach them?” “Pretend you’re in front of a group of new students. What advice do you have for students going to college for the first time?”). If participants discussed their families during interviews, we also asked probing questions about the nature of family involvement and recommendations for families to prepare individuals with disabilities for college (e.g., “Pretend that we are going to teach parents what to do when their children go to college. What should we teach them?”).

Data Analysis

A professional transcriptionist transcribed all interviews. The principal investigators de-identified transcripts and then collaborated with a research as-

sistant to read through all transcripts while listening to the audio recordings to ensure transcription accuracy (Creswell, 2009). The principal investigators assembled an analysis team consisting of four individuals (the two principal investigators and two graduate research assistants) with expertise in disability, education, support services, and higher education to begin the analysis process. The analysis team began with the principal investigators describing the purpose of the study, IRB requirements, and open-coding procedures to ensure a consistent conceptualization of the process. Next, each team member independently read and hand-coded a single transcript to determine keywords and descriptive categories represented in the data. The team then debriefed to identify similarities and differences among the open codes and developed an initial codebook based on this discussion. Using the initial codebook as a guide, the team then hand-coded another transcript and met again to discuss primary and subthemes, identify unique or irrelevant topics, and develop rich descriptions of themes. This process resulted in a second version of the codebook. Finally, the team used the same hand-coding and debriefing process with another transcript, which resulted in a third and finalized version of the codebook. The primary investigators used the finalized codebook and NVivo qualitative software to perform basic interpretative qualitative analysis of the data by recoding all of the transcripts with the finalized codes (Merriam, 2009). The primary investigators also continued to meet weekly until all data were analyzed to ensure consistency of analysis procedures.

Trustworthiness

The analysis team employed numerous measures to ensure the credibility of data analysis. First, the principal investigators attempted to ensure trustworthiness during interviews by encouraging participants to command the discussion through the use of open-ended questions and prompts, recording interviews to gather precise information, and debriefing and composing researcher memos immediately after interviews (Wolcott, 1990). Second, the principal investigators used field notes to conduct informal member checks throughout interviews by reviewing major ideas and events with participants and inviting them to correct or expand on information. They also conducted more formal member checks with participants at the end of each interview by reviewing key themes and concepts. Third, the principal investigators compared written transcripts to original interview recordings to ensure accuracy. Fourth, the analysis team was comprised of four individuals with interests and expertise in the nature of this research. The first prin-

principal investigator was a faculty member in the department of special education, a former special education teacher, an administrator for a college program for individuals with disabilities, and a sibling of a brother with disabilities. The second principal investigator was a faculty member in the department of special education, a former special education teacher, and former special education advocate. The first graduate research assistant was a mental health social worker studying higher education policies and practices and the second graduate research assistant was a former high school administrator, special education teacher, and parent of an adolescent and young adult with disabilities. These diverse experiences lend to the trustworthiness of our analysis by providing our team with a unique perspective that blends personal and professional experiences. Fourth, the analysis team met weekly to review and discuss interpretations of data and consider researcher bias in the analysis (Patton, 2002).

Results

While discussing their experiences prior to and in college, participants described feeling disempowered (e.g., negative experiences; feeling unmotivated, disrespected, isolated, less worthy, unvalidated) or empowered (e.g., positive experiences; feeling encouraged, satisfied, proud, respected, accomplished). They also reported information about the impact of their families and provided recommendations for stakeholders to better support individuals with disabilities.

Disempowerment

Five key interrelated subthemes emerged under disempowerment: (a) discouragement, (b) debasement, (c) insecurity, (d) isolation, and (e) repeated cycles of disempowerment.

Discouragement. Discouragement emerged as a key theme among all participants that resulted in them feeling “disempowered.” Several participants such as Nora, Lydia, and Rodney described how not receiving a disability diagnosis until late in high school or in college resulted in them feeling discouraged throughout their educational journey. As Nora noted:

They knew something was wrong but they...put me into a regular 3rd grade class and then stuck me in the back of the room and nobody helped me. So probably some of my difficulties may have come from a lack of proper education because I wasn't helped.

Shivani also described how an earlier diagnosis might have prevented unnecessary distress through the provision of appropriate accommodations: “I wrote this extra paper three or four times and I received the same grade each time. It was awful. And there was no light at the end of the tunnel. It was awful. I'd spend nights writing essays and I'd still get B's and C's on them.”

Many participants also found educators who lacked knowledge about disabilities or basic accommodations discouraging. For example, Landon indicated that one of his high school teachers “basically told me that I should learn my colors” when Landon attempted to explain the impact of his colorblindness. Rûna and Delmy, who both have hearing loss, lamented when educators would “pop in a video” without subtitles, “over-exaggerate” their speech, or “turn their backs” while lecturing, which made lip-reading impossible and difficult to gather meaningful information during class. Nora also described a discouraging experience when seeking help at the writing center in college:

I was excited. Somebody that understands disabilities and I'm going to go in there and show them my work to get feedback on how I can process this correctly and how I can get my thoughts out and all that stuff...The only thing she did for me was show me a web and I started crying because I was like once again, I have been disappointed. How can you advertise writing for disabilities and that person not be somebody who specializes in that?

Other participants described accessing different types of services (e.g., support groups, academic accommodations, audiobooks), but noted that these services “just didn't work” or even perpetuated “a counter-productive negative cycle” of failure. This was especially true for participants with mental health needs. Tae described the failure of high schools and universities to provide adequate mental health support, especially to students in crisis: “A lot of people they are feeling on edge and then they don't get the psychological support they need right away. They have to make an appointment or whatever.” Tae also elaborated on the negative impact of ineffective mental health services in the community: “When you get admitted as an in-patient in the hospital, they pretty much just overdose you with medications and send you off into the real world.”

Participants indicated that a lack of faculty training and support staff offering services to students on a one-size-fits-all basis as being particularly troubling. For example, Nora lamented a “worthless” remedial math course she took at a community college prior

to attending her current university: "Once or twice a week you went to class with the teacher sitting at the front while you worked on the computer. But nobody actually taught you anything." Shivani described how she "wanted to collapse" after finding out that a professor did not allow peer support for homework: "I got a couple of friends in that class and I wanted to do my homework with them but then she was like 'no collaboration.' With disabilities, that's how you learn-you can't do everything by yourself." Further, while she appreciated the remote captionist services provided in college, Rûna indicated that this accommodation was not well-suited in graduate courses because of the amount of group work. Rûna also noted that some captionists or typists who supported her in college were unfamiliar with course content, which resulted in gross miscommunication and confusion, such as when one typist typed "terrorists" instead of "tariffs."

Professionals lacking knowledge and ineffective services and supports resulted in participants feeling discouraged and unprepared to excel in school. Participants felt unprepared when their disabilities were "normalized too much" in high school or when they were given assignments below what was expected for their same-age peers. As Delmy put it:

In high school I wasn't really prepared for college...the amount of papers I had to write was more than what I was used to because I'd never had to write so many papers...The classes were more advanced than what I was used to.

Rûna had a similar realization once she entered college: "Like I thought I was up *here* and actually I'm down *here* and I need some assistance...For students with disabilities...you think that you're on the same playing field and that's not reality." Several participants, including Lydia, Delmy, Nora, and Rûna also wished, as Lydia stated, they "had known the processes and different benefits" they could have received in high school and college. Participants felt thrust into the "real world" after graduating high school without a solid understanding of service eligibility, the cost of disability testing and assistive technology, and opportunities for college scholarships or other forms of support.

Debasement. Feeling debased and discredited was another predominate theme that resulted in participants feeling disempowered. Participants consistently described educators "not believing" they had disabilities, but rather maintaining that participants were not "studying," "trying hard enough," or "paying attention" in class. Nora recounted feeling "complet-

ly shocked" when attempting to secure accommodations with the disability service office in college:

When I first was diagnosed and I brought in my paperwork to get accommodations, the first person I met with in the disability office literally said to me that she would never have diagnosed me with disabilities. She said, "I would never have diagnosed you with any disabilities. I think it's just because it's been a while since you've been in school."

Other participants also found that, as Rûna said, "it was very much like a student doesn't have a disability until you prove you do" in college. For example, Landon "had to basically show" a professor that he was unable to visually discriminate between colors in a chemistry lab before he was allowed to work with a partner (despite this being listed as an accommodation on his disability service office form). Participants described other instances of professors "refusing to accommodate" their required accommodations such providing PowerPoints, lecture notes, or extended time because they did not believe participants required the accommodations or because they didn't "want people stealing" intellectual property included in lecture notes. In general, participants believed that the disability service office should have been "standing up" and "advocating" for them in these instances of being discredited because "it's their job" and "it's the law."

Insecurity. Participants reported feeling "depressed," "inadequate," and generally insecure when comparing themselves to their peers without disabilities. For example, as a child Rodney "noticed that a lot of [his] classmates didn't have the same kind of difficulty" he experienced with writing or that his peers received higher scores on assignments, despite him putting in "twice the effort." Shivani speculated that some of her insecurities stemmed from growing up in an "Indian household" or within "the Asian community" because, despite all of her academic efforts and achievements, she was still considered "an underachiever" compared to her family and friends from similar cultural backgrounds. In the same vein, participants reported feeling intimidated and insecure when transitioning to college for numerous reasons, including taking courses with "over 70 or 80 students," asking professors for help, and coping with enhanced expectations and challenging coursework. Several participants, including Shivani, Tae, and Nora purposefully selected majors based on their insecurities or concerns related to their disabilities (e.g., "I would have stayed in elementary education....

However, I didn't feel that I was able to teach upper grades, 4th, 5th, 6th, because of my disabilities...because I struggled.”).

Regrettably, participants also spoke about often feeling embarrassed or ashamed when professionals disclosed their disabilities without their consent (e.g., assigning participants to specific classes or spaces in rooms, assigning participants to work with specific workgroups, making fun of participant mistakes or misunderstandings in front of others). Nora summarized how many participants characterized the negative long-term influence of these experiences:

It's so much more intense because you already play in your head the negatives...It's harder to move on. I still play in my head the experiences as a child and what I felt growing up. Little things that happened and even in my math [class]- the [professor] rearranged the seats and put me next to students that were really good in math. I just broke down and cried because I literally was that 3rd grader all over again, put in the back of the room.

Isolation. Feeling isolated emerged as another factor contributing to disempowerment. Part of the isolation experience for participants was related to reconciling what it meant to have a disability and how disability influenced their identity. Some participants, such as Tae, felt uncertainty and confusion once they were diagnosed (e.g., “I didn't really understand it at the time”), while others such as Rûna recalled “very vivid memories” of being diagnosed: “My mom is sobbing. And I am asking, ‘Am I dying?’ And instead I get these purple hearing aids.” In high school Rûna also became even more concerned about the nature of her disability:

All of the students that had hearing aids...most of them were mentally retarded. So then it's kind of like wait - so am I like THEM? And you're kind of scared to ask questions and I didn't know if this was like by being hearing impaired it could lead to something else.

Delmy had a similar experience when she was re-evaluated and diagnosed with autism in addition to a hearing impairment in college:

I will say I broke down because I was very upset and I didn't know why they were telling me when I was already in my 20's and I'm just like why is this happening now? And I have a brother who's Autistic. He's two years younger than me and he can't speak for himself. And when they told me that I was thinking am I just like him?

Feeling disconnected or isolated from family as a result of their disability also influenced participant isolation. Rûna described feeling like a “burden” on her family because “they look so depressed and so sad... they feel bad for their child. They still carry this stigma” of disability:

My parents are still very much learning all about what America is. And to them having a child who's disabled from their frame of understanding is God's punishing us. We did something wrong- any person with disabilities, in most of the Middle East, they keep their child home. Whether you're Blind, you're Deaf, you're Autistic - they just - hidden is kind of the way they go.

Shivani shared similar experiences about her family: “My mom - even when I started to ask for help, she had this negative stigmatism like you're not crazy! You don't have any problems!” Tae also described how “the Asian gender/race thing” left his family “really shocked” when he was diagnosed with bipolar.

Rûna not only felt isolated from her family based on their strong reaction to her diagnosis, but also because she was “mainstreamed” in school: “No one in my elementary school had hearing aids or was Deaf or hard-of-hearing. Middle school: no one.” In fact, Rûna mentioned that “I didn't meet another hearing impaired 20-something until I was 21, so I have been completely out of any community or network of people who have a similar disability to myself.” This resulted in Rûna feeling isolated from the hearing community because she’s “different” and also unsure if she “would be accepted in the Deaf and hard-of-hearing community.”

Repeated cycles of disempowerment. Participants used numerous terms and phrases when describing “the cycle” of “disempowerment” that emphasized the ongoing and cyclical nature of their experiences (e.g., “It's just kind of like one wall after another and it's never ending.” “If I didn't advocate for myself and allowed once again to be disempowered.” “It's a constant fight. And it always happens. Even today. It happens all the time.”). Multiple factors contributed to the continued cycle of disempowerment, including those previously discussed in this section. For example, cultural stigma and discrimination perpetuated cycles of disempowerment. In particular, Rûna, Shivani, and Tae described the ways in which disability is stigmatized in Middle Eastern and Asian cultures. These participants described how friends and families in their community “don't talk about” disabilities or felt “scared” about disabilities. On another note, Rûna described how her college

peers assumed she was a “spoiled, absorbed, student from some rich country [who] hired people to come takes notes for me” based on her ethnicity when they saw the disability service office-appointed captionist supporting her in class.

Participants, especially Nora, also talked about the disempowering impact of observing and experiencing low expectations of other students in schools. As a substitute teacher in an elementary school, Nora recalled several examples of educators talking negatively about children (e.g., “I can’t believe she is so [academically] low”) right “in front” of students. She also observed educators purposefully humiliating students with disabilities in class by using negative body language (e.g., ignoring student questions, turning their backs on students), physically isolating students in classrooms, and asking students to answer complicated questions in front of their peers. Observing these acts of humiliation and low expectations in schools activated strong feelings of disempowerment based on her own negative experiences in school: “it doesn’t matter how old you are. We still want to feel safe [in schools].”

Finally, participants portrayed stigma and discrimination in the workplace as perpetuating disempowerment. Participants described various examples of discrimination on the job, including having “disabilities you can’t see,” human resources “protecting institutions, not people” in instances of discrimination, and supervisors accusing individuals with disabilities of being “lazy,” “not trying hard enough, or being “too social.” Other forms of discrimination related to age, gender, and race/ethnicity were discussed by several participants, including Rûna:

You’re a young person, female, minority, and a disability, right?... For a lot of job apps I don’t want to say that I’m disabled. That’s going to hurt me. Or is it going to help me? Do they have to have a quota?

Rûna also lamented the “bystander” effect of co-workers allowing discrimination to occur and the also consequences of “speaking up” and being “whistle blower” who reports acts of discrimination.

Empowerment

Participants also described instances in which they felt empowered and successful. Five key inter-related subthemes emerged under empowerment: (a) diagnosis, (b) effective supports, (c) family support, (d) resilience, and (e) advocacy.

Diagnosis. Although participants sometimes found their disability challenging, instances of

self-awareness, understanding, and acceptance after receiving a diagnosis or understanding their disability also permeated interviews as a means of empowerment. Several participants, including Delmy described “starting to understand” themselves better after receiving a disability diagnosis: “Now I can tell people that I do have [autism]. This is me.” Similarly, Nora described feeling validated after receiving a diagnosis: “I cried because I was like, I’m not stupid!” Participants also described becoming better self-advocates as they became “more comfortable” with their “disability” and “realized” that they are “more capable” than they once believed. Better understanding the nature of their disability also enabled participants to “do research” on effective strategies, as well as deeply reflect on ways in which they “survived” in the past. As Nora noted, “When I got diagnosed at first I didn’t really talk about it. But then I don’t know, I felt like I’m not ashamed of it. I’m not ashamed of my disabilities and I’m not afraid to tell people.”

Effective supports. Just as ineffective supports and services resulted in disempowerment, participants felt empowered once they received effective and appropriate supports at school (e.g., extended time for texts and assignments, quiet testing centers, breaks during class, captionists). Delmy, Rodney, and Tae specified how attending community college helped them prepare for a four-year university by introducing them to services they did not receive in high school and by providing valuable mentoring support (e.g., explaining the differences between high school and college, suggesting which courses to take, proposing self-regulation and organization strategies). Other supports such as priority registration and more individualized academic or mental health services (e.g., take-home tests, posting recorded lectures and course materials online, “therapy once a week”) also empowered participants once they entered the four-year university where this study took place. Both Shivani and Nora described how helpful it was when educators provided “genuine support” by taking time to “point out patterns” of mistakes and “make a conscious effort” to help them learn how to correct mistakes.

Interestingly, although participants found specific services and accommodations empowering, they determined that educators “who went beyond the accommodations,” and were “caring,” “warm,” “fun,” and “understanding” provided even greater degrees of support and long-term empowerment. Examples of these impactful educators included Lydia’s experiences with her “supportive” and “nice” Latin teacher in high school with whom she often ate lunch. Shivani also noted the importance of “lov[ing] teachers who

actually try to have a relationship with the student” or “at least acknowledge” when students are trying. Similarly, Nora highlighted the influence of educators who told her she was “capable” and “pushed her” to reach goals and achieve milestones.

Family support. Participants reported family members (e.g., parents, grandparents, spouses, siblings, children) providing various forms of financial, academic, and emotional support. For example, Shivani indicated that her family “has my back” and Tae said that his family helps him “get through the day.” Other participants such as Rodney described how his spouse encouraged him to “get off [his] ass” and pursue higher education and Nora’s daughters insisted that it would be “empowering” for her to “speak up [and] take back her power” and advocate for herself and other students with disabilities at the university and her workplace. Participants’ families also supported their “dream of going to college” by providing tutoring support, “pushing” them to do their best, and helping them with assignments. In addition, family members provided participants information about disability services at college (e.g., “the disability center-my mom found out about it. I had no idea it existed”) and served as a “career adviser.” Finally, Shivani explained how her father helped her “set boundaries” with her other family members in order to reduce the amount of “control” they maintained over her life (e.g., “If I want to go to a friend’s - if I want to go to the mall with friends, [mom’s] like who, what, when, where, why, how? Are your friends driving? No. Let me drive you.”).

Resilience. Participants reported numerous resilience strategies, or strategies used to recover from frustrating or wearisome experiences, that made them feel “stronger” as a result of working through trying experiences. One example included associating with “cultural clubs” or other “groups of people to hang out with” to provide moral, social, and emotional support. Participants also recalled “coping” with stigma or other disability-related challenges by “researching” and trying out different approaches to support their needs, using assistive technology or other “mechanisms” as forms of support, asking for help from peers, and “making a few people laugh... in the meantime.”

Advocacy. Participants described many ways in which they advocated for themselves. For example, participants “took the initiative to go” to professors and describe their needs and accommodations, including attempting “to break down” how they learn and process information for professors, because, as Rûna noted, “I know if I don’t advocate for myself nobody else will. That’s the reality, right?” Participants

also described coming prepared with their disability service office-issued accommodations form and other “proof” of their disabilities. Rûna described how she explained her hearing loss and needed accommodations: “I have my audiology exam on my desktop. So I explain it to [professors]—like all of this I can’t hear. With the hearing aid it helps this much.” Participants also found it helpful to describe the consequences of not receiving appropriate accommodations when advocating for themselves such as missing or misinterpreting vital information on the job or in class.

In addition, participants described empowering instances of advocating for others. For example, when asked why they decided to participate in this study, all participants indicated that they wanted to help other students learn about resources and supports, just like they needed when they were “starting out” in college. Participants described ways in which they advocated for the disability community, such as “let[ting] people try on hearing aids because they just don’t know...that hearing aids don’t give hearing, they just amplify everything” or discussing how to appropriately interact with or support individuals with disabilities among their peers and coworkers.

Recommendations

Participants made recommendations for (a) education systems, (b) professionals, (c) families, and (d) students with disabilities.

Education system recommendations. Participants called for education reform that more effectively prepares students with disabilities for “real life,” including more thoughtful considerations for inclusion and information and resource sharing. Despite feeling isolated from being “mainstreaming” throughout her educational career, Rûna discussed the challenges and importance of thoughtfully considering inclusion: “Apparently now [County] sends all hearing impaired students to one specialized school. Which I think THAT is not the right way either. It shouldn’t be two polar extremes, right?” Many participants also suggested that secondary schools take more systematic steps to better inform immigrant families of available resources within and outside of the school system to help students “prepare better” for college.

Although participants acknowledged an increasing acceptance of depression and other mental health needs in society, they expressed a need for education systems to consider “social/emotional” development as “the #1 focus” in school systems to maximize success in school and after graduation. Participants suggested that needed supports and services, especially those related to social and emotional support be available to all students, including those with “un-

diagnosed mental health issues.” However, participants also noted that school professionals are often at “max capacity” and need decreased “caseload” sizes and ongoing “specialized” training in providing individualized supports. Participants called for “more education of teachers throughout elementary school through high school” about “what disabilities exist,” how to help recognize disabilities, what accommodations, modifications, and assistive technology exist to support students, and how to “better understand the different neurological differences between people with learning disabilities and mental illnesses.” Participants noted that this type of training would help teachers better support all students, thus preventing students having “to fail something before [getting] recommended” for disability services.

In college, Shivani recommended that there should “two seminars: one for parents and one for kids so that the kids learn that they need to be independent and make sure that they have the resources available and tell the same thing to the parents but in a different seminar.” Multiple participants also recommended that colleges create more robust peer support groups or “platforms” “for those who are open about their disability to have other students reach out to them.” Some participants indicated that this would be helpful for social and academic support, while others suggested that they would like a peer group of other people who have disabilities with whom they can “relate” to turn to for emotional support, especially during “stressful” times. Shivani also recommended the creation of groups of “alumni” college students with disabilities to “create communication with [new college students with disabilities] because they've been through it.”

Professional recommendations. First and foremost, participants recommended that professionals “really stress the importance of respect for children in the school system” by making students “feel safe,” “validating” students, “standing by the side” of students with disabilities, and showing them “that you understand.” Nora also suggested that university faculty in departments of education should emphasize to pre-service teachers that “you [will] always have a student that may not be diagnosed but has some difficulties” and “prepare future teachers” to support all students.

Relatedly, participants provided recommendations for ways in which professionals can better support students with disabilities. Nora suggested that college professors “look at your students and say, ‘Even if you don't have disabilities you can come talk to me if you need help. I will help. That's what I am here for. I will help you.’” She also stressed the im-

portance of professors reading the disability portion of the syllabus:

When professors go over the syllabus and come to the disabilities section and say, “You can read that...” or pass by it, it discredits those with disabilities. It sends a message that they are not important, the typical learners are more important.... It continues the stigma and view of those with disabilities that they are less than, ignored, or not a priority.

Other participants recommended that educators provide necessary and officially required academic accommodations while also facilitating peer-to-peer support and addressing depression “early on,” before students find themselves in crisis.

Another form of professional support frequently recommended by participants was to share information and strategies with students and their families. Examples of information participants wished they would have known included how to “get resources” in school or at work, how to “advocate” for themselves, information about “government benefits,” and how to become “more responsible and independent.” Nora and Rûna also recommended that educational professionals in high school and college prepare students with disabilities for discrimination that they may experience in the workplace after graduation. Rûna stated:

What do you do when you're being discriminated against?... So all of a sudden you're like well, can't change it I'm disabled. Can't change it that I have an asshole as a boss. So what do you do? These are preparations that at the high school and undergrad [levels] are not addressed.

These participants recommended that professionals “arm” students “to be comfortable enough to speak up for themselves” and “know the lived reality that you might be kicked” because “at the end of the day,” places of employment do not adhere to the “fluffy diversity policy on the [company] website.” Rûna and Nora both recommended high school educators and disability service office staff in college not only explain rights afforded under the Americans with Disabilities Act, but also what constitutes as a “reasonable accommodation” and advice on whether or not they should disclose their disabilities, and if so, how and when.

Family recommendations. Participants made basic recommendations for families of college students with disabilities, including destigmatizing

disability within the family unit by talking about disabilities, setting high expectations, and openly discussing student needs, strengths, strategies, and resources. In general, participants wished their parents were more “hands-on” to help them locate available services and supports following high school. Delmy suggested that families visit college campuses with their students to “see what [colleges] offer for disability services so they can find the best way to help their child that's going into college.” However, participants also recommended that “helicopter parents...who do everything for their kid” do their child a “disservice” by not teaching them to develop “responsibility” and “their own tool kit to survive” more independently into adulthood.

Student recommendations. Participants primarily recommended that college students with disabilities “always advocate” for themselves and “not be afraid” to ask for help in college because “nobody is going to do it for you.” Participants suggested that other students “be themselves,” “don't shy away from your disability,” “be self-aware [if they are] feeling anxious or depressed,” and “contact the disability office...to see what resources they provide.” Participants also recommended that students learn “take care of yourself” without the support of their parents, as Shivani noted: “It hit me that I was alone. No one is calling my name. No one is serving me food. I had to control my own schedule- set rules for myself. It's a lot of self-management.” Employing time management skills and self-discipline, such as “getting yourself in a position where your brain is ready to learn,” or independently engaging in “med management” also emerged as a recommendation across several participants.

Participants also recommended that students with disabilities investigate “school values” “university culture,” “disability services offered,” and “social life” when deciding where to attend college to ensure that it aligns with their own preferences and needs. Similarly, participants suggested “looking at faculty member ratings,” course sizes, and teaching assistant ratios to make informed decisions about the courses they take. Finally, participants recommended students “try to enjoy and have fun” in college and take advantage of college as “a very unique experience” to find a “support group” or “friends...to talk to.”

Discussion

The purpose of this study is to explore the perceptions and experiences of college students with disabilities, including their preparation for college. Participants noted cycles of disempowerment and

empowerment in which they focused on both positive and negative aspects of receiving a disability diagnosis, including experiencing self-doubt and confusion, as well as a diagnosis providing relief and serving as a way to legitimize their need for services and supports. This finding contributes to an understanding of both the positive and negative aspects of receiving a diagnosis can have on students and how professionals may support individuals to mitigate negative experiences and facilitate positive outcomes. Participants also reported that many educational professionals were either unsure or unwilling to provide appropriate accommodations and that professionals demonstrating warmth and genuine care for their wellbeing was as much, if not more important than academic accommodations. These findings are also consistent with literature that highlights a lack of preparation of university faculty and staff to effectively support students with disabilities with intensive academic, social, or mental health needs (Dipeolu et al., 2015; Dryer, Henning, Tyson, & Shaw, 2016; Hong, 2015; Odom & Wong, 2015) and the impact of educator dispositions (Francis, Blue-Banning, Turnbull, Haines, & Gross, 2016). However, these findings contribute to the literature by presenting the unique perspectives of adults with disabilities with varied educational experiences and providing recommendations for professionals to better support students (e.g., increase their knowledge of disabilities and individualized accommodations, teach students how to deal with discrimination and access available resources). Participants also noted that mental health support was an area in which individuals require greater support and professionals need better training; a need consistently noted in the literature on high school and college students with disabilities (Francis et al., 2018; Poppen, Sinclair, Hirano, Lindstrom, & Unruh, 2016). These issues and experiences caused participants to engage in a “constant fight” to experience success in college and resulted in a need for ongoing personal resilience and self-advocacy.

Participant inclusive education experiences also provided an interesting and much needed student perspective of the long-term influence of inclusion. Several participants, but primarily Rûna and Nora indicated that inclusive educational experiences resulted in a lack of belonging and support. In fact, all participants described feeling isolated and recommended that other students with disabilities locate other peers with disabilities for support. This finding is consistent with literature that cites a sense of isolation among students with disabilities (Dryer, et al., 2016; Van Hees et al., 2014), but, in some ways, contradicts literature that bolsters the benefits of inclu-

sion, including expanded social circles, and feelings of belonging (Dessemontet, Bless, & Morin, 2012; Francis et al., 2016). Further, this study adds information on the outcomes of inclusion in high school, which is not often reported in the literature (Chesmore, Ou, & Reynolds, 2016).

Finally, although it was not central to our research questions, all participants discussed the influence of interactions with their families. This finding supports literature documenting the ongoing roles that families play in the lives of individuals with disabilities (Cullaty, 2011). However, this study adds information about the preferences of college students with disabilities, as well as the critical role that family culture plays in college student experiences. For example, although family culture and expectations resulted in feelings of isolation and insecurity for several participants, all participants also provided at least one unprompted example of a way in which a member of their family provided them support. It is clear that family interactions are highly influential for all individuals (Gilbert, 2004), but this study indicates that these experiences are likely more impactful for U.S. college students with disabilities from non-Western backgrounds than those from Western backgrounds.

Limitations

This study has four primary limitations. First, our initial recruitment procedures of distributing a survey through the university disability service office prevented us from directly contacting participants, thus diminishing our ability to control to whom the initial offer to participant was offered. Second, this study relied on convenience sampling to report the in-depth experiences of eight participants. Although qualitative research is not intended to be generalized across populations (Bogdan & Biklen, 2007), the sampling techniques used and relatively small sample size diminishes our ability to ensure that our themes reflect the experiences of the majority of students with disabilities registered with the disability service office. Third, aspects of participant characteristics varied widely (e.g., number of years in college, disability diagnosis) and reflect the diversity of the university they attended. For example, a recent report indicates that students attending the university come from over 130 countries and three of the eight participants were immigrants or from immigrant families. However, we are unable to gain access to disability service office records to determine whether the characteristics of the participants are representative of all students served by the office. Fourth, although there are benefits from collected qualitative data in-person (Opdenakker, 2006), the principal investi-

gators conducted four interviews over the phone due to participant preferences.

Implications

This study highlights the need for pre-service and in-service professional development for K-12 educators and college faculty/staff on how to (a) better understand the nuances of different disabilities across individuals; (b) provide effective accommodations; (c) assist students to locate resources, services, and supports after graduation; (d) prepare students for barriers they may experience in college and the workplace; and (e) provide emotional support to students with disabilities. In addition, study findings indicate that college students continue to interact with and turn to their families for support, even though families do not always provide effective support for their loved ones with disabilities or promote their independence. Students stated that they wanted their families to maintain high expectations and support them in locating and accessing resources after high school, but that it was important from them to not to become “helicopter” parents so that students could independently find their way. These actions can be encouraged by secondary and higher education professionals providing families with parent workshops on how to engage in supported decision-making and connecting families to information and community resources (e.g., Center for Independent Living, vocational rehabilitation; Francis, Fuchs, Johnson, Gordon, & Grant, 2016). Shivani also recommended that universities provide two seminars during freshman orientation: one for the students and one for their families, with both focusing on independence while respecting cultural norms and differences. Further, high school and college professionals need to develop a stronger understanding of cultural differences related to family expectations and conceptualizations of disability in order to best support students from varying cultural backgrounds. This can be accomplished by providing person-centered planning processes for individual students (Haines, Francis, Shepherd, Ziegler, & Mabika, 2017), collaborating with cultural brokers, or by learning from guest speakers (e.g., student groups) with expertise in specific cultures.

Mental health also emerged as an ongoing need among participants. High schools and universities should consider conducting universal screening for all students to determine the nature and degree of their mental health needs. Participants recommended that educators consider social and emotional development as a primary focus when working with students with disabilities, and that mental health supports and services should be available to all students, regardless

of diagnoses. Education settings may also consider offering students the opportunity to briefly consult with mental health experts such as school psychologists or social workers to determine if additional follow up support is necessary, offer basic coping and support strategies to meet student needs, and provide suggestions as to where students may locate additional support on and off campus. Similarly, participants indicated a need for supportive peer groups with other students with disabilities so they can find peers to whom they can relate, particularly during stressful times. High schools and universities can collaborate with student leaders to create face-to-face or online student organizations to reduce isolation, share strategies, and generally provide emotional, logistical, and social support (Francis et al., 2018).

Finally, although inclusive educational practices can result in numerous benefits (Chesmore et al., 2016; Dessemontet et al., 2012), our findings indicate that educators should maximize student outcomes by acknowledging disability as part of the natural human experience in order to increase an understanding and comfort among all stakeholders, decrease stigma, and help individuals with disabilities to access resources and systems of support (including other people with similar disabilities). Participants recommended that educators need more information about disabilities, including how to recognize various disabilities, make appropriate modifications, and use technology to support the independence of students. They also spoke of a need for information sharing with students and their families and for educators to better prepare students with disabilities for “real life.” When speaking of the cycle of empowerment and disempowerment, participants stated that respect for all individuals was of the utmost importance in secondary and higher education settings. All students need to feel safe, validated, and that they treated fairly and with dignity.

Future Research

Future research should seek to recruit larger numbers of participants with greater levels of diversity. More specifically, researchers should seek to purposefully recruit non-majority race/culture and historically marginalized populations to provide important information on the influence of social capital, cultural values related to family interdependence, and other cultural values and norms (including conceptualizations of disability self-determination) that are crucial for facilitating positive outcomes for all stakeholders (Trainor, 2005, 2010). Replication of this study with specific student populations, such as students with Autism Spectrum Disorder who are increasingly attending college (Brown & DiGaldo, 2011), would provide

important information for professionals to focus on the specific needs of each disability population.

Of the 23 students who originally volunteered to participate in this study, only eight completed an interview. Additional research is needed to determine more effective ways to successfully recruit college students with disabilities to engage in this important line of research. Moreover, an examination of the perspectives of education professionals and families related to the key themes that emerged in this study would provide a deeper understanding of ways in which the field may improve student outcomes.

In addition, given the positive and negative discussions related to diagnosis and inclusion, more research is needed to determine the most effective methods for ensuring that receiving a diagnosis is an empowering rather than traumatic experience and that inclusion does not incidentally result in isolation and limited access to required information, resources, and support. Participants also spoke about the need for mental health services; future research is needed to develop a comprehensive framework and accompanying strategies to address mental health needs among diverse college-age students with disabilities.

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Table 1

Participant Demographic Information

Pseudonym	Primary Disability	Primary Support Need	Gender	Race/Ethnicity	Language Used at Home	Age in Years	Years in College	Residence
Tae	Mental health	Self-management	Male	Asian/Asian American	English	23	4	Off campus
Rodney	Multiple disabilities	Academics	Male	White/Caucasian	English	25 or older	5 or more	Off campus
Shivani	Mental health	Vocational	Female	Asian/Asian American	English	18	Less than 1	Off campus
Nora	Specific learning disability	Academics	Female	White/Caucasian	English	25 or older	5 or more	Off campus
Rûna	Hearing impairment	Self-Advocacy	Female	Middle Eastern	Kurdish	24	4	Off campus
Lydia	Other health impairment	Vocational	Female	White/Caucasian	English	25 or older	5 or more	Off campus
Landon	Visual impairment	Vocational	Male	White/Caucasian	English	19	1	Off campus
Delmy	Hearing impairment/Autism	Academic	Female	White/Caucasian	English	24	5 or more	Off campus

Note. Self-management needs included support in organization, stress management, mental health, and time management. Academic needs included support in coursework, writing, and test-taking. Vocational needs included career awareness, workplace skills, and interviewing. Self-advocacy needs included requesting support and a knowledge of rights. Lydia's other health impairment was attention deficit disorder (ADD).

Evidence of Inclusion on College Websites: Academic Accommodations and Human Support

Vanessa A. Costello-Harris¹

Abstract

The number of students with disabilities continues to rise within college and university populations. Therefore, institutions have aimed to present a welcoming campus of inclusion with adequate resources. For many prospective students with disabilities (learning, psychological, and physical), the campus website will be the first resource used to assess the campus climate regarding disabilities. The present study analyzed the websites of 26 Midwestern colleges and universities and evaluated their evidence of providing an inclusive environment for students with disabilities. Three researchers were trained to individually search and code each campus website based on their evidence of inclusion (i.e., EoI = number of resources out of 25 resources). Two major resource categories were analyzed (1) academic accommodations (n = 14 resources) and (2) human support (n = 11 resources). Schools were rated on a five-point scale ranging from 1 = inadequate evidence to 5 = exceptional evidence, based on the percentage of resources found (out of 25) on each website. For the total number of resources, only 46% of the schools scored at adequate or above ($\geq 70\%$ of 25 resources). Across campuses, the strongest evidence was for human support. In general, public institutions showed greater evidence than private institutions. While it is likely that the actual on-campus accommodations and types of support are plentiful, they are unlikely to be evident to prospective students based on the information provided online. Therefore, efforts should be made to increase the visibility of resources on campus websites. Recommendations are provided for website improvements.

Keywords: disability, accommodations, belonging, websites, support

Colleges and universities are continuously working to meet the needs of their increasingly diverse student population. Students with disabilities (SWD) are a growing subgroup that contributes to campus diversity; a subgroup that not all campuses are prepared to assist. Raue and Lewis (2011) conducted a national study of two- and four-year degree-granting institutions that assessed the number of SWD that used accommodations. The sample included 1,420 public and private institutions. Ninety-nine percent of the public institutions and approximately 75% of the private institutions reported enrolling SWD (approximately 707, 000 self-disclosed students). The majority of institutions reported enrolling students with a specific learning disability (86% of institutions), attention-deficit/hyperactivity disorder (ADD/ADHD; 79%), physical impairments (76%), and mental illnesses (76%). Statistics were based on self-disclosed numbers; therefore, the number of SWD was likely

greater than reported. Many of these students will search online for campus resources prior to visiting the campus, thus increasing the importance of the type and amount of information presented on campus' websites.

In fact, students have rated the campus website as the most frequently used, and the most useful technology employed during the college search process (Lindbeck & Fodrey, 2010). The campus website allows prospective students to learn about available resources and formulate their first impression of the campus climate. Wilson, Getzel, and Brown (2000) suggested that advertising about available academic resources for SWD would help improve the campus climate. Thus, offering services is not enough; services also need to be clearly advertised and easy to find (Noel-Levitz, 2009). Academic accommodations are just one group of resources that require clear advertisement on the campus website.

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Campus Resources: Academic Accommodations and Human Support

Access to academic accommodations typically requires a diagnosis of a mental, physical, or developmental impairment that impacts one's academic abilities. Appropriate documentation must be submitted to the campus Office of Disability Services (ODS). For the purpose of the present study, academic accommodations were operationalized as academic supports that assisted in learning (e.g., arranged seating, early access to classroom notes, and audio recordings), or showing evidence of learning (e.g., submitting audio responses or receiving extended time for testing). The definition only included academic accommodations that were available to students who had self-disclosed their disability. The definition did not include academic support that required human assistance (i.e., human supports such as a scribe; see Table 3). Examples of common accommodations not included in the present study under academic accommodations included but were not limited to: access to a scribe, a reader, or sign language interpreter. These accommodations were defined under human support. All resources defined under human support required assistance from a person; the definition has been partially adapted from Schreuer and Sachs (2014). Resources included under human support may or may not have required self-disclosure in order for students to receive the resources. Similar to academic accommodations; human support resources assisted in learning (e.g., Communication Access Realtime Translation; CART) showing evidence of learning (e.g., writing center); or provided students with emotional, psychological, or social support (e.g., advocacy assistance, support groups for SWD, or counseling services).

Accessing Campus Resources: Knowledge and Usage

Academic accommodations and human support are common resources available to SWD. According to Raue and Lewis (2011), the main resources provided by public and private institutions have included additional exam time (93%), class note-takers (i.e., scribe, 77%), faculty provided course notes (72%), study skill training (72%), and adaptive equipment/technology (70%). While institutions must offer certain accommodations, they are not required to advertise them. SWD have reported being unaware that accommodations are available in college (Cawthon & Cole, 2010). Lack of knowledge may contribute to limited resource usage; therefore, advertising about campus resources to assist SWD can increase the likelihood of the resources actually being used. If resources are not advertised (e.g., presented on the campus website), then prospective students may per-

ceive the resources as being unavailable and thus give them the impression that the campus is not prepared for, or inclusive of SWD.

Even with the large number of SWD and the proportion of institutions offering academic accommodations; only a small proportion of SWD actually apply for and use the available resources. A report from the National Longitudinal Transition Study-2 (NLTS2; Newman et al., 2011) assessed the post-high school outcomes of SWD. Of the students who enrolled in some form of postsecondary education, 87% reported receiving some form of academic accommodations in high school, yet only 19% (of the 87%) received accommodations in college. The likelihood of disclosure varied based on the disability. Students with learning disabilities (24%) or mental illnesses (27%) were the least likely to disclose, perhaps due to the fear of potential stigma. Unfortunately, nondisclosure due to fear of stigma has been a common trend in the SWD literature (Dowrick, Anderson, Heyer, & Acosta, 2005; Stein, 2013; Thompson-Ebanks, 2014). Nondisclosure inhibits students from being able to access academic accommodations and some human support resources. Therefore, it is important that campuses create a campus climate that welcomes disability disclosure, to ensure students access the resources, reduce their chances of academic failure, and increase campus belonging.

SWD have reported lower institutional attachment when adjusting to college (Adams & Proctor, 2010). SWD who experienced academic failure (Vacaro, Daly-Cano, & Newman, 2015) or feelings of inadequacy (Thompson-Ebanks, 2014) were more likely to feel that they did not belong in college. Unfortunately, some of these students have attributed their academic failures to their disability or being inadequately prepared for college. While many students experience difficulties when transitioning from the academic expectations of high school to college, this can be especially challenging for SWD who may not have access to the same degree of academic support. When students transition from high school to college, their academic accommodations do not transfer with them. Students must then assess which accommodations are offered, determine the accommodations they need, understand the process to receive services, and then learn to advocate for their needs to faculty and staff (Hamblet, 2009). The task is more difficult when students lack knowledge regarding which accommodations they had in high school or which accommodations are available in college (Dowrick et al., 2005; Lightner, Kipps-Vaughan, Schulte, & Trice, 2012). Therefore, it is necessary for campuses to clearly present the different types of academic accommoda-

tions available to all students with disclosed disabilities. For example, by providing an accommodation manual on the campus website, both students and faculty would be informed about the available resources (Wilson et al., 2000).

Due to the reduced disclosure observed in college, institutions must also present available resources to students regardless of their disclosure status (e.g., students with non-disclosed disabilities). Various human support resources available to students who disclose include readers, scribes, and sign language interpreters. Fortunately, there are many human support resources, such as writing centers and counseling services that are available to all students, regardless of their disability or disclosure status (Hamblet, 2009). In addition, resources such as departmental tutoring and student organizations provide academic and social support to all students. SWD who have participated in student organizations have reported that it provided them with an opportunity to build social relations and learn how to self-advocate (Agarwal, Calvo, & Kumar, 2014), which could enhance their feeling of being connected, as a student, at the university.

Students with resource knowledge and thus resource access may have a greater chance of academic success and feelings of campus belonging and inclusion. Having social support, academic success, or being able to, “master the student role,” all enhance campus belonging in SWD (Vaccarro et al., 2015, p. 677). Therefore, campuses would benefit from advertising online about their resources that help SWD to master the student role (e.g., academic accommodations and human support resources) or provide avenues for social support (e.g., human support resources). The present study assessed the websites of 26 Midwestern colleges and universities and measured their evidence of providing an inclusive environment (i.e., evidence of inclusion [EoI]) for SWD. EoI was operationalized as the frequency with which schools exhibited evidence of supporting students with disabilities (e.g., learning, psychological, and physical), through providing a range of academic and social support resources (e.g., counseling services), thus supporting inclusive education.

The United Nations Educational, Scientific and Cultural Organization (UNESCO, 2005) has defined inclusion as:

a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education. It involves changes and modifications

in content, approaches, structures and strategies, with a common vision which covers all children of the appropriate age range and a conviction that it is the responsibility of the regular system to educate all children. (p. 13)

Mitchell (2015) proposed a model of inclusive education that took into consideration the multiple factors that impact inclusion. The model of inclusive education emphasized the importance of placement, adapted assessment, vision, leadership, adapted curriculum, adapted teaching, access, acceptance, resources and support, all of which are necessary for inclusion to occur. The present study has referred to these different factors of the model as “criteria” for inclusion. Part of Mitchell’s model of inclusive education included indicators (i.e., examples) that primary and secondary schools were addressing each criterion and suggested that school leaders use the model to develop and assess inclusive education.

For the purpose of the present study, Mitchell’s (2015) criteria of placement (i.e., students with and without disabilities are educated in the same classroom) and adapted assessment (i.e., adjustments for national testing) have not been applied due to less applicability to the postsecondary setting. The eight additional criteria of Mitchell’s model of inclusive education can be extended to postsecondary institutions. In some cases, indicators of each criterion can be assessed through campus promotional materials (e.g., printed material or websites). To achieve the criteria of vision and leadership, institution leaders must have an agreed upon philosophy for inclusion of diverse groups and create a culture of inclusion. Postsecondary institutions typically present their campus vision through their mission statements. Wilson, Meyer, and McNeal (2012) reviewed the mission and diversity statements of 80 institutions to assess if diversity and inclusion were viewed as a priority (based on the amount and type of presented information). While 59 institutions included diversity in their mission statement, only 3% and 16% (of the 59) mentioned disability or inclusion (not disability specific), respectively. Further examination of institutions’ diversity statements found that of the 52 institutions with diversity statements, only 8% mentioned inclusion. Therefore many of these institutions would not have met the criterion for vision proposed by Mitchell (2015).

Postsecondary institutions can work towards a culture of inclusion by providing educational opportunities to the leaders in their educational community (e.g., faculty, staff, peer-mentors). When provided with supportive staff, students with psychological

disabilities reported feeling less alone (Stein, 2013). Unfortunately, student-service staffs have reported feeling unprepared to meet the needs of SWD due to their limited knowledge about disabilities and available resources (Burgstahler & Moore, 2009). To create an inclusive classroom, SWD felt that faculty and staff needed greater sensitivity towards the needs of their students and receive training on how to adapt classroom materials (Camacho, Lopez-Gavira, & Díez, 2017; Wilson et al., 2000). To present evidence of an inclusive campus, institutions that provide training opportunities to their faculty and staff may benefit from advertising about these efforts to their prospective and current students. Campus training efforts would also go to support the next criterion of adapted curriculum.

Adapted curriculum includes providing students with necessary academic accommodations or implementing universal design to allow students equal access to instructional material (Mitchell, 2015). The criterion of adapted teaching requires teachers to be educated and informed on ways to adjust the classroom to meet the needs of the diverse student population. Both criteria of adapted curriculum and adapted teaching could be achieved through providing training opportunities for faculty. Training can include different ways to implement academic accommodations or ways to adapt their courses to meet universal design standards. Informed faculty have reported greater positive attitudes towards SWD and inclusive teaching (Dallas & Sprong, 2015; Dallas, Sprong, & Upton, 2014; Murray, Lombardi, & Wren, 2011), participating in more inclusive practices, such as inviting disability disclosure and greater willingness to provide necessary accommodations (Murray, Wren, & Keys, 2008).

The criteria of access and acceptance are viewed as institutions providing all students with the same resources for necessary educational, social, and emotional support (Mitchell, 2015). Access also includes being able to access the educational space (i.e., campus, classrooms, and recreational spaces), campus events, and academic content through necessary accommodations. Students with mobility impairments have reported poor access due to old campus buildings without accessibility updates or poor maintenance of accessibility equipment (Emong & Eron, 2016; Hadjidakou, Polycarpou, & Hadjilia, 2010). Indicators of acceptance for SWD can include providing them resources for opportunities for campus involvement and developing social relationships, such as having student organizations for SWD, peer-mentoring programs, or student-faculty programs (Vaccaro et al., 2015).

Lastly, to provide an inclusive education institutions must work to meet the criteria of resources and support (Mitchell, 2015). The institution must have and be willing to put financial resources towards providing and maintain necessary physical, educational, and psychological support. Mitchell defined support as having collaboration between the multiple professions and parents who work to support the student. College students are responsible for obtaining their own resources, therefore, the definition has been adjusted to; collaboration between multiple professionals and the student in need of services. Resources include having necessary support staff to address students' diverse needs (e.g., ODS, counseling and psychological services, advocacy staff, and technology support). Indicators of resources for inclusion can be extended to financial efforts to support the recruitment of SWD (e.g., offering scholarships, producing high-quality recruitment materials including information about ODS services; Haller, 2006).

Achieving inclusive education is an on-going process that requires reviewing campus' indicators of providing an inclusive environment. The present study used the inclusive education criteria proposed by Mitchell (2015) to review college and university websites for EoI of SWD. Due to the complexity of the inclusive education model, only a portion of the criteria were addressed in the present study, which was part of a larger project. For the present study, websites were coded across two major categories (1) academic accommodations and (2) human support, with services in each category providing indicators of inclusive education. Schools that exhibited evidence of providing academic accommodations would be providing indicators for the criteria adapted curriculum, adapted teaching, and access. Schools that exhibited evidence of providing human support would be providing indicators for the criteria of access, acceptance, resources, and support. The present study addressed four questions based on the number of resources that were presented on campuses' websites. When appropriate, hypotheses were provided:

1. Collectively, how adequate (operationalized as exhibiting at least 70% of the 25 resources) was the EoI (i.e., total number of resources out of 25) within the two major categories (academic accommodations and human support)?
2. Which major category had the strongest EoI? Providing reasonable accommodations has been legally mandated, therefore all campuses must offer a range of services that would qualify as academic accommodations or human support. Therefore, it was hypothesized that

both categories of academic accommodations and human support would be adequately presented on the majority (>50%) of the campus websites, with academic accommodations exhibiting a greater amount of resources.

3. Is there a difference between public and private institutions regarding their EoI?

On average, a greater number of public institutions reported offering a greater variety of academic accommodations compared to private institutions (Raue & Lewis, 2011). If public institutions offered a greater range of accommodations, they likely presented a greater range on their campus websites. It was hypothesized that a larger percentage of public institutions would exhibit greater EoI than private institutions.

4. Exploratory question: Within the two major categories, what were the most and least common types of resources advertised on campus websites?

Method

Website Selection

A list of public and private institutions in the Midwestern United States was compiled and only included not-for-profit schools. Disproportionate stratified sampling was employed, using a random list generator (<https://www.random.org/lists/>) 13 of each type of school (public and private; see Table 1 and Table 2) was selected and their websites reviewed. Institutions were grouped based on their size and setting, as reported by the 2013-2014 Carnegie Classification System (2017). To reduce negative views towards institutions with poor EoI campus names have not been included. Instead, non-connected abbreviations have been assigned to each institution (e.g., Public-A and Private A). Twenty-six websites were originally coded and reported, though one website was no longer available by fall 2018. The website was no longer available due to the unification of two campuses; Public-I (included in the sample) officially unified with Public-M (not included in the study) during July of 2016. The unification resulted in the two websites transitioning into one, during the data collection process (website transition occurred during and after July of 2016). Schools with multiple campuses, but different websites, were viewed as separate schools. Schools with multiple campuses but one website were coded as one campus.

Materials

A coding manual was created and included op-

erational definitions of the major EoI categories and examples of potential resource variations (i.e., subcategories). The EoI major category definitions have been provided below with examples of the subcategories presented in Table 3.

The major category of academic accommodations included 14 subcategories (see Table 3). Academic accommodations included access to adaptive equipment needed to assist in learning or to show evidence of learning; academic adjustments to show evidence of learning (e.g., submitting assignment in alternative format), or adjustments to material to increase one's potential for learning (e.g., audio-recording lectures). Academic accommodations that included support from other individuals (e.g., scribe) were coded as human support. The major category of human support included 11 subcategories (see Table 3). Human support included employed or student volunteers (e.g., readers), and staff who assisted students in learning or to show evidence of learning. Human supports provided to students in the form of emotional, psychological, or social support (e.g., counseling services) were also included.

Procedures

Websites were coded between August 2016 and March 2017. All three coders reviewed approximately 27% of the 26 websites. Coding dyads made from different combinations of the three coders (e.g., 1 and 2, 1 and 3, 2 and 3) were randomly assigned to code the remaining 73% of websites. All coders made use of a list of accessibility and resource terms (see Table 4). Specific search terms were determined after reviewing the literature for common services available to SWD (e.g., assistive technology). The names of specific disabilities were not searched; instead, search terms were selected that would generate resources to benefit individuals with a range of disabilities (e.g., counseling center and study strategies). Additional terms helped to identify groups of students who may require disability services but might look for them in a different location (e.g., Veteran students; not reported in the present study). Lastly, search terms that helped to identify the university's view of disabilities were also employed (e.g., diversity and disability training; not reported in the present study).

Coders put each term through the search engine of each campus website and every link on the first page of results was accessed. Evidence of each of the 25 subcategories of academic accommodations and human support were coded as being present or absent. When enough details were provided on the websites, additional information pertaining to the subcategories was coded. After opening and reviewing information

within a webpage, if additional links were presented on the webpage (e.g., PDFs, videos, additional urls) then those links were opened and coded for EoI. For example, the term “accommodation” was searched using the campus’ search engine; all links on the first page of the results were viewed and EoI coded. If a webpage included additional links and downloads, such as a PDF for a student manual; the link was opened and all EoI coded (e.g., writing center). Within the previous example, the major category was coded as “human support” and the subcategory as “writing center” access. The campus website of Public-F was randomly selected and used for training purposes. Coders did not begin coding additional websites until no more than five discrepancies occurred across the 25 subcategories.

Any EoI that did not clearly fit a subcategory was marked as “other” and later discussed between the coders. Coders met weekly to discuss any discrepancies and all discrepancies were reconciled prior to coding the next website. Coder dyads reviewed discrepancies by reviewing the website and resource in question. The resource was then recoded. All schools were rated on a five-point scale based on their **total percentage** of resources across the two major categories (total possible resources = 25). Based on total EoI percentage, schools were ranked as either: inadequate (< 60% of the 25 resources), slightly below adequate (< 70% of the 25 resources), adequate (< 80% of the 25 resources), above adequate (< 90% of the 25 resources), or exceptional (\geq 90% of the 25 resources). These percentages are not based on any standards proposed by Mitchell (2015), but have been created for the purpose of the present study as a form of EoI measurement.

Results

The results have been divided into two sections. The main research questions were addressed regarding levels of EoI across the major categories. Next, details were provided regarding the most and least common examples of coded resources within the major categories. Non-connected abbreviations for each campus have been provided when discussing specific EoI examples (see Table 1 and Table 2); thus offering validity for the results. Please note that the absence of a campus abbreviation associated with a specific resource does not indicate that the specific resource (or some variation) was not advertised on the campus website. Some campuses exhibited unique examples of EoI (e.g., student organizations), while some EoI was common across multiple campuses with little variation (e.g., extra time on tests)

resulting in a random selection of campuses to connect with the resource locations. For EoI details of individual institutions, please contact the author.

Levels of EoI

As a whole, the 26 campus websites exhibited poor EoI (see Table 1 and Table 2). Hypotheses 1 and 2 were not supported; only 12 websites (46%) were rated as having adequate EoI (offering at least 70% of the 25 resource subcategories). One school (Public-D) exhibited exceptional EoI (at least 90% of the 25 resource subcategories), and only six scored above adequate (at least 80% of the 25 resource subcategories; all public). The major category of human support had the strongest EoI, with approximately 71% of the 11 subcategories being observed across campuses (combining public and private). Across the human support subcategories, 100% of the public institutions exhibited resources for study strategies/tutoring, writing center, scribe, and counseling services. One hundred percent of the private institutions exhibited resources for study strategies/tutoring, while 92% of the private institutions exhibited resources for a writing center, scribe, and counseling services. Human support provided the strongest EoI for both public (81% of the 11 resource subcategories) and private (60% of the 11 resource subcategories) institutions. The major category of academic accommodations had the weakest EoI, with approximately 60% of the 14 subcategories being observed across campuses. Extended time for testing was the strongest subcategory for academic accommodations, with 91% and 92% of public and private institutions presenting resources, respectively. Support was provided for the third hypothesis in that public institutions exhibited greater EoI. Specifically, 74% of public institutions were scored as adequate, whereas 54% of private institutions were scored as inadequate. Public and private institutions exhibited large differences across specific academic accommodation subcategories. The greatest differences were observed for arranged seating (75% of public versus 23% of private), submitting audio responses (75% of public versus 38% of private), modified deadlines (41% of public versus 7% of private) and taping of lectures (91% of public versus 53% of private). Public and private institutions exhibited large differences across fewer human support subcategories. The greatest differences were observed for advocacy/mediation (91% of public versus 69% of private), readers (91% of public versus 23% of private), and support groups for SWD (100% of public versus 69% of private).

Exploratory: Most and Least Common Resources

The number of schools that exhibited each of the 25 subcategories is presented within Table 3 and will not be restated here. The following sections present specific examples of the most and least common resources. For resources with little to no variation in how they were presented on the campus websites (e.g., being able to have a scribe) no additional details or examples were provided.

Academic accommodations. Within the major category of academic accommodations, the most common subcategory included receiving extended time for testing (time-in-a-half, double time, and unlimited time), and in rare cases the option to complete tests in multiple sessions/days (due to fatigue). However, flexibility with in-class discussions (e.g., providing discussion posts due to a speech impairment; Public-D), and the option of modified assignment deadlines were rarely reported (Public-B and Private-L). A variety of EoI were coded as the subcategory “other” for example, disability-specific assistance with studying abroad (Public-A, Private-D, Private-B, and Private-G). Private-D provided SWD a checklist of study abroad considerations, such as, checking the type of curriculum and available accommodations at the international institution.

Private-G also provided disability-specific resources to assist students with accommodations through their internships and clinical experiences. Additional EoI that contributed to the “other” subcategory included course substitutions (when possible Public-L and Private-L), use of a dictionary or spell checker on tests, and being able to claim full-time student status while having a reduced course load (Private-G and Private-M). Some schools also provided speech-recognition software on lab computers (Public-J) and alternative keyboards (e.g., braille; Public-H and Public-I).

Human support. Within the major category of human support, the most common subcategories included mediation resources; help with learning, writing centers, finding a scribe, support groups for SWD, and counseling services. For advocacy and mediation, many schools offered ways for students to report their grievances (e.g., incidents of discrimination or challenges with faculty; Private-E). Schools also offered forms for students to request assistance with mediation with faculty and other students (Public-D). Campuses such as Public-G provided training to students in self-advocacy. Additional campuses provided educational resources in advocacy (Private-G), or developed student/faculty organizations that focused on education and advocacy (e.g., Public-H).

Peer tutoring (Private-A, Private-H, and Private-J) or programs designed to assist in improving one’s study skills were the most common resources to assist in student learning. Public-B offered a Study and Learning Skills Program that provided individual meetings focused on time management, study skills, reducing procrastination, and learning to set personal and academic goals. Private-M offered math tutoring by trained students at their Quantitative Skills Center. Public-K offered a set of tutoring videos that covered note-taking, study skills, test anxiety, and offered peer and professional (i.e., tutors with degrees) tutoring. Private-E offered one-on-one tutoring to any student with a documented learning disability, and Private-I offered an academic support team with faculty members for struggling students regardless of their disability status. The majority of schools advertised about having a writing center that assisted students along different means of the writing process. Many writing centers provided in-person services, while a few provided the opportunity for online consultations (Public-C).

Common EoI included various support groups, student organizations specific to SWD, or some form of mentorship (Private-C). Private-K Learning Disabled (BUILD) program was a pay-for-service program that offered additional resources beyond the ADA-required accommodations. BUILD resources included two-hour weekly meetings, individual tutoring by tutors with at least a bachelor’s degree (across multiple areas), and study skills training. Public-C offered the National Alliance for Mental Illness (NAMI) organization that aimed to increase awareness and educate others about mental health issues. Multiple schools had an Active Minds chapter; a national organization focused on educating college communities on mental health topics, teach mental health advocacy, and help reduce mental health stigma. Public-F offered an honor society for students with disabilities, Delta Alpha Pi. Public-B offered a Peer Undergraduate Mentor Program (PUMP), to help incoming students with disabilities transition to college. Incoming students were paired with upper-class mentors with disabilities who offered one-on-one mentorship. A similar peer-mentoring program was offered at Public-H. In some cases, schools offered campus-community programs such as SuperSibs (Private-L, Private-I, and Private-F), which worked with children in the community who had siblings with disabilities.

Counseling and psychological services (CAPS) were common resources reported on the websites, though the number of services varied across campuses. Individual counseling was most often provided. In some circumstances group therapy, substance abuse

resources, mental health screening, sexual abuse, domestic violence, and crises resources were advertised (Private-B offered a wide range of services). Public-H offered psychiatric services. A few schools offered specialty programs, such as the Mindfulness/Meditation Group offered at Public-I, which helped to reduce stress, anxiety, and depression.

One of the least reported resources was having routine check-ins for students to assess any potential challenges, needs, or successes. The Achieve, Connect, Engage, Succeed (ACES Program) offered at Public-E helped students with stress and time management, study skills, and career planning. Students in the ACES program routinely met with a success coach and peer mentor. Public-J advertised about their Student Disability Advisory Committee (SDAC), which aimed to enhance accommodations and remove barriers. The SDAC consisted of the director of counseling, ADA coordinator, architect, administrators, faculty members, and students.

Discussion

Hamblet (2009) recommended that prospective SWD search the campus website for commonly offered accommodations and other forms of support. Mitchell (2015) proposed that such information and opportunities could be seen as indicators of inclusive education. Unfortunately, many of the institutions in the present study are currently not providing informative websites for these prospective students nor offering strong indicators of inclusive education. Collectively, campus websites showed limited EoI, with 54% of campuses not showing adequate EoI. While presented EoI on campus websites does not equate to actual services available at each institution; prospective students may not know what is available if it is not presented. While human support had the strongest EoI across the 26 institutions, the category barely met the required threshold to be viewed as adequate (71% of the 11 resource subcategories), suggesting that campuses would benefit from promoting more of their human support resources. Nonetheless, a positive finding was that one of the most commonly advertised human support resources (found on 20 websites) included advocacy and mediation.

Presenting resources for self-advocacy and mediation would show prospective students that the university values their opinions and concerns, and that they want students to speak-up for themselves. Successful self-advocacy requires the individual to identify their needs and determine the resources they require to have those needs met. When SWD have the necessary knowledge and skills to self-advocate, they

have the ability to better identify the types of accommodations and resources that would best help them to succeed (Walker & Test, 2011). Thus, resources to help students self-advocate for their needs and gain social support contributes to Mitchell's (2015) criteria of access, acceptance, and support. SWD who can self-advocate report greater feelings of campus belonging (Vaccaro et al., 2015) and college adjustment (Adams & Proctor, 2010). SWD also report having a more positive view of the campus climate when feeling a strong sense of belonging and having skills to advocate for their needs (Fleming, Oertle, Plotner, & Hakun, 2017).

Twenty campuses advertised a range of student organizations that focused around the needs of SWD (e.g., information, social support, community education, and advocacy). For students who lack the skills or confidence to self-advocate, having a student organization or designated staff member to help in student advocacy would be a beneficial form of human support (Vaccaro et al., 2015). Offering student organizations or designated staff would provide indicators of Mitchell's (2015) criteria for access, acceptance, resources, and support. Student organizations can help enhance campus belonging by providing opportunities for social involvement and peer networking (Agarwal et al., 2014). Student organizations could range from larger groups to smaller peer-mentoring programs; depending on the needs and resources of the campus. Having a student organization such as the honor society for SWD, Delta Alpha Pi, would provide a means for academically strong SWD to meet and help reconfirm their status as a legitimate student, due to showing evidence of mastering the student role.

First generation students report needing, but not using campus-counseling services due to not knowing that services are available. Therefore, Stebleton, Soria, and Huesman (2014) recommended that counseling services increase their visibility to students and offering a greater presence on campus. According to O'Keefe (2013), "mental health of students is leading to student attrition, and the perception that the university is not well equipped to support the emotional and mental health needs of students may impact upon enrollments" (p. 607). Therefore, it was not surprising to find that 24 of the 26 campuses presented details of offering some form of counseling services. Unfortunately, the amount of information presented about available services varied greatly. Some campuses only stated that services were available, while others presented a list of potential resources and activities. Students who access counseling services show greater rates of college retention than students who do

not access such services (Wilson, Mason, & Ewing, 1997), thus providing students continued access to their education. Campus sense of belonging is related to self-reported rates of stress and depression (Stebbleton et al., 2014), suggesting the impact that offering these services have on student belonging. Campuses that present a greater amount of counseling resources may be viewed as being more prepared and accepting of SWD in general, and mental illnesses in particular. Offering a range of counseling services also indicates that the institution has the resources and wants to support the needs of their students.

Like all students, SWD want to be academically successful, with or without the support of accommodations (Lyman et al., 2016). To support all students, institutions must offer and advertise about various academic supports available to students regardless of their disclosure status. All of the reviewed campuses advertised about some form of resource that could help students learn either through study skill training or tutoring (online video, peer, or professional). Online resources for study strategies would be beneficial to advertise for students who may not feel comfortable with face-to-face tutors, cannot make it to campus, or are completing online courses. Institutions could offer and advertise employing professional tutors who have experience working with SWD, thus indicating that they accept and support SWD, which may help decrease students' fear of stigma.

Additional human support resources such as a campus writing center or having access to a scribe were commonly presented (at least 24 out of 26 schools), which suggest the importance that campuses place on helping students academically. Fortunately, all of the resources, except for the scribe, were available to students with or without a disability. Unfortunately, additional human support resources that are typically used by SWD tended not to be advertised as frequently. Resources such as real-time captioning (nine of institutions), having access to a reader (15 of institutions), and routine check-in meetings (three of institutions) were rarely offered at institutions included in the present study. Routine meetings to assess any challenges or concerns SWD may be experiencing would require a greater amount of resources than the institutions likely have available. To remedy this problem, institutions could set-up peer or faculty mentorships to allow for a one-on-one support network. Offering peer or faculty mentorships would reduce the burden of a typically small ODS staff, while offering personalized support.

There was little variation in the types of academic accommodations advertised on institutional websites. Most websites (at least 21 institutions) advertised the

options for receiving course materials in alternative formats (e.g., large print, extended time for testing, and being able to complete tests in an environment with reduced distractions). While institutions are required to offer these options, by advertising about them they show that they actually want students to access and benefit from the services. Seeing these commonly offered services; students may feel less concerned about accessing them. Increased student usage will result in greater faculty knowledge and experience in implementing these services. Faculty familiarity with the services would help to improve the disclosure process for students by presenting a more welcoming environment. SWD have reported on the importance of faculty being aware of available services to help students feel more included (Moriña, Cortés-Vega, & Molina, 2015). Advertising the accommodation services will also give faculty a clear place to find details on how to implement those accommodations within their classrooms.

Alternatively, there are many resources that were not commonly advertised and could make it more difficult for students to access or increase challenges with having faculty implement services. Flexibility with class discussions was the least advertised academic accommodation. Students with severe anxiety or who are unable to communicate clearly through oral discussion, would benefit from knowing about alternative discussion formats (e.g., submitting comments via assistive technology). A flexible absence policy was advertised on half of the websites. Advertising about the policy would suggest to students that the campus is prepared to work with students with chronic illnesses who may require this resource. Therefore, campuses need to make sure that they are prepared to implement and answer questions regarding all of the resources they offer. They would also benefit from informing faculty of the most commonly used resources to help the faculty be better prepared to implement.

Lastly, a unique resource included information to help SWD study abroad. Integrated (students with and without disabilities) study abroad trips have contributed to enhanced peer-relationships, and the opportunity to have a range of culturally diverse experiences (Kelley, Prohn, & Westling, 2016). Therefore, advertising about the different resources available to help students participate in these opportunities would help prospective students feel that they are truly part of the campus and able to participate in on-campus and off-campus activities. Soneson and Fisher (2011) recommended that campuses create a welcoming environment of disclosure to help SWD participate in study abroad. Evidence to indicate a welcoming en-

vironment would include, providing images and testimonials on the website from SWD who participated in study abroad.

While limited resources were presented on campus websites, a few study limitations must be considered. One thing to consider was that EoI could have been greater across campuses if the miscellaneous resources in the “other” subcategories for academic accommodations and human support were counted as individual points towards the overall EoI rating. For the present study, if one campus had five resources in the “other” category, they were only counted as one point. On the other hand, great lengths were made to find all sources of potential EoI for each institution. On average, the three coders spent 2.5 hours searching each institution’s website; which is likely a significantly greater amount of time than what the average prospective student would spend. It can also be assumed that the amount of EoI found by prospective students would be substantially less than what was found by the coders, especially as coders accessed additional embedded links. Erickson et al. (2013) found that one difficulty prospective students have with finding information on campus websites is due to unfamiliarity with institutional terminology. An additional limitation was that the only institution to receive an EoI score of exceptional (Public-D) was a campus that the coders were familiar with and had more experience with their website and terminology. Specific recommendations for website implementation are listed below:

Website Implications for Public and Private Institutions

1. Advertise opportunities for students to learn how to self-advocate for their needs. Offer online or face-to-face training, have a designated staff member to address issues and help students develop a plan of action, or provide opportunities to learn from fellow peers through student organizations.
2. Advertise about available student organizations for SWD or the possibility to create an organization.
3. Advertise resources for studying abroad to help SWD see what is possible, which may help them feel that they will not be viewed as an inconvenience.
4. Advertise about counseling and psychological services and the diverse reasons people may seek services. Present resources on webpages for students with and without disabilities to help normalize the use of services. Present examples of the different types of services available:

individual and group counseling, substance abuse resources, mental health screening, crises resources, or stress relief training.

5. Present services that are used by students with and without disabilities (i.e., do not require disclosure). Showing that all students can use and therefore benefit from the services could help normalize their usage. Clearly list services that require a diagnosed disability (i.e., requires disclosure), which would help to ensure that not commonly used but necessary resources are still advertised (e.g., real-time captioning).
6. List common difficulties that SWD experience (e.g., easily distracted by noise during tests, challenges quickly processing written information) so that students may identify their need for services via academic or performance challenges versus due to a disability status.
7. Advertise a range of tutoring services and whether any tutors have experience working with SWD.

Conclusions and Future Directions

While not tested in the present study, the amount of EoI that each school offers could impact the sense of belonging for SWD, therefore, institutions would benefit from clearly advertising their available resources. Public and private institutions should review their websites for examples of the different EoI they offer and consider the ways in which they indicate the opportunity for an inclusive education. Private institutions would especially benefit from reviewing their websites, due to having the least amount of EoI. Students who attend or hope to attend these schools with inadequate EoI may feel less welcomed or feel that the campuses are less prepared to assist them. Increasing the amount of EoI for a prospective student could not only increase enrollment rates, but could increase the feeling of belongingness for SWD, thus helping to increase retention. Future research (currently underway) will assess which types of EoI students feel should be advertised on campus websites. Lastly, future research should assess whether the amount and type of EoI presented on campus websites influences students’ sense of belonging or view the campus as an inclusive environment.

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Table 1

Public Institutions: Percentage of Evidence of Inclusion (EoI) for Academic Accommodations and Human Support

Carnegie Classification	Academic Accommodations Percent	Human Support Percent	Level of EoI
Four-year, Large, Primarily Residential			
Public-A	71.43	90.91	4
Public-B	85.71	90.91	4
Public-H	85.71	90.91	4
Public-K	57.14	72.73	2
Four-year, Medium, Primarily Residential			
Public-J	71.43	72.73	2
Four-year, Medium, Primarily Nonresidential			
Public-E	28.57	72.73	1
Public-F	78.57	81.82	4
Public-G	78.57	81.82	4
Public-I	71.42	90.91	4
Four-year, Small, Primarily Nonresidential			
Public-C	64.23	81.82	3
Public-D*	100.00	90.91	5
Two-year, Very Large			
Public-L	57.14	81.82	2

Note. Institutions have been grouped based on their 2013-2014 Carnegie Classification. The classification has been based on the size and setting of the institution. Level of Inclusion: 1 = inadequate, 2 = slightly below adequate, 3 = adequate, 4 = above adequate, 5 = exceptional. *Researchers utilized Public-D's resources as a source of finding familiar resources to use for the purposes of this study. Consequently, Public-D may be a potential affect because it was the only school to rate as "exceptional."

Table 2

Private Institutions: Percentage of Evidence of Inclusion (EoI) for Academic Accommodations and Human Support

Carnegie Classification	Academic Accommodations Percent	Human Support Percent	Level of EoI
Four-year, Large, Highly Residential			
Private-L	71.43	81.82	3
Four-year, Medium, Highly Residential			
Private-B	42.86	81.82	2
Four-year, Medium, Primarily Residential			
Private-K	71.43	54.55	2
Four-year, Small, Primarily Residential			
Private-A	64.29	72.73	2
Four-year, Small, Highly Residential			
Private-D	85.71	54.55	3
Private-G	64.29	81.82	3
Private-J	28.57	54.55	1
Four-year, Very Small, Highly Residential			
Private-E	35.71	63.64	1
Private-F	71.43	45.45	2
Private-M	50.00	54.55	1
Four-year, Very Small, Primarily Residential			
Private-I	14.29	54.55	1
Four-year, Very Small, Primarily Nonresidential			
Private-C	50.00	63.64	1
Private-H	0.00	27.27	1

Note. Institutions have been grouped based on their 2013-2014 Carnegie Classification. The classification has been based on the size and setting of the institution. Level of Inclusion: 1 = inadequate, 2 = slightly below adequate, 3 = adequate, 4 = above adequate, 5 = exceptional.

Table 3

Major EoI Categories and Subcategories with Campus Frequency (number of schools with EoI)

EoI Category	Campus Frequency
Academic Accommodations	
Alternate Testing Format	16
Arranged Seating	12
Extended Time for Class Assignments	10
Extended Time for Testing	25
Flexible Absence Policy	13
Flexibility within Class Discussions	1
Materials in Alternative Format	23
Modified Deadlines	7
Reduced Distraction Testing Environment	21
Submitting Audio Responses: Assistive Technologies	13
Taping of Lectures	18
Use of Calculator for Test	10
Word Processor to Give Class Responses: Assistive Technologies	15
Human Support	
Support Groups for Students with Disabilities	20
Advocacy/mediation	20
Help with Learning and Study Strategies or Tutoring	26
Writing Center	24
Note-Taking/Scribe	25
Counseling Services	24
Routine Check-In Meetings	3
Readers	15
Real-time Captioning	9
Sign Language Interpreter	19
Other	10

Table 4

Individual Search Terms Used to Find Resources

Disability Center or Services
Assistive Technology
Disability Training
Gluten Free
High school transition
Handicap accessible
Veteran students
First year experiences
Accessibility Center or Services
Braille
Service Animals
Study Strategies
Campus Map
Handicap
Student organizations
Housing
Accommodation Center
Interpreter
Counseling Services
Writing Center
Academic Support Services
Accessible Restroom/Bathroom
Diversity

Assessing and Overcoming the Functional Impact of ADHD in College Students: Evidence-Based Disability Determination and Accommodation Decision-Making

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Abstract

Information about academic, social, and occupational functioning is essential to accommodation decision-making, planning, and monitoring. However, many clinicians who assess college students for ADHD focus chiefly on symptom number or severity rather than on the barriers experienced by students in their everyday life activities. The psychological reports and supporting documentation submitted by clinicians to a college disability office were examined for evidence of functional limitations. All students described in the reports were diagnosed with ADHD and were receiving accommodations for that condition. Only 32% of clinicians provided any description of current limitations and only 42% provided any evidence of previous limitations or history of accommodations. Evidence came largely from student self-reports rather than from the reports of others, medical documentation, or educational records. These findings indicate that the data clinicians provide may be less useful to disability professionals who must select, implement, and monitor the effects of accommodations in an evidence-based manner. Several practical recommendations are offered to clinicians and disability professionals, such as the use of adaptive functioning rating scales, which can facilitate the assessment of functional limitations and the provision of effective accommodations to students with ADHD.

Keywords: accommodations, adaptive functioning rating scales, ADHD, assessment, college students

Attention-deficit/hyperactivity disorder (ADHD) is characterized by significant symptoms of inattention and/or hyperactivity-impulsivity that emerge in childhood, appear in multiple settings, and limit functioning (American Psychiatric Association, 2013). Approximately 5% of postsecondary students have ADHD and experience academic and/or social-emotional problems because of this condition (Ramsay & Rostain, 2015). Prospective, longitudinal data indicate that high school students with ADHD complete fewer academic courses, earn lower grades, and are more likely to be referred for special tutoring or remedial classes than their classmates without ADHD (Newman et al., 2011). If they attend college, students with ADHD disproportionately enroll in two-year public (i.e., community) colleges rather than in four-year colleges or universities (Newman et al., 2012). They report more problems with time management, study skills, and test-taking than their classmates

and are less likely to earn high grades or complete their degrees than students without ADHD (Gormley, DuPaul, Weyandt, & Anastopoulos, 2016; Ofiesh, Moniz, & Bisagno, 2015;). Postsecondary students with ADHD also report more problems with anxiety, mood, and academic self-efficacy than their peers (Barkley, 2015a; DuPaul, Pinho, Pollack, Gormley, & Laracy, 2017; Nelson & Gregg, 2012).

Recent federal regulations identify ADHD as a potentially disabling condition that can merit accommodations in college (U.S. Department of Justice, 2016). The purpose of academic accommodations is to remove barriers for students with disabilities so they can learn, and demonstrate their learning, in a manner similar to their peers without disabilities (Gregg, Coleman, Lindstrom, & Lee, 2007; Gregg & Lindstrom, 2008). For example, a student with ADHD might require lectures to be audio recorded due to classroom design issues that create barriers to

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attention and concentration during class. Another student with ADHD might require tests to be administered in a separate room to reduce distractions in the classroom setting that might interfere with exam performance. Accommodations like these are designed to increase students' access to learning experiences, remove construct-irrelevant variance from exam scores, and safeguard students' participation in higher education (Gregg, 2009a, 2011).

Functional Impact

Determining the impact of students' inattentive and/or hyperactive-impulsive symptoms on their day-to-day functioning is central to the psychiatric conceptualization of ADHD and the legal definition of a disability (Joyce-Beaulieu & Sulkowski, 2016; Oliver, 2017). The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5) requires individuals with ADHD to show "clear evidence that symptoms interfere with, or reduce the quality of, social, academic, or occupational functioning" (American Psychiatric Association, 2013, p. 60). Its authors provide examples of functional limitations experienced by adults with ADHD including low academic achievement and attainment, poor work performance or unemployment, and interpersonal problems such as conflict with parents or rejection by peers. Assessment of these functional limitations is critical to the ADHD diagnosis; their presence indicates the need for accommodations that allow students full participation in academic, social, and occupational activities (Roberts, Milich, & Barkley, 2015).

Similarly, the Americans with Disabilities Act Amendments Act (ADAAA) classifies ADHD as a disability "if it substantially limits the ability of an individual to perform a major life activity compared to most people in the general population" (U.S. Department of Justice, 2016, p. 53224). The ADAAA cautions, "not every diagnosis constitutes a disability;" an individual must also experience substantial limitations based on an "individualized assessment of functioning" (U.S. Department of Justice, 2016, p. 53224). Indeed, the provision of accommodations to students with disabilities is based on the degree the condition impacts the individual's activities, not the ADHD diagnosis itself; without functional limitations, accommodations are not necessary (Gregg, 2009b).

Although symptom severity and overall functioning may seem synonymous, empirical studies show them to be distinct constructs that are only moderately correlated (Gray, Fettes, Woltering, Mawjee, & Tannock, 2016; Lovett, Gordon, & Lewandowski, 2016). Studies investigating the association between symptom severity and academic, social, or occupa-

tional limitations in adults with ADHD have yielded median bivariate correlations ranging from .25 for individual items to .70 for composite measures. These findings indicate that symptom severity explains less than one-half of the variance of the functioning of adults with this condition (Lewandowski, Lovett, & Gordon, 2016). Disability professionals may be especially cognizant of discrepancies between symptom severity and academic functioning in college students with ADHD. Some students experience significant ADHD symptoms, but use compensatory strategies to function effectively at school (Manos, 2010). Other students with ADHD encounter barriers in certain classes, but not others, depending on the demands these classes place on attention, concentration, and inhibition. Still other students fall short of the number of symptoms required for an ADHD diagnosis, but experience substantial limitations in their academic functioning, nonetheless (D'Alessio & Banerjee, 2016; Ofiesh et al., 2015). The assessment of these limitations, independent of symptom count or severity, is therefore essential to the conceptualization of ADHD as a psychiatric disorder and as a disability (Gathje, Lewandowski, & Gordon 2008).

A thorough assessment and description of students' functioning is also needed for practical accommodation decision-making. Lindstrom, Nelson, and Foels (2015) examined the documentation required by most colleges for students seeking accommodations for ADHD. Nearly all colleges required a current ADHD diagnosis assigned by a qualified professional and evidence of functional limitations that would require academic accommodations. Similarly, Banerjee, Madaus, and Gelbar (2015) surveyed college disability professionals about their accommodation decision-making. Disability professionals typically reviewed students' documentation for evidence of current academic problems (e.g., low grades, difficulty completing degree requirements) or a history of limitations (e.g., educational or medical records showing academic or behavior problems, a need for previous accommodations, or prescriptions for medication). Indeed, disability professionals regarded evidence of current or previous limitations as more important than the student's diagnosis when making accommodation decisions.

Professional guidelines also emphasize functional impact, rather than diagnostic labels, when making accommodation decisions for college students. The Association on Higher Education and Disability (AHEAD) guidance document reads, "Each situation must be considered individually to understand if and how the student is impacted by the described condition. The salient question is not whether a given condition is a 'disability,' but how the condition impacts

the student” (AHEAD, 2012, p. 3). When third-party documentation is needed to make accommodation decisions, “the requested information should clarify the connection between the condition and the environmental barrier for which accommodations are requested” (Standing Committee on Professional Development, 2016, p. 2). Psychological evaluations and other third-party documentation that lacks information about ADHD-related barriers may be of limited usefulness in making accommodation decisions.

Finally, baseline information about students’ functioning can be used to evaluate the effectiveness of accommodations and other services provided by disability professionals. Although academic accommodations are frequently provided to students with ADHD, there is surprisingly little research demonstrating their effectiveness. For example, studies investigating the effects of additional time on students’ exam performance have been limited, and have yielded mixed results (Gregg & Nelson, 2012; Wadley & Liljequist, 2013). Furthermore, researchers have only recently begun to examine the effects of other accommodations, such as testing in a separate room, the provision of additional rest breaks, or access to notes or recorded lectures on the academic functioning of postsecondary students (see Lovett & Lewandowski, 2015). A thorough description of students’ functioning in academic, social, and/or occupational domains, before and after the implementation of accommodations, can be used to determine their effectiveness over time.

Only recently have researchers examined the degree to which clinicians assess limitations when assessing college students with ADHD. Nelson, Whipple, Lindstrom, and Foels (2014) reviewed the psychological evaluations of 100 university students seeking academic accommodations for ADHD. Although all clinicians assigned an ADHD diagnosis, only 59% provided any information about students’ limitations in academic, social, or occupational functioning. The results are limited in three respects, however. First, the study involved students seeking academic accommodations, rather than students already receiving accommodations because of a documented disability. Second, the researchers examined only students’ psychological evaluations; other documentation that could indicate current or previous limitations (e.g., academic or medical records) was not reviewed. Third, the reviewers accepted any description of functional limitations, even if these limitations were not specific to ADHD. Despite these limitations, initial evidence suggests that some clinicians focus on symptom number and severity and overlook the barriers that students experience in real-world contexts.

The Current Study

Information about students’ functioning is essential to accommodation decision-making, planning, and monitoring. Unfortunately, the psychological reports and other documentation submitted to college disability offices may lack information about the impact of ADHD symptoms on students’ learning, social interactions, or work performance. A thorough description of students’ functioning across domains would facilitate the provision of accommodations targeted to students’ specific needs. In contrast, documentation that provides an ADHD diagnosis, without information about students’ functioning across settings, may be less helpful to disability professionals as they attempt to remove barriers to students’ participation in postsecondary education.

Information provided by multiple informants (e.g., students, teachers, peers), using multiple methods (e.g., interviews, observations, rating scales) is especially important when assessing ADHD and determining the need for accommodations (Ramsay, 2015). Although a diagnostic interview with the student remains the cornerstone of adult ADHD assessment, self-report data must be corroborated by information from other sources using other methods. Previous research has shown that young adults’ recall of their ADHD symptoms in childhood is often inaccurate (Miller, Newcorn, & Halperin, 2010; Sibley, Pelham, Molina, Gnagy, Waschbusch et al., 2012). For example, Mannuzza, Klein, Klein, Bessler and ShROUT (2002) found that only 78% of adults with well-documented histories of ADHD in childhood reported a history of significant symptoms, whereas 11% of adults without histories of ADHD recalled significant symptoms in childhood. Similarly, Dias and colleagues (2008) showed that only two-third of adults who reported a childhood history of ADHD had parents who corroborated their reports.

Previous research has also shown inaccuracies in young adults’ reports of current ADHD symptoms and academic limitations (Sibley, Pelham, Molina, Gnagy, Waxmonsky, et al., 2012). For example, Lewandowski, Lovett, Coddington, and Gordon (2008) found that most college students without ADHD reported significant problems with distractibility and fidgetiness, and one-third of college students without ADHD also reported significant problems with inattention and feelings of restlessness. Similarly, Lewandowski, Cohen, and Lovett (2013) found that although students with ADHD report more problems with reading accuracy, comprehension, and speed than their classmates without ADHD, their actual reading performance does not differ. For these reasons, DSM-5 instructs clinicians to rely on ancillary

information, such as educational or medical records, to establish ADHD symptom onset prior to age 12 years (Criterion B; American Psychiatric Association, 2013) and to gather information from multiple informants, such as parents or teachers, to establish the presence of symptoms across multiple settings (Criterion C; American Psychiatric Association, 2013). Indeed, multimethod/multiinformant assessment is considered best practice in the assessment of ADHD in adults (Adler, Shaw, Kovacs, & Alperin, 2015; Ramsay, 2015).

The purpose of our study was to determine whether clinicians who conduct ADHD evaluations provide evidence of functional impact in the documentation they submit to college disability offices. To accomplish this task, we looked for information about ADHD-related limitations in the psychological reports and supporting documentation submitted by a large sample of college students with ADHD. All students were assigned the primary diagnosis of ADHD and were receiving academic accommodations because of that condition. We expected that most reports and supporting documentation would provide clear evidence of limitations in students' functioning, which could be used to plan effective interventions. However, if we discovered a lack of information in the documentation, we examined whether our findings might point to specific strategies that clinicians and college disability professionals might use to gather better data regarding students' functioning and facilitate evidence-based accommodation granting.

Method

Participants

Participants were 146 undergraduates (52.7% men) attending a residential, liberal arts college in the Midwest. Ages ranged from 17.5 to 21.2 years ($M = 18.61$, $SD = .55$). Ethnicities included White (89.0%), African American (4.8%), Latino (2.1%), Asian American (1.4%), and other (2.8%). All participants had a primary diagnosis of ADHD and were receiving academic accommodations for limitations associated with that condition. Specific diagnoses were ADHD, Inattentive Type/Presentation (42.5%), ADHD, Combined Type/Presentation (28.1%), ADHD, Unspecified (18.5%), and "ADD" (11.0%). Comorbid conditions included learning disability (22.0%), anxiety disorder (17.9%), mood disorder (13.8%), and communication disorder (1.4%). Students were first diagnosed with ADHD either in childhood (i.e., < 12 years, 13.8%), adolescence (i.e., 13-17 years, 22.0%), or adulthood (i.e., >18 years; 64.2%).

A psychologist (84.2%) or school psychologist (15.8%) assessed each student who submitted a professional report and supporting documentation to the college. Most reports (85.6%) were written within the previous three years, with the remainder (14.4%) written within the previous five years as required by the college. A different clinician assessed each student. If the same clinician assessed multiple students, we only included data submitted by the student assessed most recently.

Students were enrolled full-time in a private, residential college. College enrollment was approximately 2,300 undergraduates. The student population was predominantly European-American (65.7%) and female (55.2%), with most students (70%) coming from out of state. Average reported ACT Composite ($M = 30$), SAT Critical Reading ($M = 640$), and SAT Math ($M = 650$) scores were approximately 1.5 to 1.9 standard deviations above the mean for college applicants. The college acceptance rate was approximately 44%. Annual tuition and fees paid by students was \$32,000; average total annual cost of attendance was \$64,900 (National Center for Education Statistics, 2018).

The college disability office published guidelines for documentation needed to support a student's request for academic accommodations because of ADHD. According to the guidelines, documentation must be recent and include an evaluation by a physician, psychologist, school psychologist, or other licensed professional. (This study only examined evaluations conducted by psychologists or school psychologists.) The evaluation must include a description of the student's symptoms, a description of the student's functioning, a clear diagnostic statement, and recommendations for accommodations. Although not required, students were also encouraged to provide educational and/or medical records supporting a history of ADHD, previous or current pharmacotherapy or psychosocial treatment, and/or a history of formal or informal accommodations.

Procedure

The university's disability director provided redacted documentation submitted by each student to support the student's accommodations. Data for all students who were diagnosed with ADHD, had submitted documentation to the disability office, and were receiving accommodations for that condition in the previous five academic years were included in the study. All documentation submitted by each student was provided to the researchers, including psychological reports, educational records, and medical documentation. To protect confidentiality, staff at

the disability office removed identifying information from the documentation including the names and locations of students, family members, schools, teachers, and medical professionals. The study was approved by the university Institutional Review Board.

Two research assistants independently reviewed documentation to identify the accommodations clinicians recommended in their reports, using a checklist of possible accommodations (Gregg, 2009b). The research assistants also looked for evidence of current and previous functional limitations in the documentation to support these accommodations.

Evidence of functional limitations was defined as any description of academic, social, or occupational problems associated with ADHD symptoms. Examples include earning low grades in school or struggling to complete degree requirements, experiencing problems in interpersonal relationships or other social activities, or difficulty performing work-related tasks or maintaining employment (see American Psychiatric Association, 2013). Although not part of the DSM-5 conceptualization of ADHD, we also accepted other limitations in daily life activities such as problems driving safely, completing household chores, managing finances, and caring for one's physical health (see Barkley, 2015b, 2015c). In all instances, we accepted a broad range of evidence to give clinicians the benefit-of-the-doubt regarding their accommodation decisions. Such evidence must have been distinct from ADHD symptom presentation, however. For example, difficulty sustaining attention in class or forgetting to submit work (two symptoms of ADHD) would not be sufficient evidence unless it limited the student's functioning in some way (e.g., the student was earning low grades or was reprimanded at work because of these symptoms).

Research assistants coded the domain in which each student might have evidence of current functional limitations: academic, social, occupational, or other. They also coded the source of the evidence: (1) students' self-reports during diagnostic interview; (2) other-informant reports, such as an interview with a parent, teacher, or employer about the student's current functioning; or (3) results of an adaptive functioning rating scale completed by the student or another informant.

Finally, research assistants determined whether each student had evidence of previous limitations in functioning. Although DSM-5 requires evidence of ADHD symptoms prior to age 12 years, we accepted any evidence of ADHD-related limitations in functioning prior to beginning college. Such evidence might come from three sources: (1) self- or other-reports, (2) medical records, or (3) educational records.

Self- or other-reported evidence included any description of academic, behavioral, or social problems, or a previous ADHD diagnosis in childhood or adolescence as recalled by the student, parent, or teacher. Evidence of limitations based on medical records included any medical documentation showing academic, behavioral, or social problems, a referral for ADHD testing, an ADHD diagnosis, or a prescription for ADHD medication prior to college. Evidence of limitations based on educational records included any school records showing barriers to academic, behavioral, or social functioning prior to college; a referral for ADHD testing, 504 Plan, Individualized Education Program (IEP), Summary of Performance (SOP); or the provision of formal or informal academic accommodations.

We determined inter-rater reliability for students' documentation by calculating the percent agreement among research assistants. Both research assistants independently coded each student's documentation. Agreement was highest for evidence of previous limitations shown by medical records (.95) and lowest for evidence of current limitations based on students' self-reports (.89). Discrepancies were resolved by review and discussion.

Results

Accommodations/Modifications

Table 1 presents the accommodations most frequently recommended by clinicians. The most popular accommodation was additional time on exams. Clinicians who recommended this accommodation suggested 25% additional time (0.7%), 50% additional time (24.1%), 100% additional time (7.3%), unlimited additional time (2.9%), or an unspecified amount of additional time (65.0%). Nearly all (96.4%) clinicians who recommended this accommodation did not indicate the type of exams for which additional time was necessary. The only other accommodation recommended by most clinicians was testing in a separate room.

One-third of clinicians recommended at least one modification to students' exams, assignments, curricula, or method of grading. Modified exams included alternate format exams (e.g., no essay or recall tests; 8.2%); simplified directions (8.2%); shortened length of exams (6.3%); or access to formulas, notes, or the textbook during exams (4.4%). Modified assignments included breaking assignments into parts (10.7%), the ability to submit drafts of assignments prior to final grade (8.8%), and other modifications (3.3%). Modified curriculum included waivers or substitutions for required coursework in a second language (11.3%)

or math (3.1%). Modified grading included use of a different grading rubric (i.e., no penalty for grammatical/spelling errors, 11.9%); use of a different grading scale (4.5%); or the ability to retake exams without penalty (3.8%). Approximately 11.3% of clinicians provided a rationale for the modifications/accommodations that they recommended.

Evidence of Functional Limitations

Approximately 32.1% of students had any evidence of current limitations (Figure 1). Evidence was most likely based on students' self-reports (32.1%) rather than the reports of others (13.8%) or results of an adaptive functioning rating scale (12.6%). When evidence of current limitations was provided, it most likely concerned academic limitations (100%) rather than social (24.0%), occupational (16.0%), or other (8.0%) limitations. When another informant reported limitations, his/her relationship to the student was most likely parent (86.4%) or teacher (50.0%). The most common rating scales were the Global Assessment of Functioning (American Psychiatric Association, 2000; 50%), Behavior Assessment System for Children (Reynolds & Kamphaus, 2015; 25%), Barkley Functional Impairment Scale (Barkley, 2011; 20%), and World Health Organization Disability Assessment Schedule (Üstün, Kostanjsek, Chatterji, & Rehm, 2010; 20.0%).

Approximately 42.1% of students had any evidence of previous functional limitations in their documentation (Figure 1). Evidence of previous limitations was most likely to be based on students' self-reports of academic, behavioral, or social problems prior to college (34.0%) or medical documentation showing an ADHD diagnosis or prescription prior to college (32.0%). Fewer students (25.8%) had educational records showing limitations prior to college, such as behavior problems in school or academic concerns. Approximately 13.2% of students had evidence that they received formal accommodations prior to college (e.g., IEP, SOP, letter from the College Board). An additional 6.9% had evidence of informal accommodations (e.g., letter from a teacher or school principal).

Table 2 shows the percent of students with evidence of functional limitations supporting each recommended accommodation or modification. On average, approximately one-third of students whose clinicians recommended a particular accommodation or modification had evidence of current limitations supporting that accommodation. When evidence was provided, it was usually based on students' self-reports. On average, roughly 40% of students whose clinicians recommended a particular accommodation

or modification had evidence of previous limitations, usually based on self-reported problems in childhood or medical records showing a history of pharmacotherapy for ADHD.

Discussion

Students with ADHD face obstacles in their pursuit of postsecondary degrees (DuPaul, Weyandt, O'Dell, & Varejao, 2009). Academic accommodations are designed to remove barriers that limit students' ability to learn and to demonstrate their learning in a manner similar to students without disabilities. A thorough assessment and description of these limitations is essential for accommodation decision-making, implementation, and monitoring. Clinicians who provide this information to disability professionals can facilitate these processes and assist students in reaching their academic and occupational objectives.

Unfortunately, many clinicians do not include information about the impact of ADHD on students' functioning. In our study, only 32% of clinicians provided any description of current limitations in life activities and only 42% provided any evidence of previous limitations or history of accommodations. Although all clinicians assigned an ADHD diagnosis, most of their reports lacked any description of how this condition adversely affected students' day-to-day lives. Instead, clinicians focused chiefly on symptom number and severity and often overlooked the way these symptoms interfered with important activities, such as attending class, taking notes, meeting deadlines, studying for exams, completing tests, and engaging effectively with others. Our findings are similar to those of Nelson and colleagues (2014) who found that the documentation submitted by many college students seeking accommodations also lacked evidence of functional limitations. The lack of information about students' academic, social, or occupational functioning seen in our study is especially noteworthy given that most students were assessed after beginning college. Although their clinicians had access to the college's disability documentation guidelines, many failed to provide information about students' functioning.

Recommendations

The lack of information provided in these reports about students' real-world functioning reduces their usefulness to college disability professionals who must determine the appropriateness of accommodations and implement them in an evidence-based manner. Consequently, our findings lead to five recommendations for clinicians who conduct ADHD

evaluations and disability professionals who use these evaluations to plan and implement interventions for their students.

Clinicians should provide disability professionals with a thorough description of students' functional limitations, independent of symptom number or severity. Empirical research and professional practice recognize the disconnect between students' symptoms and their functional limitations. Previous research has shown only a modest association between the symptom severity and functional limitations experienced by adults with ADHD (Lewandowski et al., 2016). Some students with ADHD function effectively in college without accommodations; other students who fall short of the required symptom count for the ADHD label struggle in academic, occupational, or social settings. According to DSM-5, "it is precisely because impairments, abilities, and disabilities vary widely within each diagnostic category that assignment of a particular diagnosis does not imply a specific level of impairment or disability." Consequently, its authors urge clinicians to gather additional information about students' "functional impairments beyond that contained in the DSM-5 diagnosis" when making disability decisions (American Psychiatric Association, 2013, p. 25). Similarly, the ADA considers ADHD a disability only when it substantially limits major life activities. The ADA warns, "not every impairment (i.e., diagnosis) will constitute a disability" and "determination of whether an impairment substantially limits a major life activity requires an individualized assessment" (U.S. Department of Justice, 2016, p. 53224).

Students' symptom presentation and diagnostic label can be starting points for accommodation decision-making and planning, but they are insufficient by themselves. Professionals must also look for evidence that symptoms limit students' participation in higher education and select accommodations designed to remove barriers to their full participation in college (Ofiesh, 2007; Ofiesh, Hughes, & Scott, 2004). If reports lack evidence of these limitations, disability professionals must gather this information on their own which may place additional burdens on students. Furthermore, this information must be gathered from multiple informants using multiple methods.

Students' functioning should be assessed by gathering data using multiple methods from multiple informants. In our study, the information that clinicians provided about students' functioning was based largely on students' self-reports during the diagnostic interview. For example, all clinicians who described current functional limitations relied on students' self-reports and roughly 80% of clinicians who

described previous functional limitations relied on self-report data. In contrast, only 32% of clinicians reviewed medical documentation, 26% reviewed educational records, and 14% provided data reported by another informant.

The use of self-report data in disability determination is supported by empirical research and clinical practice. The diagnostic interview remains the cornerstone of ADHD assessment for older adolescents and adults (Roberts et al., 2015) and college students in particular (Gordon, Lewandowski, & Lovett, 2015; Ramsay & Rostain, 2015). Furthermore, interviewing students about their current functioning and developmental history is time- and cost-effective, can facilitate students' access to accommodations, and can encourage students to become aware of their strengths and limitations and advocate for their needs. Requiring extensive documentation or testing for ADHD is prohibited by federal regulations (U.S. Department of Justice, 2016). Consequently, current guidelines encourage disability professionals to use students' reports as their primary source of information when making accommodation decisions (AHEAD, 2012).

Nevertheless, clinicians should supplement students' self-report data with information from other informants using other methods (Suhr, Cook, & Morgan, 2017). Multi-method/multi-informant data can compensate for the weaknesses inherent in students' self-report of current functioning or their recollection of childhood functioning (Lewandowski et al., 2013; Mannuzza et al., 2002). Many college students without ADHD report substantial limitations in academic activities characteristic of students with the disorder. In one study, 30% of students without ADHD reported that it takes them longer than their peers to complete assignments, 45% reported significant problems taking standardized tests, 48% said that they needed to work harder than their classmates to earn good grades, and 53% reported substantial limitations in reading comprehension (Lewandowski et al., 2008). When considered in isolation, students' self-reports of academic problems can lead to errors in accommodation decision-making. Clinicians can assist disability professionals by supplementing student-reported data with information from parents, teachers, and other informants who are familiar with students' functioning across settings (Rose, 2013).

Clinicians can also help disability professionals by gathering objective documentation showing a history of functional limitations or the need for accommodations in academic contexts (Suhr et al., 2017). Medical records indicating parental concerns about childhood behavior, a referral for ADHD testing, a previous ADHD diagnosis, or a prescription for psy-

chostimulants, would support students' self-reports of ADHD-related difficulties in childhood. Educational records such as report cards, results of previous testing, a 504 Plan, IEP, or SOP could indicate the need for academic assistance in college. Finally, documentation showing a history of accommodations, either formal (i.e., 504/IEP, letter from the College Board) or informal (i.e., letter from a teacher) could support the need for accommodations. Indeed, the ADAAA (U.S. Department of Justice, 2016), AHEAD guidelines (2012), and disability professionals themselves (Banerjee et al., 2015; Madaus, Banerjee, & Hamblet, 2010) give considerable weight to such documentation when granting accommodations. Although none of the documentation by itself is sufficient to corroborate students' self-reported limitations (see Lindstrom & Lindstrom, 2017; Lovett, 2014), clinicians can facilitate students' transition to college by gathering such documentation from parents, physicians, and schools (Shaw, 2012).

Clinicians can use rating scales to assess the functional impact of ADHD and to monitor the effectiveness of accommodations. Adaptive functioning rating scales estimate the degree to which individuals can effectively and independently perform major life activities in academic, social, occupational, or other settings. Conversely, adaptive functioning scales can also gauge the degree to which individuals experience barriers to their full participation in these settings (Reynolds & Kamphaus, 2015). Unlike ADHD rating scales, which measure symptom number or severity, adaptive functioning rating scales can assess the degree to which symptoms limit students' functioning (Gordon et al., 2015). Most rating scales assess functioning across multiple domains, such as school, work, family life, and interpersonal relationships. They estimate the range and severity of the person's disability and need for support (Lovett et al., 2016). In our study, however, less than 13% of clinicians administered an adaptive functioning rating scale, indicating that practitioners frequently overlook this time- and cost-effective method of assessment.

Adaptive functioning rating scales can be used qualitatively or quantitatively to plan and to monitor accommodations. As qualitative measures, adaptive functioning rating scales can be used to quickly screen students for functional limitations across life domains. Professionals can use students' responses to initiate a more thorough discussion about where support might be needed and which accommodations students might consider most helpful. As quantitative measures, adaptive functioning rating scales offer a numerical estimate of students' functioning in specif-

ic contexts that can be used to determine functional impact and the effectiveness of interventions. For example, many adaptive functioning rating scales are norm-referenced; that is, they allow professionals to determine the severity of a student's limitations compared to individuals of the same age and/or gender. Consequently, professionals with education and experience in norm-referenced testing can use students' scores to determine the severity of their limitations compared to peers. Furthermore, professionals might administer an adaptive functioning rating scale before and after implementing accommodations. Significant improvement in a student's ratings would support the effectiveness of accommodations. Professionals could also use baseline and follow-up ratings to document the effectiveness of supports provided to students.

Adaptive functioning rating scales are relatively easy to administer and to interpret. Students and other informants (e.g., parents, teachers) can complete them in 5-10 minutes. Many scales are available in multiple languages or can be administered during an interview. Scoring and quantitative interpretation of these scales typically require graduate-level education in psychology, counseling, education, or a related field and formal training in assessment, although specific user qualifications vary (AERA/APA/NCME Joint Committee on Standards for Educational and Psychological Testing, 2014.).

Three rating scales are especially relevant to disability professionals who work in higher education. The Behavior Assessment System for Children – Third Edition (BASC-3; Reynolds & Kamphaus, 2015) is an omnibus measure of both behavior problems and adaptive functioning for children and young adults. Parallel forms of the BASC-3 can be administered to caregivers and teachers (ages 12 to 21 years) or to students themselves (ages 12-25). Of particular interest is the BASC's inclusion of separate scales assessing ADHD symptoms, executive functioning problems, test anxiety, and functional limitations across multiple contexts. Norms allow comparison to students of the same age and/or gender, other college students, or other young adults with ADHD. Computerized scoring and interpretation facilitate intervention planning and monitoring.

The Barkley Functional Impairment Scale (BFIS; Barkley, 2011) is appropriate for children and adults. It yields an overall measure of functional limitations and subscores across 15 domains (e.g., education, family activities, social life, work). The BFIS-Children and Adolescents scale can be administered to the caregivers of youths aged 6 to 17 years. In contrast, the BFIS-Self-Report or Other-Report scales can be administered to adults aged 18+ years or to another

er informant. Norms are available that can be used to identify substantial limitations for age and gender. Unlike the BASC-3, which has a per-administration cost, the BFIS permits unlimited usage for a flat fee.

Finally, the World Health Organization Disability Assessment Schedule (WHODAS 2.0) is a 36-item measure of adaptive functioning and limitations in major life domains that corresponds to the International Classification of Functioning, Disability, and Health (Üstün et al., 2010). Unlike most other adaptive functioning rating scales, the WHODAS 2.0 is designed to assess functional limitations caused by both physical and mental disabilities; consequently, it may be especially useful to disability professionals working in colleges and universities. Norms for different ages and genders, across various countries, yield scores on six domains: cognition, mobility, self-care, getting along (i.e., social functioning), life activities (e.g., school, work), and community activities. It can be completed by adults, other informants, or clinicians and it has been translated into at least 12 different languages. It may be scored using either a simple arithmetic calculation or an algorithm based on item response theory. The WHODAS 2.0 is available online to qualified professionals without cost (Gold, 2014).

Clinicians can assist disability professionals in determining the appropriateness and duration of additional time accommodations. Additional time accommodations are designed to remove test-taking barriers caused by a disability without introducing construct-irrelevant variance into students' test scores (Gregg, 2012). Additional time can reduce the effects of ADHD on exam performance by lowering anxiety, improving attention and executive functioning, or allowing students time to engage in compensatory strategies. In our study, more than 86% of clinicians recommended additional time. Most clinicians did not specify the amount of additional time that would be necessary to help students overcome barriers created by time limits (65%).

Recent studies question the validity of additional time as an accommodation for students with ADHD. Miller, Lewandowski, and Antshel (2015) compared the reading scores of college students with and without ADHD under standard and extended time conditions. Students with ADHD did not earn lower scores than their classmates without ADHD under standard time. When granted additional time, both groups of students completed more items and earned higher scores than under standard time. Students with ADHD given additional time outperformed students without ADHD under standard time in terms of the number of items completed and their overall scores. A

second study examined the relationship between college students' ADHD symptoms and effectiveness of additional time (Lovett & Leja, 2015). Students with the most ADHD symptoms benefited the least from additional time on exams. Altogether, these findings suggest that additional time accommodations should be prescribed judiciously so as not to introduce construct-irrelevant variance into students' exam scores.

Clinicians can help disability professionals determine the appropriateness of additional time accommodations by assessing students' academic fluency (Ofiesh & Hughes, 2002). Students with ADHD who do not show deficits in test-taking speed would not require additional time. If deficits are found on composite measures of academic fluency, clinicians can specify the amount of time necessary to remove these barriers. The arbitrary assignment of 50% or 100% additional time may jeopardize the validity of test scores and invalidate comparisons with other students who complete the test under standard time conditions. In contrast, determining the amount of additional time needed, based on students' actual performance allows disability professionals to make informed, evidence-based accommodation decisions.

Other accommodations and modifications should be recommended cautiously, given the limited data supporting their effectiveness for college students with ADHD. Accommodations, such as testing in a separate room, access to professors' lecture notes or a note-taker, and use of technology during exams, were frequently recommended by clinicians. It is commonly believed that such accommodations are helpful; however, we know little about the effects of these accommodations on students' learning, the validity of test scores generated under non-standard conditions, and possible iatrogenic effects of accommodations on students who receive them and their classmates who do not (Gregg & Nelson, 2012; Ofiesh & Bisagno, 2009).

For example, testing in a separate room is believed to reduce the effects of ADHD on exam performance by improving attention, decreasing anxiety, or allowing students to engage in compensatory test-taking strategies that would not be possible in a group setting (e.g., reading questions aloud; Gregg & Nelson, 2012). However, only one published study has investigated the efficacy of this accommodation on exam performance. Lewandowski, Wood, and Lambert (2015) administered parallel forms of a standardized reading test to college students in a group and private setting in counterbalanced order. Contrary to expectations, students performed significantly better in the group setting than in the private room. The researchers attributed students' higher test scores to so-

cial facilitation; students might experience increased motivation and better performance when surrounded by classmates who model effective test-taking behavior. Students who complete exams in the classroom may also benefit from opportunities to ask questions from the instructor, which is often not possible in a separate setting.

Similarly, only a handful of published studies have examined the efficacy of access to calculators or word processors during exams (Berger & Lewandowski, 2013; Bouck, 2009; Bouck & Yadav, 2008; Engelhard, Fincher & Domaleski, 2010; Lovett, Lewandowski, Berger, & Gathje, 2010). These studies have generally found that word processors benefit all students, regardless of their disability status. However, use of a calculator is associated with increased test anxiety among students with disabilities, which can compromise test performance. Clearly, more research should be directed at evaluating the effectiveness of well-intended accommodations like these.

Many clinicians recommended modifications to students' exams (23%), assignments (20%), curricula (15%) or method of grading (12%). These modifications varied in the degree to which they likely altered students' educational experiences. For example, some modifications represent only minor adjustments to standard educational practice: breaking assignments into smaller components, simplifying directions on exams. Other modifications may qualitatively change students' learning experience or exam performance: alternative format exams (e.g., multiple choice tests only); access to formulas, notes, or the textbook during exams; use of a different rubric or scale when grading.

Modifications that substantially alter students' learning experiences, method of grading, or essential components of their curriculum may not be consistent with the ADAAA. Although the ADAAA permits exam and course modifications, colleges are not required to grant modifications that "substantially alter the measurement of skills or knowledge the examination is intended to test" (§ 36.309(b)(3); "the course" itself (§ 36.309(c)(3); or "the nature of the goods, services, facilities, privileges, and advantages" offered to students (§ 36.302(a). Although well-intentioned, certain modifications may deprive students of important learning opportunities, send the unintended message that they cannot achieve like their classmates without disabilities, and lower their academic self-efficacy (Norwalk, Norvilitis, & MacLean, 2009). Disability professionals face the challenging task of determining when such modifications appropriately remove construct-irrelevant barriers to students' learning and when they com-

promise the integrity of students' learning experiences and the validity of test scores. Disability professionals should consult with professors when making these important decisions.

Of course, many of the educational barriers experienced by students with ADHD are best addressed by adopting principles of universal design (Rose & Meyer, 2006). Several instructional accommodations typically provided to students with ADHD could be provided to all students in the classroom. For example, a scribe's notes could be shared electronically with the entire class; professors can post learning objectives, notes, or slides on a learning management system; and lectures could be recorded and shared for students to review (Shinn & Ofiesh, 2012). Moreover, assignments and exams can be modified to reduce or eliminate factors that are not essential to course objectives. For example, all students may be permitted additional time on exams when rapid retrieval or problem solving is not a learning goal. Similarly, all students might be permitted access to a calculator or word processor during exams if arithmetic accuracy or handwriting is not essential to the course (Rappolt-Schlichtmann, Daley, & Rose, 2012). It is likely that such actions would benefit all learners and reduce the need for accommodations that single out individual students or modifications that compromise the validity of students' test scores (Lovett & Lewandowski, 2015).

Limitations and Summary

The primary threat to our study's internal validity lies in the manner with which we operationalized "limitations" when reviewing students' documentation. As in previous research, we interpreted criteria liberally, giving clinicians the benefit-of-the-doubt regarding their diagnostic and accommodation decisions (Nelson et al. 2014). For example, we accepted a wide range of data, regardless of source: student self-reports, other-reports, rating scales, and historical records. We also accepted all evidence of functional limitations, regardless of severity; students did not need to earn failing grades or fall beyond a certain threshold. We accepted evidence of limitations in any domain of functioning (e.g., educational, occupational, social), even if clinicians' accommodations tended to be academic in nature. Finally, we accepted both formal evidence of functional limitations (e.g., a prior ADHD diagnosis, accommodations on the SAT) and informal evidence (e.g., self-reported academic "problems" in elementary school, informal accommodations in high school). Despite this wide range of evidence, most students lacked information about how their ADHD symptoms affected life activities.

It is also possible that clinicians did assess students' academic, social, and occupational functioning, but did not describe their findings in their reports. If this was the case, clinicians must do a better job providing such documentation to college disability specialists, thereby enabling them to make more informed decisions regarding accommodations. At the very least, clinicians can help students and families gather other documentation supporting a need for accommodations in college, such as educational and medical records. Presumably, such documentation will be easier to obtain when students are in primary and secondary school than after they have begun their postsecondary education.

The main threat to our study's external validity is the representativeness of our sample. Although large, it reflects students receiving accommodations for ADHD at only one private college. Unlike many of the students in our study, most students with well-documented histories of ADHD are typically first diagnosed in childhood, experience academic difficulties in primary and secondary school, and continue to experience deficits in attention, concentration, and executive functioning that can limit their academic and occupational achievement as adults (Newman et al., 2012; Weyandt et al., 2013). It is possible that other college students with ADHD might have clearer evidence of functional limitations than the students we examined. Indeed, community college students diagnosed with learning disabilities are more likely to have histories of academic problems and current academic limitations than students diagnosed with learning disabilities at 4-year private colleges (Weis, Speridakos, & Ludwig, 2014). It is possible that the students in our study reflect a subgroup of postsecondary students who first seek the ADHD label after beginning college as an explanation for problems meeting the demands of a rigorous, postsecondary education (Suhr & Wei, 2013, 2017). Future research should include students attending other postsecondary institutions to determine the generalizability of our findings.

Despite these limitations, our study reveals a lack of attention to the academic, social, and occupational barriers experienced by students with ADHD in their psychological reports and supporting documentation. To maximize the value of ADHD evaluations, clinicians should more thoroughly assess and describe students' functioning across major life domains. Such information can facilitate accommodation decision-making, help disability professionals select accommodations tailored to students' needs, and monitor the effectiveness of their services.

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Table 1

Accommodations and Modifications Recommended by Clinicians

Accommodation/Modification	Percent
Accommodation	
Additional time on exams	86.2
Testing in a separate room	54.1
Scribe/note-taker	29.6
Additional rest breaks during exams	28.3
Access to professor's notes	24.5
Permission to record lectures	20.1
Use technology on exams	19.2
Preferential seating	18.9
Preferential registration	15.7
Recorded books	11.3
Modification	
Modified exams	22.6
Modified assignments	19.5
Modified curriculum	14.5
Modified grading	11.9

Note. Only accommodations/modifications recommended by more than 10% of clinicians are shown.

Table 2

Percent of Students with Evidence of Functional Limitations for Each Recommended Accommodation/Modification

	Current Impairment (%)				Previous Impairment (%)			
	Self-Report	Other-Report	Rating Scale	Any	Self-Report	Medical Records	School Records	Any
Accommodation								
Additional time on exams	34.3	15.3	10.9	34.3	35.8	33.5	27.0	43.8
Separate room	33.7	19.8	11.6	33.7	34.9	34.9	27.9	45.3
Scribe/note-taker	34.0	14.9	12.8	34.0	38.3	38.3	27.7	46.8
Additional rest breaks	35.6	20.0	11.1	35.6	42.2	40.0	28.9	46.7
Access professor's notes	28.2	12.8	10.3	28.2	25.6	25.7	23.1	30.8
Record lectures	37.5	18.8	15.6	37.5	40.6	34.4	31.3	46.9
Use technology on exams	32.1	21.4	10.7	35.7	39.3	32.1	25.0	42.8
Preferential seating	43.3	30.0	16.7	43.3	43.3	40.0	40.0	56.7
Preferential registration	27.0	16.7	22.2	27.8	38.9	38.9	22.2	38.9
Recorded books	27.8	16.7	22.2	27.8	38.9	38.9	22.2	38.9
Modification								
Modified exams	30.6	16.7	13.9	30.6	30.6	30.5	25.0	38.9
Modified assignments	35.5	25.8	16.1	35.5	48.4	48.4	35.5	61.3
Modified curriculum	63.2	31.6	0.0	63.2	34.8	34.8	13.0	39.1
Modified grading	26.1	13.0	8.7	26.1	52.6	52.6	31.6	68.4

Note. Current limitations are based on (1) student's self-report, (2) another informant's report, (3) an adaptive functioning or impairment rating scale completed by student, another informant, or clinician, or (4) any evidence. Previous limitations are based on (1) student's self-report, (2) medical records, or (3) school/educational records, or (4) any evidence.

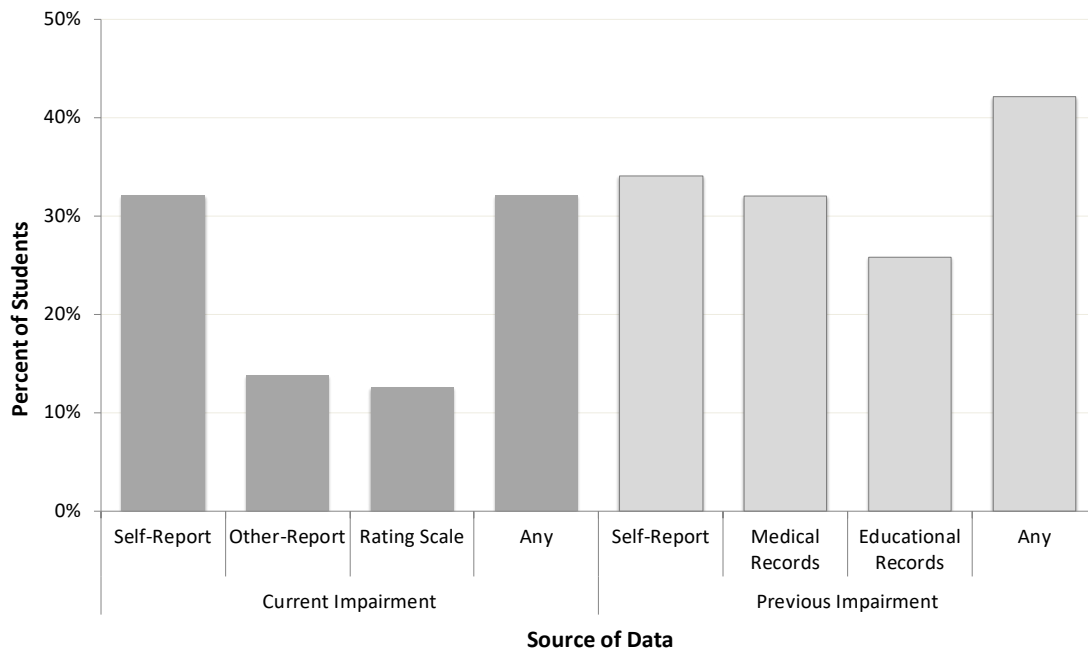


Figure 1. Percent of students with evidence of current or previous limitations based on various sources of data.

Barriers to Accommodations for Students with Disabilities in Higher Education: A Literature Review

Christopher Toutain¹

Abstract

In higher education, students with disabilities play an active role in securing and utilizing academic accommodations. Numerous studies have explored different aspects of the accommodations provision process and have addressed various barriers found to prevent the full implementation of these accommodations for students with disabilities. The present review explored these studies, in an attempt to discern common themes within this area of the literature. The review identified several themes that emerged across 23 empirical research studies. Barriers to accommodations were found in the lack of student knowledge or awareness of campus resources, the inability to provide appropriate documentation of a disability or receive accommodations students found useful, and the negative reactions of peers and faculty members that students experienced upon their disclosure of a disability or their request to implement accommodations. The review concludes by addressing the limitations of the study, offering recommendations for future research, and identifying ways in which disability resource offices may work to remove or reduce the impact of the barriers identified. Upon consideration of the breadth and depth of barriers to accommodations found in the literature, a shift towards *Universal Design for Learning* is presented as one potential way to mitigate these barriers.

Keywords: disability accommodations, higher education, literature review

The number of students with disabilities in postsecondary education in the United States has risen in recent decades. Data from 2007-2008 and 2011-2012 indicated that 11% of undergraduates were students with disabilities (Snyder, de Brey, & Dillow, 2016). However, an achievement gap at four-year institutions, as compared to their non-disabled peers continues to exist (Newman et al., 2011). The continued enrollment of students with disabilities in higher education, along with data on their success and persistence in higher education highlights the importance of research related to disability and higher education. Much improvement stands to be made in creating educational experiences that are inclusive, equitable, and promote the success of students with disabilities. Postsecondary education is very different from K-12 in terms of disability-related services and supports. The higher education environment is one in which students with disabilities are responsible for self-identifying, registering with the disability resource office on their campus, and requesting

and utilizing accommodations. Institutions are responsible for verifying documented disabilities, and providing reasonable accommodations (Dean, 2009). The elective nature of disability support in the form of accommodations in higher education heightens the need for continued research and improvement in this area, as it is likely that the actual numbers of students with disabilities is even greater than reported, due to the option for students to choose not to disclose this information to their college or university.

The present literature review seeks to gather and analyze the research related to challenges presented in the higher education disability accommodations process. Specifically, the review is focused on barriers to the successful provision of accommodations that are encountered by students with disabilities. There are multiple purposes for this review. First, an analysis of the varied studies on barriers to accommodations may allow for considerations not readily apparent in single studies alone. The identification of themes found in such an analysis may highlight gaps

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for future research and provide insights for disability resource administrators, which may lead to improved services for the students with whom they work. Second, a more complete understanding of the accommodations experiences of students with disabilities may serve to inform larger conversations about the nature of disability in higher education. Such conversations may be instructive in working with students with disabilities who choose not to disclose or seek support from their colleges or universities. Lastly, the review seeks to understand student experiences under the current accommodations model, which stands to be a crucial component in disability studies conversations that may question the model or propose future alternatives.

Methodology

The author conducted a broad review of the literature related to the provision of accommodations and barriers to accommodations for students with disabilities in postsecondary education. For this review, barrier was broadly defined, as something that may prevent or dissuade a student from seeking or ultimately making use of a disability related accommodation, presently, or in the future. As many of the barriers found in the research are based on student experiences and perceptions, it is worth noting that the review aims to seek a better understanding of these experiences and perceptions – not to make value judgements of the decisions made from them. For example, Marshak, Van Wieren, Ferrell, Swiss, and Dugan (2012) found that students identified a desire for self-sufficiency as a barrier to the use of accommodations. The purpose of this review is not to suggest that self-sufficiency is, or is not, a positive characteristic that should, or should not, be pursued by not utilizing accommodations. Such questions are beyond the scope of this review. Additionally, it is important to acknowledge the diverse types of barriers considered in this review. A knowledge-based barrier, such as a student's lack of awareness of the resources offered by a disability resource office is a different type of barrier than what is experienced by a student who is told by a faculty member that they will not be granted a requested accommodation. The broad definition of barriers in this review limits the detail with which any specific type of barrier may be attended. However, utilizing a broad definition of barrier better allows for an examination of the way that different barriers may intersect to impact the lived campus experiences for students with disabilities.

One overlapping research area that was excluded from this review was that of transition-related barriers.

Researchers have explored barriers that exist in transitions from secondary to postsecondary education, from two- to four-year institutions, and out of postsecondary education. The decision to exclude these studies was made in order to support a clearer understanding of barriers to accommodations by eliminating the complicating factor of multiple institutions, with varying policies, procedures, and academic cultures. The review was also limited to research that involved institutions in the United States. Research has been conducted beyond that United States that addresses students with disabilities and accommodations (e.g., Hill, 1996). However, a decision to limit this review to the United States was made in the interest of producing an analysis that might be instructive in ongoing policy discussions related to the provision of accommodations – as dictated by national regulations.

Another related area of research regarding barriers to accommodations is that of faculty or staff attitudes, actions, or perspectives related to students with disabilities. A preliminary review of the research on disability and accommodations in higher education revealed several faculty studies that directly address accommodations (e.g. Becker, Martin, Wajeih, Ward, & Shern, 2002; LaRocco & Wilken, 2013; Lombardi & Murray, 2011; Love et al., 2015; Sniatecki, Perry, & Snell, 2015). In the interest of drawing a focus on student experiences, these studies were not included in the body of research this review attempted to analyze. However, given the relevance of this literature, such studies are referenced in this review, to the extent that they stand to inform or corroborate themes and findings that emerged from the included studies.

The author conducted a digital keyword search of the ERIC, Academic Search Premier, and PsycINFO databases. These databases were selected because they provided extensive coverage of both education and disability-focused academic journals. A Boolean search was conducted for *students with disabilities AND accommodations AND barriers AND college or university or postsecondary education or higher education*. No publication date range was applied. The initial search was conducted in October of 2017 and did not include a publication date limiter. A date range was not identified so as to allow for consideration of whether the accommodations experiences in higher education have shifted over time. The search produced 77 peer-reviewed journal articles, 26 of which were reports of empirical research. Of these results, four studies were excluded due to a focus on secondary education and/or transitions, as were eight studies that had an international focus. Six studies that involved American higher education but were beyond

the scope of the present review were removed. Five of these studies focused on faculty, while the sixth focused on career planning. Finally, the author reviewed the references of the remaining studies, adding other relevant research not captured by the original database search. Upon this addition, a total of 23 studies were identified for this review. Table 1 provides a list of the authors, publication years, research type, and sample size of these studies.

After the research studies were identified, and the study characteristics were compiled, the author used an inductive approach to search through the studies and identify common themes (Marshall & Rossman, 2016). The author read through the studies multiple times, looking for commonalities in the findings. The themes that appeared with the greatest consistency across the literature are presented in the following section.

Emergent Themes

Barriers to accommodations were addressed in a variety of ways and to a variety of degrees in the literature reviewed. For example, one study, by Lyman et al. (2016) focused explicitly on the reasons that students with disabilities reported for deciding not to utilize accommodations. Meanwhile, studies conducted by Hong (2015), and Lund, Andrews, and Holt (2014) identified barriers to accommodations as one of many challenges encountered by students with disabilities within the higher education environment. Across the literature, there was a great deal of variation regarding what constituted a barrier. Generally, the research identified barriers of knowledge, function, or attitude. For example, Lyman et al. (2016) treated student lack of knowledge about disability support services on campus as a barrier to accommodation. Likewise, Salzer, Wick, and Rogers (2008) discussed challenges in disability documentation as a functional barrier to accommodations, while Hong, (2015) addressed student perceptions and assessments of stigma as an attitudinal barrier. These varied types of barriers appeared in the literature in intersecting ways that highlight the complexity of the experiences of students with disabilities on college and university campuses. The themes are discussed in an order that generally follows the steps taken to secure accommodations in higher education. Themes more commonly reported in registering for accommodations are presented first, followed by themes related to the granting of accommodations and accommodations functionality, and finally, themes related to the utilization of accommodations.

Awareness of Accommodations Resources

In elementary and secondary educational environments, schools identify students with disabilities and facilitate educational achievement through the Individuals with Disabilities Education Act (1997). However, in the postsecondary environment, students are responsible for securing access to education by seeking accommodations for qualifying disabilities (Office for Civil Rights, 2011). Given the shift students with disabilities experience upon enrolling in postsecondary education, from an institutional-initiated process to a student-initiated one, it is not surprising that one of the themes found in the literature on barriers to accommodations is a lack of knowledge or awareness of services (e.g., Finn, 1999; Lyman et al., 2016; Marshak et al., 2010).

Several studies (e.g., Finn, 1999; Hong, 2015; Lyman et al., 2016) have examined the barriers to accommodations that may exist for students with disabilities with regard to registering with their college or university disability resource office. A common theme found in four of these studies is a lack of awareness on the part of students with disabilities regarding the existence of available accommodations, or the disability resource office (Finn, 1999; Greenbaum, Graham, & Scales, 1995; Lyman et al., 2016; West et al., 1993). One study was conducted by West et al. (1993). Of the 761 students with disabilities who responded to a survey administered through the disability resource offices at 57 different public and private two- and four-year institutions in Virginia, over 86% reported that they experienced disability-related barriers to their education. The survey allowed students to describe the barriers that they encountered, and as West et al. noted, “many students wrote that they were unaware of the services to which they were entitled or which were available” (p. 461). Similar experiences were also reported among students with learning disabilities, when asked to discuss the disability resource services they found be least helpful (Greenbaum et al., 1995). A lack of awareness regarding disability resources and accommodations was also identified by Lyman et al. (2016) as a factor that kept students with disabilities from utilizing accommodations.

Additionally, research by Finn (1999) found that this lack of awareness is at times only addressed after students demonstrated performance-related indications of their disabilities. In a focus group study, students with learning disabilities from a public four-year institution in the Midwest indicated that they were only told about the disability resource office by their professors “after failing several tests” (p. 635). These responses suggested that faculty at this institution provided students with disability-related infor-

mation, after discerning which students might benefit from disability resources following poor exam performance. While such a reactive response may be more preferable than no response at all, it disadvantages students whose disabilities faculty members are less able to readily identify, as these students are not as quickly referred to disability resource offices as compared to students with more readily apparent disabilities. Further, faculty referral alone might not fully remedy this lack of awareness, as suggested by the finding from Lyman et al. (2016) that indicated that a continued lack of awareness appeared to exist for some students, even after they learned about the disability resource office on their campus.

Another awareness-related challenge found in the literature was that students with disabilities reported difficulty identifying the accommodations that they needed. Salzer et al., (2008) found in a survey of postsecondary students with disabilities, over one-third of the respondents indicated that they encountered problems identifying which accommodations were appropriate or reasonable. Similarly, in a study conducted by Hong (2015), a student described through reflective journaling an experience in which a disability resource staff member expected the student to know what accommodations were needed. Considering the potential positive impact self-advocacy skills may have for students with disabilities in higher education (Fleming, Oertle, Plotner, & Hakun, 2017), and criticism from students with disabilities that sometimes accommodations are not adequately individualized (Dowrick, Anderson, Heyer, & Acosta, 2005), it seems plausible that some disability resource offices may aim for individualization and improved self-advocacy, while ultimately creating barriers for students by shouldering them with too great a burden for accommodations identification. Additional research into a possible perceptual difference between students with disabilities and disability services staff members regarding the development of self-advocacy skills may contribute to a better understanding of this barrier.

Ability to Secure Accommodations

Another theme identified in the literature involved barriers students with disabilities encountered while attempting to secure accommodations. Aspects of this theme included the process of registering with disability resource offices and the availability of particular accommodations. In compliance with Section 504 of the Rehabilitation Act of 1973, and the Americans with Disabilities Act of 1990 (ADA), postsecondary institutions must provide accommodations to students with documented disabilities (Office for Civil

Rights, 2011; Rothstein, 2015). One issue that stems from this requirement is the question of how qualifying disabilities are verified. Discussion of sufficient documentation appeared in the rules established for the implementation of the 2008 amendments to the ADA (2010), as well as in recent guidance offered by the Association on Higher Education and Disability (AHEAD; 2012). In the literature reviewed, concerns regarding appropriate documentation included the experience of the assessment process required for diagnostic evaluation (Denhart, 2008), and the ability of students to secure such evaluation (Lehmann, Davies, & Laurin, 2000). In Denhart's 2008 study on the perceptions of students with learning disabilities, five of the 11 students interviewed "reported strong negative reactions to assessment testing" (p. 491). Students previously assessed in high school may also face challenges with documentation requirements. Lehmann et al. (2000) found that in focus group interviews of 35 college students with varying disabilities, many reported encountering challenges related to documentation including not being able to obtain high school service records and limited opportunity for assessment at the postsecondary level. Similarly, students in a study conducted by Salzer et al. (2008) also identified challenges related to appropriate documentation. Of 382 students surveyed who obtained academic support for a disability, 102 "reported challenges in obtaining proper documentation" as one of the barriers they faced (p. 373).

In addition to challenges students with disabilities faced regarding the documentation of their qualifying disability, a theme also emerged regarding student difficulties in working with disability resource offices to obtain accommodations. For some students, the challenge appeared to stem from issues of staff availability. Findings by Dowrick et al. (2005) included that "many students reported that the student disability service offices are understaffed and can therefore assist only those students with the most urgent needs" (p. 44). The information collected by Dowrick et al. appeared consistent with an earlier finding by Finn (1999) who reported that many students, despite having generally positive comments about disability staff, noted the lack of time that staff were available. A similar finding was also noted by Marshak et al. (2010), who reported that students encountered challenges regarding the timeline along which approved accommodations were made available. For other students, challenges appeared to stem from their interactions with disability resource staff. Lyman et al. (2016) presented an account from one student in their focus group study who described the difficulty of scheduling a meeting with a disability staff mem-

ber as part of the complicated process necessary in order to receive an accommodation. They also reported that students experienced staff who “discouraged them from using accommodation[s]” (p. 129). A final barrier they found related to securing accommodations, was experienced when students realized that a particular accommodation they hoped would be provided was unavailable. Lastly, although it was not reported with a degree of specificity sufficient to locate the specific aspect of this barrier that was involved, a study by Lund et al. (2014) indicated that the denial of accommodations may have been a factor for the 14 students in their study who had disabilities but did not receive any accommodations during their psychology graduate training.

Barriers to Implementation of Accommodations

Faculty refusals to implement. After students with disabilities register with disability resource offices and work with staff to identify accommodations, those accommodations must be implemented in the academic environment. Several studies (e.g., Dowrick et al., 2005; Perry & Franklin, 2006) referenced that this is frequently accomplished via letters that disability resource offices provide to students with disabilities. These letters detail the accommodation(s) a student has been granted, and the student provides the letter to faculty members in order to obtain the accommodation (Perry & Franklin, 2006). However, a common theme found in multiple articles was that students with disabilities encountered faculty who were reportedly unable or unwilling to provide the accommodations students had been granted (Beilke & Yssel, 1999; Dowrick et al., 2005). Houck, Asselin, Troutman, and Arrington (1992) also found a small number of students who identified a similar challenge. In Houck et al.’s interviews with 46 students with disabilities, at a large land-grant university, three students identified “professors’ unwillingness to make accommodations” as “their greatest concern about the campus environment” (p. 682). Similar concerns were captured in results from Lyman et al. (2016). In their discussion of *negative experiences with professors*, they noted that many of the students with disabilities they interviewed had experienced a professor who did not honor the accommodations for which they had been approved.

The value of considering these studies together is not to generalize the campus experience for all, or even most students with disabilities. Many of the negative experiences gathered in these studies were not expressed by a majority of students surveyed. Marshak et al. (2010) also addressed faculty unwillingness to provide accommodations. These researchers

found that at one medium-sized state university, “despite the fact that faculty members receive confidential letters that address specific accommodations are to be provided or allowed, some faculty do not follow through” (p. 158). As noted by Houck et al. (1992), only a small number of students reported an experience with faculty who were unwilling to facilitate an accommodation. While the literature suggested that the frequency of such experiences may be low, they nonetheless appear with consistency. For example, Lyman et al. (2016) found that overall “many participants mentioned that most of their experiences with professors were positive” (p. 130). However, these researchers also noted, “almost all of them could recount, often with great details and passion, a negative experience” (p. 130).

Although there appears to be a trend in the research to suggest that students with disabilities at times encounter faculty who are unwilling to provide or facilitate accommodations, additional research is needed in this area to better understand the conditions under which these experiences occur. An article by West et al. (1993) highlighted the potentially complicated nature of the way in which requests for accommodations are made, responded to, and perceived by those involved. While discussing barriers experienced by students with disabilities, West et al. suggested that their results included accounts from students that “if accurate, seem to show not only an insensitivity to Section 504 regulations, but also a direct violation of them” (p. 462). The authors then proceeded to provide examples of student described barriers. These barriers included “professors that would not give me oral tests” (p. 462). Another barrier the researchers identified was that “sometimes the instructors would not allow taping in their classrooms” (p. 462). Both examples highlighted negative faculty responses, which alone would reasonably contribute to barriers for students with disabilities based on attitudes and social stigma. However, the suggestion by West et al. of a violation of law relies on additional conditions that were not addressed in their research. The study did not appear to have any mechanism to account for whether the requests the students had made to faculty were for accommodations they had been granted for documented disabilities, or whether the interactions were instances in which students had made requests not connected to approved accommodations. Again, the negative response of a faculty member to a student who is asking for something they need in order to succeed academically is troubling. Yet, clarity regarding the conditions under which such denials occur will support more appropriate intervention and training, for faculty in order to attend to this barrier.

Accommodations found not functional or not helpful. Another theme that emerged in the literature regarding why students with disabilities did not use accommodations that had been granted was because they were found to be unhelpful or non-functional. Marshak et al. (2010) found that many students with disabilities who had secured accommodations reported challenges with implementation. Specifically, the researchers highlighted accounts from a student who encountered challenges making effective use of books on tape, and another student who after taking an exam outside the classroom, realized she had missed out on exam assistance the faculty member had provided while administering the exam to the rest of the class.

Black, Weinberg, and Brodwin (2015) also found students with disabilities who reported functional challenges with the accommodations they had been provided. The study included the account of a student who had been provided a human reader. The student reported experiencing a degree of discomfort with the human reader, such that it created an added distraction. A similar negative experience was found by Greenbaum et al. (1995). Much like the difficulty of navigating the human component of a reader, in this study some students who had received note taker accommodations reported that it was challenging to “interpret someone else’s notes” (para. 30). Beyond matters of interpretation, Kurth and Mellard (2006) reported an experience from a student in their focus groups, who found the notes they received to be illegible.

The functionality of accommodations is a complex theme in part due to the variety of ways in which students appeared to experience certain types of accommodations. For example, the challenge experienced by the student in Marshak et al.’s (2010) study with books on tape was one rooted in an unfamiliarity with accessing books in audio format. A different challenge involving the same accommodation was addressed by Finn (1999), who reported that students in focus groups discussed challenges due to books on tape that contained incorrectly pronounced words and “readers [who] were sometimes difficult to understand” (p. 632). Accommodations functionality also appears to be an area that would benefit from additional research. For example, Lyman et al. (2016), reported that students found accommodations ineffective, but did not clearly address what was found to create that ineffectiveness, or how it might be mitigated.

Desire to utilize accommodations. The most common barrier to accommodations addressed in the literature for students with disabilities in higher education was found in the reasons why students who have (or have had) accommodations – not otherwise

complicated by the implementation barriers previously discussed – elected not to use them. Varied aspects of this theme were found in 19 of the studies reviewed. Issues of personal belief, faculty attitude and reaction, and social stigma all contributed to this theme. Within this area of the literature, three subthemes emerged: (a) student issues of independence and self-sufficiency, (b) concerns regarding faculty reaction, and (c) a desire to avoid social stigma or labeling.

Independence and self-sufficiency. One common subtheme found in the literature for why students with disabilities may be reluctant to utilize accommodations is based on their own understanding of themselves and the implications for how they view themselves if they choose to use accommodations. The desire for students with disabilities to be independent and self-sufficient was found in several studies (Black et al., 2015; Lyman et al., 2016; Marshak et al., 2010; Perry & Franklin, 2006). Black et al. (2015) posited that for the students they interviewed, this desire was at times in conflict with the utilization of accommodations, particularly those accommodations that included direct assistance from others. Marshak et al. (2010) found similar desires. These researchers identified student interest in self-sufficiency as a component of a larger theme of identity issues that they found presented “the most frequent barriers that students reported kept them from choosing to seek the services and accommodations available to them” (p. 154). It was found in this study that the desire for self-sufficiency for some students was so great that it “frequently took precedence over expediency” (p. 154). A similar desire was also found by Lyman et al. (2016). These authors reported that students wanted to be as self-sufficient and independent as possible, and that one of the ways they attempted to maintain independence was by only utilizing accommodations as a backup strategy. In addition to the immediate concerns for independence discussed by students in these studies, Perry and Franklin (2006) also addressed student reported long-term concerns regarding self-sufficiency. In their study of students diagnosed with ADHD, one student described a desire for long-term independence as a reason to not utilize accommodations. The student explained a belief that similar accommodations would not be made in the world beyond college, so the best course of action would be to learn to function without them.

Another motivational factor that appeared related to values of independence and self-sufficiency was the perceived impact of accommodations on academic value. Olney and Kim (2001) conducted focus groups with students at a large university in the

Midwest. The researchers posited that a western academic environment that privileges individual abilities contributes to conflict experienced by students with disabilities who “were learning and competing within a merit-based system, while relying on the help and accommodations of others” (p. 576). The authors’ suggestion explained why some students with disabilities “felt that achieving success with accommodations diluted or invalidated their successes” (p. 576). In a different study, Denhart (2008) found that a similar attitude was held by five of the 11 students interviewed, including one student who stated: “I feel like the less people utilize accommodations, the more valued their work is” (p. 492).

Further, the literature appeared to support that perceptions of reduced academic legitimacy, due to accommodations use, has a negative impact for students with disabilities beyond the academic domain of their postsecondary experiences. Vaccaro et al. (2015) studied college students with disabilities and their sense of belonging. They found that “for students with disabilities, being seen as a legitimate student was essential to a sense of belonging” (p. 679). The work of Vaccaro et al. underscores the impact of perceptions of academic legitimacy for students with disabilities. In addition to the qualitative data collected in these studies, Hartman-Hall and Haaga (2002) found that “students who were using formal services for their LD rated their own scholastic competence lower than did students not currently using services” (p. 272). While the authors entertained multiple plausible explanations of these data, one was that “students who are using services have a poorer perception of their scholastic abilities as a results of using services” (p. 272). Taken together, these studies suggest that some students with disabilities, by electing to utilize accommodations, may perceive that they are not only undercutting the value of their work, but by extension, delegitimizing their very belonging at their institution.

Another factor that must be discussed before leaving the topic of independence and self-sufficiency is the degree to which these desires might be motivated by social stigma and negative reactions from faculty, staff, and peers. In one study, Hong (2015) found that each of the 16 students who participated in reflective journaling, displayed “a deep desire for independence and being self-reliant” (p. 218). Hong suggested that these desires were motivated by student interests in managing their identities to avoid looking weak. An examination of negative reactions by peers and faculty towards students who seek or utilize accommodations will be addressed later in this review. However, it must be acknowledged that while these themes have

been separated for the sake of cogent explanation, they appeared in the literature in ways that seemed to overlap and impact each other.

Faculty reactions. Another theme that emerged from the literature as a barrier to the use of accommodations involved concern regarding faculty reactions to requests for accommodations; or reactions to the disability disclosure that is implicit in such a request. As previously discussed, accommodations in higher education are typically granted through a disability resource office. Next, the office provides a letter to faculty members – either directly, or through the student for whom accommodations have been granted. The letter indicates the accommodations that are to be provided. In such a system, knowledge of a granted accommodation is, then, knowledge that the student involved has a documented disability. Several studies have found that students have reported experiencing negative faculty reactions when notification or utilization of accommodations occurred (e.g. Denhart, 2008; Hong, 2015; Olney & Kim, 2001).

It must first be noted that the literature related to negative experiences surrounding disability disclosure is largely limited to experiences involving students with non-apparent disabilities. The reason for this seems to be that the research has framed disclosure as a choice: whether or not to disclose a disability (Olney & Kim, 2001). The construct of disability disclosure as a student’s choice requires that the student have an option of not disclosing a disability. The ability to be in control of disclosure regarding one’s disability identity is not as readily available to students with visible disabilities. Therefore, lack of literature that has addressed faculty reactions to disability disclosure and accommodations utilization pertaining to visible disability is not surprising.

The literature regarding student utilization of accommodations frequently highlights negative responses from faculty. These range from broad negative attitudinal responses, (Hong, 2015; Perry & Franklin, 2006) to refusals to provide approved accommodations (Beilke & Yssel, 1999). A common theme also emerged around attempts by faculty to counsel a student out of a particular course or program of study. In some cases this counseling came in the form of faculty questioning whether there was a need for a student to be in a particular course given their disability (Beilke & Yssel, 1999; da Silva Cardoso et al., 2016; Denhart, 2008). In studies by Barga (1996) and Beilke and Yssel (1999) it occurred at a broader level – such as faculty counseling students towards another major that might be easier. In apparent confirmation of such concerns reported by students with disabilities, a study by Sniatecki et al. (2015)

found faculty members who reported that they had engaged in these types of counseling-out-of-major discussions. The study found that 15 out of 123 faculty surveyed at a public liberal arts university reported having engaged in advising “a student to change his/her major due to limitations associated with disability” (p. 264). Finally, a most egregious instance was reported by a student in a study conducted by Olney and Kim (2001), who reported receiving oblique threats from a faculty member regarding continuation in a graduate program following disclosure of a disability. A similar threat was also reported by a student in an earlier study, conducted by West et al. (1993). While such examples were not frequently found in the literature, they serve to outline the broad range of negative experiences that students reported having encountered upon the disclosure of their disabilities. The dated nature of several of these studies presents a potential limitation to this subtheme. It is possible that faculty attitudes and behaviors have changed over time, and that this barrier is not as severe as it once was. Additional research into the current experiences of students with disabilities is needed to further assess whether or not that is the case.

Faculty interaction and facilitation of accommodations also emerged as a distinct subtheme of faculty reactions. Olney and Brockelman (2003) interviewed a student who described experiencing negative reactions through the “transformation in the behavior and attitudes of professors” (p. 45) upon disability disclosure. Negative perceptions of the way in which accommodations were managed by faculty was also addressed by Lehmann et al. (2000). These researchers reported that students with disabilities perceived a general burden placed on them to alleviate faculty anxiety regarding accommodations provision. Several studies (Hong, 2015; Marshak et al., 2010; Perry & Franklin, 2006) also identified student confidentiality as a concern throughout the provision of accommodations. Hong (2015) found that a barrier existed for students when faculty compromised student confidentiality in the classroom by making adjustments without being discrete. Additionally, Perry and Franklin (2006) found that students experienced breeches in confidentiality while providing their accommodations letters to faculty. Similar concerns were also raised by students interviewed by Marshak et al. (2010) regarding having been identified in class as the student for whom a note taker was needed. These various aspects of confidentiality highlight the role that faculty play regarding the provision of accommodations, and the degree to which their actions may work for or against the desires of students with disabilities to remain anonymous.

Social stigma and labeling. Several studies found students with disabilities were generally hesitant to utilize accommodations due to stigma-related concerns (e.g., Denhart, 2008; Dowrick et al., 2005; Lehmann et al., 2000; Olney & Kim, 2001; Salzer et al., 2008). Olney and Kim (2001) found, “stigma was the reason that participants most often gave for not disclosing” (p. 573). Similarly, in a study by Salzer et al. (2008), 30% of students surveyed reported not requesting accommodations because they “were fearful of being stigmatized by teachers” (pp. 372-373). Denhart (2008) found that students with learning disabilities were reluctant to utilize accommodations because they did not want to be viewed as inferior. In an earlier study by Dowrick et al. (2005) stigma was identified as a factor that caused many students concern in disclosing their disabilities. Students in a study by Lehmann et al. (2000) discussed experiencing a general lack of understanding and acceptance regarding disability from both peers and faculty.

Further, students with disabilities appeared to be highly attuned to negative or uninformed responses of peers and faculty. Multiple studies noted that students appeared negatively impacted by not only explicit negative responses, but ambiguously negative responses as well (Bento, 1996; Hong, 2015). For example, Bento (1996) suggested that ambivalent responses by faculty to accommodations requests increased perceived attitudinal barriers. Similarly, Hong (2015) found that students had negative experiences with faculty members who displayed a lack of empathy, even as those faculty facilitated the requested accommodations. Student experiences of barriers based on faculty reactions underscores the importance of studies such as those conducted by Sniatecki et al. (2015), Vance and Weyandt (2008), and Zhang et al. (2010). While the focus of such studies on faculty attitudes and perceptions regarding students with disabilities is beyond the scope of this review, it is an area of the literature that is highly relevant to understandings of the experiences of students with disabilities.

One final aspect found in the literature related to stigma and disclosure involved the consideration by students with disabilities of future implications of disability disclosure or accommodation use. The concern was found regarding both immediate and long-term implications. More immediately, students reported not wanting to label themselves with a disability identity in college, after having shed the identity upon leaving high school (Kurth & Mellard, 2006; Marshak et al., 2010). Long-term implications were discussed by students interviewed by Lyman et al. (2016). These students expressed concerns that utilization of accommodations might harm relationships

with faculty members or inhibit the growth or development that they might achieve without the accommodations. Hong (2015) found “the most frequently cited barrier [students with disabilities reported] was related to how students think faculty would perceive them if they were to reveal that they needed accommodation” (p. 214).

Lastly, additional insights emerge when the topics of faculty responses to disclosure or accommodations requests, and the perceptions of stigma for students with disabilities, are intersected. Attending to this overlap is important, because the literature seems to indicate that many of the perceptions of stigma that students with disabilities have appear to be supported by faculty or non-disabled student actions, attitudes, or beliefs. Understanding these relationships is crucial, because it informs the path to continued support for students with disabilities in higher education.

Hartman-Hall and Haaga (2002) gathered quantitative data that indicated that faculty member reactions influenced the decision making of students with disabilities regarding whether or not to disclose and utilize accommodations. In this study, students with learning disabilities were presented with various hypothetical faculty reactions to student requests for accommodations or academic assistance for a learning disability. They found that students reported more willingness to seek help after reading about positive responses, and less willingness after reading negative responses. Their finding is consistent with previous studies that have found that students with disabilities often have their own analytical frameworks that they utilize in determining whether disclosure and the utilization of accommodations is “worth the risk,” (Hong, 2015, p. 215) or whether they can get by without it (Barga, 1996).

Unfortunately, such a framework is complicated by studies from Olney and Kim (2001) and Olney and Brockelman (2003). Both studies found that attempts by students with disabilities to utilize accommodations only when absolutely necessary were at times thwarted by unpredictable impacts of their disabilities – resulting in frustration due to disabilities impacting them differently in different situations, and to degrees they were unable to anticipate. Together, these factors result in situations in which students with disabilities may attempt to manage a class without accommodations, only to realize mid-way through the course that it might not be possible. West et al. (1993) found that many students with disabilities described the accommodations process as providing “too little, too late” (p. 461). Such feelings are likely exacerbated when students delay the utilization of services in attempts to determine the level of need they have for accom-

modations, or the receptiveness of professors to their potential disclosures.

Discussion

In reviewing the literature on the provision of accommodations for students with disabilities in postsecondary education, several themes emerged. Barriers to accommodations appeared to exist throughout students’ paths towards securing and utilizing accommodations. The current review has gathered and presented those themes and drawn connections between them. The final section of this review will explore a broad level analysis of the limitations found in the literature, the limitations of this review, as well as the implications for future research and practice in higher education.

Limitations

The present review is limited in a number of ways – many of which stem from the inclusion/exclusion criteria used in selecting the literature for review. For example, in an attempt to consider the broad range of experienced barriers to disability in higher education, disability type was not utilized in the selection of research. It is possible that a review that considered particular types of disability more specifically would have found different common experiences. Similarly, while this review sought to understand those disability barriers in the American higher education system, it failed to incorporate an international perspective. Such a perspective is undoubtedly significant and represents an area of important consideration in future research. Additionally, the number of studies included does not lend itself to strong statements of generalizability. Likewise, the review relied on many qualitative studies that featured relatively small samples sizes. As will be considered below, the individualistic nature of the experiences captured in these studies limit the extent to which this review is able to support definitive statements regarding the accommodations experiences of students with disabilities in higher education.

One common limitation in many of the studies examined was the institution-specific context in which they were conducted. Social stigma appeared in the literature as a considerable factor for students with disabilities, their peers, and their faculty and staff members. Stigma is socially constructed, and different social environments may construct it differently. The attitudes towards students with disabilities encountered by a student at one college or university may be quite different from those encountered at another. Therefore, while stigma appeared in seemingly

consistent ways in the literature, additional research on disability and stigma, particularly in postsecondary education, will continue to contribute to more complete understandings of socially constructed barriers for students with disabilities.

Another limitation existed in the manner in which students were identified for research participation. Frequently, as is seen in the description of participants by Lyman et al. (2016), students were primarily identified through disability resource offices, or other services provided by institutions for students with disabilities (da Silva et al., 2016). However, student utilization of such offices and services in postsecondary education is voluntary. Given the impact of negative perceptions regarding utilization of accommodations, it seems likely that studies that draw participants from disability offices or programs may miss students with disabilities who have elected to not utilize disability resources on their campus. Ongoing research in this area should explore opportunities for broader campus participation. Doing so may support a more complete understanding of various factors that impact accommodation-seeking decisions.

The amount of time that has passed since many of the studies identified in this review must also be considered as a limitation. Many of the barriers discussed in this review involve social interactions. These interactions are ones which may shift in nature or implication over time. Additionally, disability services offices operate in a landscape of legislation, case law, and professional best practices; all of which shape the accommodations process over time. For this reason, it seems likely that the reported experiences of students in some of the older studies (e.g., Hill, 1996; West et al., 1993) may be different from the experiences of current students with disabilities in higher education. Future research would be valuable in discerning whether and how barriers to accommodations have shifted over time.

Lastly, the positionality of the reviewer must be considered as a limitation. The nature of inductive theme identification in the review is such that different researchers might have arrived at different analyses of the same research. As such, while this review may contribute to a more complete understanding of the accommodation experiences of students with disabilities in higher education, it does not represent the only interpretation of the literature reviewed.

Recommendations

Upon reviewing the perceptions and experiences of barriers to accommodations reported by students with disabilities, issues of communication and knowledge of disability emerged as potentially im-

portant areas for additional research and consideration. The ways in which individuals communicate about disability and accommodations appeared in the literature as a source of tension impacting many of the themes addressed in this review. One important area of future research regarding such tensions and communications involves exploring the models of disability that ground accommodation processes and the related experiences of students with disabilities in higher education.

The typical accommodations process, previously described in this review, is framed by a medical model of disability. The medical model assumes disability as individual deficit in need of treatment at the individual level. The model is frequently contrasted with the social model of disability, in which individuals have impairments, but it is society's response to those impairments that disables people (Davis, 2013). Some of the accommodations related barriers identified in this review, such as students' abilities to provide adequate medical documentation, or secure the provision of a particular accommodation from a faculty member, revolve around a medical model. Simultaneously, barriers rooted in social stigma or understandings of self-sufficiency or academic legitimacy are clearly dictated by social understandings of disability. Additional research into the intersection of the medical model of accommodations and the social understandings that implicate students' desires to engage in the accommodations process will support disability services offices in working to remove both individual and social barriers for students with disabilities.

For disability services offices, this review similarly highlights multiple avenues by which to provide ongoing student support. At the individual level, this review makes clear the importance of individualized accommodations support, which aims to provide students with disabilities as much agency in the accommodations process as possible, without rendering the process overwhelming. It also highlights the importance of disability resources offices to gather student feedback, so that they may address common experiences that students may be having while interacting with their office or the accommodations process. While accommodations may be provided in a medical model framework, this review also underscores the importance of the social aspect of campus culture, and the opportunities for education and awareness raising that may benefit students with disabilities. If disability services offices are able to imbue knowledge of the available resources into their campus communities, students may less frequently miss out on needed accommodations. Such increased knowledge may be achieved through community outreach

and/or awareness raising through outreach to faculty, staff, and students during orientations. Similarly, encouraging faculty to address accommodations with discretion, and without what may be received by students as interrogation or suspicion, would be beneficial to a campus culture that students with disabilities would likely experience at both individual and social levels.

Lastly, it should be acknowledged that these campus culture-based recommendations are not easy solutions. Disability services offices likely find themselves increasingly taxed as the number of students with disabilities increases. The medical model of individual accommodation may not leave much time in the days of these administrators such that they would be able to engage in the work necessary beyond their offices in order to impact the campus culture regarding disability. For this reason, along with the previously discussed recommendations based on the themes of this review, a call for consideration of *Universal Design for Learning* (UDL) is crucial.

As the number of students who qualify for accommodations increases, some have called for a shift away from a reliance on the current accommodations model, to one in which they are not needed – through the implementation of UDL (LaRocco & Wilken, 2013; Lombardi & Murray, 2011). By minimizing the number of students who require and seek disability accommodations, a shift towards UDL might allow disability resource administrators to devote more time to community education and awareness. A reduction in the need for accommodations would also reduce the number of students who experience negative barriers related to the accommodations process. A shift towards UDL may also guide a reframing of disability within higher education away from a medical model, towards a social model, in which disability would be viewed as a component of campus diversity.

Conclusion

The literature on barriers to accommodations for students with disabilities in higher education covers a broad range of topics. The studies considered in this review found barriers to exist across disability types and throughout the processes with which students engage in order to receive and make use of accommodations. The review found themes of awareness, documentation, functionality, and utilization of accommodations to all be implicated by these barriers. It also identified opportunities for additional research – particularly with regard to the interactional nature of the accommodations process.

Accommodations play a substantial role in the legal compliance framework of higher education (Rothstein, 2015). To that end, they may be thought of as the mandated floor for policy and procedure, as contrasted to an aspirational – and presently optional – ceiling that sees them as unnecessary in educational environments accessible and equitable without them. As the field continues to develop, additional research into accommodations will provide an important foundation from which discussions of inclusion, equity, and diversity regarding disability in higher education may expand.

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Table 1

Summary of Reviewed Literature Methods and Samples

Author(s) & Year	Methodology	Student Sample
Barga, N. K. (1996)	Qualitative; interviews	9
Beilke, J. R., & Yssel, N. (1999)	Qualitative; interviews	10
Bento, R. F. (1996)	Qualitative; interviews	18
Black, R. D., Weinberg, L. A., Brodwin, M. G. (2015)	Qualitative; interviews	15
da Silva Cardoso, E., Phillips, B. N., Thompson, K., Ruiz, D., Tansey, T. N., Chan, F. (2016)	Qualitative; interviews	6
Denhart, H. (2008)	Qualitative; interviews	11
Dowrick, P. W., Anderson, J., Heyer, K., & Acosta, J. (2005)	Qualitative; focus groups	3-19/group
Finn, L. L. (1999)	Qualitative; focus groups	33
Greenbaum, B., Graham, S., & Scales, W. (1995)	Mixed; interviews & performance data	49
Hartman-Hall, H. M., & Haaga, D. F. (2002)	Quantitative; scenario response	86
Hong, B. S. (2015)	Qualitative; reflexive journaling	16
Houck, C. K., Asselin, S. B., Troutman, G. C., & Arrington, J. M. (1992)	Quantitative; interviews	46
Kurth, N., & Mellard, D. (2006)	Mixed; surveys & focus groups	108 (surveys) 104 (focus group students)
Lehmann, J. P., Davies, T. G., & Laurin, K. M. (2000)	Qualitative; focus groups	35
Lund, E. M., Andrews, E. E., & Holt, J. M. (2014)	Quantitative; survey	56
Lyman, M., Beecher, M. E., Griner, D., Brooks, M., Call, J., & Jackson, A. (2016)	Qualitative; interviews	16
Marshak, L., Van Wieren, T., Ferrell, D. R., Swiss, L., & Dugan, C. (2010)	Qualitative; interviews	16
Olney, M. F., & Brockelman, K. F. (2003)	Qualitative; interviews & focus groups	25
Olney, M. F., & Kim, A. (2001)	Qualitative; focus groups	16
Perry, S. N., & Franklin, K. K. (2006)	Qualitative; interviews	10
Salzer, M. S., Wick, L. C., & Rogers, J. A. (2008)	Quantitative; survey	508
Vaccaro, A., Daly-Cano, M., & Newman, B. M. (2015)	Qualitative; interviews	8
West, M., Kregel, J., Getzel, E. E., Zhu, M., Ipsen, S. M., Martin, E. D. (1993)	Quantitative; survey	761

Accommodating Students with Disabilities Studying English as a Foreign Language (Practice Brief)

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Abstract

Students with disabilities (SWD) can encounter a number of challenges in foreign language education, a field in which practitioners are too often untrained in special education. Additionally, there are few resources available for postsecondary foreign language program administrators who wish to systematize support for SWD enrolled in their courses. This practice brief describes an eight-stage framework created to accommodate SWD enrolled in mandatory English as a foreign language course at a university in Japan. This framework includes initial referral and class placement, the creation of multidisciplinary teams, specific interventions, and review. Ongoing collaboration and teacher training supplement this framework and its implementation. Grade and attendance rate analysis pre- and post-implementation suggests that this framework helps ensure SWD in the present context can meet course objectives. Implications and portability of this framework are also discussed.

Keywords: English as a foreign language, higher education, inclusive instruction, reasonable accommodations, disability services

Accommodating learners with disabilities requires careful and principled support. As Hamayan, Marler, Sánchez-López, and Damico (2013) argued, such support should be both systematized and blended into the learning experience to help meet the needs of all learners. Unfortunately, traditional curriculum design in English as a foreign language context has typically overlooked students with disabilities (SWD), leaving gaps that must be bridged if all students are to receive equal educational opportunities. A number of concerns raised in the literature regard a perceived lack of pedagogical expertise and managerial guidance for teachers of SWD (Hamayan et al., 2013; Ortiz & Artiles, 2010). Thus, there are calls for increased teacher training and professional development opportunities to raise awareness, build confidence, and improve instructional approaches among language teachers (Lowe, 2016a, 2016b; Ortiz, 2002; Park & Thomas, 2012; Scott & Edwards, 2012).

To answer some of these calls, some have suggested strategic ways to more effectively scaffold classroom practice and promote more inclusive teach-

ing (Carr, 2012; Santamaria, Fletcher, & Bos, 2002), while others have written about interventions specific to certain disabilities (Hamayan et al., 2013.) Many advocate for the use of individual education plans (IEPs) to more appropriately accommodate individual learner's needs (Cloud, 2002; Ortiz & Artiles, 2010; Ortiz & Yates, 2001). At the program-wide level, the delivery of any and all accommodations should be held to the same standard and subject to regular evaluation and revision.

Problem

In Japan, the Act on the Elimination of Disability Discrimination was ratified in 2013, though its key terminology of "reasonable accommodation" of persons with disabilities has received criticism for being insufficient, vague, and deserving of greater public scrutiny (Hasegawa, 2015; Kondo, Takahashi, & Shirasawa, 2015; Otake, 2016; Shirasawa, 2014). As more and more students with disabilities enter postsecondary education every year in Japan, there

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is a growing and increasingly evident need for more specific and systematic accommodations for SWD across institutions sorely lacking proper procedure for identifying needs and providing reasonable accommodations (Boeltzig-Brown, 2017; Kondo, et al., 2015). In 2015, the year before the Act on Elimination of Disability Discrimination was set to take effect, only about 60% of institutes of higher education in Japan reported supporting students with disabilities in any way (Boeltzig-Brown, 2017). After reviewing the internal procedure for providing accommodations for students with disclosed disabilities enrolled in English Discussion Class at Rikkyo University in Tokyo, Japan at the end of the 2015 academic year, English Discussion Class Program Managers determined that this procedure was insufficient for providing such accommodations and meeting students' diverse needs. A new framework for accommodating SWD, outlined below, was developed, implemented, and assessed in the subsequent school year.

Teaching Context

English Discussion Class is a mandatory, discussion-based course for all first-year students enrolled at Rikkyo University. The English Discussion Class curriculum is strongly unified, in that all teachers use the same teaching methodology, assessment rubrics, and textbooks designed specifically for the course. Students are streamed into one of four proficiency levels based on scores on TOEIC tests taken at the beginning of the academic year. Nearly 4,700 students take the course each year, several of whom report having a disability to the university's Students with Disabilities Support Office (SDSO) upon admission to the university.

The SDSO uses the Japan Student Services Organization's (JASSO) classification of SWD, under which disabilities fall into six broad categories: health issues/poor health, physical disability, mental health disability, developmental disability, hearing and speech impairment, and visual impairment (JASSO, 2017). The latter five categories are further subdivided into discrete diagnoses, though some of these remain vague. For instance, according to JASSO, physical disabilities include upper limb restrictions and lower limb restrictions. Developmental disabilities include learning disabilities, ADHD, and high-functioning autism, among others.

Over the four-year period from 2015-2018, a variety of disabilities across all categories were represented in English Discussion Classes, many requiring specific accommodations and support.

Framework Creation and Implementation

As there is a paucity of resources in English for teachers and administrators to support SWD in tertiary English as a foreign language contexts, English Discussion Class Program Managers turned to more developed and accessible bodies of research for guidance. To better and more efficiently meet the diversity of needs represented by students enrolled in English Discussion Classes, Program Managers modified an 11-point framework for providing special education services for English language learners with disabilities created by Ortiz and Yates (2001) for use in primary and secondary teaching contexts in the United States. The original framework was chosen for its ability to capture and describe existing resources on campus, as well as for its emphasis on collaboration and review. By making use of existing resources, accommodations in the current context can be offered at no additional expense to the university, though service providers experience an increase in workload to varying degrees and on a case-by-case basis. The modified framework is outlined in Figure 1 below.

Stage 1: Identification. Students self-identify as having special needs to the SDSO upon admission to the university.

Stage 2: Referral and Assessment. Various stakeholders meet and interview each student to determine specific support needs. These stakeholders include advisors from the SDSO, the director of the university's English Language Program, a representative from the student's college, and members of the university's Academic Affairs office. In cases of developmental disability or mental disorders, only the SDSO coordinator meets and interviews each student in order to reduce anxiety for the student. Specific support needs are then determined at a follow-up meeting with the stakeholders described above and which the student does not attend.

Based on the interviews, the SDSO and Academic Affairs create written documents detailing the student's diagnosis and needs in both Japanese and English. The student and college concerned will check the documents as necessary. Academic Affairs then passes these documents onto the English Discussion Class Administrative staff, who inform Program Managers. These documents are viewed on a need-to-know basis, which in the present context broadly includes all parties mentioned heretofore, as well as the teacher assigned in Stage 3. However, student consent is fully respected, and as such the level of information or number of parties informed beyond the Stage 2 meeting may vary accordingly.

Stage 3: Placement. Academic Affairs holds a placement meeting to place students in English Discussion Classes. This meeting is organized by Academic Affairs, though includes at least one member of English Discussion Class' Administrative staff, one Program Manager, and English Discussion Class' Deputy Director. This meeting is typically held in the first week of each semester before classes begin. Students are automatically placed with a teacher based on TOEIC scores and the existing teaching schedule, but this student-teacher pairing can be modified in one of two ways: (1) the student may be swapped with another student from a class in the same TOEIC band, or (2) two instructors can swap entire class assignments.

Such changes aim to place students with a teacher well-suited to that student's particular needs, and are made based on Program Managers' knowledge of and familiarity with the teaching staff. Program Managers consider teachers' prior experience with SWD, Japanese proficiency, general demeanour, and other factors that may impact student learning and their achievement of course aims. For instance, some SWD in the past have reported having an easier time communicating about their needs to a teacher of the same gender. As a rule, students are placed with instructors who have completed at least one full year teaching on the course.

Students who late-identify are unable to receive special considerations for placement, as they will have been automatically placed in a class based on TOEIC scores and the teaching schedule. University policy unfortunately prevents reassigning a student or instructor once classes have commenced. Therefore Stage 3 is omitted in cases where students late-identify.

Stage 4: Creation of Multidisciplinary Teams. A Multidisciplinary Team of, at minimum, one Program Manager and the assigned instructor is created for each student. Additional members may include other Program Managers, other instructors, members of English Discussion Classes Administrative staff, and coordinators from the SDSO. Before classes commence each semester, Program Managers hold a meeting to share information with Multidisciplinary Teams about their respective students.

Stage 5: Creation of Individual Education Plans (IEPs). The Multidisciplinary Team creates an IEP, here defined loosely as any number of accommodations or specific interventions to help the student meet lesson and course aims. The IEP may be created as early as the first meeting of the Multidisciplinary Team, but often occurs after the first one or two lessons of the semester, once teachers have all had a chance to meet their students and further determine needs within the classroom. Examples of specific ac-

commodations made as a result of an IEP are detailed in Table 2.

Stage 6: Implementation of the IEPs. Multidisciplinary Teams implement their IEPs throughout the semester. Additional support can be provided to Multidisciplinary Teams and students by the SDSO as needed.

Stage 7: Ongoing Review. Multidisciplinary Teams (in part or in total) meet to evaluate student progress and the efficacy of the IEPs throughout the semester as needed. Program Managers liaise with assigned instructors a minimum of three times, after Lessons 1, 2, and 5, in a 14 week semester (classes occur once per week). If the instructor reports that the student is adequately meeting course aims and no further support is required after the first discussion test in Lesson 5, no further Program Manager-initiated dialogue is required. From this point forward, instructors approach Program Managers if they or their student require further support. Additionally, students may approach either their teacher or the SDSO if they require further support.

Cases in which the IEP is largely ineffective will necessarily merit more frequent Multidisciplinary Team meetings. Program Managers and the English Discussion Class Administrative staff keep detailed records of students' progress based on feedback from students, instructors, and the SDSO. This information is helpful when revising IEPs and assigning future instructors when new class lists are made between semesters.

Stage 8: Revision of the IEPs. The IEP is revised and re-implemented throughout the semester or academic year as necessary.

Ongoing Collaboration and Teacher Training

As many have noted, teachers and administrators alike must have some understanding of disability-related needs (Burr, Haas, & Ferriere, 2015; Hamayan et al., 2013; McCardle, Mele-McCarthy, Cutting, Leos, & D'Emilio, 2005; Ortiz & Artiles, 2010; Park & Thomas, 2012). To this end, Program Managers have invited specialists from other departments within the university to lead professional development sessions for English Discussion Class instructors. Additionally, Program Managers have made efforts to further their own knowledge of disability-related needs in the language learning classroom (e.g., through taking online workshops, attending conferences, and reading relevant research) and accumulated a number of learning resources for teachers to access as needed.

As English Discussion Classes' 42 full-time teachers are employed on a maximum five-year contract, it is essential that the experience garnered by

these instructors can be retained. With regard to Stage 3 (Placement) described above, Program Managers employ a cascade model (Lowe, 2016b) to ensure that knowledge regarding particular needs are passed from senior to junior instructors. For example, if an instructor in their fifth and final year has previously taught students with ASD when such a student enters the program, that student may be placed with this instructor in the first semester. However, in the second semester the student will be placed in a class with a second to fourth-year instructor, but the fifth-year instructor will remain on the Multidisciplinary Team to share expertise and assist the less experienced instructor. Such a system has the further benefit of equipping a wider body of teachers with the knowledge and ability to meet a variety of needs.

Observations and Outcomes

A grade and attendance rate analysis found that both metrics among SWD enrolled in the course have improved since the implementation of the framework. As Figures 2 and 3 show, the improvement in SWD' performance in the course with respect to grading and attendance not only improved after the implementation of the framework in the 2016 academic year, but that this improvement was closer to, and often surpassed, the total average performance of students enrolled in the course. This may be attributed to the close attention to student progress and scope for intervention afforded by the framework, learner variables unique to different groups of students, or a combination of both.

It should be noted that the academic year in Japan begins with the spring term, and that a curriculum revision implemented in the 2017 academic year reduced the average grade across the entire course. Furthermore, it is typical for grades to decrease and the percentage of classes missed to increase from the spring to fall semester across the course in a typical year, as is evident in Figures 2 and 3 respectively.

Regular grade and attendance analysis is one part of the regular review of the framework and its implementation. Additionally, Program Managers meet with English Discussion Class Administrative staff and the SDSO to review procedures for communication across stakeholders and interventions for individual students, as well as collect feedback from instructors via a Google Form survey. This feedback shows consistent satisfaction with the framework's implementation while helping identify specific concerns, such as the timing or type of support provided for specific SWD or their teachers. Based on such feedback, Program Managers are able to make revisions

to how individual stages of the framework are carried out to better meet student and program needs. The efficacy of these revisions is then subject to further review at the conclusion of subsequent semesters and academic years through the same review process.

Most significantly, feedback after AY2016 revealed that some teachers felt unsupported by Program Managers early in the semester. In response, Program Managers began more actively following up with teachers and offering support for Stage 5 through collaborative lesson planning as early as the week prior to the commencement of classes. Teachers reported feeling more supported in AY2017, and Program Managers have since striven to continue providing early and consistent support to instructors. Based on feedback from English Discussion Class Administrative staff, the record keeping procedure in Stage 7 was simplified for AY2018.

Implications and Portability

The framework created and implemented at Rikkyo University's Center for English Discussion Class appears to have improved the ability of SWD enrolled in the course to meet course aims, and as such is hopefully transferable to similar educational contexts, especially those with less proactive disability service providers on campus. As a result of significant differences in context, aspects of the original Ortiz and Yates (2001) model were necessarily removed or modified when creating the current framework, and any transference of the current framework to a new context would likely necessitate further adaptations. In any case, it is advisable to select and modify a framework only after creating a full inventory of available resources.

Feedback within English Discussion Class suggests that the current framework has provided a serviceable degree of training and preparation for teachers to provide reasonable accommodations to students, and has greatly improved communication across stakeholders. As English as a foreign language teachers are often underequipped to provide reasonable accommodations to SWD in their language classrooms, English Discussion Class Program Managers hope to continue collaborating with the SDSO and other departments within the university to provide relevant training to English Discussion Class' fulltime staff. Such collaboration should be possible at any institution with a disability support office or equivalent services. However, Rikkyo University is one of only 120 institutes of higher education in Japan, or about 10% of such institutions, that reported having an office or center dedicated to student disabili-

ity affairs in 2014 (Boeltzig-Brown, 2017). Language teachers and program administrators at the remaining 90% of colleges, universities, and vocational schools around the country will have a considerably harder time accommodating their SWD. Even when resources exist, measures must be put in place to ensure that such support can extend to the language learning classroom. Furthermore, language teachers and program administrators should be proactive in providing accommodations to SWD, as students do not always independently seek the support they need.

One major shortcoming of the framework described above is that it can only be applied to cases in which the student reported their needs to the university upon matriculation. SWD who do not report their needs go without specific interventions or accommodations of any kind. As identification of various needs improves across many higher education landscapes, so too will there be a growing urgency to properly support SWD in language learning contexts. Language program administrators and teachers alike would do well to increase their own awareness of various needs, create environments in which students feel comfortable stating their needs, identify available resources to support students' learning, and create standard operating procedures for effective delivery of an appropriate framework. Finally, further research into the implementation and efficacy of such a framework and its delivery would benefit most greatly from the voices of students themselves.

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Table 1

Categorization of Disabilities Represented in English Discussion Classes by Year

	2015	2016	2017	2018
Health issues/poor health	0	0	1	1
Physical disability	2	3	1	1
Mental health disability	0	0	1	0
Developmental disability	3	5	2	5
Hearing and speech impairment	1	2	0	1
Visual impairment	1	0	1	2

Table 2

Examples of Specific Disabilities and Accommodations in English Discussion Classes

Disability	Accommodations
Physical disability (lower limb restriction)	<ol style="list-style-type: none"> 1. Classroom layout was modified to allow easier wheelchair access. 2. Activity staging was modified to reduce the frequency of students changing seating location.
Hearing and speech impairment (deafness)	<ol style="list-style-type: none"> 1. Two student volunteers proficient in Japanese sign language used a tablet to convert utterances from classmates into writing, as well as to read aloud what the student had written, when participating in discussion activities with other students. 2. The teacher provided print-outs of planned teacher-talk (e.g., instructions for each activity) labelled alphanumerically to the student at the start of each class. The teacher would write the letter of the corresponding teacher-talk on the board to signpost the lesson. 3. Additional time was provided during discussion tests, which were assessed with a revised rubric.
Developmental disability (dyslexia)	<ol style="list-style-type: none"> 1. Homework readings were provided in a digital format for use with read-aloud software. 2. The teacher reduced the complexity of written board work and supplemented this with verbal instructions and confirmation checks.
Developmental disability (Autism Spectrum Disorder)	<ol style="list-style-type: none"> 1. Discussion prompts were modified to preclude abstract concepts that the student found difficult to understand. 2. The lesson plan and classroom activities were highly routinized, including color-coded board work and seating charts. 3. The student and teacher agreed on a signal that the student could send to the teacher in times of distress. The teacher would then ask the class if anyone needed a bathroom break and allow the student to step out of the room.

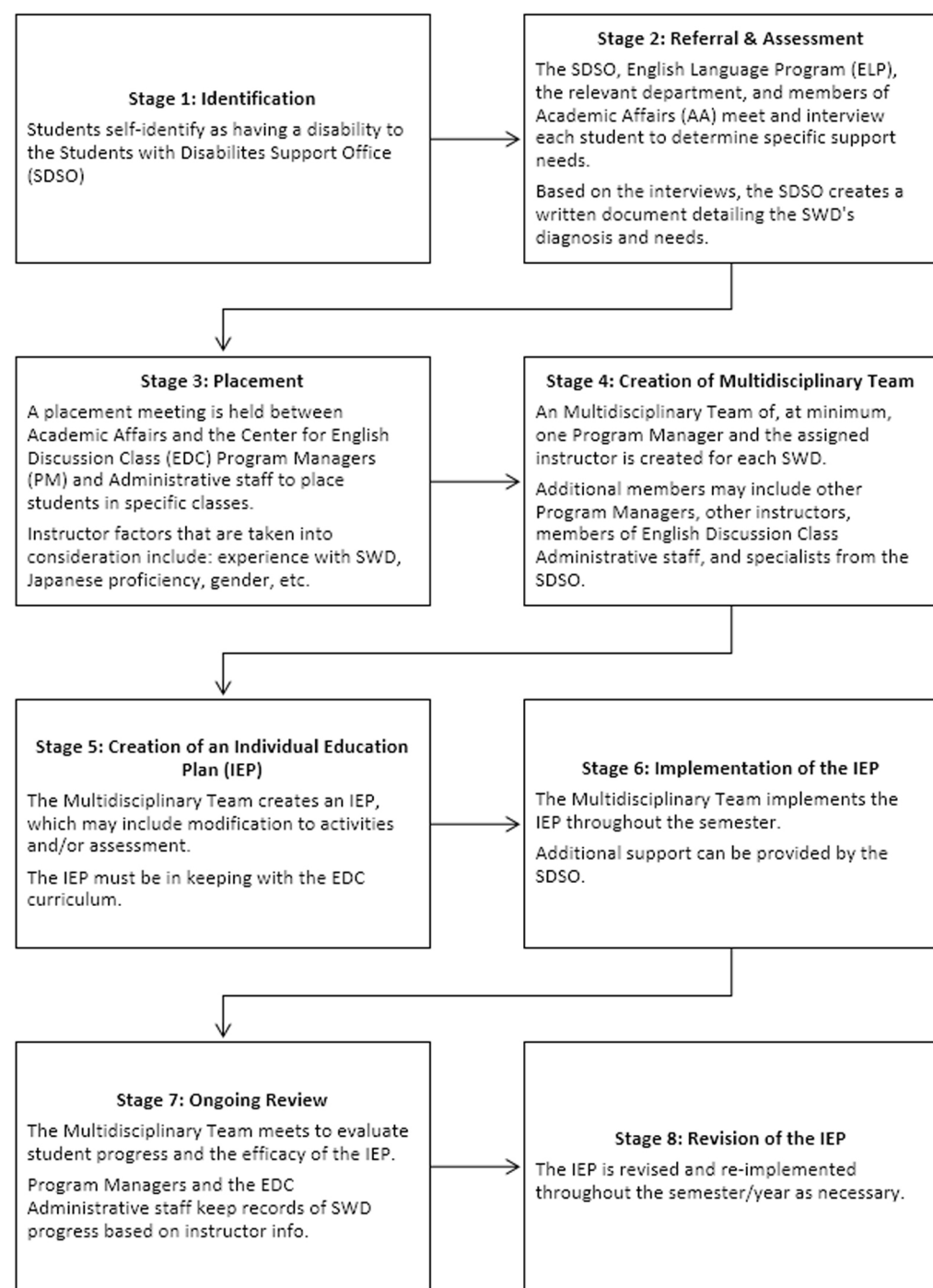


Figure 1. A framework for accommodating students with disabilities in English Discussion Classes.

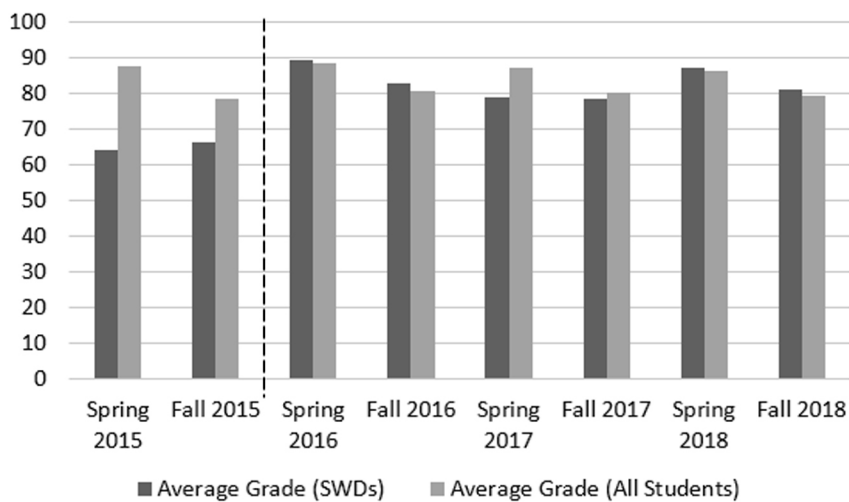


Figure 2. Comparison of average grades between students with disabilities and all students, AY2015-AY2018. (Dotted line represents the division between pre- and post-implementation of the framework).

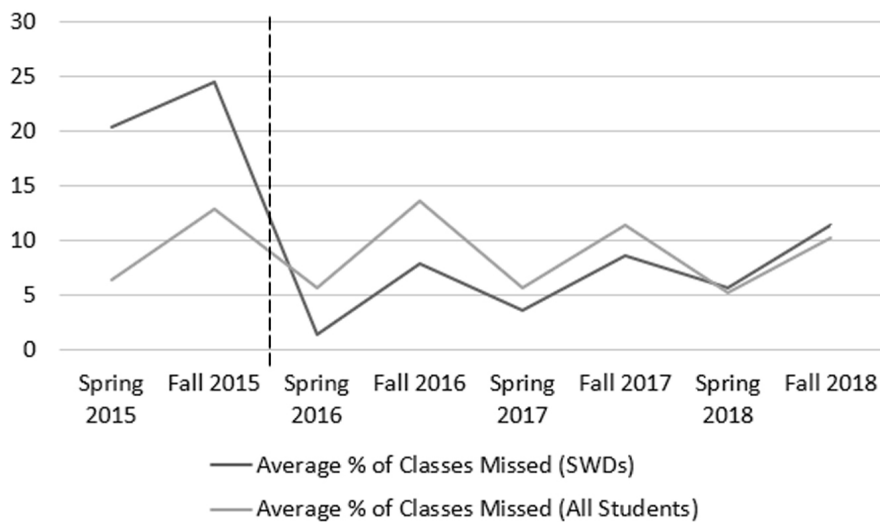


Figure 3. Comparison of attendance rates between students with disabilities and all students, AY2015-AY2018. (Dotted line represents the division between pre- and post-implementation of the framework).

The GOALS² Program: Expanded Supports for Students with Disabilities in Postsecondary Education (Practice Brief)

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Abstract

The occupational therapy department of a medium-sized eastern Pennsylvania university developed and piloted the *Greater Opportunity for Academic Learning and Living Successes* (GOALS²) program in collaboration with the Office of Student Accessibility. The program intended to expand the traditional accommodations offered to students with disabilities on college campuses through the provision of occupational therapy services to address student-selected academic learning and living goals. During the pilot semester, 13 of the approximately 110 students with disabilities on campus elected to participate in the GOALS² program. These students met over 80% of their self-identified learning goals and reported that the program had significant value. Researchers interviewed seven of the students who expressed that they found the GOALS² program to be valuable in reaching their self-identified goals. The GOALS² program utilizes graduate level occupational therapy students and appears to be an inexpensive approach to augmenting the services offered to students with disabilities to promote their academic success.

Keywords: college students, disabilities, postsecondary education, university, occupational therapy

Beginning in the mid-1970s, eligible students with disabilities attending K-12 public schools have been eligible to receive special education services or accommodations through the Education for All Handicapped Children Act, now Individuals with Disabilities Education Act (IDEA; U.S. Department of Education [DOE], 2018). Since that time, an increasing number of students with disabilities obtain their high school diploma and aspire to earn a college degree (U.S. DOE, National Center for Education Statistics [NCES], 2016). In postsecondary education, special education law through IDEA does not apply. Eligible students with disabilities are entitled to accommodations under Section 504 of the Rehabilitation Act of 1973 and Title II of the Americans with Disabilities Act of 1990. These laws require postsecondary education institutions to provide appropriate academic adjustments to ensure that no discrimination based on disability is occurring (U.S. DOE, Office of Civil Rights, 2011).

Unfortunately, students with disabilities who were successful when receiving special education support in high school are at risk of struggling in college where such support is not mandated by law (National Center for Learning Disabilities, 2014). In fact, students with disabilities have substantially lower retention and persistence rates in college than other students (Kim & Lee, 2016). This results in reduced opportunities for students with disabilities on many fronts, including developing social roles and establishing routines that promote enhanced mental health and self-efficacy (Pitts, 2001). The annual unemployment rate in 2017 for individuals without disabilities was approximately 4.2% compared to a 9.2% rate of people with disabilities who were available for work and actively seeking employment (U.S. Department of Labor [DOL], Bureau of Labor Statistics, 2018, June 21). Attending college can alleviate this problem, since earning a four-year college degree yields a 74% increase in lifetime earnings over those with a high

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school diploma (Carnevale, Rose & Cheah, 2010).

According to the Bureau of Labor Statistics (2015, July 20), only 16.4% of people with a disability aged 25 and older have completed a bachelor's degree, compared to 34.6% of people with no disability. Poor college graduation rates for students with disabilities, and its natural consequence, can be mitigated. Ramsdell (2014) highlights student engagement and effective learning strategies as two constructs related to student success in college. Receiving proper support services predicts the degree of success for students with disabilities in postsecondary education (Herbert et al., 2014). Recognizing this, nearly forty colleges around the country have developed programs, beyond legal requirements, to support students with disabilities, and more specifically students with autism spectrum disorder (ASD; Hoffman, 2016). One such program has paired graduate-level occupational therapy (OT) students with students with ASD in a course in which one-on-one mentoring is provided to help students with disabilities succeed in college (Schindler, Cajiga, Aaronson, & Salas, 2015).

In fact, it is within the OT's scope of practice to address some of the challenges faced by students with disabilities in postsecondary education. Occupational therapists understand how a disability can create physical, psychosocial, cognitive, and sensory challenges that affect a student's ability to successfully participate in college life (Jirikowic, Campbell, DiAmico, Frauwith, & Mahoney, 2013). With expertise in task analysis, environmental modification, and task adaptation, occupational therapists are well suited to contribute to the success of these college students (Jirikowic et al., 2013). Some occupational therapists utilize coaching methods for student-driven practice, which is an emerging intervention method with growing evidence (Dunn, Cox, Foster, Mische-Lawson, & Tanquary, 2012; Graham, Rodger, & Ziviani, 2013; Potvin, Prelock, & Savard, 2018). Thus, occupational therapists have the skills to support college students with disabilities to develop their individual goals and skills for academic success. Many of these students with disabilities received occupational therapy services while in public schools, but these services are rarely provided in postsecondary institutions (Crabtree, Daley, Eichler, McCarthy, & Schindler, 2015).

Depiction of the Problem

The population currently served by the Office of Student Accessibility Services (herein referred to as Accessibility Services) at the medium-sized university (The Carnegie Classification of Institutions of Higher Education, n.d.) in eastern Pennsylvania

has approximately 110 undergraduate and graduate students combined each year. The Accessibility Services Office has a staff of one person who provides standard accommodation such as quiet testing space, extra time for exams, notetakers, and preferential course registration. As the number of college-bound students with disabilities and the variety of their disabilities has increased, the traditional services offered by Accessibility Services needed to be expanded. It was determined that students have additional needs in order to be successful both in the academic and social aspects of college life. For example, these students expressed a need for support around navigating group projects given their disability, having a meaningful social life, and developing disability-specific learning strategies. These types of services are not traditionally offered by Accessibility Services, but contribute to students' academic success and overall satisfaction with their college experience.

The university offers a graduate-level occupational therapy education program. The Accreditation Council for Occupational Therapy Education (ACOTE) requires that occupational therapy students complete clinical placements as part of their educational experience (ACOTE, 2012). A partnership was established to expand the offerings of Accessibility Services through a new program in which free occupational therapy services were offered by the OT department to students with disabilities in need on campus. This program, entitled *Greater Opportunity for Academic Learning and Living Successes* (GOALS²), was piloted during the Fall 2017 semester.

Participant Demographics and Institutional Partners/Resources

Students with disabilities were identified as having unmet needs in two ways: referral from the director of Accessibility Services, and self-identification through the *Screening Tool for Accessibility Requirements and Satisfaction* (STARS) questionnaire. The GOALS² program developers adapted Dutta's (2001) *Disability Related Service Needs and Satisfaction Questionnaire* to create the STARS questionnaire by revising or removing items that were not applicable to the pilot campus. The STARS questionnaire measures the student-perceived level of need for, and satisfaction with, disability services provided. The questionnaire includes questions about stress management, study skills, time management, organizational skills, social supports, and disability-specific career counseling/planning. Of the 27 identified students, 13 students were scheduled to work at least once with the GOALS² Program. Ten students became ongoing participants attending three

or more GOALS² sessions. The ongoing participants included six females and four males with a variety of diagnoses. Table 1 lists additional participant characteristics, including diagnoses.

Description of Practice

The GOALS² program was designed to support the Accessibility Services' mission of equal access to educational opportunities for all students. The ultimate aims of the program go beyond equal access and focus on the successful attainment of education-related goals and development of new skills that will result in meaningful employment and independence after graduation. The program is a student-driven approach that uses the Coaching-in-Context process (Figure 1) to help students with disabilities identify strategies they can use to reach their self-identified goals. The progress toward students' self-identified goals is monitored in each session.

The GOALS² staff consists of two full-time third year master's level OT students during the clinical rotation portion of their education and two occupational therapy faculty members who provide weekly supervision to the occupational therapy students. This is in accordance with the ACOTE standards (2012).

A program evaluation plan was developed to determine the degree to which the GOALS² program achieved its objectives and to gather information for program improvement. The program evaluation plan sought to (a) describe the participants' impressions of the GOALS² program and (b) assess the degree to which GOALS² participants reached their self-identified learning goals.

The program evaluation plan was approved as a study by the university institutional review board. Students with disabilities who received services through the GOALS² program were invited to take part in the program evaluation during the informed consent process. This occurred in-person during one of the GOALS² program sessions. Students with disabilities were informed that they could receive GOALS² program services regardless of whether they chose to sign the informed consent form.

The program evaluation used a combination of quantitative and qualitative methods to collect data. *Goal Attainment Scaling* (GAS) was the primary quantitative outcome measure. It is used to scale goals into intervals that allow for the quantitative monitoring of progress toward the goals. Ruble, McGrew, and Toland (2012) found GAS to be valid and reliable across numerous population and studies. A change of one point on the GAS is considered clinically significant, however a two-point change is nec-

essary for a goal to be considered reached (Ruble et al., 2012). Students with disabilities provided GAS ratings during each GOALS² program session.

In addition to the GAS data, the program evaluation plan included qualitative interviews using a semi-structured interview guide. Seven of the 10 students who received ongoing GOALS² program services during the pilot semester were interviewed. The interviews were transcribed verbatim, checked for accuracy, and coded. A multi-step, multi-coder, open-coding approach was used to divide data into segments and identify categories to develop a coding key (Leedy & Ormrod, 2016). NVivo Pro qualitative data analysis software (version 11) was used to complete the qualitative data analysis.

Evaluation of Observed Outcomes

The ten ongoing clients developed 26 goals that fell into four categories: Academic, Health and Wellness, Interpersonal Relationships, and Time Management/Organization. The academic goals addressed items such as study skills, test-taking strategies, and use of assistive technology to increase academic success. Health and wellness goals addressed sleep, exercise, eating habits, coping strategies, and stress management. Interpersonal relationship goals addressed social life, communication skills, and self-advocacy. Time management and organizational goals addressed task breakdown, initiation, and pacing.

The GOALS² staff had 124 hours of direct contact with students with disabilities during the pilot semester. Each student received an average of 9.5 sessions. Over 80% of the students' self-identified goals were achieved during the pilot semester. It took an average of five sessions for goals to be achieved. As indicated in Table 2, all Health and Wellness goals and all Interpersonal Relationship goals were achieved.

Six themes emerged from the GOALS² program participant interviews: academic success, emotional support, progress toward goal attainment, personal health and wellness, decreased stress and anxiety, and time management/organization. Figure 2 provides illustrative excerpts of each of the themes.

During the interviews, participants mention two challenges that they experienced while taking part in the GOALS² program. Two of the seven students reported that they did not implement some of the strategies that they had chosen to make progress toward their goals. Two students reported unexpected roadblocks as a challenge (e.g. class layout or assignments).

Implications and Portability

Although a small sample size ($n = 10$) is a limitation of the study, the results of the pilot semester suggest that the GOALS² program is effective at helping students with disabilities reach their own goals. These same students overwhelmingly have provided positive feedback about the program. The GOALS² program approach is a cost-effective complement to traditional Accessibility Services. It allows college campuses to provide more comprehensive support services to college students with disabilities, with the hope of increasing the graduation rates.

Several challenges were noted during this pilot semester. First, making students with disabilities aware that the program existed and of its potential benefits was a greater challenge than expected. Most of the 27 students who were identified as possible candidates for the program did not respond to the emails sent to them informing them of the availability of the program. Instead of email, it may be best for a GOALS² program representative to be physically present in the Office of Student Accessibility Services for the first two weeks of the semester to invite students to the program. Secondly, although an informational session was held for faculty members, the GOALS² staff realized that further faculty education was necessary to help faculty members differentiate between the role of the GOALS² program, Accessibility Office, and the Academic Success Center. Finally, it became clear that while the Coaching-in-Context process is appropriate for most of the students, some students require a more directive intervention approach.

During the pilot semester, the GOALS² program primarily determined its efficacy by measuring student progress of their own goals using a repeated measures design. Future plans include measuring whether participating in the GOALS² program impacts participants' quality of life and stress levels, using the *Brunnsviken Brief Quality of Life Scale* and the *Penn State Worry Questionnaire*, respectively (Lindner et al., 2016; Meyer, Miller, Metzger, & Borkovec, 1990). The *STARS* questionnaire will be used to measure students' satisfaction with the GOALS² program and to compare this to satisfaction of students receiving services exclusively through Accessibility Services. Finally, the program intends to track GPA (grade point average), probation, and student retention. With proper funding, the GOALS² program could expand to several colleges, including any of the 174 universities in the United States where occupational therapy graduate programs are offered (American Occupational Therapy Association, 2018), or any other university through the use of

virtual technology. The increased sample size across multiple campuses would allow a randomized clinical trial to be conducted.

The GOALS² program has the potential of providing needed supports to students with disabilities at minimal cost to universities and colleges nationwide. Those interested in replicating the program are invited to contact the second author.

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Table 1

GOALS² Program Participant Characteristics Fall 2017 (self-report from client)

	Frequency	Percentage
Gender	<i>n</i> = 10	
Male	4	40%
Female	6	60%
Ethnicity*	<i>n</i> = 10	
White	4	40%
Black or African American	3	30%
Asian	1	10%
Caribbean American	1	10%
Egyptian	1	10%
Class	<i>n</i> = 10	
Freshman	1	10%
Sophomore	3	30%
Junior	3	30%
Senior	0	0%
Graduate	3	30%
Primary Diagnosis**	<i>n</i> = 10	
Not Reported	1	10%
Attention Deficit Hyperactivity Disorder	2	20%
Obsessive Compulsive Disorder	1	10%
Learning Disability	2	20%
Deaf/Hearing Impaired	0	0%
Mental Health	3	30%
Physical/Mobility Related	1	10%
Autism Spectrum Disorder	0	0%
Had an IEP or 504 plan in High School	<i>n</i> = 10	
Yes	5	50%
No	2	20%
Unsure	2	20%
Not reported	1	10%
Current Place of Residence	<i>n</i> = 10	
Residence Hall	3	30%
Apartment, house, condo (not with parents)	2	20%
Live with family member	3	30%
Not reported	2	20%

Continued

	Frequency	Percentage
Birth Year	<i>n</i> = 10	
1991	1	10%
1993	1	10%
1994	2	10%
1995	1	10%
1996	2	20%
1997	1	10%
1998	2	10%

Note. * Participants had the ability to write in their ethnicity if choices did not match how they describe themselves; ** Three (3) students were receiving Accessibility Services for a diagnosis of autism spectrum disorder, however they reported their primary disability under a different category.

Table 2

GOALS² Program Goal Attainment Scaling Results Fall 2017

Type of GAS Goal	Total # of Goals	Total # of Goals Met	Total # of Goals Not Met	Percentage of Goals Met
Academic	9	6	3	66.67
Health and Wellness	7	7	0	100.00
Interpersonal Relationships	3	3	0	100.00
Time Management / Organization	7	5	2	71.43
Totals	26	21	5	80.77

Note. GAS = Goal Attainment Scaling

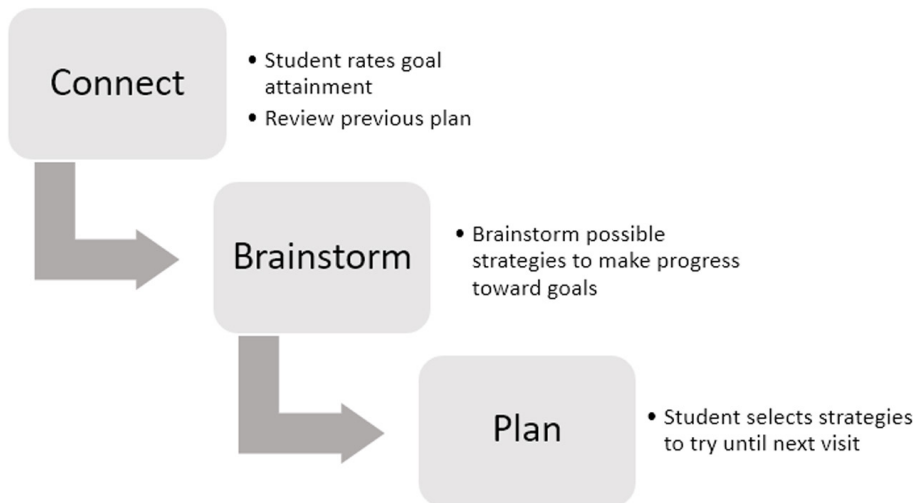


Figure 1. Coaching-in-Context process overview. This figure illustrates the three parts of a student session.

Academic Success	<i>"I've been a little bit more engaged in my homework than I probably ever have been in my life."</i>
Emotional Support	<i>The GOALS² Program "is just really supportive. I came in one day and said [that] I feel like I'm wasting your time because I haven't met any of my goals (...). She (...) said you're not wasting my time, we are here for you and I'm not going anywhere. Just having someone who is not giving up on you, that's like the most important part, I think."</i>
Progress toward Goal Attainment	<i>"I definitely feel like I improved (...) from the beginning [of the GOALS² program] (...) [with] certain goals (...) [such as] studying tips. . . . time management. . . . I feel like I improved a lot more [with] setting goals and time management."</i>
Personal Health and Wellness	<i>"I can't meet academic goals if I don't work on other aspects of my life as well (...). It's the holistic approach that I think is really important."</i>
Decreased Stress and Anxiety	<i>"The [GOALS²] program (...) taught me [how] to greatly reduce the amount of overall stress that would pop up towards the end of the semester. The skills that it provided me are very valuable."</i>
Time Management/Organization	<i>"[The GOALS² program] really helped me organize my ideas and keep track of all the different things I know I need to do."</i>

Figure 2. Illustrative excerpts for each of the themes identified by GOALS2 participants.

Disability and World Language Learning: Inclusive Teaching for Diverse Learners **(Book Review)**

Sally S. Scott & Wade A. Edwards,
Rowman and Littlefield, 2019,
140 pages, \$28 (Paperback)

Reviewed by Tammy Berberi¹

A masterful contribution to a growing body of research demonstrating the positive impact of teaching practices that are attentive to all learners, this guide represents more than a decade of collaborative research by Scott, a disability resource specialist, and Edwards, a French professor. Its particular focus is the world languages classroom, yet the strategies it offers will enrich the thinking *and doing* of any teacher who aspires to create an equitable, inclusive community of learners. The book takes as its foundation the nine basic tenets of universal design for learning (UDL). These are: (1) equitable use; (2) flexibility in use; (3) simple and intuitive use; (4) perceptible information; (5) tolerance for error; (6) low physical effort; (7) size and space for approach and use; (8) a community of learners; and (9) positive instructional climate. Yet, more than a checklist, inclusive teaching as characterized by these nine principles is a habit of mind and practice.

Amidst flagging enrollments, shrinking fiscal support, and a diminished understanding of the value of world language study in the United States, *Disability and World Language Learning* is a deeply affirming and optimistic book. With their thoughtful review of the American Council of Teachers of Foreign Languages (2014) “5 Cs” that comprise the *World-Readiness Standards for Learning Languages* and the Can-Do Statements that benchmark them, Scott and Edwards remind us of the ways that we world language teachers already prize and practice inclusivity by virtue of the expertise we share. The communicative pedagogies we rely on champion flexibility,

tolerance for error, and community building, aligning well with the principles of UDL. Strategies presented in the book nonetheless invite us to rethink course design and implementation in the interests of student success. In its focus, the book is doubly user-centered: on the one hand, its structure centers our relearning as educators; on the other, each chapter focuses our attention on student experiences in our classes.

Chapter one brings together world languages pedagogy and disability issues, providing an overview of the rationale for leveraging what we do for better outcomes; chapters two through five proceed through inclusive design, teaching, assessment of student contributions, and the first three weeks of the semester; and chapter six addresses the questions that arise most frequently for faculty. The book includes a number of checklists, such as “Self-Check: Inclusive Classroom Features before Class Begins” (p. 96), which serve as a concise review of the reflective process we have undertaken at each phase of redesign. Structured like a handbook, each chapter includes reflection questions, a case study, or artifact highlighting a barrier to learning and its mediation through the thoughtful application of UDL thinking, as well as a chapter summary. Quotations as well as aggregate data capture student experiences and the teaching strategies that students find most beneficial to learning. The result is a richly researched, user-centered, and evidence-based manual for inclusive teaching in the first two years of world languages classes. It lacks little, but an additional chapter might usefully offer guidance and resources for successful, accessible study abroad, internships, national fellowships (i.e., the Gilman, Fulbright, or Boren) and career planning.

Some colleagues continue to wonder why such practices matter. After all, isn’t it the job of disability resource providers to work with students individually to develop reasonable accommodations? Yes! And, Scott and Edwards confirm that accommodations often function as retrofits for spaces that were not built with diverse students in mind. Yet to accept inaccessibility as a prerogative of faculty is a missed opportunity, particularly since, as Jay Dolmage (2017) pointed out in *Academic Ableism: Disability and Higher Education*, our classrooms may be among the only campus spaces that can be redesigned at regular intervals. That said, never will UDL completely eliminate the need for all accommodations, nor have individual accommodations markedly im-

¹ University of Minnesota, Morris

proved graduation rates for people with disabilities. These are complementary approaches to engineering social equity.

As Scott and Edwards point out, less than a quarter of students who receive services in K-12 disclose a disability and request accommodations in college. Conventional wisdom reminds us that college represents the opportunity to define oneself and determine one's own limits. Yet to accept this explanation unquestioningly is to ignore all sorts of social variables: stigma that is contextually determined and fluctuating, the emergence of new conditions in college due to illness or injury, disparate access to diagnostic testing and medical care, and the compounded impact of intersectional identifications. In chapter 1 of *Creating the Path to Success in the Classroom: Teaching to Close the Graduation Gap for Minority, First-Generation, and Academically Unprepared Students*, Katherine Gabriel (2018) summarized research documenting a distressing trend: despite the emergence of a variety of student support programs, persistence and graduation rates have scarcely improved over the past forty years. Whereas two-thirds of affluent students finish a four-year degree by age 25, only a third of low-income students do. First-generation students are four times as likely as non-first generation to leave college after their first year; a high percentage of students of color are likely to leave after their first semester. Whereas about 57% of all students who begin a four-year degree complete it in six years, only 34% of students with disabilities do so in eight.

Despite advances brought about by disability studies and activism, disability continues to function as liability. A growing body of research in social psychology suggests that part of the reason patterned inequities persist is because we *all* accept them to be true. A student who faces deficit thinking time and again is likely to internalize it. The additional cognitive load of managing internalized inadequacy has been shown to impact performance on discrete exercises (such as exams) in measurable terms and, over time, to curtail one's horizons (Stewart and Vallian, 2018). In creating a community that invites every student to share fully in the benefits of intellectual and personal growth, we model what is possible and can strengthen students' sense of pride and deservingness of equitable opportunity.

Disability and World Language Learning is a book that invites collaborative relationships across

campus, with colleagues disability resources, the advising office, academic success, study abroad, and career services. A reader who is not charged with teaching might seek a willing partner in the languages with whom to develop a faculty workshop based on this book. Copies most certainly belong in the libraries, the "language lab," and the center for teaching excellence on your campus.

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