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# Table of Contents

*Journal of Postsecondary Education and Disability 30(4)*

<table>
<thead>
<tr>
<th>Title</th>
<th>Pages</th>
</tr>
</thead>
<tbody>
<tr>
<td>A Commitment to Publish Scholarly Literature: From the Editor</td>
<td>307-308</td>
</tr>
<tr>
<td>Roger D. Wessel</td>
<td></td>
</tr>
<tr>
<td>Student Voices: Recommendations for Improving Postsecondary</td>
<td>309-326</td>
</tr>
<tr>
<td>Experiences of Students with Disabilities</td>
<td></td>
</tr>
<tr>
<td>Allison R. Fleming</td>
<td></td>
</tr>
<tr>
<td>Kathleen Marie Oertle</td>
<td></td>
</tr>
<tr>
<td>Anthony J. Plotner</td>
<td></td>
</tr>
<tr>
<td>Cognitive Flexibility and Its Relationship to Academic Achievement</td>
<td>327-342</td>
</tr>
<tr>
<td>and Career Choice of College Students With and Without Attention</td>
<td></td>
</tr>
<tr>
<td>Deficit Hyperactivity Disorder</td>
<td></td>
</tr>
<tr>
<td>Suneeta Kercood</td>
<td></td>
</tr>
<tr>
<td>Tara T. Lineweaver</td>
<td></td>
</tr>
<tr>
<td>Colleen C. Frank</td>
<td></td>
</tr>
<tr>
<td>Erik D. Fromm</td>
<td></td>
</tr>
<tr>
<td>Measuring Self-Advocacy Skills Among Student Veterans with</td>
<td>343-358</td>
</tr>
<tr>
<td>Disabilities: Implications for Success in Postsecondary Education</td>
<td></td>
</tr>
<tr>
<td>Adam R. Kinney</td>
<td></td>
</tr>
<tr>
<td>Aaron M. Eakman</td>
<td></td>
</tr>
<tr>
<td>&quot;Smiling and Ready to Learn:&quot; A Qualitative Exploration of</td>
<td>359-372</td>
</tr>
<tr>
<td>University Audit Classroom Instructors' Experience with Students</td>
<td></td>
</tr>
<tr>
<td>with Intellectual Disabilities</td>
<td></td>
</tr>
<tr>
<td>Emma C. Burgin</td>
<td></td>
</tr>
<tr>
<td>Amanda C. DeDiego</td>
<td></td>
</tr>
<tr>
<td>Melinda M. Gibbons</td>
<td></td>
</tr>
<tr>
<td>David F. Cihak</td>
<td></td>
</tr>
<tr>
<td>College Students Who Have ASD: Factors Related to First Year</td>
<td>373-382</td>
</tr>
<tr>
<td>Performance</td>
<td></td>
</tr>
<tr>
<td>Solvegi Shmulsky</td>
<td></td>
</tr>
<tr>
<td>Ken Gobbo</td>
<td></td>
</tr>
<tr>
<td>Andy T. Donahue</td>
<td></td>
</tr>
<tr>
<td>Manju Banerjee</td>
<td></td>
</tr>
<tr>
<td>Faculty Mentorship Program for Students with Disabilities: Academic</td>
<td>383-390</td>
</tr>
<tr>
<td>Success Outcomes (Practice Brief)</td>
<td></td>
</tr>
<tr>
<td>Larry Markle</td>
<td></td>
</tr>
<tr>
<td>Roger D. Wessel</td>
<td></td>
</tr>
<tr>
<td>Jennifer Desmond</td>
<td></td>
</tr>
<tr>
<td>Disability in Higher Education: A Social Justice Approach</td>
<td>391-393</td>
</tr>
<tr>
<td>(Book Review)</td>
<td></td>
</tr>
<tr>
<td>Christopher Stone</td>
<td></td>
</tr>
<tr>
<td>Author Guidelines</td>
<td>394-395</td>
</tr>
</tbody>
</table>
A Commitment to Publish Scholarly Literature: From the Editor

During my time as the editor of the Journal of Postsecondary Education and Disability (JPED), I have enjoyed working with educators, both seasoned and new, desiring to have their works published. Students with disabilities desiring academic credentials, disability service educators committed to high quality service and learning, faculty members learning from research studies to advance classroom knowledge and discussion, and many other individuals, all benefit from JPED’s commitment to publish scholarly literature.

What is the process that the JPED uses to ensure the quality of published articles? The process begins with two editorial review boards, one for research articles and the other for practice briefs. The individuals on these boards have content knowledge, expertise in research methodology, and/or experience that qualifies them as experts able to provide feedback and make judgments about the quality of manuscripts. They contribute their expertise in the refereed process to serve as peer-reviewers. As a highly-informed volunteer, each member of the review boards deserves special thanks for time investment, contribution, and commitment to the field!

Authors submit their manuscripts to the editor who uses his/her best judgment about the contribution of the manuscript relating to the journal’s priorities. For example, the JPED is committed to providing disability services providers with information that is pertinent and has implications to their work. If the manuscript does not provide relevant implications for the field, it likely will not be reviewed. However, when a manuscript has promise, the editor removes all personal reference on the manuscript, often referred to as masking for “blind” review, so that the reviewers do not have knowledge of the author(s): this is extremely important. After careful consideration and independent review of the manuscript, reviewers communicate their feedback to the editor. Then, the editor makes a decision about whether to accept the manuscript, to request that the author(s) consider revising and resubmitting the manuscript, or to reject the manuscript. Feedback from the reviewers to the author(s) is also masked so that the author(s) do not know the reviewer – essentially “double-blinding” the process to ensure the best of quality and eliminating “good ‘ole boy” transactions. When the author(s) is/are asked to revise and resubmit, the content of the literature, method, findings, and/or conclusions, may need to be revised. The manuscript may also need to be revised due to difficulties in writing, including careful alignment with a writing style (e.g., JPED expects authors to follow the Publication Manual of the American Psychological Association, 6th edition). The author(s) are responsible for content and writing, both of which are vital. An article that provides interesting data, discussion, and implications for the field, but is hard to understand because the writing is poor, will not be accepted for publication. It is not the editor’s job to clean-up a manuscript. An article that displays perfect writing technique but contributes nothing to the field, will not be accepted for publication. Both content and writing are important!

The JPED is sponsored by the Association on Higher Education and Disability (AHEAD) as part of the association’s service to its members, and commitment to students with disabilities and disability service educators. AHEAD provides journalistic autonomy to the editor so that only the best manuscripts are published. We mutually benefit from AHEAD’s commitment to publish scholarly literature, thus advancing the profession and improving the quality of service provided to students.

The lead article in this issue examines recommendations for improving postsecondary experiences of students with disabilities, from the students’ perspective. Allison Fleming (Pennsylvania State University), Kathleen Marie Oertle (Utah State University), and Anthony Plotner (University of South Carolina) asked students registered with disability resource centers to suggest how colleges and universities could better support students with disabilities. These students provided concrete suggestions for colleges and universities who are interested in improving the experiences of students with disabilities and supporting their persistence to graduation. In the next article, Suneeta Kercood, Tara Lineweaver, Erik Fromm (Butler University), and Colleen Frank (University of Michigan) investigated the relationship between cognitive flexibility, academic skills, educational trajectories, and career goals of college students with and without Attention Deficit Hyperactivity Disorder. The results have implications for both academic and career planning, particularly for students who may struggle with attention difficulties.

The third article reports on measuring self-advocacy skills among student veterans with disabilities and the implications for their success in postsecondary education. Adam Kinney and Aaron Eakman (Colorado State University) report that first-generation status, extent of exposure to a supported education program for student veterans, number of credits attempted, and number of self-reported health conditions explain the self-advocacy skills of student veterans with disabilities. Results also indicated that student veterans with greater self-advocacy skills achieved a higher grade point average. The next article reports on how transition to postsecondary education programs for students with intellectual disabilities create supportive environments to help students with intellectual and developmental disabilities transition from high school to gainful employment and

From the Editor
independent living. Emma Burgin, Melinda Gibbons, David Cihak (University of Tennessee), and Amanda DeDiego (University of Wyoming) also report on the experiences of faculty members who hosted students who audited their courses. In the fifth article, Solvegi Shmulsky, Ken Gobbo, Andy Donahue, and Manju Banerjee (Landmark College) report on a group of college students who had the formal diagnosis of an Autism Spectrum Disorder to uncover factors related to their academic performance. They found a significant positive correlation between behavioral regulation and GPA, and provided implications for postsecondary disability-related services.

In the final article, a practice brief, the academic success outcomes of a faculty mentorship program for students with disabilities are provided. Larry Markle, and his colleagues from Ball State University, present a study of a nine-year longitudinal analysis of 32,409 students in which three academic success outcomes were tracked; one-year retention, and four- and six-year graduation rates. The article also provides a discussion of the portability of the program with suggestions for implementation on other campuses. The issue concludes with Chris Stone’s (The University of North Carolina Wilmington) book review of Disability in Higher Education: A Social Justice Approach authored by Nancy Evans, Ellen Broido, Kirsten Brown, and Autumn Wilke.

The editorial team and review boards associated with the JPED are thankful for the AHEAD’s commitment to publish scholarly literature through this fine journal.

Roger D. Wessel, Ph.D.
Executive Editor
Student Voices: Recommendations for Improving Postsecondary Experiences of Students with Disabilities

Allison R. Fleming
Kathleen Marie Oertle
Anthony J. Plotner

Abstract
Students with disabilities represent a growing population on college campuses for whom specific needs and preferences are associated. Student supports have increased in response to these changing student needs and demographics. Yet, campus-wide responsiveness to inclusion and actions that promote self-advocacy are needed to increase the rates of persistence and graduation among this underrepresented student group. For the present study, we asked students registered with the Disability Resource Center (DRC) at three large, public universities to suggest how colleges and universities could better support students with disabilities. Comments from 132 students were downloaded verbatim and analyzed via a content analysis approach by a three-member research team. Students expressed both satisfaction and dissatisfaction with several aspects of their university experiences, including disability and other campus services, faculty and advisors, and their perceptions of inclusion. Recommendations ranged widely, with comments on campus resources, academics, and the more general campus climate and levels of accessibility. These students provide concrete suggestions for colleges and universities who are interested in improving the experiences of students with disabilities and supporting their persistence to completion.

Keywords: Students with disabilities, student support, disability services, postsecondary education

Students with disabilities are a growing sub-group on college campuses (Newman, Wagner, Cameto, Knokey, & Shaver, 2010). These students have specific civil rights that pertain to equal opportunity and anti-discrimination mandates (Americans with Disabilities Act [ADA] of 1990 and its amendments; Rehabilitation Act of 1973 and its amendments: Section 504 and 508). To meet these civil rights, colleges and universities must provide access and reasonable accommodations to qualified students with disabilities (ADA, 1990 and its amendments; Rehabilitation Act of 1973 and its amendments). Gains in enrollment may be traced back to the social justice focus of these federal mandates; however, applicants with disabilities, despite meeting the same admissions criteria, continue to complete at lower rates when compared to their peers without disabilities (Newman et al., 2011). We lack full understanding of these disparities; however, the inequity in completion rates has been partially explained by lack of academic preparation, limited access to career development opportunities, and minimal development of self-determination and self-sufficiency skills while in high school (Bassett & Kochhar-Bryant, 2006; Carter, Trainor, Cakiroglu, Swedeen, & Owens, 2010; Wagner, Newman, Cameto, Levine, & Marder, 2003).

For individuals with disabilities who are admitted to postsecondary institutions, satisfaction and persistence have been linked to perceptions of factors such as sense of belonging, self-advocacy and campus climate (Belch, 2004; Braxton, Hirschy, & McClendon, 2011; Fleming, Oertle, Plotner, & Hakun, in press). Promoting student persistence is a fundamental goal of postsecondary education leaders (Mamiseishvili & Koch, 2011). First year grade point average (GPA), participation in academic or social activities on campus, and use of certain accommodations have served as indicators of whether or not students with disabilities are thriving (Mamiseishvili & Koch, 2011). To promote persistence, further actions

1 Pennsylvania State University; 2 Utah State University; 3 University of South Carolina
can be taken to actively encourage the involvement of students with disabilities in all campus activities along with the proactive institutional attention to accessibility to facilitate the ability of students to participate (Mamiseishvili & Koch, 2011). While the process of determining college choice is exceedingly complex (Perna, 2006); it appears that for students who have determined that they will pursue postsecondary education, factors related to fit, availability of relevant resources, and perceptions of belonging and acceptance influence selection, and satisfaction and persistence once enrolled (Nora, 2004). Unfortunately, current research does not disaggregate data for students with disabilities, who likely have some needs and preferences that are similar to all other students and others that are more specialized.

Several researchers have aimed to describe the experiences of students with disabilities in higher education, using a range of approaches and often employing qualitative methodologies. Researchers have been able to extract barriers from student experiences (e.g., Agarwal, Moya, Yasui, & Seymour, 2015; Dowrick, Anderson, Heyer, & Acosta, 2005; Marshak, Van Wieren, Ferrel, Swiss, & Dugan, 2010; West et al., 1993; Yssel, Pak, & Beilke, 2016); and they have included issues such as those related to the environment and lack of accessibility, attitudes of faculty/staff and peers, and limitations of the students themselves that hinder academic performance. Suggestions to address these problems included bringing greater attention to issues of physical accessibility, increasing awareness of disability campus-wide, and strengthening students own self-advocacy and preparation for transition and college.

Colleges and universities have been increasing student supports in response to changing needs and demographics. To date, disability services are largely focused on providing accommodations to students and assisting institutions of higher education to meet legal requirements for access. Moving forward, development of more responsive and connected support services to meet the needs of students with disabilities and promote their self-advocacy may improve rates of persistence and graduation among this underrepresented student group (Fleming et al., in press). The full survey included questions about campus climate, satisfaction with the university, and use of campus services and resources. We also asked the following open-ended question, in order to allow respondents the freedom to address any issue they felt important for improvement.

We are interested in your perspective on how your school could better support students with disabilities. Please provide any suggestions you have related to the campus, classes, general student support, or disability specific support that you think would be an improvement.

One-hundred and thirty-two students responded with their suggestions (40% of survey respondents; 132/325). Given the purpose of this qualitative study, we included comments from as many survey respondents as possible in order to determine common suggestions or recommendations that may shape/improve college and university responsiveness to this growing population. These data were analyzed to answer this overarching research question: What do students with disabilities suggest that colleges and universities do to improve their experiences?

Student respondents provided a range of answers with some comments topping 1,000 words. A couple of respondents remarked on the topic itself, saying that more work in this area is necessary and implored us to read their whole response. For example, one
added “I am thankful for this survey so that maybe in the future more students like me can get the help and support that we need.” A few students followed up with emails to say how glad they were to be involved in this research effort or to express additional interest. Demographic characteristics of respondents are available in Table 1. Compared with the entire sample, students who chose to provide qualitative comments did not differ by gender, race or ethnic identity, disability type, year in school, satisfaction with their college choice, or reported grade point average. Students who provided comments were an average of three years older, and had experienced disability for an average of 4.5 years more.

Analysis Approach

We used inductive content analysis to analyze the students’ typed responses verbatim (Creswell, 2014). All three authors contributed to the content analysis either through coding (the first two) or serving as an auditor (third author). A four-step process was used: (1) identifying and defining broad themes; (2) identifying and defining categories within themes, (3) coding data, and (4) synthesizing the coded data in thick descriptions of the themes and underlying categories (see Figure 1).

The auditor reviewed the process and results of each stage, and the research team reached consensus through active dialogue prior to moving on. For example, with an intentional focus on revealing student suggested improvements, the data were reviewed independently by the first two authors when the broad themes were initially identified and written definitions for the themes were drafted. Then, after independent review of the themes and definitions, the two authors met, and used active dialogue and data review for evidence to confirm and/or dispute interpretations to build consensus and authenticity (Bohm, 2004; Isaacs, 1999; Whittemore, Chase, & Mandle, 2001). A written report was crafted capturing the results (i.e., the broad themes and supporting definitions). Next the auditor received the written report and met with the first two authors for debriefing. The auditor performed peer debriefing to establish credibility (Creswell & Miller, 2000). This debriefing provided support by challenging the assumptions and questioning the coding, analysis, and interpretations (Lincoln & Guba, 1985). The process of preliminary data analyzing, dialoging and data reviewing, interim report writing, auditing, and peer debriefing was repeated in each step and conducted over a span of several months. Throughout the process, team members were encouraged to consider their own biases and expectations as they related to the data and process (Whittemore et al., 2001). The process is described in more detail in the procedures section of this paper.

Biases and Expectations

All three authors have backgrounds in rehabilitation services (i.e., counseling; administration) and education. In addition, our experience working in postsecondary education ranges from six to sixteen years in a variety of roles such as educators, program directors, support services staff, and researchers. We expected that students would suggest improvements to disability services (more resources), express negative comments about instructors, and share specific examples of both positive and negative experiences with general campus access and in all areas of support for college students registered with their respective office of disability support services. Given our backgrounds, we consider ourselves to be student-focused and inclusive. However, each of us has faced challenging situations regarding access and accommodations. Our overall bias is that universities need to do a better job of supporting students with disabilities, particularly in providing a welcoming, universally accessible, and accommodating environment for students. Furthermore, universities need to enhance training to staff and faculty to maximize the success of students with disabilities.

Procedure

The qualitative comments were downloaded verbatim out of the online survey software (Qualtrics) into an excel file. The first two authors reviewed all comments separately and proposed broad themes reflected in statements. These themes were discussed and adjusted through a group process, where themes were finally agreed upon by all three authors. Definitions were developed, reviewed, and accepted by all three authors prior to coding. Once the themes were defined, the first two authors independently coded data into these broad themes. Then, coders met and discussed differences until consensus was reached on coding decisions. The third author served as an auditor, reviewing the codes and identifying any disagreement. All three authors met to discuss the auditor’s review and peer debriefing, and data were recoded as necessary until all parties agreed. Within the broad
themes, the first two authors reviewed the coded data separately and generated categories. These categories were discussed and agreed upon using a group process, and once consensus was reached authors generated definitions to use for further coding. These categories were checked by the auditor (third author) prior to coding. Data were coded into the categories by the first and second authors independently. Coders met to review classifications and addressed areas of inconsistency until agreement was reached on coding decisions. The third author audited these codes and all three researchers met to address areas of discrepancy. The auditor suggested revisions to the categories and recoding of some data. More specifically, some of the data that the first two coders had perceived as a respondent being dissatisfied with student supports were more accurately framed as “growth areas,” or services that the students wished they had, but were not offered. Through these group discussions, all three authors reached agreement on all data within themes and categories. The auditor also reviewed and provided feedback on the descriptions in the results as a final check. As a result of this final check, the category names were adjusted to reflect the nature of the suggestions made by the participants in response to our question prompt. Given the natural overlap between disability services, the academic experience, campus resources, and the campus environment (e.g., academic accommodations are implemented in the class setting through the instructor and instructors set classroom expectations) we made efforts to minimize any double coding in the data, focusing on the part that was most central. However, some responses were lengthy and contained separate statements about these themes and categories and thus were coded into more than one theme or category.

Results

Campus Resources, Academics, and Campus Environment were the three main themes that emerged in response to the research question: “What can colleges and universities do to improve the experience of students with disabilities?” Each main theme contained several underlying categories, with more specific suggestions or feedback stemming from the student’s experiences at their own college or university. The main themes as well as categories are displayed in Figure 2, and the corresponding narratives with students’ comments are presented from most to least.

Campus Resources

Nearly half of the students provided comments related to campus resources (65 of the 132 students providing comments or 49% of respondents). Colleges and universities must provide access and reasonable accommodations to qualified students with disabilities in order to adhere to federal legislation (Marshak et al., 2010). Campus resources, including disability services, are often made available as a mechanism to provide reasonable accommodations. Disability service availability varies widely by institution, and may include academic services (i.e., advisement and counseling, course load adjustments, priority registration, assistive technology, tutoring, reader and/or scribe, interpreter, and assistance with arranging accommodations with instructors); mobility (i.e., accessible transportation, priority parking, ensuring accessible spaces); housing or residential support (i.e., accessible housing, arrangement of supports for daily living needs); or other areas (Dutta, Kundu, Schiro-Geist, 2009). Additionally, campuses generally have student support services that are available to all students, not particular to students with disabilities, such as career preparation, academic supports, personal counseling, health promotion and medical care, transportation (to and off campus locations), and leisure / recreational opportunities.

Comments related to campus resources comprised the largest theme. Comments were coded into four categories within this broad theme. These categories included: (a) ways to improve disability services (35 comments by 25% of respondents), (b) requests for additional resources or suggested growth areas (20 comments or 15% of respondents), and (c) increase visibility and connectedness of campus resources (19 comments or 14% of respondents).

Ways to improve disability services. Comments that reflected a suggestion based on an observation or experience with disability services were coded into this category (35 comments). Thirty-three individuals (25%) provided responses in this area. The comments were relatively balanced between individuals reflecting positive (14 comments) and negative (21 comments) experiences. Two respondents whose comments described both positive and negative experiences were coded accordingly.

Dissatisfaction: Areas for improvement. The negative comments reflected student dissatisfaction with the services provided through the DRC or experiences with other campus resource staff. The sources of dissatisfaction noted by the respondents were that the
services were “unhelpful,” “lacked individualization,” or that staff lacked expertise in dealing with students with a particular type of disability issue or student population (e.g., veterans, individuals with chronic pain). Other student comments reflected a perception that staff treated them unfairly or with bias. One student explained a lack of individualized services, “Actually tailoring the accommodations to the individual needs and severity of the individual’s disability, rather than giving us cookie cutter plans,” and another student suggested, “create more accommodations that most importantly can be personalized since no student’s disability is just like another.” Another student reported mixed experiences with the DRC,

There are times where they are very supportive and hold good discussions with me. But then there are times where I feel like I am being judged and my evaluator doesn’t believe what I am saying. This has caused me to stop going to the DRC and look for alternative help.

Another student who reported a negative experience explained it this way,

I really wish that the disability services staff would realize that I am a strong student with significant academic goals. I am a math major with a 4.0 GPA currently taking a graduate math course in my junior year of undergraduate studies and keeping pace with the graduate students! I intend to go to graduate school and earn a Ph.D.

Others requested enhanced communication from the DRC during the school year to step in when needed, “Disability services should reach out more to the students that are registered. . . the advisor does not want anything to do with you if you have additional questions.”

Satisfaction: Actions to continue. Several (14 or 11%) students had positive comments related to their experiences with their campus DRC. Many expressed satisfaction with the type, amount, and timeliness of services received and used words like “helpful” and “caring” to describe interactions with staff. These comments reflect actions taken by disability services professions that students seem to really appreciate and value. For example, one student who was having trouble with campus accessibility and accommodations explained, “My disability center worker was very good, always got back to me on serious issues and contacted my professors when needed.” Another student reported, “The DRC is amazing with their support. I have no issues with their services they have been kind and caring in every way.” A student who had requested a desk to help with back pain had this compliment for the DRC, “I was extremely impressed with the prompt and courteous service I received at the disability resource center, and how quickly a standing desk was placed in my lecture room. Thanks!”

Requests for additional resources and suggested growth areas. Since the question was phrased asking for recommendations, it was expected that many students would provide suggestions for additional services that they believe would be beneficial, or growth areas for services that already exist. Twenty students (15% of respondents) provided comments in this area. Suggestions for additional services included: (a) access to counseling (adjustment to disability, or additional sessions with the counseling center) and other supportive type of services (e.g., recreation, career); (b) greater availability of testing accommodations including private and quiet rooms and proctoring sites; and (c) increased attention from faculty and staff across the university. Others suggested that the DRC itself needed additional resources to provide services that are already offered in a faster and more comprehensive manner. One respondent would like to see accessible sports and recreational opportunities on campus, “If you don’t already have sports and recreational opportunities for people with disabilities, you should consider adding some to your campus activities.” For students who are newly diagnosed, a student suggested that the DRC might expand supportive services, “being diagnosed in college is a tough experience that I never understood my disability, and I feel the university could provide more support to those [who] for the first time come to understand why they have weaknesses in different areas.” Another suggestion related to expanding disability awareness on campus, “the greatest benefit would be to have more support groups and trainings for people with disabilities and for non-disabled individuals to learn more about as well.” Other students called for enhanced resources, “having more resources to hire more people in the Disability Resource Center (DRC) would be nice it seems that there is not enough people during finals, registration and the first month of classes”, and “they need more rooms for accommodation, and ones with better sound proofing!”
Increase the visibility and connectedness of campus resources. Comments that reflected a need for greater knowledge of services available (and how to access them) and closer working relationships between staff from various campus resources were coded in this category (19 comments, or 14% of respondents). Students noted that the information about what constitutes a disability and would make one eligible for accommodations, as well as what accommodations and services are available to students with disabilities was unclear, unknown by many, and underutilized. The common suggestion was to make this information simple to digest and widely available so that more students may benefit. Increasing the visibility of the office of disability resources among campus resources and instituting connections with other services (e.g., career, counseling, tutoring) increases the number of college and university staff who are aware of disability resources on campus and may refer students. Likewise, disability resources may refer students for support that falls outside of their direct focus area but would complement other supports provided. Several noted that once they became aware of the services and accommodations that their experience with the university improved. Some student comments reflected a continued limited understanding of services and accommodations that are available. A few students lamented that they did not know about the services when first enrolled, “I wish I would have known about the disability services sooner in my college career. They have been a great help. Without their accommodations my teachers would not have taken my disabilities seriously.” Another explained how receiving disability services during this degree effort have made a difference:

My DRC adviser was very helpful and knowledgeable once I finally found out there was a DRC. She helped me find funding and get the accommodations in place. Her help and the help of a great academic adviser (who has also been great about my disability) is why this time I am leaving college with a degree and not just having to take a break. The support I have received have been the key for me being successful this time. I just wish I would have known about the services sooner and it would have saved me a lot of time... I didn't register when I first enrolled because I didn't realize it was a service that was available. If I would have known I would have taken advantage of it earlier and it most likely wouldn't have taken me so long to finish my degree.

Another type of comment in this area reflected difficulty and or frustration in locating services. For example, “It is rather difficult to know what services are offered or what I can do to help myself unless I were to go searching for it. After a long and complicated process, I was finally offered services.” Other students suggested that clarifying information that is available regarding accommodations would help, “Provide more clear information as to what accommodations can be made for certain disabilities. I feel many people who have disabilities do not know what kind of help they can actually get,” and

I would like to know and understand better ALL of the resources that I can use as a student with disabilities. I was very unaware who or what organizations I could turn to until this year. My advisor also did not know or understand any of these resources.

Along the same lines, a few students felt that locating resources would be easier if there was a closer working relationship between staff in the DRC and other campus services (e.g., the career center, the counseling center). For example,

I understand that these people [DRC staff] aren't counselors or therapists and that I should be using the Counseling Center instead of the DRC. But these two should be working hand in hand. It simply takes too much time and effort to coordinate activity between the two offices.

Another student suggested, “I do think there should be career services to help students with disabilities because we are at a disadvantage.”

Academic

A substantial portion of the student suggestions for improvement were in the area of academics (56 of 132 students providing comments or 42% of respondents). The academic experience crosses a few specific areas for students, including the course content, experiences with instructors, how courses are structured, and academic advisement. Dynamics such as class size, an in-person or online class, the extent to which the instructor is engaged and tries to get to
know students, and the students’ aptitude for and interest in classes can all impact student perceptions. For students with disabilities who are requesting accommodations, an additional layer is that the student must bring documentation of approved accommodations from the college or university disability services office to the instructor to negotiate accommodations (Garrison-Wade & Lehmann, 2009; Palmer & Roessler, 2000). For some students, this is the first time that he or she has to self-advocate in this area (Banks, 2014; Cory, 2011). Faculty and staff vary in their experience with and knowledge of classroom accommodations, as well as their attitude towards students requesting them and students with disabilities in general (Lombardi, Gerdes, & Murray, 2011; Marshak et al, 2010). Comments were coded into three major categories within this broad theme, including:

(a) improve experiences with instructors and advisors (35 comments or 27% of respondents), (b) improve access to accommodations (28 comments or 21% of respondents), and (c) develop methods of instruction and clarify classroom expectations (17 comments or 13% of respondents).

**Improve experiences with instructors and advisors.** Faculty and staff have an important role in improving the experience of students with disabilities. Comments that reflected an observation, suggestion, or experience related to instructors or academic advisors were coded into this category (35 comments). Comments could reflect a positive, negative, or neutral position, although far more comments reflected a negative interaction (27) than a positive one (7). One comment reflected both a positive and negative experience (e.g., some interactions have been positive, others negative), and two were neutral and posed simply as suggestions. Comments reflecting negative experiences with instructors or advisors described feeling as though the instructor was inflexible, had a negative attitude towards students with disabilities, did not provide the requested accommodations, or was not supportive. For example, a student reported,

> With interactions I have had with certain professors on this course I have felt a feeling of great judgment, and expressions or questioning of my character as to my intentions in seeking some extra help. I feel they thought I was just looking to work the system to improve my grades, or for easier curriculum adjustments to get better grades.

Others agreed, the biggest problem that I have encountered is that teachers are either not aware or not willing to willing to make necessary help available in their classes,” and “it starts with instructors, I worry that they think I’m working the system because I have disabilities that are not obvious, like blindness.” Another student stated,

> The majority of professors are seemingly incapable of comprehending that their methods of learning do not work for everyone, so they teach in a way that caters to their own style of learning and refuse to believe that they should change anything about their teaching methods.

This same student noted that the DRC is not in position to help because of the independent nature of individual instructors, “the Office of Student Disability Services does not help much because they are powerless to influence the choices of professors related to their teaching methods, grading policies, and general attitude.”

Several students described positive interactions with instructors and/or advisors, and these comments reflected gratitude towards faculty and staff who are accommodating and made efforts to be helpful to students. For example, “the testing center has been great about making my accommodations as well as my professors,” and “there are a few exceptional professors who would go far and beyond expectations to help me in more ways than I can thank them.”

**Improve access to accommodations.** Twenty-eight comments (21% of respondents) related to an experience with accommodations. These comments described requests, availability, and implementation of accommodations in class, on assignments, or for testing situations. In this category, nearly all of the comments related to experience with accommodations were negative (only one was positive). Complaints included accommodations taking too long to be implemented (and thus negatively impacting class performance), accommodations that are not individualized (e.g., related to disability type rather than personal situation), not available (e.g., no space in testing rooms), or encountering resistance from instructors. For example, one student noted, “It is most difficult to be placed and utilize [the University’s] methods to place a workable arrangement for my disabilities. I have suffered academically because of the frustration, stress, and down time.” Another noted problems getting physical accommodations met:
I had to send photos of our facility cubicles to the DRC because they do not meet the federal guidelines. I am very unhappy with our campus coordinator and our accommodations for those with disabilities or any that need special assistance and study help.

Other students noted lack of availability and wait times for accommodations, “getting things like audio versions of text books can take a few weeks,” “I am continually frustrated at having to beat my head against a wall to get any help in accessing course materials whatsoever, only to get a D- or fail,” and “I require note takers, but a lot of the time they never find someone for me, or the person isn't reliable about getting them submitted. Also teachers often (all of the time) forget to submit extra time for online tests/quizzes.”

**Develop methods of instruction and clarify classroom expectations.** Seventeen comments (13% of respondents) were about classroom instruction and course expectations, often sharing experiences or making suggestions to improve courses for students with disabilities. Several students expressed that the course format or method of instruction was incompatible or undesirable for their preferred learning style. Others noted that the instructor did not outline expectations to their satisfaction, and several students who are part of an online program expressed feeling disconnected or that the distance version was missing some of the features of the campus program, for example, a student noted,

In his classes I feel completely lost and unsuccessful. In all of my other classes I am passing fine but in his classes he does not clearly outline the expectations and how we will be graded so I end up failing his classes.

Another added that pacing can be a challenge,

The way math is taught is hard for someone like me with a math learning disability. They move through the information much too quickly for me, I can hardly keep up. I am smart enough to do it and to understand it; I'm just a little slow. It's almost impossible for me to pass if I go to school full time because of how long it takes me to do my homework.

Similarly, a student lamented, “physiology doesn't have any direction or outline so I have felt lost all semester.” One student complimented the distance classes as being helpful to ameliorate some disability issues that would have impeded his or her participation in live classes,

Online works really well for me because if I've seized and can't drive that day it's ok because I don't have to drive to class anyway I can just download it. The exams for the programs are usually open a week so if I can't take it the first day it's ok I have 6 more.

**Campus Environment**

Traditional foundations in education have focused on the needs of a core group of students, which has led to educational settings and methods with a homogeneous, core group in mind creating an environment full of barriers for many students (Hitchcock, Meyer, Rose, & Jackson, 2002). One student summed this point up perfectly, “in general, the school is geared toward the ‘normal’ mainstream student and hasn't taken the time to help or get to know students with disabilities.” Reflecting their experiences with environmental barriers, over a quarter (35) of the 132 student comments were for campus-wide environmental improvements. These comments were observations, suggestions, or difficulties with aspects of the campus environment, and were coded into two broad categories. These categories were: Increase disability awareness to promote inclusive attitudes (19 or 14% of respondents) and advance universal access and general accessibility (16 or 12% of respondents). With the exception of only two comments, no other comments were double coded within these broad categories. The two exceptions were made because these were lengthy comments that contained related but separate ideas.

**Increase disability awareness to promote inclusive attitudes.** Societal attitudes have limited people with disabilities resulting in low expectations and exclusion (e.g., Rubin & Roessler, 1995; Siperstein, Norrins, Corbin, & Shriver, 2003). Implicit biases toward others in our environments and lives have been repeatedly demonstrated and are pervasive. However, the consequences of these implicit biases can be minimized to create and maintain inclusive environments through educational initiatives, restructuring the decision-making process, and protecting against known
biases (Goldin & Rouse, 2000; Hagemann, Strass, & Leibing, 2008; Payne, 2006). The student voices shared in this study exposed attitudinal bias and expressed a lack of and/or limited disability awareness in their campus environments. Nineteen comments (14% of respondents) were coded under this category. These student comments were related to contextual and cultural sensitivities regarding disability definitions, causes, abilities, barriers, and choices. This category also contained expressions related to one’s sense of belonging or how they felt they were treated as a student who has a disability, and the personal consequences of these experiences. Moreover, comments coded under this category were calls for responsiveness to disability diversity and inclusion.

As a whole, students’ comments described negative attitudes using words such as “ignored,” “insignificant,” “misjudged,” “overlooked,” and “no voice” to express their perceptions of students with disabilities on their campuses. One student wrote, “this university . . . does not care about people with disabilities nor is it supportive of people's goals in life if they are disabled (sic). They are very judgmental and doubtful of one’s abilities if one has a disability.” Another student wrote,

I was disheartened when I was told I should avoid provoking my professors' resentment by not asking for specific treatment due to my illness. That greatly discouraged me from pursuing support from them. I was told about this problem of resentment when getting testing at the Counseling and Psychological Services center. It made me afraid of how many of those with whom I interact on campus believe I am faking or exaggerating. Being told this, and being told that indulging in support services would fuel a surrender to the debilitation caused by my illness, added shame and guilt to asking for help.

These comments were not only directed toward the attitudes of the professors and staff but toward the campus at large as well. Referencing attitudes experienced when working with campus disability services, one student wrote, “The fact that they [disability services] also told me I couldn't keep my service dog on the grounds, makes me very uncomfortable. I feel like I don't have a voice at all in this school. I feel like my problems are not being taken seriously.”

One surprising comment was specific to supporting staff with disabilities going to school, writing “I did not receive support from HR.” However, more commonly mentioned was wanting broadly “more awareness and consideration about people with disabilities,” and “I think it is important to bring more awareness about the issues of college students with disabilities.” One student noted a consequence of a lack of awareness of disability in the classroom, “I think teachers aren’t always aware of what our disabilities are or why we need help.” Students indicated that the “invisibility” of their disabilities was negatively impactful on the attitudes they encountered. Specifically addressing non-visible disability awareness, students wrote these statements, “Professors and teacher’s assistants need to be further educated on non-visible disabilities.” and “If you have a visible disability, everyone is very nice to you. If it’s not visible, the world does not want to know that it exists.” Psychiatric and mental health disabilities were given as examples of non-visible disabilities.

Suggestions for improvement included developing professors’ awareness of “all disabilities not just the common ones such as ADHD,” “training on how to deal with disabled students,” “more support groups and trainings for people with and without disabilities” to learn more about each other, giving “professors write-ups about the disability . . . what it is and what can help,” and “education about how to help those who are struggling to feel supported.” One student wrote this suggestion, “allow caution and empathy to find a balance within the university community, but it’d be great to lose that extra measure of anxiety over asking for help.”

Advance universal access and general accessibility. The sixteen comments (12%) that were coded under the category of universal access/accessibility were defined as comments related to the ease of getting around campus, transportation, parking, bathrooms, or other facilities. These campus spaces must be accessible due to the Architectural Barriers Act of 1968, the first piece of legislation to address physical barriers that prevented people with disabilities from accessing buildings. Expanding access, the ADA and the Rehabilitation Act and their Amendments ensured the civil rights of "qualified" students with disabilities to equal access to postsecondary education. Universal design is defined by the usability of products and environments by all people to the greatest extent without modifications, add-ons, or specialized designs.
The availability of ramps, elevators, curb cutouts, and signage with Braille and other languages in addition to English are all examples of universally designed architecture (Hitchcock et al., 2002; Pisha & Coyne, 2001). Yet the students in this study largely described accessibility negatively by using words such as “inadequate,” “completely inaccessible,” and “without equal access to this campus and its labs.” Three students specifically described inaccessibility related to the entry push buttons and ramps to building on campus. One distance student expressed inaccessibility related to the on-site facilities and access to academic advising using the word, “horrible” to describe both. Referring to strategies used to address commonly experienced classroom inaccessibility, one student described getting into class like this:

Many of my classes [are] on the 3rd floor and [the building] only has 2 freight elevators. I am unable to open the manual (heavy) exterior doors and injured myself in trying. This semester I have 2 classes in that building and the only option is to have the secretary assist me up to my class. Sometimes she is not available, so is unworkable on those days. I have the class teacher or student assist me back down the elevator. That works well.

Suggestions for improvement included “more parking,” “more unisex bathrooms...for transgender population to use,” considering disability accessibility intentionally in “the campus master plan,” having “sports arenas with better wheelchair student accessible seating,” “more [larger sized] chairs and tables” in the classrooms, and addressing the issues of mobility and logistics within and between buildings including the distance between bathrooms and classrooms, repairing sidewalks, and having Braille markings for room numbers and elevator panels. One student put it this way, “The facilities personnel could be more responsive to requests to repair such items as the sidewalks or putting Braille markings on room numbers or elevator panels.” This student adds, “All the computer labs should contain accessible computer technology.” Another student offered these suggestions to improve overall accessibility on-campus:

Both sports arenas need better wheelchair student seating. It actually currently does not even exist. The only wheelchair accessible seats are for full price ticket holders. I believe it is our right as a student to be able to go to a basketball or football game regardless if we use a wheelchair. Also when new buildings are being built on campus the automatic door opener buttons needs serious thought put into them when they are being placed. I've had numerous issues with the buttons being totally unreachable.

Discussion

The purpose of this exploratory study was to identify, from students themselves, what colleges and universities can do to improve the experience for students with disabilities. The findings from this study are consistent with others reflecting barriers experienced by students with disabilities, including accessibility problems, negative attitudes of faculty and peers, and a need to address disability awareness (Agarwal et al., 2015; Dowrick et al., 2005; Marshak et al., 2010; West et al., 1993; Yssel et al., 2016). Taken together, the participants from our sample added to our understanding by providing suggestions for ameliorating some of these issues, as well as clarifying positive aspects of existing services.

Student respondents provided many suggestions for improvements, as well as commentary on their perceptions of the present state. The results were mixed—some students were generally satisfied with their experiences with instructors, advisors, and disability-related services. Others, however, expressed frustration with their experiences, were unsatisfied with how they were treated by university faculty and staff and peers, wished that different services were available, or that the process itself was changed. Themes emerged from the data related to campus resources, academics, and the campus environment, and students recounted their experiences and made suggestions in each of these three areas. These results have implications for student services and campus resources, and how colleges and universities can better respond to a growing number of students on campus reporting disabilities.

Students expressed both satisfaction and dissatisfaction with campus services and resources. The comments that were complimentary of staff and programs reflected a feeling of caring, individuality, and responsiveness to student needs. It was clear that the time and effort put forth by disability resources staff is recognized and appreciated by these students, and that when staff are able to implement accommodation
requests and order necessary equipment in a timely manner, students benefit. Students valued having a personal connection and someone who is available to answer questions and provide expertise when needed. On the other side, students who felt that their services were not individualized to their needs, interactions with staff were impersonal, and/or they were not treated with care or respect were unhappy with their experiences. Another source of negative experiences was the perception that faculty and staff viewed students as less competent because of disability status, and the wish that there was greater recognition for academic accomplishments and future goals. Some dissatisfied respondents described how they withdrew from the office, meaning that they did not utilize the services and handled their needs on their own terms. By some, this was presented with the acknowledgement that grades or personal well-being may have suffered as a result. A few students shared several experiences and contrasted service and encounters that they perceived as "positive" with those perceived as "negative" and attributed differences in academic performance to their experiences. While most disability service offices do satisfaction surveys or other evaluations regularly, students who have withdrawn may or may not participate in these data collection efforts and thus may not be counted among the voices heard. It is useful to have an opportunity that is external to the office and presumably unbiased for students to share their experiences as well.

These comments support the value of the disability resource office, as well as the importance of the work of individual staff working with students. There are no universally accepted requirements or professional preparation for disability support professionals, and consequently, professionals come to their positions with a range of education, experience, and understanding of and perspective on disability (Guzman & Balcazar, 2010). From an institutional standpoint, the Office of Disability services is often the most obvious point of contact on disability issues on campus. The model of disability most closely illustrated through services and resources contributes to the campus culture relative to disability. The Journal of Postsecondary Education and Disability released an issue in 2010 (Volume 23, Issue 1) where authors proposed a social justice perspective to disability services, and provided insights and recommendations on how the traditional model for services might be modified and reframed to promote social justice, remove barriers to services that are maintained by eligibility processes based on the medical model of disability, and promote inclusion for all students (Guzman & Balcazar, 2010; Kroeger, 2010; Loewen & Pollard, 2010). When disability is considered as a negative, or a weakness that must be addressed (consistent with the medical model), discrimination and oppression of individuals with disabilities is continued (Loewen & Pollard, 2010). In our sample, students commented negatively about interactions with university staff, faculty, and peers that underestimated their potential, or stigmatized disability status. Shifting the approach of counselors from mitigating disability-related problems to facilitating equity and access requires a personal connection, presumption of competence, and person-centered approach, not unlike those complemented by student respondents.

Visibility of disability services was also a recurring theme in the responses, as was the perception of attitudes toward disability on campus and need for disability awareness. These issues may be interrelated. Several respondents noted that they were not aware of the services when they first enrolled, and the general theme in those comments was that they wished that they were aware sooner. Comments reflected a belief that accommodations or other services have been valuable, and for many have helped them earn better grades and continue enrollment. Even among students in our sample who are currently registered with the Office of Disability Services, there seemed to be some continued confusion about what services were available, what accommodations they could request, and other information that would be valuable to them. This leads us to believe that in the general student population there is probably even less understanding of these supports and the process for becoming involved. Possible actions that Disability Support Offices might consider is working along with the admissions office to make sure that all students receive information and that it is part of recruiting materials. Making this information known to all sends the message that disability is welcomed and appreciated on campus, and that everyone is involved in addressing issues of access (Funckes, Kroeger, Loewen, & Thornton, n.d.). The name of the office or resource that addresses disability and accommodations and how it is advertised sends a message to all students and community members about how disability is conceptualized and valued. When the office is separate and apart from other student support services on cam-
gested the DRCs themselves need additional funding and resources to be able to fill their roles more effectively. Long wait times, difficulty arranging accommodated exams, and lack of individual attention from a counselor were provided as examples of the consequences of inadequate resources. In addition to what is typically available, some respondents offered areas that they would appreciate some additional support. Suggestions for additional services included access to counseling (adjustment to disability, or additional sessions with the counseling center), designated resources for students with disabilities that are typically available to all students (recreation, career counseling, and preparation), improved facilities to advance universal access, and increased attention to disability from faculty and staff across the university. Since students with disabilities pay the same fees as all other students, ensuring that these other resources – particularly those related to health promotion, recreation, and career development – are designed so that students with disabilities can participate right alongside their peers is a serious equity issue (Devine, 2013).

The results of this study, while interesting, must be understood within the context of a few limitations. First, our sample was recruited through outreach through DRCs and all respondents were volunteers. While their comments were in many ways consistent with the current literature in this area, we cannot generalize their responses to all students with disabilities, especially those who are not registered with the Disability Service Office. Additional studies should target students who have not self-identified with their college or university to find out more about their needs and suggestions. The analysis performed by our research team was pursued carefully, however, as with any qualitative approach, alternative interpretations of the results may have been drawn by other researchers. We attempted to be transparent about our biases and expectations by sharing them with each other during coding, and with the reader in the manuscript itself. Future work with other participants and different research teams is needed to check and extend our findings.

Conclusions and Future Areas of Research

Participants provided suggestions for how colleges and universities can better address the needs of students with disabilities. Recommendations ranged widely, with comments on campus resources, academics, and the more general campus climate.
towards disability and level of accessibility. Some students complimented DRC staff and faculty and advisors for their attention and efforts to work with them, while others raised concerns about how well their university is prepared to accommodate students with disabilities. These comments provide concrete suggestions for colleges and universities who are interested in retaining qualified candidates with disabilities. Future areas of research might include focusing on the suggestions of students with particular types of disabilities (e.g., mental health, learning, physical or health related) to get a better understanding of patterns of need for students with particular disability-related issues. Assessing the university more comprehensively for campus climate related to disability would also serve as an important basis of comparison for these student perceptions.

References


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Table 1

Demographics

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*Figure 1. Steps in Content Analysis Process.*
Figure 2. Themes and Categories for Improvement.
Cognitive Flexibility and Its Relationship to Academic Achievement and Career Choice of College Students With and Without Attention Deficit Hyperactivity Disorder

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Abstract
The purpose of this study was to investigate the relationship between cognitive flexibility, academic skills, educational trajectories, and career goals of college students with and without Attention Deficit Hyperactivity Disorder (ADHD). Participants completed a demographic questionnaire, objective and subjective measures of cognitive flexibility, and tests of academic achievement. Cognitive Flexibility predicted academic achievement; reading skills increased as subjective cognitive flexibility increased and as the tendency to perseverate (i.e., to stick with an ineffective strategy) on the Wisconsin Card Sorting Test decreased. Objective cognitive flexibility also predicted mathematical and writing skills. Although students with different college majors did not vary significantly in their cognitive flexibility, the interaction between cognitive flexibility and ADHD shared a significant relationship with career confidence. Our results expand on the literature examining cognitive flexibility and have implications for both academic and career planning, particularly for students who may struggle with attention.

Keywords: Attention Deficit Hyperactivity Disorder, cognitive flexibility, academic achievement, career choice, career confidence

Cognitive flexibility has been described as the ability to switch thoughts between two different concepts, to think about multiple concepts simultaneously (Scott, 1962), or to select among multiple representations of an object, multiple strategies, or multiple tasks given specific or changing situations (Jacques & Zelazo, 2005). It is an important aspect of executive functioning at all stages of the life span (Bakos et al., 2008; Pureza, Jacobsen, Oliveira & Fonseca, 2011) and appears to rely heavily upon dopamine levels in the prefrontal cortex (Dreisbach & Goschke, 2004). The ability to switch between modes of thought and to simultaneously consider multiple concepts is a vital component of learning, language development (Deák, 2004; Jacques & Zelazo, 2005), arithmetical skills (Bull & Scerif, 2001), interpersonal communication (Rubin & Martin, 1994), communication self-efficacy, assertiveness, responsiveness, (Martin & Anderson, 1998), multi-tasking, (Ionescu, 2012), decision making (Dunleavy & Martin, 2006), problem solving and creativity (Lin, Tsai, Lin, & Chen, 2014; Ritter et. al., 2012), willingness to collaborate, and leadership (Reiter-Palmon, 2003). Although many of these skills may overlap with or influence those necessary to succeed in academic environments, the relationship between cognitive flexibility and the academic achievement of different types of students has not been directly examined in the literature. Thus, we designed the current study to investigate cognitive flexibility in the context of a postsecondary academic setting. We had two primary aims: (1) to identify the differences in cognitive flexibility across college students based on the diagnosis of Attention Deficit Hyperactivity Disorder (ADHD) and gender, and (2) to investigate the relationship between cognitive flexibility and academic achievement, choice of college major, and future career goals in the collegiate population.

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Factors that Influence or Could Influence Cognitive Flexibility

Cognitive flexibility develops rapidly from preschool years through early adolescence (Anderson, 2002) and can be impaired in individuals who have suffered significant stress in childhood such as living in orphanages, living in poverty, or being victims of neglect or abuse (Clearfield & Niman, 2012; Hostinar, Stellern, Schaefer, Carlson & Gunner, 2012; Spann et al., 2012). Cognitive flexibility can also be negatively impacted by childhood medical and psychological conditions. Past research has documented decreased cognitive flexibility in children with traumatic brain injuries (Anderson & Catroppa, 2005; Brooks et al., 2016; Milders, Ietswaart, Crawford, & Currie, 2008), eating disorders (Sarrar et al., 2011), obsessive compulsive disorders (Britton et al., 2010), and autism spectrum disorders (Kaland, Smith & Mortensen, 2008; de Vries & Geurts, 2012). More relevant to the current purpose, two past studies found that children diagnosed with learning disabilities or attention deficit disorders are lower in cognitive flexibility than their peers without these learning differences (Geurts, Verté, Oosterlaan, Roeyers & Sergeant, 2005; Marzocchi et al., 2008).

Although research has identified cognitive flexibility differences in groups of children and adolescents with differing backgrounds and diseases, past research has not focused on how the personal characteristics of college students may correlate with their cognitive flexibility. Moore (2013) examined the links between cognitive flexibility and other cognitive domains in college students and found that increased cognitive flexibility is associated with self-regulation of attention and mindfulness. This suggests that students with attentional regulation difficulties may also be less cognitively flexible. One group of college students who struggle with attentional regulation are those with ADHD. Numerous longitudinal research studies have shown that the symptoms of ADHD, which emerge during childhood, may continue into adulthood and commonly interfere with time management, language comprehension, academic performance, and daily problem solving (Barkley, 1998; Shekim, Asarnow, Hess, Zaucha & Wheeler, 1990). Thus, it is possible that the cognitive flexibility deficits that Geurts et al. (2005) and Marzocchi et al. (2008) documented in children with attentional deficits also persist into the collegiate or adult years (Cubillo et al. 2010; Harpin, 2005).

Gender may also influence cognitive flexibility amongst college students. Most past studies of cognitive flexibility in this population have included both men and women as participants, but they have not directly evaluated gender differences when analyzing their results. One exception is a study by Kim and Omizo (2006) that examined cognitive flexibility’s influence on acculturation of men and women college-age immigrants. They included gender as a factor in their analyses, and they did not find any gender differences in cognitive flexibility in the Asian-American students in their study. This does not, however, rule out gender differences in college students in general. Thus, we also assessed the relationship between gender and cognitive flexibility in our study.

Cognitive Flexibility and the Academic and Career Paths of College Students

Although past studies have not focused on academic achievement, prior research with college students has demonstrated that increased cognitive flexibility relates to lower levels of anxiety, higher levels of motivation and success in training programs (Timarova & Salaets, 2011), positive perceptions of group work (Myers et al., 2009), bilingualism (Teubner-Rhodes et al., 2016), and lower levels of distress and avoidance among collegiate women with post-traumatic stress disorders (Palm & Follette, 2011). These findings, together with those that indicate that cognitive flexibility impacts learning, language development (Deák, 2004; Jacques & Zelazo, 2005), and math skills (Bull & Scerif, 2001), suggest there could be a link between cognitive flexibility and achievement in academic settings.

Beyond academics, cognitive flexibility could affect the extent to which college students consider different academic paths and explore various career options during their undergraduate years. Adams, Hean, Sturgis, and Clark (2006) found that first-year college students who are higher in cognitive flexibility report stronger professional identity than those lower in cognitive flexibility. These findings suggest that cognitive flexibility could affect career choice and confidence, at least at certain points in students’ collegiate education since the Adams et al. (2006) study specifically focused only on first-year students and only on students enrolled in a pre-professional health and social care program. Thus, we sought to assess whether a broader group of undergraduate students with higher versus lower levels of cognitive flexibil-
ity tend towards particular academic paths, choose to pursue particular careers, and experience different levels of confidence in their career choice.

**Purpose of the Current Study and Hypotheses**

Young adults with ADHD are enrolling in postsecondary education in increasing numbers (Henderson, 1999; Wagner & Blackorby, 1996). ADHD affects 4% to 11% of the college student population (DuPaul, Gormley, & Laracy, 2013; Heiligenstein, Conyers, Berns & Smith, 1998; Robin, 1998; Weyandt, Linterman & Rice, 1995), with recent national norms indicating a prevalence of 5.9% amongst 2014 freshmen across a variety of baccalaureate institutions (Eagan et al., 2014). The Americans With Disabilities Act Amendments Act ([ADAAA], 2008) and Section 504 of the Rehabilitation Act prohibit discrimination against students with disabilities. Despite these mandates, college students who have ADHD are more likely to be on academic probation, have a lower grade point average, report more academic problems, and fail repeatedly than students without this disorder (Heiligenstein, Guenther, Levy, Savino & Fulwiler, 1999; Tominey, 1996; Vogel & Adelman, 1992; Weyandt et al., 2013; Wilczenski, 1993). College students with ADHD also report greater fatigue and feelings of being overloaded in their role as a student than their non-ADHD counterparts (Bolton, Hughes, & Kessler, 2008), perhaps due to having fewer coping strategies (Kaminski, Turnock, Rosén, & Laster, 2006).

As a result of these academic difficulties, young adults with a history of ADHD show lower levels of academic and occupational attainment than young adults without such history (Kuryian et al., 2013). Thus, identifying specific patterns of cognitive challenges associated with this disorder, such as cognitive inflexibility, and understanding how it affects academic achievement can provide knowledge necessary for developing non-medical interventions that have the potential to positively impact both students with ADHD and the faculty educating them, as well as for guiding students with ADHD towards appropriate educational and career goals. We designed this study to assess cognitive flexibility across college students, with a goal of determining whether personal characteristics such as a diagnosis of ADHD and gender relate to levels of cognitive flexibility in undergraduate college students. Additionally, we examined the relationship between cognitive flexibility and academic achievement, choice of college major, and future career goals. We hypothesized that men and women would be similar in their levels of cognitive flexibility, but that students with ADHD would be less cognitively flexible than those without the disorder. We also expected students higher in cognitive flexibility to perform better on tests of academic achievement, to pursue a greater number of majors and minors during their college careers, and to be more confident in their career goals than students lower in cognitive flexibility.

**Method**

**Participants**

After obtaining Institutional Review Board approval from the university, we invited college students with and college students without an ADHD diagnosis to participate in this study. We advertised the study via posters, online announcements to the full campus community, emails distributed through a list-serv managed by the university’s Student Disabilities Services (SDS) Office, and postings on an online research participation management system used by the Department of Psychology. To qualify for the study, individuals had to: (a) be a college student, (b) be 18 years of age or older, and (c) voluntarily consent to participate after being informed of all study procedures. Because of the emphasis on academic achievement, any student diagnosed with a verbal or non-verbal learning disability was excluded from the study, regardless of whether or not they had ADHD. Even though there is a high rate of comorbidity between ADHD and specific learning disabilities (DuPaul et al., 2013), we chose to exclude students with learning disabilities because learning disabilities would necessarily lead to lower scores on selected academic achievement outcome measures and could easily confound the potential relationship between cognitive flexibility and academic skills. Students with ADHD who volunteered to participate provided written documentation of their diagnosis approved by the SDS office. The documentation included a medical record review conducted by the SDS office and a structured clinical interview form that included DSM-IV criteria for ADHD that was completed by a physician or a clinical psychologist. Those not registered with the SDS office provided a current prescription for an ADHD medication or a formal testing report. Students who had inadequate documentation or reported only a past history of ADHD symptomatology with-
out a current diagnosis were excluded from the study. Ninety two percent of our ADHD participants reported being prescribed a medication to treat ADHD, and 88% reported taking at least one medication to treat their ADHD symptoms on most weekdays. We did not instruct participants to alter their medication routine in any way as part of their participation in this study. All student participants received either $30 or extra credit applied towards a psychology class in compensation for their time.

Table 1 summarizes the demographic characteristics of the 55 participants who volunteered for our study. Although the men in our sample were slightly older than the women, this difference did not reach significance ($F(1, 51) = 3.30, p = 0.08$), and all participants were typical college student age, men range = 18-22; women range = 18-22. All groups were statistically equivalent in their level of education, with the average student participant being in their sophomore year at the time of the study. As expected, students with ADHD reported more ADHD symptomatology on the Conner’s Adult ADHD Rating Scale than students without ADHD (all $ps < .01$; see Table 1). Significant gender differences emerged on two CAARS subscales, DSM Inattention: $F (1, 51) = 3.89, p = .05$ and the ADHD Index: $F (1, 51) = 4.14, p < .05$. Male participants reported more inattention than female participants, but females scored higher than males on the overall ADHD Index.

Materials

Demographic and academic questionnaire. This questionnaire asked participants for basic information about themselves such as their age, gender, years of education, and race. Students with ADHD also provided their age at diagnosis, their ADHD medication regimen, and an indication of whether or not they were registered for and were receiving academic accommodations through the SDS office. On the academic portion of this questionnaire, all participants indicated their past and current academic majors and minors, their future career goals, and their personal confidence ($1 = “Not at all sure” to 10 = “100% sure”) in their planned career path.

Conners' Adult ADHD Rating Scale ([CAARS]; Conners, Ehrhard & Sparrow, 1999). The CAARS is a reliable and valid self-report measure of ADHD symptoms for use with adults. Participants rated themselves on 66 behaviors and characteristics commonly associated with ADHD. Scores total onto several primary subscales, each of which is normed by age and gender. For the purposes of this study, we focused on four subscales that represent the DSM-IV criteria for ADHD: DSM Inattention, DSM Hyperactivity, DSM Total, and the ADHD Index. Each of these subscales results in a T-score ($M = 50, SD = 10$).

Woodcock Johnson Tests of Achievement-Third Edition (Woodcock, McGrew & Mather, 2001). The Woodcock Johnson is a battery of academic achievement measures designed for individuals ages 2 to over 90 years of age. Participants completed the Standard Battery, which includes twelve subtests that provide a broad set of scores primarily in the domains of reading, spelling, writing, and mathematics, as well as the academically-related skills of understanding directions, learning, and memory. Scores on each subtest are normed for age and gender and result in a Standard Score ($M = 100, SD = 15$).

Cognitive Flexibility Scale ([CFS]; Martin & Rubin, 1995; Martin & Anderson, 1998). This subjective measure of cognitive flexibility consists of 12 statements that participants rate on a 6-point scale ranging from 1 = “Strongly Disagree” to 6 = “Strongly Agree” to indicate the extent to which they feel the statement describes them. Example items include: “I can communicate an idea in many different ways,” “I avoid new and unusual situations,” and “I have many possible ways of behaving in any given situation.” Some items are indicative of high cognitive flexibility whereas others represent a lack of (reverse scored). This scale has high internal reliability and supporting validity (Johnco, Wuthrich, & Rapee, 2014; Martin & Rubin, 1995). The responses are totaled to determine an overall score that can range from 12 (low cognitive flexibility) to 72 (high cognitive flexibility). Cronbach’s alpha for this measure in our study reflected acceptable reliability ($\alpha = .742$).

Wisconsin Card Sorting Test ([WCST]; Heaton, 1993). The WCST, an objective assessment of cognitive flexibility, measures complex problem-solving abilities. Participants completed this computer-administered measure following standardized test procedures. Scores on this measure included: total number of correct sorts, total errors, non-perseverative errors (changing the sorting rule to another incorrect rule after an incorrect or a correct sort), perseverative responses (using the same sorting rule as the previous trial regardless of whether it was correct or incorrect), perseverative errors (using the same sorting rule as the previous sort, even though it was incorrect on the
previous trial), trials to complete the first category (number of sorts required to determine and consistently apply the first rule) and set failures (changing the sorting rule after a correct sort rather than sticking with the rule that worked). We used a number of perseverative responses and number of perseverative errors as indicators of cognitive flexibility, with increased perseveration reflecting less cognitive flexibility. These scores have been used by other researchers as measures of cognitive flexibility (Delahunty, Morice & Frost, 1993; Geurts et al., 2005; Kaland et al. 2008; Tchanturia et al., 2012). Unfortunately, due to a computer error, scores on the WCST were missing for eight participants.

**Results**

**Cognitive Flexibility, ADHD, and Gender**

Before examining whether male and female students with and without ADHD differ in their cognitive flexibility, we correlated scores on the Cognitive Flexibility Scale with perseverative responses and perseverative errors from the WCST to determine whether our subjective and objective measures of cognitive flexibility were assessing the same construct. Subjective cognitive flexibility did not significantly correlate with either the number of perseverative responses ($r (47) = .14$) or the number of perseverative errors ($r (47) = .15$) students made on the WCST. Because these two measures of cognitive flexibility did not relate to each other in the way we expected, we continued to examine subjective and objective cognitive flexibility separately in all analyses.

We next ran a series of 2 (Group: ADHD vs non-ADHD) x 2 (Gender: male vs female) between-subjects ANOVAs to explore whether an ADHD diagnosis or gender related to subjective or objective cognitive flexibility. Table 2 summarizes scores on the subjective and objective measures of cognitive flexibility. On the Cognitive Flexibility Scale, there was no significant gender main effect nor a group by gender interaction. Although students with ADHD reported that they were less cognitively flexible than their non-ADHD peers, this group main effect also failed to reach statistical significance, $F (1, 51) = 2.94, p = 0.09$. No significant main or interaction effects were apparent on the objective WCST measures of cognitive flexibility.

To look at the relationship between cognitive flexibility and symptoms of ADHD in another way, we calculated the correlations between subjective and objective cognitive flexibility and self-reported ADHD symptomatology on the CAARS across the whole sample. Because this analysis involved calculating twelve correlation coefficients, we applied a Bonferroni correction to our critical $p$ value to protect against a Type 1 error (Bonferroni-adjusted critical $p = .05/12 = .004$). We found significant relationships between subjective, but not objective, cognitive flexibility and self-reported ADHD symptoms. Students higher in DSM Inattention described themselves as less cognitively flexible that those lower in DSM Inattention ($r (55) = -.57, p<.001$). Similarly, those who reported more ADHD symptoms overall also described themselves as less cognitively flexible (DSM Total: $r (55)$

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**Procedures**

After providing informed consent, participants completed one individual testing session lasting approximately 2-2½ hours in a quiet, distraction-free environment. Research assistants trained in test administration and supervised by a clinical neuropsychologist administered all measures associated with the study. Student participants completed the Demographic and Academic Questionnaire, followed by the two subjective self-report measures—the CAARS and the Cognitive Flexibility Scale, in that order. Next, they completed the 12 subtests of the Woodcock Johnson Tests of Achievement, Third Edition Standard Battery. Finally, the session concluded with the computerized administration of the WCST. After administration of each of these measures, we thanked participants and either paid them $30 or awarded them extra credit in a psychology class for their time.

**Data Analysis**

We utilized the computerized scoring program that accompanies the Woodcock Johnson Tests of Achievement, Third Edition to transform raw scores into standard scores on that measure. We also relied on the computerized scoring of the WCST. After all of the tests were scored and scores were entered into a database, we used SPSS to analyze our data. For group comparisons, we used two-way analyses of variance (ANOVAs), with an alpha level of .05. To examine the association between cognitive flexibility and academic achievement, we used stepwise regression analyses with alpha again set to .05.
DMS Hyperactivity did not share a significant relationship with subjective cognitive flexibility (r (55) = -.20), nor did any of the correlations between the four ADHD subscales and the two measures of objective cognitive flexibility reach significance (r (47) range = -.07 to -.14, all ps > .35).

Cognitive Flexibility and Academic Achievement

To examine the potential interaction between cognitive flexibility and ADHD as a potential influence on students’ academic and career paths, we applied a median split to scores on the Cognitive Flexibility Scale to classify participants into those with low subjective cognitive flexibility (n = 26) and those with high subjective cognitive flexibility (n = 29). We then ran a series of 2 (Cognitive Flexibility: low vs high) x 2 (Group: ADHD vs controls) between groups ANOVAs with (1) total number of declared majors since starting college, (2) total number of declared majors and minors since starting college, and (3) career confidence as outcome variables. Although students with ADHD had fewer declared majors on average (M = 1.44, SE = .14) than their non-ADHD peers (M = 1.76, SE = .15), this difference did not reach statistical significance, F (1, 50) = 2.91, p = .09. Neither cognitive flexibility (F (1, 50) = 1.09, p = .30) nor its interaction with ADHD diagnosis (F (1, 50) = .055, p = .83) was associated with number of declared majors. Similarly, none of the main (Cognitive Flexibility: F (1, 50) = 2.07, p = .16; Group: F (1, 50) = 1.93, p = .17) or interaction (Cognitive Flexibility x Group: F (1, 50) = .08, p = .78) effects reached significance for total number of declared majors and minors. Although neither of the main effects reached significance for career confidence (Cognitive Flexibility: F (1, 51) = 0.50, p = .48; Group: F (1, 51) = 0.77, p = .38), Cognitive Flexibility and ADHD interacted to significantly affect career confidence, F (1, 51) = 5.03, p < .05 (See Figure 1.) Students with ADHD who were high in cognitive flexibility reported feeling less confident in their career choice (M = 7.18, SE = 0.71) than students with ADHD who were low in cognitive flexibility (M = 8.53, SE = 0.42), whereas non-ADHD students with lower subjective cognitive flexibility were less confident in their chosen career path (M = 7.91, SE = 0.46) than non-ADHD students with higher subjective cognitive flexibility, M = 8.61, SE = 0.28.

Discussion

This study had two primary objectives. The first was to identify whether male and female college students with or without attention deficits differ in their
cognitive flexibility. We examined both subjective cognitive flexibility (self-reported on the Cognitive Flexibility Scale) and objective cognitive flexibility (indicated by perseverative tendencies on the Wisconsin Card Sorting Test). We did not document any gender differences in either subjective or objective cognitive flexibility in the students in our sample. Men and women college students were similar in their subjective cognitive flexibility on the Cognitive Flexibility Scale, and they were similar in their tendency to perseverate on the WCST. Thus, our study suggests that men and women college students do not differ substantially in their cognitive flexibility, consistent with the past findings of Kim and Omizo (2006) who also found similar levels of cognitive flexibility across male and female Asian American college students.

We did, however, find some evidence to suggest that attention deficits may be associated with decreased cognitive flexibility. When we directly compared the subjective and objective cognitive flexibility of students with ADHD to that of their non-ADHD peers, we did not find any significant differences between the two groups of students, nor did a diagnosis of ADHD interact with gender to affect cognitive flexibility. However, when we looked at the relationship between ADHD symptomatology and cognitive flexibility across the entire sample, rather than classifying students based on an ADHD diagnosis, both symptoms of inattention and overall symptoms of ADHD were significantly associated with decreased cognitive flexibility. Thus, students who endorsed inattention or other ADHD symptoms also tended to believe themselves to be less cognitively flexible, regardless of whether or not they were officially diagnosed with an attentional disorder. This result suggests that future work should continue to explore the relationships between diagnosed and undiagnosed attention deficits and cognitive flexibility. Cognitive flexibility is essential to many academic and non-academic college tasks such as learning, interpersonal communication, assertiveness, collaboration, leadership, multi-tasking, problem solving, and creativity (Bull & Scerif, 2001; Déak, 2004; Dunleavy & Martin, 2006; Ionescu, 2012; Jacques & Zelazo, 2005; Martin & Anderson, 1998; Reiter-Palmon, 2003; Rubin & Martin, 1994).

Although cognitive flexibility is only one of many potential influences on students’ academic achievement, our findings suggest that both clinical and subclinical attentional deficits may put students at a disadvantage not only within but also beyond the classroom if they interfere with this critical ability. The second objective of this study was to investigate the relationship between cognitive flexibility and academic achievement, choice of college major, and future career goals. Cognitive flexibility was a significant predictor of academic skills as evaluated by the Woodcock Johnson Tests of Achievement. Reading skills increased as subjective cognitive flexibility increased and as the tendency to perseverate (i.e., to stick with an ineffective strategy) on the WCST decreased. Thus, both subjective and objective cognitive flexibility related to reading achievement. Cognitive flexibility also predicted mathematical and written communication abilities, although only objective, not subjective, cognitive flexibility was associated with math and writing skills. Thus, our results indicate that reading skills, mathematical skills and writing skills all significantly relate to cognitive flexibility, suggesting that cognitive flexibility has broad implications for academic achievement.

When we examined the academic and anticipated career paths of the students in our study, we did not find strong evidence to suggest that cognitive flexibility plays a large role in determining the particular academic course that students chose to follow. We classified students into groups based on their current major and found no differences amongst these groups in either subjective or objective cognitive flexibility. The relationship we documented is correlational. Thus, beyond the potential influence of cognitive flexibility on career choice, this result also suggests that particular types of majors (i.e., those in the natural sciences, social sciences, business, education) do not differentially develop cognitive flexibility relative to other types of majors.

Cognitive flexibility also failed to show significant relationships with the number of majors or minors students in our sample had pursued during their college careers. Although we anticipated that students high in cognitive flexibility would be more likely to explore multiple majors and minors during their college career compared to those lower in cognitive flexibility, we did not find evidence to support that conclusion. Perhaps investigating this issue with a larger sample of students who are all at later stages in their college career (seniors, rather than sophomores, on average) would lead to different results that better fit expected patterns. Seniors would have had more time to fully explore different majors and to implement formal changes to their major than their less educationally advanced peers.
Where cognitive flexibility did play a role in students’ academic and career trajectories was through an interaction with ADHD that affected how confident students felt about their planned career path. We expected that students high in cognitive flexibility would feel less confident about their choice of career than students lower in cognitive flexibility because they might better recognize the manyalternate career paths available to them. We found evidence to support this idea, but only in students with ADHD. Students with ADHD who were high in subjective cognitive flexibility were less confident in their career choice than students with ADHD who were lower in subjective cognitive flexibility.

To the contrary, for students without attentional deficits, an opposite pattern of results emerged. In the control group, students with higher subjective cognitive flexibility were more confident in their career choice than students with lower subjective cognitive flexibility. Although speculative, one possible explanation for this result is that the control group students who are high in cognitive flexibility had already considered and ruled out multiple career paths, leading to more confidence in the career path they were currently pursuing compared to the less cognitively flexible students who may have rushed to a career path without fully considering all of their options (resulting in less career confidence). We did not find differences in number of declared majors and minors, although consideration of academic paths may not always result in official changes in majors and minors. Replication of this result while measuring other variables that might influence this relationship could help elucidate this complex and somewhat unexpected finding in the future.

**Implications**

Together, we found that students with attentional deficits (regardless of whether or not they are diagnosed with ADHD) tend to describe themselves as less cognitively flexible than students without attention deficits and that cognitive flexibility is significantly related to academic achievement in reading, math and writing. These results suggest at least one mechanism that may undermine the academic performance of students with ADHD and offers a possible avenue for future intervention with these students. If the cognitive flexibility deficits documented in childhood (Geurts et al., 2005) continue into young adulthood for students with ADHD, inflexibility may, at least in part, account for some of their diminished academic achievement relative to their non-ADHD peers. It is possible that these deficits typically improve as children develop into young adults and that may be why we found correlations between cognitive flexibility and ADHD symptomatology but not group differences between our ADHD and non-ADHD students in this skill. Individual differences in the timing of this developmental process may leave some students with ADHD particularly vulnerable to academic struggles. That is, students who are slower to outgrow or who fail to outgrow cognitive inflexibility may perform worse in their classes due to weaker reading, writing and mathematical skills. These students could be identified by including measures of objective and subjective cognitive flexibility in assessment batteries. This, in turn, could help indicate which students with ADHD might show improved academic achievement in response to interventions designed specifically to improve their cognitive flexibility.

The finding that cognitive flexibility interacts with ADHD in influencing career confidence also has implications for career counseling and the academic guidance provided to students with ADHD in high school and college. Prior studies have provided evidence that higher levels of ADHD symptoms are significantly related to lower levels of career decision-making self-efficacy, academic adjustment, study skills, and GPA (Norwalk, Norvilitis, & MacLean, 2009), and traditional programs for career counseling have been considered inadequate in meeting the needs of students with ADHD (Nadeau, 2005). Researchers have recommended taking into consideration the specific neuro-cognitive profile of those with ADHD, including details of how the profile can influence career-related skills like work performance, interpersonal skills, conflict management, flexibility with change, and work dissatisfaction (Nadeau, 2005; Painter, Prevatt, & Welles, 2008). Our results demonstrating that cognitive flexibility can not only influence academic achievement, but can also impact self-perceptions of confidence in academic and career plans can buttress the assistance provided with long-term academic and career planning for individuals with ADHD. Students with ADHD who are high in cognitive flexibility might need assurance that their intended career path is a good fit for them given their lower confidence in their career choice. Conversely, students with ADHD who are low in cognitive flexibility might benefit from encouragement to explore...
multiple options if they are overly or prematurely confident in their chosen career path.

Though stimulant medications have also been shown to influence cognitive flexibility (Tannock, Schachar & Logan, 1995), we did not ask our students with ADHD to alter their medication regimen as part of participating in our study, and it is likely that the majority of our participants were on their medications at the time of their testing session given the large number of participants who reported being prescribed medications and taking them every weekday. Because stimulant medications have been reported to improve or normalize behavior and the cognitive functions of those with ADHD (Medina et al. 2010), the differences we documented between students with and without attention deficits are particularly noteworthy because the ADHD participants in our sample were on their medications. More specifically, our results that attentional deficits may be associated with decreased cognitive flexibility and that cognitive flexibility is associated with decreased academic achievement suggest that students with ADHD may be at particularly high risk of struggling academically when unmedicated. Although this is in no way surprising, it does suggest one underlying mechanism (cognitive flexibility) that may account for the challenges students with ADHD face in academic settings. Thus, our results provide further evidence that students with ADHD should be encouraged to utilize the pharmacological treatments recommended for them by their physicians in order to maximize their academic performance during their college years.

Limitations

Our study examining gender differences in, the effects of ADHD on, and the interaction of these two factors in influencing cognitive flexibility extends the literature and also helps to demonstrate how cognitive flexibility affects both the academic achievement as well as the career planning of college students. However, there are a few limitations that should be considered before attempting to generalize these results to all young adults with ADHD. First, our sample was comprised of college students from an urban private university who may not be representative of all young adults with ADHD. These students may be more aware of their cognitive and behavioral strengths and challenges and are likely to have fairly well established academic and organizational skills given their admission to and retention at a private university. Future research identifying career plans and cognitive flexibility at a younger age (for example, during high school) and continuing to evaluate long term success by way of longitudinal follow-up through college at a more diverse collection of institutions and the early stages of students’ careers (even in those students who do not choose to attend college) could provide a broader description of the relationship between cognitive flexibility and career choices and success. Second, our sample size was moderate with small numbers of participants in some groups when the sample was divided by ADHD and gender, and the number of different academic majors represented within our sample was small. The university where we conducted this study is a private liberal arts university that predominantly offers undergraduate programs in arts and sciences. Although we advertised the study widely, the students who chose to participate were largely students from the social sciences or students from other majors who were enrolled in a social science class. As such, we could not examine the relationship between ADHD and choice of majors. Most of the students without ADHD were social science majors (students working for extra credit in one of their psychology classes) and most of the students who were not social science majors had ADHD (those recruited largely through the Student Disabilities Office list-serv). Future research with larger numbers of students from a wider variety of disciplines would expand the conclusions that could be drawn about how ADHD might impact students’ choice of academic and future career paths.

Finally, it was harder than we expected to operationally define objective cognitive flexibility in our study, and we were not able to identify a way to classify students’ cognitive flexibility using objective scores on the WCST. Thus, we were only able to examine the interaction between subjective, not objective, cognitive flexibility and ADHD in influencing students’ academic and career choices. Additionally, we did not find significant relationships between our subjective and objective measures of cognitive flexibility. This result is not too surprising given that subjective and objective measures of memory or other cognitive abilities often share weak relationships with one another (e.g., Crumley, Stetler, & Horhota, 2014; Dellefield & McDougall, 1996; Small, LaRue, Komo, Kaplan & Mandelkern, 1995). It is also consistent with a recent study that demonstrated that objective and subjective measures of cognitive flexibil-
ity more specifically show little overlap, but instead measure different aspects of this construct (Johnco et al., 2014). This does not mean that both types of measures of cognitive flexibility are not important to consider when evaluating cognitive flexibility. It does suggest that the type of cognitive flexibility assessed (subjective vs objective) in past and future studies and in practice settings is important to consider when interpreting results. Our subjective cognitive flexibility measure yielded more results and more consistent results than our objective measure—students with attentional deficits were lower in subjective, but not objective, cognitive flexibility than their peers with fewer attentional symptoms. In contrast, both subjective and objective cognitive flexibility were significantly associated with academic achievement. Predicting reading achievement scores was best accomplished by taking both subjective and objective cognitive flexibility into account, whereas math and writing achievement were related to objective, but not subjective, cognitive flexibility, suggesting that objective cognitive flexibility may have more to contribute to understanding academic skills than subjective cognitive flexibility. Thus, we recommend that professionals working with college students with and without ADHD evaluate and consider both types of cognitive flexibility to try to assure the success of every student as they traverse their undergraduate education.

**Conclusion**

Despite these limitations, our study offers new evidence about cognitive flexibility and its importance for the academic success and career planning of men and women college students with and without ADHD. It also suggests multiple avenues for future research to further explore the complex relationships between these factors. Including subjective and objective measures of cognitive flexibility (such as those used in this study) in assessments designed to aid with academic and career planning at the high school and collegiate level could improve the services and the education that counselors, teachers, and professors offer their students while simultaneously helping students better understand their own personal strengths in a way that will enhance their success in college and in their future careers.

**References**


**About the Authors**

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Acknowledgement

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Table 1

Demographic Characteristics and Self-Reported Symptomatology Means (SEs) of the Male and Female Participants in the Control and ADHD Groups

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>ADHD Group</th>
<th>Tests of Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M (SE)</td>
<td>M (SE)</td>
<td>Group x Gender Interaction</td>
</tr>
<tr>
<td>Male n=10</td>
<td>Female n=19</td>
<td>Male n=10</td>
<td>Female n=16</td>
</tr>
<tr>
<td>Age</td>
<td>20.10 (0.31)</td>
<td>20.20 (0.42)</td>
<td>0.31</td>
</tr>
<tr>
<td></td>
<td>19.37 (0.23)</td>
<td>19.81 (0.28)</td>
<td></td>
</tr>
<tr>
<td>Years of Education</td>
<td>14.60 (0.27)</td>
<td>14.50 (0.45)</td>
<td>0.28</td>
</tr>
<tr>
<td></td>
<td>14.05 (0.21)</td>
<td>14.25 (0.21)</td>
<td></td>
</tr>
<tr>
<td>CAARS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DSM-Inattention</td>
<td>58.50 (4.40)</td>
<td>68.20 (4.29)</td>
<td>2.92</td>
</tr>
<tr>
<td></td>
<td>46.89 (1.73)</td>
<td>67.38 (2.89)</td>
<td></td>
</tr>
<tr>
<td>DSM-Hyperactivity</td>
<td>46.70 (3.14)</td>
<td>55.20 (3.14)</td>
<td>0.05</td>
</tr>
<tr>
<td></td>
<td>45.89 (1.67)</td>
<td>55.56 (3.03)</td>
<td></td>
</tr>
<tr>
<td>DSM-Total</td>
<td>54.00 (4.48)</td>
<td>64.80 (1.73)</td>
<td>1.52</td>
</tr>
<tr>
<td></td>
<td>46.21 (1.73)</td>
<td>63.56 (2.49)</td>
<td></td>
</tr>
<tr>
<td>ADHD Index</td>
<td>43.80 (3.37)</td>
<td>54.20 (1.28)</td>
<td>0.42</td>
</tr>
<tr>
<td></td>
<td>47.16 (1.96)</td>
<td>60.69 (2.32)</td>
<td></td>
</tr>
</tbody>
</table>

Note. CAARS = Conners’ Adult ADHD Rating Scale; *p < 0.05, **p < .01, ***p < .001
### Table 2

**Means and SEs for the Measures of Cognitive Flexibility (cognitive flexibility) of the Male and Female Participants in the Control and ADHD Groups**

<table>
<thead>
<tr>
<th></th>
<th>Control Group</th>
<th>ADHD Group</th>
<th>Test of Hypotheses</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
<td>Male</td>
</tr>
<tr>
<td>Cognitive Flexibility Rating Scale</td>
<td>n = 10</td>
<td>n = 19</td>
<td>n = 10</td>
</tr>
<tr>
<td></td>
<td>55.70</td>
<td>(2.06)</td>
<td>54.60</td>
</tr>
<tr>
<td></td>
<td>59.05</td>
<td>(1.49)</td>
<td>53.88</td>
</tr>
<tr>
<td>WCST</td>
<td>n = 7</td>
<td>n = 17</td>
<td>n = 10</td>
</tr>
<tr>
<td>Perseverative Responses</td>
<td>6.14</td>
<td>(0.88)</td>
<td>9.30</td>
</tr>
<tr>
<td></td>
<td>11.88</td>
<td>(3.60)</td>
<td>11.31</td>
</tr>
<tr>
<td>Perseverative Errors</td>
<td>5.71</td>
<td>(0.64)</td>
<td>8.80</td>
</tr>
<tr>
<td></td>
<td>11.12</td>
<td>(3.11)</td>
<td>10.46</td>
</tr>
</tbody>
</table>

### Table 3

**Summary of the Regression Analyses Examining the Relationships Between Subjective and Objective Cognitive Flexibility and Academic Achievement**

<table>
<thead>
<tr>
<th>Outcome Measure</th>
<th>Significant Predictors</th>
<th>β</th>
<th>p</th>
<th>Adj. $R^2$</th>
<th>F</th>
<th>df</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Letter Word ID</td>
<td>WCST Perseverative Responses</td>
<td>-.349</td>
<td>.014</td>
<td>.163</td>
<td>5.47</td>
<td>(2, 44)</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>Cognitive Flexibility Scale</td>
<td>.330</td>
<td>.020</td>
<td>.093</td>
<td>5.70</td>
<td>(1, 45)</td>
<td>.021</td>
</tr>
<tr>
<td>Reading Fluency</td>
<td>Cognitive Flexibility Scale</td>
<td>.335</td>
<td>.021</td>
<td>.093</td>
<td>5.70</td>
<td>(1, 45)</td>
<td>.021</td>
</tr>
<tr>
<td>Passage Comprehension</td>
<td>WCAT Perseverative Errors</td>
<td>-.436</td>
<td>.002</td>
<td>.129</td>
<td>7.78</td>
<td>(1, 45)</td>
<td>.008</td>
</tr>
<tr>
<td></td>
<td>Cognitive Flexibility Scale</td>
<td>.291</td>
<td>.034</td>
<td>.202</td>
<td>6.82</td>
<td>(2, 44)</td>
<td>.003</td>
</tr>
<tr>
<td>Calculations</td>
<td>WCST Perseverative Errors</td>
<td>-.384</td>
<td>.008</td>
<td>.129</td>
<td>7.78</td>
<td>(1, 45)</td>
<td>.008</td>
</tr>
<tr>
<td>Applied Problems</td>
<td>WCST Perseverative Errors</td>
<td>-.332</td>
<td>.023</td>
<td>.091</td>
<td>5.58</td>
<td>(1, 45)</td>
<td>.023</td>
</tr>
<tr>
<td>Writing Samples</td>
<td>WCST Perseverative Errors</td>
<td>-3.12</td>
<td>.033</td>
<td>.077</td>
<td>4.86</td>
<td>(1, 45)</td>
<td>.033</td>
</tr>
</tbody>
</table>

*Note.* Neither subjective nor objective cognitive flexibility significantly predicted academic achievement as measured by the Woodcock Johnson subtests of: Math Fluency, Spelling, Writing Fluency, Understanding Directions, Story Recall or Delayed Recall.
Figure 1. Career confidence of students without (left panel) or with (right panel) Attention Deficit Hyperactivity Disorder who described themselves as low (dotted bars) or high (striped bars) in cognitive flexibility.
Measuring Self-Advocacy Skills Among Student Veterans with Disabilities: Implications for Success in Postsecondary Education

Adam R. Kinney¹
Aaron M. Eakman¹

Abstract
Veterans of Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn enrolled in post-secondary education may experience disabilities that impact their successful participation in the academic environment. Accommodations are made available to college students with disabilities to provide opportunities for success in this environment, but in order to receive these accommodations it is essential that the student discloses their disability and informs the institution of their needs. Therefore, it is critical to understand the self-advocacy skills of student veterans with disabilities as a factor that may influence their academic success. The Student Veteran Self-Advocacy Skills Assessment (SV-SASA) is an assessment of self-advocacy skills among student veterans with disabilities. Regression analysis was conducted on a sample of 49 participants in a supported education program for student veterans with disabilities to investigate factors that explain their self-advocacy skills and academic performance, and to evaluate the psychometric properties of the SV-SASA. Results indicated that first-generation status, extent of exposure to a supported education program for student veterans, number of credits attempted, and number of self-reported health conditions explain the self-advocacy skills of student veterans with disabilities. Results also indicated that student veterans with greater self-advocacy skills achieved a higher grade point average. The SV-SASA demonstrated adequate psychometric properties as an assessment of self-advocacy skills in the sample. Implications for service providers in the postsecondary education setting working with this population and suggestions for future research are discussed.

Keywords: Self-advocacy; veterans; disabilities; postsecondary education; academic accommodations; supported education

Veterans of Operation Enduring Freedom, Operation Iraqi Freedom, and Operation New Dawn are taking advantage of educational benefits provided by the Post 9/11 Veterans Educational Assistance Act of 2008 (Post 9/11 GI Bill) and are enrolling in postsecondary institutions at increased rates (Bryan, Bryan, Hinkson, Bichrest, & Ahern, 2014; Madaus, Miller II, & Vance, 2009; Shackelford, 2009). These student veterans are twice as likely as non-veteran students to experience a disability (National Survey of Student Engagement [NSSE], 2010), due in part to impairments associated with the “signature” service-related injuries of these conflicts: post-traumatic stress disorder (PTSD), traumatic brain injury (TBI), spinal cord injury, and amputation (Bilmes, 2007). Student veterans demonstrate elevated rates of mental health symptoms (e.g., posttraumatic stress and depression) and physical symptoms such as pain and fatigue compared to non-veteran peers (Eakman, Schelly, & Henry, 2016; Rudd, Goulding, & Bryan, 2011). Furthermore, TBI and mental health challenges such as PTSD and depression have been associated with cognitive and emotional impairments that contribute to maladaptive academic behaviors such as poor organizational skills, poor attention, and poor class attendance (Barr, Whiteman, & Wadsworth, 2014; Bryan et al., 2014; Church, 2009). These factors help to explain why student veterans experience lower levels of academic performance when compared to their non-veteran peers (Bryan et al., 2014; Durdella & Kim, 2012).

¹ Colorado State University
Veterans enrolled in postsecondary education can benefit from academic accommodations when experiencing impairments that negatively impact their academic performance (Church, 2009; Equal Employment Opportunity Commission [EEOC], n.d., Kraus & Rattray, 2013; Shackelford, 2009). These accommodations are to be made available to college students with disabilities due to federal legislation such as Section 504 of the Rehabilitation Act (Section 504), the Americans with Disabilities Act (ADA), and the ADA Amendments Act of 2008 (ADAAA; Pub. L. No. 101-336, 104 Stat. 328; 34 C.F.R. Part 104.4).

In order to acquire these supports, however, students with disabilities must disclose their disability and inform the postsecondary institution of their needs (Lynch & Gussel, 1996). Given the fact that student veterans with disabilities need to play an active role in acquiring and utilizing academic supports, it is imperative that they develop into effective self-advocates.

Self-Advocacy Skills

Self-advocacy has been defined as the ability to communicate one’s needs and make informed decisions about the supports necessary to meet those needs (Stodden, Conway, & Chang, 2003). Self-advocacy skills are often discussed in the context of postsecondary students with disabilities initiating the acquisition of academic accommodations, and these skills are widely considered critical to these students achieving academic success (Brinckerhoff, 1993, 1994; Foley, 2006; Lock & Layton, 2001). Test, Fowler, Wood, Brewer, and Eddy (2005) present a frequently cited conceptual framework that provides an understanding of the various components underlying self-advocacy skills. This framework posits that self-advocacy consists of 4 components: knowledge of self, knowledge of rights, communication, and leadership.

Despite the importance of developing self-advocacy skills among student veterans with disabilities, there is no research available that seeks to improve the understanding of these skills among this population. A critical step in advancing the understanding of self-advocacy skills among student veterans with disabilities is to develop a valid assessment of these skills. Such an assessment must be grounded in existing theory related to self-advocacy skills among non-veteran students with disabilities, but must also take into account the unique aspects of the veteran population in the postsecondary environment. Such an assessment of self-advocacy skills will allow academic service providers to develop a more informed understanding of the student veteran’s self-advocacy skills and the ability to measure self-advocacy as an outcome of service provision. A valid assessment of these skills among student veterans with disabilities will also provide researchers the means to understand the influence of self-advocacy skills upon academic performance. The theoretical foundation for an assessment of self-advocacy skills among student veterans with disabilities follows.

Self-Advocacy Skills among Student Veterans

Knowledge of self. An understanding of personal strengths, support needs, and disability characteristics is a foundational component of developing effective self-advocacy skills (Test et al., 2005). Student veterans with disabilities may not initiate the process of acquiring supports (e.g., disclosing their disability) until they understand that they are experiencing challenges in the classroom and would benefit from supports. In order to effectively use supports student veterans with disabilities must understand the impairments they are experiencing, and how those impairments interact with demands of classroom activities or environmental characteristics to create barriers to academic success. An enhanced understanding of their strengths and needs will allow student veterans to identify supports that facilitate success in the classroom (Summers, White, Zhang, & Gordon, 2014; Test et al., 2005).

This component of self-advocacy must be better understood among student veterans with disabilities, as they are less likely to acknowledge their impairments and disclose their disability when compared to non-veteran students with disabilities (Church, 2009; Kraus & Rattray, 2013; Shackelford, 2009). While the reasons for this reluctance to disclose is not completely understood, some suggest that it may be influenced by their experience in the military. During their time in the military, student veterans may have developed a belief that disclosure of an impairment is associated with an inability to fulfill job duties or achieve career goals (Kraus & Rattray). In addition, many student veterans may be experiencing injuries that are newly acquired and therefore they may be in the process of developing an understanding of how their impairments impact their ability to succeed in the postsecondary environment.

Knowledge of rights. Prior to the acquisition of needed supports, student veterans with disabilities
must first understand what supports are available on campus, and that they have a right to use them. An understanding of what supports are available to college students with disabilities under current law (e.g., academic accommodations) and what steps must be taken to acquire those supports are foundational components of self-advocacy (Test et al., 2005). The nature and frequency of supports provided to students with disabilities vary according to the institution, however (Stodden, Whelley, Chang, & Harding, 2001; Tagayuna, Stodden, Chang, Zeleznik, & Whelley, 2005). This suggests that student veterans with disabilities cannot take for granted that the institution will provide the supports that they need to succeed. Furthermore, in order to take advantage of supports in an effective manner, student veterans must understand their responsibilities in acquiring needed supports according to institution-specific guidelines (e.g., providing necessary documentation to disability support services).

Further complicating the acquisition of academic supports is the fact that student veterans have had limited exposure to disability-related policy, and may be unaware of available supports and the processes that govern the provision of those supports (Kraus & Rattray, 2013). Student veterans with disabilities can develop this important knowledge if given the opportunity. Studies of college students with disabilities have shown that an understanding of their rights and responsibilities can be improved given access to education on this critical topic (Palmer & Roessler, 2000; White, Summers, Zhang, & Renault, 2014; White & Vo, 2006).

**Communication.** Once a student veteran is aware of his or her needs and the supports available to meet those needs, the ability to acquire these supports depends heavily on an ability to communicate effectively with faculty members or institutional representatives (Test et al., 2005). In order to acquire supports in the postsecondary environment, a student with a disability must play an active role by informing the institution of his/her needs (Lynch & Gussel, 1996). This involves clearly articulating one’s needs to those who provide academic supports (i.e., faculty members, disability services staff). As previously mentioned, the nature and frequency of supports provided to students with disabilities may vary according to the institution (Stodden et al., 2001; Tagayuna et al., 2005), and some institutions offer considerably less education to faculty members regarding the provision of academic accommodations (Sharpe & Johnson, 2001). Accordingly, those that seek to promote self-advocacy skills among students with disabilities consider the preparation of students for an initial refusal of the accommodation request an important component of self-advocacy (Palmer & Roessler, 2000; Summers et al., 2014; White & Vo, 2006). Preparation for this potential refusal requires that the student veteran develops social skills such as assertive communication, negotiation, and persuasion in order to effectively and appropriately resolve conflicts (Test et al., 2005).

Communication skills warrant particularly close attention when attempting to enhance self-advocacy skills among student veterans with disabilities. Student veterans may experience impairments in emotional and cognitive functioning associated with TBI, PTSD and depression (Kraus & Rattray, 2013; Tanielian & Jaycox, 2008). These conditions are often co-morbid (i.e., two or more co-occurring), producing a mutually exacerbating effect that results in more severe symptoms and a diminished ability to interact with others and sustain healthy relationships (Brenner, Vanderploeg, & Terrio, 2009; Tanielian & Jaycox, 2008). Limited communication skills may negatively impact student veterans’ ability to sustain relationships with members of the institution that are responsible for providing needed supports. Student veterans with disabilities can develop the communication skills necessary to successfully acquire supports if given the opportunity. Studies have demonstrated that these skills can be developed among students with disabilities if they are educated on their importance and given the opportunity to practice them in role-play scenarios (Palmer & Roessler, 2000; Walker & Test, 2011; White & Vo, 2006; White et al., 2014).

This review of self-advocacy skills among student veterans with disabilities allows for a framework to measure these skills. Furthermore, a measure of self-advocacy skills could be used to investigate factors capable of influencing the development of those skills (e.g., first-generation status) and to study how those skills relate to academic outcomes. A review of relationships between self-advocacy skills, first-generation status, and academic success follows.

**First-Generation Student Veterans**

First-generation students are defined as college students with parents that have no postsecondary experience (Engle, 2007; Wurster, Rinaldi, Woods, & Liu, 2013). By some estimates, 66% of veterans en-
Self-Advocacy Skills and Academic Performance

Self-advocacy skills are often associated with the presence of behaviors needed to effectively acquire academic accommodations (Palmer & Roessler, 2000; Walker & Test, 2011; White & Vo, 2006; White et al., 2014). These academic accommodations may, in turn, promote the successful participation of student veterans who are experiencing cognitive, emotional, or physical impairments by altering aspects of the classroom activity or classroom environment (Church, 2009; EEOC, n.d., Kraus & Rattray, 2013; Shackelford, 2009). Indeed, these academic accommodations have been linked to improved academic performance among non-veteran students with disabilities (Keim, 1996; Trammel, 2003).

Given the fact that self-advocacy skills have been associated with behaviors needed to acquire academic accommodations, it is no surprise that self-advocacy skills have been identified as a critical factor in promoting the academic success of students with disabilities (Brinckerhoff, 1993, 1994; Foley, 2006; Lock & Layton, 2001). Self-advocacy skills have been linked to higher grade point averages ([GPA]; Lombardi, Gerdes, & Murray, 2011) and improved ability to adjust to the postsecondary environment (Adams & Proctor, 2010; Murray, Lombardi, & Kosty, 2014). Furthermore, students with disabilities have identified self-advocacy as a critical factor in their academic success (Getzel & Thoma, 2008; Hadley, 2006). The existing evidence establishes self-advocacy skills as critical factors influencing academic success among student veterans with disabilities, as it empowers the veteran to acquire supports that have been associated with academic success among college students with disabilities.

Given this review, we hypothesized that student veterans’ exposure to clinical services targeting self-advocacy skill development will be associated with greater self-advocacy skills, and first-generation status will be associated with lower self-advocacy skills. We further hypothesized that self-advocacy skills in student veterans will be positively associated with academic success as assessed by end of semester GPA.

Method

Design and Participants

This study used a nonexperimental, explanatory cross-sectional design. All participants were student veterans with service-related injuries enrolled in the New Start for Student Veterans (NSSV) program housed in the occupational therapy department of Colorado State University (Eakman et al., 2016). NSSV is a supported education program for veterans with disabilities providing social support (e.g., therapeutic relationship building); education on how to effectively navigate the academic environment (e.g., study skills and college application assistance); connection to resources on campus and in the community (e.g., tutoring and resources offered by Veterans Affairs [VA]); strategies to improve their mental and physical health; and strategies to enhance their ability to participate in the classroom and the larger community (e.g., using a planner to organize classroom assignments and doctor appointments).

A foundational component of the NSSV program is self-advocacy skills training. This includes fostering self-awareness of the student veterans’ strengths and weaknesses, educating student veterans on available supports and the processes dictating the provision of those supports, and supporting their communication with faculty or other members of the campus community (e.g., disability services) in order to acquire needed supports.
This study received approval by the University’s institutional review board, and informed consent was received from each participant. The NSSV practitioner providing services to each participant completed an online survey that rated participants’ self-advocacy skills in December 2015. A total of forty-nine participants were included in the sample for analysis. Participants were included in this study if they were receiving NSSV services in the fall 2015 semester.

The majority of the participants in the sample were male (n = 41), and ranged in age from 23 to 54 years (mean ± standard deviation [SD] = 30.39 ± 6.5). A total of 21 participants (42.9%) were first-generation students, and 24 participants (49.0%) received academic accommodations in the fall 2015 semester through the campus disability services office. Table 1 provides additional information on the NSSV participants. The most common self-reported injuries upon intake were PTSD (n = 26), TBI (n = 22), orthopedic injuries (n = 17), and sensory impairments (e.g., hearing or vision deficits; n = 10). Table 2 provides a list of conditions reported by the NSSV participants.

**Measures**

**Self-advocacy skills.** Self-advocacy skills were measured using the Student Veteran Self-Advocacy Skills Assessment (SV-SASA). The SV-SASA is a seven-item assessment that was developed by the NSSV clinical and research teams to measure the self-advocacy skills of student veterans with disabilities. It requires a practitioner with a thorough understanding of the participants to rate them on items that represent skills related to their self-understanding, communication and conflict resolution skills, and ability to initiate and effectively use available supports (e.g., NSSV supports or accommodations through disability services). Scores on the scale range from one to four, using half-point increments, and represent a continuum of practitioner support needed to achieve each skill; lower scores indicate participants need more practitioner support and higher scores indicate the need for less support. Please see Appendix for text of all item stems. Practitioners were instructed to omit responses to items that represented a skill they had not observed. A participant’s composite score was obtained by calculating the mean score of the items completed, with higher scores representing more effective self-advocacy skills.

The SV-SASA was adapted from the five-item Self-Advocacy Skills Assessment (SASA) (Falk et al., 2013), which was developed for an internal university report and has not been tested for its psychometric properties (J. Falk, personal communication, March 3, 2016). Development of the SV-SASA included discussion of interventions used to promote self-advocacy skills typically delivered by the NSSV clinical team. This collaboration between the NSSV clinical and research teams resulted in the alteration of the SASA to more accurately reflect the unique services and needs of student veterans participating in NSSV (e.g., “utilizes university supports” became “utilizes NSSV supports”). Based upon feedback from the NSSV clinical team, two additional items relating to participants’ communication skills (i.e., assertiveness skills) and conflict resolution skills were added given their importance to the development of self-advocacy.

**Academic measures.** Academic performance was measured using participants’ fall 2015 grade point average (GPA). One participant’s GPA data was excluded from analysis as they took only one class pass-fail in fall 2015, which prevented their GPA from being obtained. Participants’ fall 2015 GPA, number of credits attempted in fall 2015 and first-generation status (i.e., whether or not the participant was a first-generation student) was obtained from university records.

**Demographic characteristics.** The age and gender of the participants were obtained from information provided during the intake process.

**Disability-related measures.** Upon intake into NSSV, participants were asked to disclose any diagnoses (e.g., PTSD, TBI) they were experiencing. The number of diagnoses that the participants disclosed was obtained from their intake form to calculate the number of conditions reported. Data regarding whether or not the student sought access to an academic accommodation in fall 2015 was obtained from the University’s disability services office to determine his or her disability services status.

**Exposure to NSSV services.** The total number of hours that participants spent in-person with a NSSV practitioner during the fall 2015 semester was obtained from clinical records to calculate duration of in-person meetings in fall 2015 (in hours). This variable measured the extent to which participants were exposed to NSSV services within that semester. Support delivered through electronic communication (e.g., email or phone call) was excluded, because interventions that have been demonstrated to improve the self-advocacy skills of college students with disabilities have been delivered in person (Palmer &

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**Journal of Postsecondary Education and Disability, 30(4) 349**
Roessler, 2000; Walker & Test, 2011; White & Vo, 2006; White et al., 2014). The length of time receiving NSSV services (in weeks) was calculated by determining the difference (in weeks) between the dates that participants completed their intake to the NSSV program and December 2015.

**Data Analysis**

Cronbach’s alpha of the seven-item SV-SASA was established as a measure of internal consistency. Zero-order correlations were calculated between all variables related to our research hypotheses. Descriptive analysis of these variables was also conducted to determine their distribution and central tendency. Multiple linear regression analysis was employed to explore our hypotheses. To address the first two hypotheses, we regressed the SV-SASA score on age, gender (0 = not male, 1 = male), first-generation status (0 = continuing-generation student, 1 = first-generation student), duration of in-person meetings, length of time receiving NSSV services, number of credits attempted, number of self-reported health conditions, and disability services status (0 = did not seek access to academic accommodations, 1 = sought access to academic accommodations). To address the third hypothesis, we regressed end of semester GPA on the same variables as above, and added the SV-SASA score to the model. Multicollinearity diagnostic tests were evaluated for each model and studentized residuals were calculated to determine the presence of outliers that may impact the fit of the model. All analyses were conducted using IBM SPSS Statistics (Version 22; IBM Corporation, Armonk, NY).

**Results**

The SV-SASA was found to have good internal consistency reliability (α = .88) within a portion of this sample (n = 25). Data for all seven items were unavailable for 24 participants because practitioners completing the assessment omitted responses to items that related to a skill that was not directly observed. Composite scores on the SV-SASA ranged from 1 to 3.64 (mean ± standard deviation [SD] = 2.61 ± .64).

**Factors Explaining Self-Advocacy Skills**

Zero-order correlations revealed statistically significant positive associations between the SV-SASA and length of time receiving NSSV services (r = .40, p < .01) and number of credits attempted (r = .46, p < .01). There was a statistically significant negative correlation between the SV-SASA and first-generation status (r = -.34, p < .05). A statistically significant positive correlation between disability services status and duration of in-person meetings in the fall 2015 semester (r = .37, p < .01) was revealed, and the positive correlation between age and number of conditions reported was also statistically significant (r = .35, p < .05). Descriptive statistics and zero-order correlations can be found in Table 3.

The linear regression model was found to explain a significant proportion of the variance in SV-SASA scores (R² = .46, F(8, 40) = 4.18, p = .001); see Table 4. First-generation status was negatively associated with the SV-SASA (β = -.25, t = -1.98, p = .055). Statistically significant positive associations were found between the SV-SASA and length of time receiving NSSV services (β = .26, t = 2.07, p = .045), number of credits attempted in fall 2015 (β = .34, t = 2.76, p = .009), and number of conditions reported by participants upon intake (β = .27, t = 2.08, p = .044). The results also revealed a positive association that was trending toward statistical significance between the SV-SASA and the number of hours participants spent in-person with a NSSV practitioner in fall 2015 (β = .22, t = 1.73, p = .092).

**Factors Explaining Academic Performance**

Zero-order correlation results revealed a statistically significant positive association between fall 2015 GPA and the SV-SASA (r = .51, p < .01). Results also revealed a statistically significant positive association between fall 2015 GPA and number of credits attempted (r = .44, p < .01); see Table 3.

The model containing all explanatory variables was found to explain a significant proportion of the variance in fall 2015 GPA (R² = .37, F(9, 38) = 2.45, p = .026); see Table 5. The model’s ability to explain fall 2015 GPA was primarily attributed to the SV-SASA (β = .49, t = 2.79, p = .008), indicating students with higher SV-SASA scores had higher fall 2015 GPAs. The results also revealed a positive association that was trending toward statistical significance between the number of credits attempted in fall 2015 and fall 2015 GPA (β = .24, t = 1.58, p = .122).

A review of zero-order correlations and results of the full regression model suggested that the SV-SASA may have mediated the relationship between credits attempted and GPA. There were statistically significant correlations between the number of credits
Factors Explaining Academic Performance

This is the first study that sought to understand self-advocacy skills among student veterans with disabilities, and how these skills relate to their academic performance. The regression model explaining academic performance explained a significant amount of variance in fall 2015 GPA ($R^2 = .37$), with the SV-SASA score being the only statistically significant explanatory variable in the model. The positive relationship between the SV-SASA and fall 2015 GPA confirms our initial hypothesis and suggests that student veterans with greater self-advocacy skills tend to experience higher academic performance. Previous research has found that lower academic performance in student veterans is associated with depression symptoms, male gender, maladaptive academic behaviors, and younger age (Bryan et al., 2014). Our results contribute to this knowledge and indicate that self-advocacy skills may promote academic performance in this population.

A better understanding of the factors that promote academic performance in student veterans could inform efforts aimed at improving their rates of retention and degree completion. Improving student veterans’ ability to complete their degree enhances their economic prospects, as individuals with disabilities are more likely to find employment with a college degree (Summers et al., 2014), and college degrees lead to higher wages (Bureau of Labor Statistics, 2016). Improved economic prospects may, in turn, assist student veterans’ ability to reintegrate into the community, as veterans have identified that finding a job and financial difficulties are significant barriers to the transition into civilian life (Zoli, Maury, & Fay, 2015).

These results also align with previous research that has established a relationship between self-advocacy skills and academic success among non-veteran students with disabilities. Self-advocacy skills have been associated with behaviors needed to successfully acquire academic accommodations (Palmer & Roessler, 2000; Walker & Test, 2011; White & Vo, 2006; White et al., 2014), and these accommodations have been demonstrated to benefit the academic performance of students with disabilities (Keim, 1996; Trammel, 2003). Our results indicate that student veterans with greater self-advocacy skills may be more likely to acquire and effectively use academic supports. The use of academic supports may have promoted their success in the classroom.

A mediation analysis demonstrated that the SV-SASA mediated the relationship between number of credits attempted and GPA. This may suggest that students who take more credits may be more confident in their ability to satisfy academic requirements due to their acquisition of academic supports (facilitated by effective self-advocacy skills), and these same students tend to demonstrate greater academic success. One may expect that a student veteran with a more difficult course load would have to distribute their time and effort across a greater number of courses, resulting in a diminished ability to achieve academic success. However, previous research aligns with our results, finding a positive relationship between academic performance and difficulty of course load, even while controlling for academic ability (Duby & Schartman, 1997; Szafran, 2001).

Demographic characteristics (i.e., age and gender) did not explain academic performance in our sample, which contradicts findings from a previous study that found that male gender and younger age negatively impacted semester GPA in student veterans (Bryan et al., 2014). These contradictory findings may be due to sampling differences, but they nonetheless highlight the need for further investigation into the impact that demographic characteristics have on the academic performance of student veterans. The extent to which student veterans in our sample were exposed to NSSV services did not explain academic performance. Academic performance also did not vary with respect to first-generation status, which contradicts previous research which found that GPA is lower among first-generation college students with
disabilities (Lombardi, Murray, & Gerdes, 2012). The body of research relating to first-generation college students with disabilities is scant, however, and these contradictory findings highlight the need for research that explains the unique and combined effects of characteristics associated with first-generation students, student veterans, and college students with a disability. Specifically, understanding how these unique and combined effects may influence academic performance would be of particular interest.

**Factors Explaining Self-Advocacy Skills**

Participants with higher SV-SASA scores met in person with a NSSV practitioner for more hours within fall 2015, and were receiving NSSV services for a longer period of time. Given this finding it is feasible to suggest that participants’ self-advocacy skills benefitted from NSSV’s supported education services, though the cross-sectional design limits our assertion of causality. Nonetheless, this result affirms our initial hypothesis and supports the convergent validity of the SV-SASA by aligning with previous research which indicated that self-advocacy skills may be amenable to targeted intervention among college students with disabilities (Palmer & Roessler, 2000; Walker & Test, 2011; White & Vo, 2006; White et al., 2014). Furthermore, our findings provide an impetus for future research exploring the effect of interventions targeting the development of self-advocacy skills among this population.

As theoretically expected, our results indicated first-generation student veterans had lower SV-SASA scores. This finding was evident while controlling for variables associated with exposure to NSSV services, demographic characteristics, utilization of on-campus disability services, and number of disabling health conditions. Our findings are consistent with research which has indicated that first-generation students may have weaker academic preparation (Engle, 2007) and fewer informational resources (Stephens et al., 2012). These characteristics have negative implications for self-advocacy skill development (i.e., knowledge of self, knowledge of rights), because first-generation student veterans with disabilities may have less knowledge of how their disability interacts with postsecondary academic expectations or the processes that dictate the provision of needed supports (Test et al., 2005).

Our results highlight the need for additional research investigating how the unique experiences of student veterans might intersect with characteristics associated with first-generation students and students with disabilities in terms of developing self-advocacy skills. Characteristics associated with veteran status likely have negative implications for self-advocacy skills, given that disabled student veterans may have limited experience with disability-related policy (Kraus & Rattray, 2013) and may be less willing to acknowledge and disclose their disability relative to non-veteran students with disabilities (Church, 2009; Kraus & Rattray; Shackelford, 2009).

Our results also revealed that student veterans with higher SV-SASA scores tended to report more disabling health conditions (e.g., PTSD, TBI). While the number of conditions was originally intended to quantify the severity of impairments, this finding may indicate that this variable reflected an aspect of the student veterans’ self-advocacy skills. The conceptual framework of self-advocacy posited by Test et al. (2005) suggests that a foundational component of self-advocacy is an awareness of how one’s disability impacts their daily life. Student veterans with greater self-advocacy skills may have an increased awareness of their impairments and may therefore be more likely to disclose these disabling health conditions to university service providers. Nonetheless, further research is warranted to study relationships between student veterans’ self-awareness, the extent to which they self-report disabilities, and the development of self-advocacy skills.

**Psychometric Properties of the SV-SASA**

This study presents preliminary evidence that the SV-SASA has adequate psychometric properties as a measure of self-advocacy skills among student veterans with disabilities. Good internal consistency reliability was established among a subset of our sample, which suggests that the seven items on the SV-SASA are consistent in their ability to measure the intended construct of self-advocacy skills. The relationships found between SV-SASA score and exposure to NSSV services, GPA, and first-generation status operated as theoretically expected and support the convergent validity of the assessment.

Content validity for the seven items in the assessment is established through theoretical support from the conceptual framework by Test et al. (2005). Several items relate to the student veteran’s ability to communicate and resolve conflicts with others within the context of building relationships necessary to acquire and effectively use academic supports (i.e.,
communication). There is an item related to the student veteran’s self-awareness (i.e., knowledge of self), and additional items relate to the student veteran’s knowledge of their needs (i.e., knowledge of self) and available supports (i.e., knowledge of rights) in the context of initiating the effective use of academic supports.

Expert validity also lends support to the construct validity of the SV-SASA. The SV-SASA has a similar structure to that of a measure developed by staff within the DePaul’s Center for Students with Disabilities (Falk et al., 2013), who possess expertise in working with college students with disabilities. Items were altered and added based on a collaborative process with NSSV practitioners, who have expertise in promoting self-advocacy skills within student veterans with disabilities. This collaborative process included discussion of interventions that promote self-advocacy skills typically delivered, and opportunities for the clinical team to provide input on the SV-SASA items and scoring.

The establishment of the SV-SASA as a valid measure of self-advocacy skills in student veterans with disabilities has important implications for both service providers and researchers working with this population. Much of the research investigating interventions that promote self-advocacy skills among college students with disabilities measure the outcomes of these interventions by monitoring the presence of behaviors needed to successfully acquire an accommodation before and after the intervention (Palmer & Roessler, 2000; Walker & Test, 2011; White & Vo, 2006; White et al., 2014). While this design reflects the immediate impact of such an intervention, it does not allow for continued evaluation of the self-advocacy skills of the student. The structure of the SV-SASA allows for the longitudinal tracking of the development of self-advocacy skills by using a scale that represents the extent to which the student requires practitioner support. This allows service providers to measure the development of these skills over time and to identify specific components of self-advocacy that may require further development.

The establishment of the SV-SASA as a valid measure of self-advocacy skills in this population will also provide researchers with a valuable tool for investigating factors capable of influencing the development of self-advocacy skills. Researchers may also use this tool as a means of investigating the outcomes of intervention that seeks to promote the self-advocacy skills of this population, or as a means of exploring the relationship between self-advocacy skills and indicators of academic or employment success.

Limitations and Future Research

The results of this study should be considered in the context of the study’s limitations. Internal consistency reliability was obtained for only a subset of the sample (n = 25), as NSSV practitioners were unable to answer one or more items on the SV-SASA for some participants. Completion of all items on the SV-SASA requires a thorough knowledge of the student veteran’s self-advocacy skills. In the present sample for example, approximately half of the participants did not utilize campus disability services in fall 2015 and therefore NSSV staff were unable to provide scores on related SV-SASA items for those participants. Results of a regression analysis (not reported here) indicated that students who spent more time in-person with a NSSV practitioner had more items on the SV-SASA completed. To enable completion of the SV-SASA, practitioners should therefore be educated on the importance of meeting in-person with the student to ensure a full understanding of their self-advocacy skills. Furthermore, inter-rater reliability for the SV-SASA must be established; this effort can be supported by the development of a systematic method for training the administrators of the assessment.

This study focused on three components of self-advocacy within the conceptual framework proposed by Test et al. (2005; i.e., knowledge of self, knowledge of rights, communication), and the SV-SASA included items pertaining to only these components. Future research relating to the development of the SV-SASA should consider the inclusion of an item relating to the fourth component of self-advocacy: leadership skills. Leadership in the context of self-advocacy skills refers to the ability to function within a group to advocate for others and impact change on an institutional level (Test et al., 2005). This may be particularly relevant for student veterans, as many veterans cite improved leadership skills as a result of their service (Zoli et al., 2015). Promoting the self-advocacy skills of student veterans should include harnessing these leadership skills in order to empower them to enact positive policy change that benefits both veteran and non-veteran students with disabilities.

This study includes limitations that are inherent in any cross-sectional study design. Causal relationships cannot be tested in a study that includes data at only
one point in time. Furthermore, the generalizability of the results are limited by the small sample size. Future research should consider the use of longitudinal and experimental designs to determine the impact of targeted intervention on the self-advocacy skills and academic performance of student veterans with disabilities. In addition, high school GPA should be included in analyses to determine if pre-existing academic ability influences observed outcomes.

Future research should also explore the use of this instrument among non-veteran students with disabilities. Not only will this lead to further understanding of self-advocacy skills among non-veteran students with disabilities, but a comparison of scores on the SV-SASA between veteran and non-veteran students with disabilities will facilitate enhanced understanding of how self-advocacy skills compare between these groups. This would enhance interventions that target self-advocacy skills among student veterans with disabilities by delineating how student veterans experience their disability uniquely, and what implications this unique experience has on their ability to advocate for supports that enhance their academic performance.

References


About the Authors

Adam R. Kinney received his B.A. degree in psychology and statistics from St. John Fisher College and his M.S. degree in occupational therapy from Ithaca College. His experience includes working as an occupational therapist and most recently as a Graduate Research Assistant for the New Start for Student Veterans program. He is currently a Ph.D. student in the Department of Occupational Therapy at Colorado State University. His research interest includes examining the role of supported education programming in promoting resilience and academic achievement among student veterans with service-related injuries. He can be reached by email at: adam.kinney@colostate.edu.

Aaron M. Eakman received his B.S. degree in psychology from the University of North Dakota, his M.S. in occupational therapy from Western Michigan University, and his Ph.D. in occupational science from the University of Southern California. His experience includes over 15 years of practice in occupational therapy, and he is the past occupational therapy program director of Idaho State University. Presently he is associate professor in the Department of Occupational Therapy and serves as director of research for the New Start for Student Veterans program. As research director, his research addresses personal and environmental factors supporting or hindering academic success and resilience for post 9/11 veterans in college, and the study of occupational therapy-led programming to improve the sleep and mental health of post 9/11 veterans – known as the REST project (http://restweb.colostate.edu). He can be reached by email at: aaron.eakman@colostate.edu.

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Table 1

**Demographic Characteristics of NSSV Participants**

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>n (%) (N = 49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age, yr, $M \pm SD$ (range)</td>
<td>30.39 ± 6.5 (23-54)</td>
</tr>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>41 (83.7)</td>
</tr>
<tr>
<td>Female</td>
<td>7 (14.3)</td>
</tr>
<tr>
<td>Other</td>
<td>1 (2.0)</td>
</tr>
<tr>
<td>First generation status</td>
<td></td>
</tr>
<tr>
<td>First generation student</td>
<td>21 (42.9)</td>
</tr>
<tr>
<td>Not a first generation student</td>
<td>28 (57.1)</td>
</tr>
<tr>
<td>Enrollment Status</td>
<td></td>
</tr>
<tr>
<td>Enrolled at CSU</td>
<td>44 (89.8)</td>
</tr>
<tr>
<td>Enrolled at FRCC</td>
<td>5 (10.2)</td>
</tr>
<tr>
<td>Disability Services (DS) status</td>
<td></td>
</tr>
<tr>
<td>Receiving DS</td>
<td>24 (49.0)</td>
</tr>
<tr>
<td>Not receiving DS</td>
<td>25 (51.0)</td>
</tr>
</tbody>
</table>

*Note. M = mean; SD = standard deviation; CSU = Colorado State University; FRCC = Front Range Community College.*

Table 2

**Summary of Self-Reported Conditions of NSSV Participants**

<table>
<thead>
<tr>
<th>Self-reported condition</th>
<th>n (%) (N = 49)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PTSD</td>
<td>26 (53.1)</td>
</tr>
<tr>
<td>TBI</td>
<td>22 (44.9)</td>
</tr>
<tr>
<td>Physical/Orthopedic Injuries</td>
<td>17 (34.7)</td>
</tr>
<tr>
<td>Sensory Impairments</td>
<td>10 (20.4)</td>
</tr>
<tr>
<td>Anxiety</td>
<td>7 (14.3)</td>
</tr>
<tr>
<td>Other Physical Conditions</td>
<td>6 (12.2)</td>
</tr>
<tr>
<td>Depression</td>
<td>5 (10.2)</td>
</tr>
<tr>
<td>Other Psychological Conditions</td>
<td>5 (10.2)</td>
</tr>
<tr>
<td>Cognitive Impairments</td>
<td>4 (8.2)</td>
</tr>
<tr>
<td>LD, dyslexia, or ADD</td>
<td>4 (8.2)</td>
</tr>
</tbody>
</table>

*Note. PTSD = post-traumatic stress disorder; TBI = traumatic brain injury; LD = learning disability; ADD = attention deficit disorder; sensory impairments = hearing loss, visual deficits, auditory processing disorder, tinnitus; other physical conditions = leukemia, spinal cord injury, transient ischemic attack, asthma, insomnia; other psychological conditions = bipolar disorder, military sexual trauma, bulimia nervosa.*
### Table 3
Zero-Order Correlations Between Variables Explaining Fall 2015 GPA and SV-SASA Score (N = 48)

<table>
<thead>
<tr>
<th>Variable</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Fall 2015 GPA</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Average SV-SASA score</td>
<td>—</td>
<td>.506**</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Age</td>
<td>.122</td>
<td>.041</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Gender</td>
<td>.021</td>
<td>-.142</td>
<td>.095</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. First Generation Status</td>
<td>-.045</td>
<td>-.343*</td>
<td>-.084</td>
<td>.159</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Total duration of in-person meetings</td>
<td>-.113</td>
<td>.147</td>
<td>.002</td>
<td>.010</td>
<td>-.128</td>
<td>—</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Length of time receiving NSSV services</td>
<td>.125</td>
<td>.400**</td>
<td>-.081</td>
<td>-.070</td>
<td>-.211</td>
<td>.004</td>
<td>—</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Credits attempted</td>
<td>.437**</td>
<td>.455**</td>
<td>-.072</td>
<td>-.051</td>
<td>-.096</td>
<td>-.123</td>
<td>.275</td>
<td>—</td>
<td></td>
</tr>
<tr>
<td>9. Number of conditions reported</td>
<td>.181</td>
<td>.217</td>
<td>.346*</td>
<td>-.038</td>
<td>.065</td>
<td>-.070</td>
<td>-.142</td>
<td>.087</td>
<td>—</td>
</tr>
<tr>
<td>10. Disability services status</td>
<td>-.110</td>
<td>-.075</td>
<td>.226</td>
<td>-.009</td>
<td>-.106</td>
<td>.368**</td>
<td>-.188</td>
<td>-.133</td>
<td>.126</td>
</tr>
<tr>
<td>Mean ± SD</td>
<td>2.57 ± 2.61 ± 30.39 ± 1.13 ± 0.64 ± 06.5</td>
<td>—</td>
<td>4.73 ± 50.34 ± 12.37 ± 2.16 ± 7.48 ± 34.5 ± 3.36 ± 1.01</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. NSSV = New Start for Student Veterans; SV-SASA = Student Veteran Self-Advocacy Skills Assessment; SD = standard deviation; *p < .05, **p < .01*

### Table 4
Linear Regression Model Explaining Average SV-SASA Score (N = 49)

<table>
<thead>
<tr>
<th>$R$</th>
<th>$R^2$</th>
<th>Variable</th>
<th>$B$</th>
<th>SE $B$</th>
<th>$\beta$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>.675</td>
<td>.455</td>
<td>Age</td>
<td>.001</td>
<td>.013</td>
<td>.009</td>
<td>.947</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gender</td>
<td>-.104</td>
<td>.204</td>
<td>-.061</td>
<td>.612</td>
</tr>
<tr>
<td></td>
<td></td>
<td>First-generation status</td>
<td>-.313</td>
<td>.158</td>
<td>-.245</td>
<td>.055</td>
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<td>Length of time receiving NSSV services</td>
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<tr>
<td></td>
<td></td>
<td>Credits attempted</td>
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<tr>
<td></td>
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<td>Number of conditions reported</td>
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<td>Disability services status</td>
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<td>.168</td>
<td>-.124</td>
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*Note. B = unstandardized regression coefficient; SE B = standard error of the unstandardized regression coefficient; $\beta$ = standardized regression coefficient; NSSV = New Start for Student Veterans; SV-SASA = Student Veteran Self-Advocacy Skills Assessment.*
Table 5

Linear Regression Model Explaining Fall 2015 GPA (N = 48)

<table>
<thead>
<tr>
<th>$R$</th>
<th>$R^2$</th>
<th>Variable</th>
<th>$B$</th>
<th>$SE B$</th>
<th>$\beta$</th>
<th>$p$</th>
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Note. $B$ = unstandardized regression coefficient; $SE B$ = standard error of the unstandardized regression coefficient; $\beta$ = standardized regression coefficient; NSSV = New Start for Student Veterans; SV-SASA = Student Veteran Self-Advocacy Skills Assessment.
Appendix

Item Stems for Student Veteran Self-Advocacy Skills Assessment (SV-SASA)

1. Demonstrates self-understanding: Demonstrates an understanding of personal strengths and challenges that contribute to academic progress.

2. Utilizes New Start for Student Veteran supports: Proactively seeks and utilizes assistance from New Start’s Student Veteran Coordinator (SVC).

3. Communicates clearly with course instructors: Communicates with university faculty to clarify academic expectations.

4. Utilizes RDS services: Effectively utilizes RDS academic accommodations to support academic progress.

5. Demonstrates initiative: Requests/ informs university faculty of RDS accommodations.

6. Demonstrates effective communication and assertiveness skills: Demonstrates the communication and assertiveness skills needed to foster healthy interpersonal relationships.

7. Demonstrates effective conflict resolution and emotional (e.g. anxiety, anger, sadness) management skills: Demonstrates the conflict resolution and emotional management skills needed to foster healthy interpersonal relationships.

Note. Student Veteran Coordinator = NSSV practitioner providing services to student veteran; RDS = CSU’s campus disability services office, Resources for Disabled Students.
“Smiling and Ready to Learn:” A Qualitative Exploration of University Audit Classroom Instructors’ Experience with Students with Intellectual Disabilities

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David F. Cihak

Abstract
Transition postsecondary education programs for students with intellectual disabilities create supported environments to help students with intellectual and developmental disabilities transition from high school to gainful employment and independent living. In effort to be inclusive, transition programs often include an option for students to audit undergraduate courses. In order to explore the experiences of audit classroom instructors hosting an audit student, the current study conducted semi-structured interviews with nine faculty members who hosted an audit student. Thematic analysis yielded themes, which included overall experience, preparedness, suggestions for future, and uncertainty, describing the preparation for and experience of hosting an audit student as well as feedback for the program.

Keywords: Postsecondary education, intellectual and developmental disabilities, accommodation, inclusion

Individuals with intellectual and developmental disabilities (IDD) experience deficits in both intellectual and adaptive functioning (American Psychiatric Association [APA], 2013). Diagnostic criteria describe IDD manifesting in difficulties with reasoning, problem solving, planning, abstract thinking, communication, social participation, and ability to conduct typical daily independent living skills. For young adults with IDD, these difficulties often translate into struggles in education and transition to employment after high school (Papay & Bambara, 2014). As a result, individuals with IDD in the United States are largely unemployed or underemployed (Grigal, Hart, & Weir, 2012). As with most young adults, participation in postsecondary education increases the likelihood that individuals with IDD will attain long-term, competitive employment after high school (Ross, Marcell, Williams, & Carlson, 2013). Thus, for young adults with IDD, postsecondary education plays an especially vital role in transition to gainful employment and independent living after high school (Zafft, Hart, & Zambrich, 2004).

Postsecondary Education for Students with IDD

Prior to 2008, limited postsecondary education options were available for students with IDD after high school (Bouck, 2014). Students struggling with intellectual and adaptive deficits often note that traditional college environments lack supports needed to be successful and university staff lack training to accommodate students with IDD (Baker, Boland, & Nowik, 2013). The Higher Education Opportunity Act of 2008 (HEOA) created funding opportunities for postsecondary education and vocational training programs specifically designed to support young adults with IDD (Madaus, Kowitt, & Lalor, 2012). Additional funding available through grants and financial aid created new postsecondary education options to address the growing employment gap for young adults with IDD.

Considering adults with IDD struggle with transition to work after high school, Grigal, Hart, and Migliore (2011) reported on a national longitudinal study of students with disabilities transitioning out
of high school. The Individualized Education Programs (IEP) for the students prior to the transition from high school largely focused on securing employment and pursuing independent living. Overall, students with IDD had less success transitioning to postsecondary education than students with other disabilities, providing evidence for a need for programs specifically designed to support students with IDD. Currently, over 200 postsecondary programs across the country provide specialized training in vocational and independent living skills for young adults with IDD (Grigal et al., 2012). These Transition Postsecondary Education Programs for Students with Intellectual Disabilities (TPSID) offer skills development for students and attending a two- or four-year TPSID is among the best predictors of positive outcomes following transition from high school for young adults with IDD (Papay & Bambara, 2014).

In addition to targeted training, programs create opportunities for inclusion of students with IDD within the college environment fostering self-determination and self-advocacy (Izzo & Shuman, 2013). Taking advantage of financial aid, grant funding, and vocational supports in the community, the goals of TPSIDs are to equip students with skills needed for full-time gainful employment and increased independent living after high school (Grigal et al., 2012). In order to accomplish these goals, TPSIDs foster skills through student-centered coursework primarily focused on independent living and vocational readiness (Hendrickson, Carson, Woods-Grove, Mendenhall, & Scheidecker, 2013). The outcomes of TPSIDs for students with IDD are increased self-efficacy, self-determination, and self-advocacy (Folk, Yamamoto, & Stodden, 2012).

TPSID programs share these goals but vary from program to program in the implementation based on many factors. The TPSID program for the current study was a two-year program that students attended full-time. Because the program did not offer on-campus residency, the students commuted to school five days per week. During the program, students took courses specifically designed for the program that focused on independent living skills, career exploration, and technology skills. Students participated in supported internships each semester to gain work experience. Finally, students chose one academic and one physical education course each semester to audit in an effort to experience an inclusive classroom. TPSID students were supported by peer mentors, who provided help during internships and courses and also provided tutoring services during structured weekly study hall sessions.

As in the program studied here, TPSIDs often create opportunities for inclusion of students with IDD within the college environment to foster self-determination and self-advocacy (Izzo & Shuman, 2013; Mock, & Love, 2012). Inclusive opportunities within TPSID curriculum may include inclusive work experiences, on-campus housing, accommodated university-level coursework, and connection with peer mentors (Folk et al., 2012; Hafner, Moffatt, & Kisa, 2011). Faculty and staff of TPSID programs often work with the greater university community to offer enrolled students with IDD the opportunity to audit undergraduate academic courses on campus, meaning the student participates in a course but does not earn university credit (Hendrickson, Carson, Woods-Grove, Mendenhall, & Scheidecker, 2013). Auditing protocol for courses differs based on university regulation.

Kleinert, Jones, Sheppard-Jones, Harp, and Harrison (2012) provided helpful information on appropriate accommodations for students with IDD. For example, they note that students in TPSID programs can enter the program with or without a regular high school diploma and can enroll without traditional college placement tests such as the SAT or ACT. However, like all students, they are eligible for financial aid and should participate in academic advising. TPSID program students may take courses for credit or audit and often, the program leads to a certificate rather than a university degree. If the student takes an audit course, course modifications may occur that link the course content to the individualized learning goals of the student (Kleinert et al.). The authors argued that all learning should be framed within the unique goals and objectives of each student so that they can ultimately become successful members of society.

Inclusion on Campus

Participation in inclusive undergraduate academic courses on campus is typically included in TPSID curriculum. College students without disabilities can experience uncertainty regarding how best to interact with and include students with IDD in inclusive college courses (Baker et al., 2013). Typically, this uncertainty stems from lack of knowledge about students with IDD (Griffin, Summer, McMillan, Day, & Hodapp, 2012). Lack of training in supporting students with IDD (Baker et al., 2013) and lack of famil-
iarity with TPSIDs (O’Connor, Kubiak, Espiner, & O’Brien, 2012) can create a lack of clarity for instructors about how best to include a student with IDD in a traditional undergraduate course. Thus, inclusive experiences included within TPSIDs serve a dual purpose in supported learning for the student with IDD and opportunity for college students without disabilities and course instructors to gain exposure to this population (Hart, Grigal, & Weir, 2010).

Faculty often lacks formal training to support work with students with IDD, presenting additional challenges for audit classroom instructors hosting TPSID students (Baker et al., 2013). Course instructors may experience challenge including students with IDD due to their deficits in social skills and critical thinking (Gobbo & Shmulsky, 2014). Thus, students with IDD transitioning to college-level courses often require accommodations (Zafft et al., 2004). Auditing undergraduate courses offers students with IDD an inclusive classroom experience with more flexibility in accommodation of assignments without compromising the rigor of the course (Hart et al., 2010). When students in a TPSID audit an undergraduate course, the students are not receiving institutional course credit and thus the grading and course work can be more flexible to allow for accommodations (Hafner et al., 2011). For the current study, accommodations were flexible compared to those defined by the formal disability services office. Indeed, they were made either unilaterally by the audit classroom instructor or in collaboration with the TPSID staff. Often instructors could alter assignments or decrease the number of assignments to challenge the students with IDD at a developmentally appropriate level.

In order to inform training and supports for audit course instructors, O’Connor et al. (2012) conducted semi-structured interviews to explore the experiences of lecturers who hosted students with IDD in undergraduate courses. Researchers identified the following themes in instructor motivation to host audit students: desire for social justice, reinforcement by university culture, and previous connections with family or others with disabilities. Beyond these motivating factors, the audit experience represented opportunity to improve skills and gain training in accommodating students with IDD. Overall, instructors reported satisfaction with the audit experience strongly linked to audit student enthusiasm and engagement in the course. Considering these findings, the authors called for future research exploring audit classroom instructor experiences in order to inform postsecondary education programming for students with IDD.

Audit course instructors are vital stakeholders and contributors to the postsecondary education experiences of students with IDD. Thus, the purpose of the current study is to explore the experiences of undergraduate course instructors who hosted an auditing student with IDD. The instructors worked with a TPSID program that included all of the basic elements described here, including skill development (i.e., program-specific courses focused on life and work skills); vocational training (i.e., internship placement); and campus inclusion (i.e., access to audit courses). In order to further explore the experiences of undergraduate instructors hosting audit students with IDD, the current research sought to explore the following research questions: (1) What was the experience overall of having a student with IDD in audit classroom instructors’ class?; (2) How prepared and supported were the audit classroom instructors prior to hosting the student with IDD?; (3) What suggestions do audit classroom instructors have for improving the experience of subsequent instructors who host students with IDD?

**Method**

The purpose of the current study was to examine the experiences of audit classroom instructors who had hosted an audit student, defined as a student with IDD enrolled in the university TPSID program. These students were enrolled in an academic course but did not receive course credit. Based on university auditing protocol, the audit classroom instructor had flexibility to accommodate assignments and course expectations to make them developmentally appropriate for audit students. To examine these experiences, we used qualitative semi-structured interviews to collect data from our participants, described below, and the subsequent required qualitative analysis. To analyze the data, we used the Constant Comparison Method ([CCM]; Glaser, 1965; Glaser & Strauss, 1967).

**Participants**

Participants included audit classroom instructors from one university, all of who hosted an audit student from the TPSID program in one or more of their courses at least once during the past three years. This study included only academic audit classroom instructors; program students also audit physical educa-
tion courses but these instructors were not approached for this portion of the research. The TPSID program associated with the university had begun three years prior to the interviews. The university, located in the southeastern U.S., first created their TPSID in 2011 and had enrolled three cohorts of students, each with an average of eight students, at the time of the study. During the course of these three years, 29 faculty members at the university met our inclusion criteria and were contacted to consider participating in this study. When this study was devised, the TPSID studied here had started to become more established and grown in ways that called for an evaluative look at programmatic elements; one such program evaluation question centered on audit course instructors.

Nine participants (31%) agreed to be interviewed for the study. Participants consisted of seven Caucasian females, one African American female, and one white male. Their experience as a postsecondary instructor or faculty member ranged from two to twenty-five years. Two instructors came from Communication and Information fields, one came from the Arts and Sciences, two taught in Agricultural Sciences and Natural Resources, and four taught in Education, Health, and Human Services (see Table 1).

Participants had one to three TPSID students in their courses over the past three years (see Table 2). The audit students enrolled in the audit classroom instructor’s courses included six females and five males, all Caucasian and ranging in age from 19 to 25 years old. Student full scale intelligence quotient (FSIQ) scores ranged from 48 to 85 and the students had a variety of diagnoses based on high school IEPs. Overall, each student met the diagnosis of IDD to qualify for the TPSID program.

Data Collection

After obtaining IRB approval from the university, audit classroom instructors were approached through email to participate in semi-structured interviews about their experience with the university’s TPSID serving students with IDD. After agreeing to participate, giving appropriate consent, and filling out a short demographics questionnaire, the first or second author led participants through 30- to 45-minute interviews with a set of pre-determined questions that asked them to illustrate their experience with the students with IDD. All interviews were audiotaped, transcribed, and scrubbed of identifying information before data analysis took place. No incentives were provided to participants and no penalties existed for those choosing not to participate.

The semi-structured interview questions were adapted from O’Connor et al.’s (2012) research on this topic. O’Connor and colleagues developed seven interview questions designed to explore understanding of audit student needs, impact on teaching, and reasons for permitting students to audit their courses. From these, we created interview questions that best reflected our TPSID, resulting in nine questions. Five questions were identical to those used in the O’Connor et al. (2012) study. The remaining four questions developed by the researchers inquired about previous experience with people with IDD.

Data Analysis

To analyze the data, we utilized CCM to articulate the meaning of participant experiences (Denzin & Lincoln, 2011). The CCM method involves multiple steps of comparison depending on the type of data collected (Boeije, 2002). First, all interviews were transcribed verbatim and scrubbed of identifying data. Next, the first and second authors coded each of the nine interview transcripts separately using the open coding method. Coding first involved labeling every section of the interview and comparing within the interview to identify initial categories and labels. After each interview was coded individually, comparison occurred across interviews. Then, the entire research team met together and discussed our thematic analysis. In these meetings, we returned repeatedly to the transcripts and negotiated meanings and themes. After these group meetings, we compiled a master list of themes and subthemes for each of the three research questions. After each group meeting, we individually recoded the interviews based on the agreed-upon themes. After multiple meetings, no new themes arose and all interview content was coded.

Trustworthiness. In efforts to maintain the trustworthiness of the qualitative data collection and analysis, we employed several methods. Before beginning the research interviews, the first three researchers discussed their values and potential biases regarding the topic in order to promote self-reflexivity (Tracy, 2010). After the first and second authors delineated the themes from the constant comparative method, the entire research team triangulated the data in order to come to a consensus about the categories that served as conceptual representations of common findings. Additionally, in reporting the results, we in-
cluded direct quotes from the participants to minimize taking contextual understandings for granted (Payne & Williams, 2005).

**Findings**

The CCM method yielded four themes: uncertainty, overall experience, preparedness and support, and suggestions for future. Each theme is illustrated by subthemes and exemplar quotes from participants.

**Uncertainty**

Nearly all of our audit classroom instructors (n=7) expressed uncertainty throughout the auditing experience. The instructors discussed all of their experiences outlined below but qualified them with phrases such as “I was never quite sure” and words like “worry” and “concern.” Usually, the uncertainty centered on implementing appropriate accommodations, knowledge of programmatic goals, and the auditing process in general. Prior to the experience, instructors expressed uncertainty about the individual student auditing the course, but also about the program as a whole. Instructors were also generally uncertain about the auditing procedures for the university. A combination of uncertainty about auditing protocol, program goals, and the ability level of the individual students left instructors unsure about the amount of preparation necessary to accommodate the audit student with IDD. One participant recalled:

> I think the area where I was not as prepared is what it would mean to audit the class. So, um, I didn’t necessarily have a good idea of what [she] might want to do or – I didn’t know what her particular goal might be in terms of what assignments she would want to participate on and which ones she wouldn’t.

In addition to preparation required, the audit classroom instructors had questions about how to engage the students with IDD properly as well as grading and evaluative procedures. Given that feelings of uncertainty were experienced by most participants, even their positive reflections about the actual experience must be understood through this lens. Participants volunteered to host these audit students, but that did not eliminate feelings of hesitation or doubt.

**Overall Experience**

Five major themes emerged related to audit classroom instructors’ overall experience of having a student with IDD in their academic course. The themes included: increasing student learning, impact of auditing, blending in, and positive student attitude. Each theme is discussed below.

**Increasing student learning.** The instructors overall had a lot to share about trying to increase student learning for the TPSID program’s students; within this theme, two sub-themes developed: assignment modification (n=9) and class time adjustment (n=9). Overall, audit instructors were not asked to significantly alter the structure of their course. Since inclusion of the student with IDD as an auditing student was volunteered as service, the primary focus of audit instructors was on the overall course within their typical teaching requirements. As a result, outcomes and student evaluation primarily aligned with the instructors’ academic program, not that of the TPSID. To navigate discrepancies between goals of the course experience, accommodations were made with the support of the TPSID considering the student’s developmental lever to support student participation and engagement in the course. These accommodations included additional supports using mentors, and adjustments to assignments in the course. Within the realm of assignments, instructors’ experience varied; some altered their assignments to help them be more accessible to the student with IDD while others allowed the student to opt in or out based on the task. Instructors also discussed having to alter assignments during the course of the semester, not realizing the challenges the student with IDD would have with the syllabus as it stood. One participant stated she approached the program director after the first week of class in order to “figure out what we felt would be acceptable to expect of [the student] and how we would work through those things.”

Instructors also reportedly struggled with providing constructive feedback to the students with IDD on the work they did complete, with one participant noting she “didn’t want to give him feedback on this paper that hurts his feelings or tell him that he did it wrong.” This challenge to provide developmentally appropriate feedback to the student with IDD led to some instructors altering the way they graded assignments, with one participant noting “I would give (the student) a higher score than I would have given somebody who was not auditing the class because I
know that the score didn’t matter.” Another instructor echoed this sentiment, saying she did consider “whether (the student with IDD) could actually pass the test that was modified for her, I’m not sure that was really the agenda.” It seemed that instructors wanted to help these students gain as much as much as they could from the audit experience, but often struggled with what would be an appropriate accommodation to promote learning. All of the instructors interviewed lacked training in how to challenge and evaluate students with IDD, relying heavily on the program for guidance with promoting student learning.

Also related to increasing learning, in the classroom a program-established mentor system that paired undergraduate volunteers with program students was helpful in providing accommodations for the student with IDD. All students in the TPSID program were assigned peer mentors who would attend class with the students and help the student navigate in-class experiences. For example, the peer mentors would help audit students to take notes, clarify instructions for in-class activities, and communicate instructions for in-class assignments to the TPSID program. The instructors reported using these mentors as touchstones to check in on the student with IDD in addition to running assignments through them, having them serve as note takers, and offering support to the instructors if needed. One participant stated:

That moved my comfort level even further along the spectrum just because...if I’m trying to cover something and I can’t stop them it’s great to know there is somebody next to them that can mentor them through the process. ...It’s great to know there is somebody else there that can also be of assistance.

The overall focus of the audit experience was participation in class, providing audit students an inclusive experience in campus compared to courses taken with only other TPSID students. Several audit classroom instructors also reported a focus on the engagement and participation of the student with IDD in the classroom rather than on the product of previously discussed assignments; one participant stated, “The experience of being in the class was more important than what she learned.” As focus emphasized by TPSID staff was not for evaluation of the content learned in the course experience, but the inclusive participation of the audit students, the addition of a program-trained mentor appeared to positively influence the learning that occurred for students.

Impact of auditing. Impact, or the influence of hosting an audit student with IDD, included three different categories: classroom (n=9), instructor (n=8), and exposure to diversity (n=5). In terms of classroom impact, all of the instructors overwhelmingly cited the experience as positive, with one participant stating the student with IDD “brought joy to the classroom.” Along these lines, another participant said their particular student with IDD helped set the tone in the classroom when that student asked on the first day of class how to spell a word while taking notes: “Later in the semester, other students would be like, ‘Oh, could you spell this word?’ Because now it was okay, somebody else opened the door.” Instructors noted that the tone of the classroom was positively altered by having a student with IDD in the course.

The impact on instructors was two-fold: most of them felt as if they handled the student’s presence in the course well and also were challenged in new ways. One instructor said, “It really made me stop and think about my own teaching and the level at which I teach.” Most of the instructors who contributed to this subtheme said they learned from the experience; one even said, “If I had (the student) again, I’d be better at it.” Participants recognized that learning more about students with IDD affected their overall teaching style. Lastly, five participants noted how beneficial they thought it was for the students enrolled in their course to have exposure to the student with IDD. “I think it’s phenomenal for people to understand that we’re all contributing to this process for each other,” one instructor shared. For these five participants, the impact went beyond them to the overall course experience by enriching the multicultural awareness of their students.

Blending in. Considering the primary goal of inclusion and that most instructors had not hosted a TPSID student prior to this experience, many of the participants (n=8) discussed how well the students with IDD fit in to the classroom experience. One instructor said she thought the students might have picked up on the fact that the student had a disability “but we have all rolled with it and he is part of the team.” This sentiment stems from the fact that most of the audit classroom instructors expressed concern over not wanting to call special attention to the TPSID student, or highlight their presence or disability with their peers in class. Some of the instructors said because the stu-
dents with IDD fit in so well, they did not feel the need to make any adjustments to their teaching style. “I was going to treat them like I treat my students,” one participant said, “I was going to push them a little bit, I was going to mess with them like I do with my students.” Hoping the audit students had an inclusive experience participating in the course, instructors may have been initially surprised by how easily students with IDD adapted to the audit classroom, but quickly adjusted their perspective, stating, “they seemed to fit in very well with the other students.”

**Positive student attitude.** Several of the study participants \( n=7 \) shared that students with IDD were committed to participating in all aspects of the class, including assignments, group work, and class discussions. In addition, the participants used positive language to describe the students, such as “fun,” “engaged,” and “bubbly.” One participant who had hosted multiple students from the program said, “They came in smiling and ready to learn.” Audit students were “interested in the topic” and “excited about the college experience”. Participants clearly noted the positive attitudes that program students had about learning, adding it was refreshing anytime they had students excited about being in their course. This sub-theme, as well as all the others mentioned in this category, are underscored by the fact that there was a 100 percent completion rate among students taking audit courses during the three years of the program.

**Preparedness and Support**

Three themes emerged from instructors describing their experience preparing for hosting an audit student with IDD in their academic course: factors contributing to fit, support from the program, and instructor preparation. Each is discussed below.

**Factors contributing to fit.** Factors regarding fit impacted instructor decisions to approve the audit student for inclusion in the course. Within the university, individual instructors must provide approval to include audit students in an academic course, including those from the TPSID. Among other institutional factors mentioned, one of the biggest areas for consideration prior to approving audit students was judging for course fit.

Instructors offered feedback about the appropriateness of the selected course for inclusion of an audit student with IDD \( n=4 \). Factors contributing to fit included the number of students in the course, the format of the course, the difficulty of course material, and the teaching load of the instructor. One participant reflected, “I didn’t want it to be an afterthought, I wanted it to be a concerted effort if need be. And I was happy to do that, the timing just needed to be right.” Similarly, all participants stated willingness to accommodate the student, but some had concerns about the impact of the potential learning environment on the student. For instance, a participant stated, “I also recommended that my class was probably wasn’t the one that they wanted. It was a class of 150-175 students, and I could not imagine why a student would want to be in that environment as kind of their first exposure of college.” Instructors generally had a lack of knowledge regarding the overall program goals, and thus felt unsure if their class would be able to appropriately meet the needs of the student and the overall program goals. After learning more about the TPSID program, the aforementioned instructor made a suggestion for a smaller course they taught in order to be able to implement accommodations for the student with IDD.

**Support from the program.** Prior to hosting an audit student with IDD, eight instructors discussed support from the TPSID in adapting syllabi and course assignments to accommodate the audit students. Participants reported needing tangible support from the program in initially adapting course materials. In some cases, program staff met with audit classroom instructors to review the syllabus and answer questions about student ability. This support prior to the beginning of the audit experience was mainly focused on informational support as most participants reported greater need for tangible support after the start of the semester in troubleshooting course assignments for audit students. One participant described the supports required from the program:

> I was very aware of FERPA so I don't know how much [the program] can tell me about their challenges but whatever [the program] can tell me is helpful because then I can adjust how I engage with them...[the program] spent a lot of time with me asking ok so what is their reading comprehension, what's their capacity to write?

The greatest support noted by participants was informational support from the program. Many participants had never hosted an audit student prior to being approached by the program, so most were unfamiliar with auditing protocol at the university. The program
provided informational support by reviewing audit protocol for the university. The program provided instructors informational support through general information about working with students with IDD. One participant recalled, “I did find the materials they shared helpful and went through those in terms of being aware of the language that you use and making sure that you clarify as needed.”

Many participants expressed a desire to have known even more about the individual student auditing the course prior to experience. For instance, one participant stated:

I was very aware of FERPA so I don't know how much you can tell me about their challenges but whatever you can tell me is helpful because then I can adjust how I engage with them so we talked about that, um we spent a lot of time with me asking ok so what is their reading comprehension, what's their capacity to write?

Participants expressed needing support from the program in deeming the appropriate amount of work and type of instructions necessary to accommodate the student. This support continued throughout the audit experience, but participants expressed specific informational and tangible support from the program in preparing to host the audit student.

**Instructor preparation.** Beyond informational and tangible support provided by the program prior to hosting the audit student, all nine participants discussed other preparation employed for the experience. Individual characteristics, in addition to personal connection with those with IDD, played a vital role in instructor preparation for hosting the audit student. Instructor characteristics including teaching style, motivation, and personal beliefs influenced the decision to host a student with IDD in their course. Instructor characteristics were evident in participants discussing the decision to acquiesce with the program request. One participant recounted, “I felt prepared in the sense that I had a desire to do it. I wanted to have the experience with those students.” Another participant stated:

I think I am a pretty inclusive instructor and I try to adapt my teaching to the needs of the students in my class. Most of the courses that I teach are for students who are going to become teachers so I think I try to go out of my way to model for them how to behave.

Instructors also found comfort and motivation to participate in the program through previous experiences had with individuals with IDD. Most participants discussed previous experience working with youth with IDD as teachers, volunteers, or through personal connections. One participant described her previous experience with children playing a role in her choice to include a student with IDD in her course:

I don’t, we don’t always recognize autism grown up or I mean I am more familiar because I was a classroom teacher for a long time before I continued to teach. I was more familiar with what it looks like in three and four and five year olds than what it looks like in adults.

Another participant shared:

Well and I started off early in my life working in a group home with teenagers who had gotten into some trouble but sometimes those were related to intellectual disabilities and my own son has Asperger’s so there’s training and I met people on staff. I just knew a lot of different people in the community.

Participants often felt more comfortable with individuals with IDD from previous exposure to either children or adults. Additionally, instructors often self-identified as advocates for individuals with IDD, hoping to serve as a role model and advocate by incorporating an audit student into their course.

**Suggestions for Future**

Two major themes emerged from our analysis related to our third research question. The first theme, *advanced preparation support*, included training and information that the audit classroom instructors believed would have helped better prepare them to have one of our students in their courses. All of the participants expressed a desire for more information and increased communication with our program. Four participants asked for more communication from the program prior to students arriving in their courses. They mentioned that they knew a program student was coming, but also noted “I think the degree to which [program] can partner with the individual faculty and talk about the individual students and how they can be engaged and not everything but enough to say so these are their capabilities” and believed “it would have helped to have someone look at what I already had in place.” These participants wanted to know more
about the program and increase connections between the program and the audit course instructors.

Five participants offered suggestions related to audit course fit for students. One mentioned “I would recommend obviously making sure that this is a good fit for the student because not every student is going to be as comfortable and I want it to be a positive experience for all of my students.” For these instructors, it was important that the student wanted to learn the material they were teaching and that all involved understood the goals of the student auditing that particular course. Five participants also suggested ideas focused on the audit course itself. They wanted more information about program expectations and how to handle an audit student in general. One instructor mentioned:

So I thought that if I was going to do this again, I might want to be a little but more clear with the student from the start and let’s scope this out. This is what this assignment looks like, can I expect to see this from you.

Participants wanted more direct communication from the program about how the auditing student would fit into their course.

Finally, four instructors our instructors highlighted the need for awareness training and specific training on how to work with students with IDD. For example, one participant wanted more information about FERPA and student privacy while another felt underprepared on how to serve the needs of our students, “I was well prepared in terms of my own experiences [with people with IDD], but how you translate those experiences into the classroom situation, I was not at all prepared for. So I think doing more of that.” These participants believed faculty would benefit from formal and informal information on how to work specifically with our students.

The second theme connected to increasing program visibility. For these four participants, improving the audit course experience was about making sure the university as a whole knew about our program. For example, one instructor noted “it’s marketing, you have to do some marketing, and by that I mean you have to identify almost every department has somebody who is at least open to this kind of thing.” Similarly, another participant explained that program visibility was vital, explaining “I would say that of 36 faculty members that we have, I would say maybe if I say, ‘Do you know what the [program name] is?’, maybe three of the 36 would know what that is.” These participants spoke about how the university perspective was important and encouraged us to publicize our program more.

Discussion

The experiences described by participants in the current study suggest an eagerness to host students with IDD and an uncertainty about the process of having audit students with IDD in their course. This study extended the initial research by O’Connor et al. (2012), who interviewed 11 instructors who hosted an audit student with IDD. Many of our findings are consistent with their results; however, our research also revealed several additional themes.

Similar to O’Connor et al. (2012), our participants highlighted the important learning that occurred through having students with IDD in their classroom. Faculty, even at a large university who may not have formal training in special education, are interested in working with diverse students and notice the positive impact that student diversity has in their classroom. Also, participants in both studies believed the impact of having these students in class extended beyond any individual and positively affected the student with IDD, the other students in the course, and the instructor’s ability to teach. Finally, participants in our study and in the O’Connor et al. (2012) research noted the importance of participating in these types of programs. Our instructors, in particular, discussed how important it was that students were intentionally placed in their courses and the selected course offered the best learning opportunity for that student.

A major difference between our findings and those of O’Connor et al. (2012) related to the theme of uncertainty. These results support earlier studies by Baker et al., (2013) who found that traditional college instructors lacked knowledge in working with students with IDD. In addition to the reported minimal to no prior knowledge of the TPSID prior to being asked to host an audit student with IDD, our participants expressed an overall feeling of worry or lack of confidence related to the entire auditing process. Unfamiliarity with TPSIDs in general, lack of knowledge about auditing protocol at the university, and minimal training in supporting students with IDD in postsecondary education created uncertainty about what to expect from the experience. These instructors persevered and in some cases went on to host addi-
tional audit students, but the theme of uncertainty still shaped their experiences.

The findings also indicate a lack of adequate training regarding inclusion and accommodation of students with IDD in college courses, consistent with findings from previous research (Zafft et al., 2004). As the TPSID in the current study functions independently from the Office of Disability Services at the university, the audit classroom instructors relied on support of the TPSID or prior training to navigate the audit experience. One of the greatest challenges audit classroom instructors faced was determining appropriate accommodations for students with IDD auditing the course. This struggle with accommodation was largely attributed to lack of prior information shared about the student with IDD auditing the course. Some student information was protected by or unknown to the TPSID, which created some challenges in preparing audit classroom instructors for hosting a student with IDD. Considering their experiences, instructor feedback largely centered on program support prior to and during the audit experience through sharing of student information to the extent possible.

Despite these challenges, participants were overall open and enthusiastic to hosting an audit student with IDD. Many instructors identified a personal connection to individuals with IDD influencing the decision to accept another auditing student with IDD. Although some expressed concern about timing, logistics, or other institutional factors, overall the experiences were positive and participants reported openness to hosting another audit student with IDD in the future.

Implications

While the current study represents a contribution to the literature and offers implications for TPSID programs, limitations must be recognized. The participants all represented faculty from a single university so the small number of participants may not be representative of the entire sample of audit classroom instructors in the identified university. Additionally, the use of qualitative method, while useful in identifying program feedback, may not be generalized to all university audit classroom instructors who have hosted students with IDD. Therefore, all findings must be read with this understanding. Also, it is possible that other researchers would identify different themes from those discussed in this paper. All qualitative data is therefore shaped by the criteria of the interview data. The use of qualitative data in the study means that the triage and analysis of interview experiences were conducted through a researcher’s interpretation of themes cannot be eliminated. Next, triangulation and measures put in place to establish trustworthiness, researcher subjectivity in coding and interpretation of themes cannot be eliminated. Next, we intentionally built our semi-structured interview from the questions used in a previous study on a similar topic, but the interview format offers opportunity for subjectivity in the part of the interviewer, thus all interview experiences were not uniform. Relatedly, all of the information is based on self-reported data, so it is possible that participants may have attributed information in unintended ways or reported experiences selectively. In most research, it is impossible to know the accuracy and truthfulness of the participants. Future researchers might consider included other measures of outcomes of course learning or program goals, as well as include feedback from audit students to further examine the audit experience.

Implications for College Campuses

The HEOA (2008) created funding opportunities for TPSIDs, instigating the development of programs in universities throughout the country (Grigal et al., 2012). As inclusive auditing experiences are common in most TPSIDs, the findings of the current study offer implications for all TPSIDs. A number of our audit classroom instructors reported lack of program visibility on campus. These findings suggest increased publicity and visibility of TPSIDs on university campuses may yield greater faculty support and more inclusive opportunities for students with IDD in the university community. Presenting at college conferences, highlighting the TPSID program in the university paper, and talking to local media outlets are some ways to increase program visibility. Given that there is support from some faculty for TPSID programming, sharing information about program availability might help programs better connect with interested faculty.

Additionally, instructor uncertainty related to lack of training and preparation prior to the audit experience suggests offering faculty training for inclusion and accommodation for students with IDD could create more options in audit opportunities for TPSID students. Based on our participants, it seems that faculty committed to multicultural experiences or those who had personal experiences with people with IDD are particularly willing to host a program student, even if they feel some uncertainty. Providing training could increase access to faculty who might be interested but might not be aware of the program. For
example, in our program, we began working with our teaching and learning center on campus to help provide training opportunities for interested faculty. We also connected with the disability career office on campus to connect with others who might support TPSID programming.

Participant feedback highlighted the importance of TPSID support and preparation for audit classroom instructors. As deficits in intellectual and adaptive functioning occur on a spectrum for adults with IDD (APA, 2013), program efforts to prepare audit classroom instructors may be useful when tailored to the specific developmental level of the student. Programs offering early and consistent supports in both adapting assignments and troubleshooting inclusion issues throughout the audit experience could yield positive outcomes and increased future participation of audit classroom instructors. Additionally, TPSID facilitators who are familiar with university auditing protocol could guide instructors through the audit experience.

Instructors experienced uncertainty regarding identification and inclusion of the student with IDD auditing the course among peers. Programs could consider creating protocol or offering guidance in how to navigate inclusion of audit students with IDD from TPSIDs and peer supports, potentially reducing some uncertainty for both audit students and instructors. Further, future studies examining the audit classroom instructor experience may consider various interview formats, such as focus groups, and may choose to focus on instructor preparation both directly related to the audit experience, and general training and knowledge of learners with IDD.

TPSID programs supporting students with IDD as they transition from high school to gainful employment often include an inclusive auditing experience (Hendrickson et al., 2013). The findings of the current study serve to better inform TPSID programs at other universities in order to better serve and support young adults with IDD. The audit experience represents a growth opportunity for both the auditing student with IDD and the course instructor. Increased TPSID visibility on campus, better training for faculty in accommodating students with IDD, and consistent program supports specific to the auditing student can help create an overall positive auditing experience.

References


### About the Authors

Emma C. Burgin received her M.A. in clinical/community psychology from the University of North Carolina at Charlotte and her Ph.D. in Counselor Education and Supervision from the University of Tennessee. She currently serves as the coordinator for the FUTURE Program, a transition program for college students with intellectual and developmental disabilities at the University of Tennessee and as a therapist for an inpatient psychiatric facility. Her research interests include postsecondary education for students with IDD, mindfulness and acceptance-based counseling, creativity, professional development of counselors, etc. She can be reached at eburgin@vols.utk.edu.

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Table 1

Instructor Demographic Information

<table>
<thead>
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<th>Gender Identity</th>
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<th>Course(s) Taught</th>
<th>Years in Faculty</th>
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Table 2

Demographic Information for Audit Students Enrolled in Audit Classroom Instructors’ Courses

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College Students Who Have ASD: Factors Related to First Year Performance

Solvegi Shmulsky¹
Ken Gobbo¹
Andy T. Donahue¹
Manju Banerjee¹

Abstract

College attendance is increasing for students who have an autism spectrum disorder (ASD), yet a dearth of literature exists about their progress in postsecondary education. This study describes a group of college students who have the formal diagnosis of an ASD to uncover factors related to their academic performance. Twenty-three first-year college students who have the diagnosis of ASD were tracked for two contiguous semesters to determine if anxiety and executive function are related to end-of-year grade point average (GPA). A significant positive correlation between the BRIEF-A composite index of behavioral regulation and GPA was found. Study participants reported no or mild levels of anxiety, and six reported clinically significant ADHD symptoms. Twenty-two of 23 members of the study remained enrolled for full two semesters, suggesting a successful transition to college. Implications for postsecondary services are discussed.

Keywords: Autism spectrum disorders, postsecondary performance, executive function, anxiety, ADHD

Autism Spectrum Disorder (ASD) is a neurodevelopmental condition that affects 1.4% of the national population, a number that has increased by 120% since 2002 (Centers for Disease Control, 2014). Despite increasing diagnoses and growing national awareness of ASD, research on postsecondary experience students with ASD is limited (Gelbar, Smith, & Reichow, 2014). College-bound, intellectually able students with ASD may have distinctive needs, and research that will inform effective support models, particularly in academics, is still needed (Zeedyk, Tipton, & Blacher, 2016). The purpose of this study is to contribute to the understanding of the needs of first-year college students with ASD by describing 23 students and examining whether co-occurring anxiety and executive function are linked to their academic success.

ASD is a heterogeneous condition, varying substantially in severity and manifestation of symptoms. Social difficulties, impaired communication, and restricted, repetitive behavior are the diagnostic center of ASD (American Psychiatric Association, 2013). While research efforts often focus on children, ASD continues in adulthood affecting the social relationships, education, employment, and quality of life (Pinder-Amaker, 2014). A prevalence study estimated that 0.7 to 1.9% of enrolled students met the diagnostic criteria for ASD, although many were undiagnosed (White, Ollendick, & Bray, 2011).

Postsecondary Students Who Have ASD

Postsecondary education is recognized as a key to success in adult life, and the 46% upsurge in enrollment in degree-granting postsecondary institutions since 2000 demonstrates this trend (U.S. Department of Education, 2015a). Having a postsecondary degree is associated with higher lifetime income, lower unemployment, and better health (Sanford et al., 2011). For students with ASD, the benefits also include improved self-esteem, access to a valued social role, and greater community involvement (Hart, Grigal, & Weir, 2010). Despite the advantages conferred by postsecondary education, degree attainment by students with disabilities continues to be lower than the

¹Landmark College
general population, (Sanford et al., 2011; U.S. Dept. of Education, 2015b).

While most high school students with ASD expect to continue their education, (Anderson, McDonald, Edsall, Smith, & Taylor, 2016), their expectations may not be met. After high school, 57% of individuals with ASD were found to be focused on postsecondary education and 14% on employment, while 29% were found to be “continuously or increasingly disengaged.” (Wei, Wagner, Hudson, & Shattuck, 2015). Of 11 disability categories, autism is third lowest in college enrollment and graduation (Sanford et al., 2011). Many typical students who have ASD traits, particularly in pragmatic language, have shown difficulty adapting to college (Trevisan, & Birmingham, 2015).

Research has begun to illuminate the barriers to college success for students with ASD and to identify practices that work for this group; however this area of inquiry is not yet robust. Nicholas W. Gelbar and colleagues (2014) conducted a systematic review of published studies from 1999-2013 and found 20 articles describing the collegiate experiences and supports of adults with ASD. “Overall the major finding of this review is the scarcity of research concerning the experiences of college students with ASD … It is time to move past theoretical suggestions and into empirically-based recommendations” (p. 2599).

To date, the majority of research on postsecondary students with ASD is descriptive and interview-based. Students who have ASD have described the challenges and positive aspects of their collegiate experience, echoing themes that also come up in empirical literature. Students report that feelings of anxiety, depression, and loneliness are prominent in their college experience, as are difficulties managing workload, time, sensory input, and new social demands (Gelbar et al., 2014; Nirmal, 2014; Van Hees, Moyson, & Roeyers, 2015). College faculty members have observed similar challenges in their work with students who have diagnosed ASD (Gobbo & Shmulsky, 2014).

Beyond graduation and retention rates, little is known about the academic performance of college students with ASD, but one study of 35 students found strong academic performance. The average self-reported GPA was 3.27, with 80% reporting a GPA above 3.0, and 49% arriving with AP credits (Gelbar et al., 2014). Positive aspects of being in college include improved self-esteem, having a valued social role, and better future employment (Hart, et al, 2010). In addition, students report a “sense of appreciation” for college—that they like college and they enjoy the intellectual respect (Nirmal, 2014).

**Anxiety**

Anxiety is often a significant problem for individuals with ASD, and co-occurrence rates range from 40-84% and are positively correlated with IQ (Sukhodolsky, Bloch, Panza,& Reichow, 2013; White, Oswald, Ollendick, & Seashill, 2009). Among college students, greater autism symptoms have been associated with higher levels of social anxiety, depression, and aggression (White, et al., 2011). In an interview study conducted by Gelbar et al. (2014), only 31% of college students with an ASD said they could manage stress and anxiety, while 42% reported depression and 61% said they were lonely. In-depth interviews of 12 college students with ASD revealed that concerns about managing anxiety, moodiness, and ASD symptoms were prominent concerns (Nirmal, 2015). Anxiety was mentioned in 85% of articles about the experience of college students with ASD, followed by loneliness, 53%, and depression, 47% (Gelbar, et al., 2014).

By comparison, it is estimated that 18% of the U.S. general population has experienced a clinical level of anxiety in the last year, and that anxiety most often affects women, accounting for 60% of cases. (National Institute for Mental Health, n.d.). The link between anxiety, or central nervous system arousal, and performance is curved. An anxiety “sweet spot” is associated with strong performance, while too much or too little anxiety results in poorer performance. A key question this research seeks to answer is whether the co-occurring anxiety experienced by college students with ASD helps or harms their academic performance. If higher levels of anxiety are associated with academic success, ethical and practical dilemmas emerge in terms of how best to support students on the spectrum.

**Executive Function**

Executive function (EF) is a broad term that refers to one’s ability to engage in goal-directed behavior. Planning, monitoring progress, inhibiting, shifting focus and strategy, and regulating emotion and motivation are some of the abilities included in the EF umbrella. From a practical standpoint, college students who struggle with EF may have difficulty managing time, showing up for appointments, organizing their room and course materials, starting homework,
and completing assignments. In the classroom, they may get off track in discussions, get distracted easily, and have difficulty monitoring their level of focus. EF deficits are prominent in ASD, ADHD, and other childhood psychiatric conditions (Hosenbocus & Chahal, 2012); however the profiles are distinct and deficits associated with ASD are less severe than those linked to ADHD (Corbett, Constantine, Hendren, Rocke, & Ozonoff, 2009; Happe, Booth, Charlton, & Hughes, 2006).

Perseveration, getting stuck, and inability to be flexible are EF deficits commonly found with autism, and the nature of EF deficit is hypothesized to be an important variable in the overall functioning of a person with autism (Pellicano, 2012). Evidence about the persistence of EF problems into adulthood is mixed. In a seminal study of EF in ages six to 47, Ozonoff and colleagues (1994) found impairment at all ages. Conversely, an investigation by Sachse and colleagues (2013) found impaired visual working memory, but no impairment in planning, cognitive flexibility, or cognitive inhibition for 30 adults with ASD matched to 28 controls. Given that EFs may improve for adults with ASD, the postsecondary years are an especially important time period when change may be happening.

ADHD

ASD and ADHD have a high co-occurrence, and the DSM-5 now allows for both conditions to be diagnosed in an individual. It is estimated that 30-50% of individuals who have ASD also meet the criteria for ADHD, and that 20-50% of those with ADHD meet the criteria for ASD (Rommelse, Franke, Geurts, Hartman, & Buitelaar, 2010). Due to this high co-occurrence, genetic studies have sought to identify whether ASD and ADHD share common genetic roots. Both a broad genetic liability for both disorders has been found alone with specific genetic contributors (Pettersson, Anckarsäter, Gillberg, & Lichtenstein, 2013; Oerlemans et al., 2015). The genetic overlap may explain why symptoms of both conditions are often apparent in families (Oerlemans, et al., 2015).

Based on the high co-occurrence of ASD and ADHD traits, and the well-established link between ADHD traits and difficulty in academic settings, this study sought to describe ADHD traits within a sample of college students who have ASD. The hope is to create a clearer picture of college students with ASD in regard to variables that impact academics.

Research Questions

The current study describes a sample of college students with ASD and identifies factors related to their postsecondary academic success. This research analyzes the predictive value of independently measured executive function (EF) and anxiety symptoms on postsecondary academic performance. In addition, the study describes co-occurring ADHD symptomology and IQ profiles of the sample. By identifying aspects of ASD that correlate with academic success, this research can potentially help students and families set educational goals and colleges screen for support needs among students with disabilities.

The specific research questions addressed by the study are:

1. Does clinically significant EF disorder in global executive function, behavioral regulation, or metacognition affect cumulative GPA of college students with ASD?
2. Does co-occurrence of anxiety symptoms with ASD negatively influence GPA?

Methodology

The current study tracked two cohorts of college students (n=32) for a period of one year each. Nineteen started college in 2013, and 13 began in 2014. Participants were enrolled at a four-year private liberal arts college in the Northeast. All participants had a confirmed diagnosis of ASD. Participants were recruited from a social pragmatics early orientation program offered at the institution (Shmulsky, Gobbo & Donahue, 2015).

The overall purpose of the study, the time commitment for participation and the nature of research activities was described to each cohort. Informed consent was obtained in hardcopy. Only consenting students who met the DSM-5 criteria for ASD were included in the study. Student diagnoses were verified through records supplied by consenting students. Since many of the students were diagnosed prior to publication of the DSM-5, the sample includes students diagnosed with Asperger’s Syndrome and Pervasive Developmental Disorder. Students who provided a diagnosis of non-verbal learning disability (NVLD) were not included in the study. Data were also collected from the students’ disability documentation on their cognitive profiles, including full scale IQ, Verbal IQ, Performance IQ, Processing Speed Index, and Working Memory Index.
Students who consented to participate in the study were asked to complete three instruments: The Behavior Rating Inventory of Executive Function – Adult Version (BRIEF – A), The Adult ADHD Self Report Scale (ASRS), and the Beck Anxiety Inventory (BAI). They were also asked permission for their educational records, including grades, credits earned, and enrollment, to be accessed for one year by the research team. These instruments were administered to the students during college orientation prior to their first semester.

**Measures**

The BRIEF-A is a questionnaire designed to assess executive function in a variety of performance areas in everyday life. It includes nine clinical scales divided into two indexes, the Behavioral Regulation Index (BRI) and the Metacognition Index (MI). It also yields a Global Executive Composite (GEC). While it contains nine non-overlapping clinical scales, only the composite indexes were used. The BRIEF – A includes three validity scales: Negativity, Inconsistency, and Infrequency. It has been widely used clinically and in research (Baron, 2000; Roth, Isquith, & Gioia, 2005). T Scores at 65 or above are considered to be clinically significant.

The Adult ADHD Self Report Scale is a six question scale designed to screen for adult ADHD in community samples. It was developed by the World Health Organization. It is a screening scale with good internal consistency, test-retest reliability and high concurrent validity (Kessler et al., 2005; Kessler et al., 2005; Rotenberg-Shpigelman, Rapaport, Stern, & Hartman-Maeir, 2008;).

The Beck Anxiety Inventory (Beck & Steer, 1993) is a 21 item self-report scale that surveys typical features of anxiety. Subjects rate the severity of symptoms on a four point scale. A total score is calculated based on the severity ratings for all items. Beck and Epstein (1988) have demonstrated good internal consistency and test retest reliability for this instrument.

Data related to persistence and academic progress were also collected. Persistence was defined as enrollment at the college during the study. Academic progress was determined by the total number of academic credits accrued during the tracked year, and semester and cumulative grade point averages for the same time period.

**Results**

**Descriptive Statistics**

While a total of 32 students gave their consent to participate in the study, the results are based on 23 students for whom complete sets of data were available. See Table 1 for demographic and cognitive data. The sample consisted of 20 males and three females. Only one student did not persist for one semester; and this student’s scores were dropped from the analysis. Persistence for at least two semesters was 86.9%, with 20 out of 23 students persisting for two semesters. The average number of credits earned per semester for the sample was eight credits, which is less than the typical 12 credits full-time load. While some students took 28 credits over two semesters, others completed only three credits in two semesters. The average age of the sample was 19 years 8 months.

The cognitive profile of the participants was representative of college students with ASD. All scored in the average range on the Wechsler Adult Intelligence Scale (WAIS). Specifically, average Verbal IQ was 110 (n=21), and the average Performance IQ was 99 (n=21), and the average Working Memory Index was 97 (n=19). Only the average Processing Speed Index was below average at 84.

Most students (86% or 19 of 22) self-reported having no or mild levels of anxiety (level 0 or 1) on the BAI scales. Very few (3 of 22) reported having moderate to severe symptoms of anxiety (level 2 or 3). On the ADHD screening scale, six students out of 23 were identified as having co-occurring ADHD symptoms. Not surprisingly, all six students with ADHD symptoms also had elevated T-scores on the BRIEF-A. For some (n=5), the executive function difficulties were reflected on the Behavioral Regulation Index (BRI) which consist of measures of inhibition, focus, emotional control and self-monitoring. Only three students with ASD and no co-occurring ADHD symptoms, also had elevated T scores on the BRIEF-A, suggesting a weak relationship between ASD without co-morbidity and executive function difficulties in this sample. Given the limited sample size, it would be difficult to generalize from this observation.

**Analysis**

Simple linear regression was used to investigate the relationship between cumulative GPA and executive function disorder, anxiety, and co-occurring ADHD symptoms. Each of the executive function
scales – Behavioral Rating Index (BRI), Metacognitive Index (MI) and the Global Executive Composite (GEC) were converted to binary variables with T Scores equal to or greater than 65 as ‘1’ and ‘0’ otherwise. Results showed a negative relationship between GPA and executive function disorder for all three scales of executive functioning. However, given limited sample size, none of the executive function scales were statistically significant at the 5% level. For BRI the result was ($\beta = -0.844; df=1; \rho = 0.06$), while for MI it was ($\beta = -0.136; df=1; \rho = 0.74$), and for GEC it was ($\beta = -0.270; df=1; \rho = 0.537$).

To compensate for sample size, a non-parametric test (the Kruskal-Wallis Equality of Populations Rank test – KW test) was used to determine whether the cumulative GPA of students with ASD is systematically affected by executive function disorder. The K-W test revealed that GPA was statistically significantly different for BRI scores $\geq 65$, ($X^2= 6.422; df=1; \rho = 0.011$). In other words, for students with ASD and elevated scores for executive function disorder on the BRI scales, GPA was significantly lower compared to those without elevated BRI scores. No similar relationship was observed for GPA and MI or GEC. Co-occurrence of ADHD symptoms and elevated anxiety did not appear to systematically affect cumulative GPA in this sample.

**Discussion**

The purpose of this study was to investigate variables associated with postsecondary success for students who have the diagnosis of ASD. The importance of social and pragmatic support for college students ASD has been established, but less is known about the academic needs and support for this group (Zeedyk, et al., 2016). Twenty-three college students with confirmed diagnoses of ASD and WAIS scores in the average range, completed EF, anxiety, and ADHD measures at the beginning of their first year of college, after which their grades and persistence were tracked for two semesters. A notable finding is that 22 of 23 participants persisted in college for the first two full semesters, suggesting that these individuals were a good match to the institution, where nearly all enrolled students live on campus and away from home. The focus of this study was on the link between student profile and performance.

For students who have ASD, making the transition to college can be distinctly challenging due to changes in lifestyle, academics, and expectations for independence (Pinder-Amaker, 2014). Transition support programs have emerged to help students on the spectrum persist in college (Arizona Department of Health Services, 2014; Virginia Commonwealth University, 2013). This study was conducted at a college that provides programming targeted to students on the spectrum. In addition to enrolling in typical college courses, students who have ASD are invited to participate in social groups and mentoring opportunities. Twenty-two out of 23 students remained enrolled in the college for two full semesters, and many took reduced academic loads, averaging eight credits accrued each semester. Pursuing a four-year postsecondary degree at this rate would take almost double time, and this is an area that warrants future investigation.

The executive function composite index of behavioral regulation was associated with grades in this study. Participants who had impaired behavioral regulation (BRI) were more likely to earn low grades than participants who had normal behavioral regulation, a significant finding at the .05 level. Behavioral regulation is an index of self-reported inhibitory control, shifting, and emotional control. These are among documented areas of executive function weakness associated with ASD (Merchan-Naranjo et al., 2016; Wallace et al., 2016). This current study extends what is known about EF and ASD by looking specifically at the role of EF in college performance.

The immediate practical benefit to finding the link between behavioral regulation and academic success is that it may aid transition planning and resource prioritization. Families and students who are planning for college can assess behavioral regulation in order to pro-actively identify readiness and areas of concern. Individuals who have impaired behavioral regulation can be counseled in advance of starting college that it will be important to seek out additional support, especially during the first year. Disability service offices, guidance counselors, and educational consultants can also use this information to line up services and help clients plan for a successful postsecondary transition. Faculty seeking to work effectively with students who have ASD would benefit from understanding the EF-academic performance link and strategies to support EF in course design and in the classroom.

Anxiety scores were lower than expected and did not predict academic success; however, a generalization is not possible due to the sample size. An interesting trend emerged in anxiety scores. Only three of 23...
respondents indicated anxiety at a moderate or severe level. In other words, a substantial majority of participants reported little or no anxiety. Given the high co-occurrence of clinical anxiety with ASD (Sukhdoltsky et al., 2013; Vasa et al., 2016; White et al., 2009), this was an incongruous finding. One speculative explanation is that the BAI, a valid screening tool in a typical population, may be ineffective in measuring anxiety in an ASD college population. The BAI queries respondents about predominantly physical manifestations of anxiety, such as raised heart rate and shallow breathing, and it has been documented that bodily awareness is impaired in individuals who have ASD (Fiene & Brownlow, 2015). Currently, the recommended assessment for anxiety in youth with ASD a multi-pronged, multi-visit approach (Vasa et al., 2016). Given the high co-occurrence between anxiety and ASD and the clinical significance of anxiety, it may be advantageous to develop an effective screening tool for this population.

As discussed in the literature review, ADHD co-occurs with ASD in a significant percentage of individuals, and an innovation in the DSM-5 allows both conditions to be simultaneously diagnosed (APA, 2013). Participants in this sample furnished diagnostic records in 2013-14, which reflected earlier diagnostic standards. There were no co-occurring ADHD diagnoses in participant records, yet six of twenty-three met the ASRS screening cut-off for ADHD. As with anxiety, quantitative generalizations cannot be made due to the sample size. From a practical standpoint, it can be useful to identify which students with ASD also have signs of ADHD so that transition planning, service, and support can be tailored to specific profile needs.

Limitations

The primary limitation of the study is its sample size, which made quantitative analysis inconclusive. Statistical links between the MI sub score of the BRIEF-A, self-reported anxiety, and academic performance were not found; however they cannot be ruled out as variables related to success based on the current investigation. A second limitation was the choice of anxiety screening tool, which may not have been a valid measure for persons who have ASD. A third limitation is the absence of a social skills or conversational skills measure in the study; because social functioning is a key deficit of ASD, testing in this area may have yielded additional useful information.

Future Research

Future research should continue to identify variables related to college performance to individuals who have ASD. Trends in increased ASD diagnosis, increased enrollment in college, and relatively poorer postsecondary outcomes for students with ASD make this a critical need. Development and empirical validation of the best methods to support postsecondary achievement for students who have ASD is another area for future investigation. In addition to the aforementioned empirical studies, it is important to cultivate the emergence of autistic voices and perspectives on postsecondary practices. This sentiment of inclusion voiced by many in the autism community should be considered in the development of research practices and resulting policies that affect them.

This investigation showed a group of college students who have ASD remaining enrolled during the first year and making steady progress toward academic degrees. The goal of this research was to describe college students who have the diagnosis of ASD and identify factors associated with their college success. One such factor was found, the behavioral regulation subset of executive functions, which consists of inhibition, shifting, and emotional control. Participants who reported normal behavioral regulation, an index of executive function, were most likely to earn good grades and vice-versa. The degree of confidence in ASD diagnosis is a strength of this study over other studies of college students which rely on self-reported diagnosis. The findings of this study can be used by families and education professionals to assist in transition planning for students with ASD. Colleges, postsecondary training institutions, and universities can also use these results to plan support services designed to close the ASD performance gap and to prioritize next steps in research.
References


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Table 1

**Participant Demographic and Cognitive Profile Data of Sample**

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<th>PIQ</th>
<th>VIQ</th>
<th>Working Memory</th>
<th>Processing Speed</th>
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Faculty Mentorship Program for Students with Disabilities: Academic Success Outcomes (Practice Brief)

Larry Markle¹
Roger D. Wessel¹
Jennifer Desmond²

Abstract

Classroom success and academic integration are essential indicators of academic success (Tinto, 2012). Since students with disabilities, compared to students without disabilities, often face additional transitional academic issues when entering college, Ball State University developed a Faculty Mentorship Program (FMP) for students with disabilities to facilitate their academic integration. This practice brief presents a study of a nine-year longitudinal analysis of 32,409 students in three groups: students with disabilities participating in a FMP, students with disabilities not participating in the FMP, and students without disabilities. Three academic success outcomes were tracked; one-year retention, and four- and six-year graduation rates. The article also provides a thorough discussion of the portability of the program with suggestions for implementation on other campuses.

Keywords: Students with disabilities, mentorship, faculty, transition

Successful transition into the collegiate setting is needed so that students can thrive in college. University engagement and involvement are crucial for academic integration (Astin, 1985). Furthermore, when students are able to form meaningful relationships with their peers and faculty members, they are more likely to engage with their academics and succeed in their coursework (Chambliss & Takacs, 2014). These transitional events are even more crucial for students with disabilities and their success on campus. This article will examine the benefits of mentor programs for students with disabilities and provide additional information other than what was previously discussed (Harris, Ho, Markle, & Wessel, 2011; Patrick & Wessel, 2013) about the Faculty Mentorship Program for students with disabilities at Ball State University.

Faculty Mentorship Program

The Faculty Mentorship Program (FMP) for students with disabilities at Ball State University was created in 2006 by faculty and staff in the Office of Disability Services (Patrick & Wessel, 2013) and has been offered to new students with disabilities each subsequent year. Matriculating students with disabilities volunteered to be paired with a faculty mentor during their transitional year. An introductory email was sent to the mentor and student pairs to begin the relationship (Harris et al., 2011). The nature of the mentor relationship was determined by the two of them, including the frequency and manner in which pairs met. For example, some met every other week, monthly, or on an as needed basis. Additionally, some pairs decided to keep in touch electronically throughout the academic year. Finding a system that was beneficial for both the student and faculty member was essential. Faculty members provided advice on how students could be successful with their academic coursework, and also helped integrate students to campus by introducing them to resources and other faculty members.

In order to best serve students with disabilities, faculty mentors were informed of their responsibilities prior to participating in the mentorship program. Periodic luncheons, sponsored by the Office of Disability Services, for all faculty mentors allowed them to be updated on helpful information related to students with disabilities, discuss their experiences with...
student mentees, and identify best practices for the mentors. Not only did students benefit from the mentorship, faculty members also benefited by expanding their understanding of how best to help students with disabilities succeed. Ball State University received a three-year grant from the U.S. Department of Education’s Office of Postsecondary Education to help the university enhance the effectiveness of the FMP by providing additional professional development opportunities for faculty and staff to ensure best practices when working with students with disabilities.

After a review the related literature, the authors describe the method for the study, the academic outcomes for students with disabilities participating in the program, and provide suggestions for other institutions interested in starting a similar program.

**Literature Review**

Tinto’s (1993) theory of individual departure serves as the theoretical framework for this study. Students must transition from their high schools to collegiate settings and separate from their previous experiences in order to successfully integrate into college. Academic and social settings exist in colleges and university; integration into these settings is essential for students. If students do not integrate into the academic and/or social settings, they may develop feelings of isolation and be at risk for eventual departure from the institution.

The National Longitudinal Transition Study-2 reported that only 34% of students with disabilities enrolled at four-year institutions completed their degrees (Newman et al., 2011). This statistic demonstrates the need for additional support for students with disabilities to be successful in academic and social settings. Students must be aware of their strengths and weaknesses in order to effectively seek accommodations and make decisions regarding how to be successful in college (Hamblet, 2014). Understanding the transitional challenges students with disabilities face when entering college can enable campus educators to create impactful programs to help them succeed.

The transition from high school to college may be intimidating for many students. However, students with disabilities face additional challenges (Barnard-Brak, Davis, Tate, & Sulak, 2009; Rothman, Maldonado, & Rothman, 2008) as interaction with teachers lessens, classwork become more rigorous, and individual support systems change (Enright, Coy, & Szymanski, 1996). Not only are they facing similar transitional experiences as students without disabilities, but they also have to navigate academic accommodations in the classroom, something that may have been done for them prior to college. Universities and high schools approach academic accommodations differently (Madaus, 2005). Students must learn to advocate for themselves while in college and understand the resources available in order to succeed. However, students with disabilities may feel uncomfortable approaching faculty members to request an accommodation (Fichten, 1990). Navigating this new environment can be challenging until students understand expectations and seek to form relationships with faculty members.

Students’ ability to succeed in the classroom and integrate academically is essential for student persistence (Tinto, 1997). A supportive community for students is created within academic classrooms; students learn from their instructors and peers. Academic and social integration are both important to enable persistence to graduation. Furthermore, academic rigor must be balanced with high expectations (Tinto, 2012), challenge, and support (Sanford, 1967). The relationships that are formed between faculty members and students are essential for students to achieve success within a rigorous academic discipline (Tinto, 2012). Beyond the rigor of the coursework, there must be support to effectively foster the development of the student. Without these two harmonious components, students may not persist to graduation. Faculty members and rigorous classroom cultures are an essential component for college student success. Mentoring programs can provide students with support that enables them to develop confidence and navigate challenging academic environments (Campbell-Whatley, 2001). These relationships can also help develop key academic and social skills for students with disabilities. Mentors can reinforce academic success skills, such as time management, and they can serve as an informed campus friend for students with disabilities to come to with questions or concerns. This relationship can foster growth and development for students with disabilities.

Students with disabilities who have faculty mentors have higher GPA and improved academic success outcomes compared to students with disabilities who do not have mentors (Harris et al., 2011). Not only do these students perform better academically, but they are also aware of campus resources that can be used
to seek assistance. The individual attention students receive in the program enables students to transition successfully to the collegiate setting by utilizing the resources available and feeling a sense of belonging on campus. This is the value of having a faculty mentor that is able to guide and direct students to success. Furthermore, having a faculty mentor in the academic field of their mentee may facilitate the needed career information to help students transition after college (Patrick & Wessel, 2013). “Mentors can engage mentees in discussions to explore ideas they have not considered related to the student’s goals, provide encouragement, act as a support system, and provide students with specific knowledge related to their field of interest” (p. 106). This relationship provides students with support in order to meet the challenges of completing college.

Students experience a challenging transition when they enter college. Students with disabilities face additional challenges related to integration. Providing additional support and guidance from faculty members can not only help students develop self-confidence but can also help them navigate important resources for success.

Method

This practice brief provides quantitative data to complement the qualitative phenomenological examination previously reported in the Journal of Postsecondary Education and Disability on the Faculty Mentorship Program (FMP) for students with disabilities at Ball State University (Patrick & Wessel, 2013). The study aimed to compare academic success outcomes (i.e., year two retention rate, and four- and six-year graduation rates) for students with disabilities participating in the FMP, compared to students with disabilities not participating in the FMP, and students without disabilities. The research question was, are academic success outcomes (i.e., year two retention rate, and four- and six-year graduation rates) significantly different between FMP participants, other students with disabilities not participating in the FMP, and students without disabilities?

As the data already existed in the university’s student information system, it was considered archival data (Elder, Pavalko, & Clipp, 1993). There were 32,409 full-time matriculating students in the population during the period 2006-2014. The sample equaled the population. Students with disabilities were identified as having registered with the Office of Disability Services by the start of the matriculating year. Faculty Mentorship Program participants were involved with the program during the fall semester of the matriculating year, and some students continued into the spring semester. Retention was defined as being enrolled as a full-time student by the year two fall semester official statistic date. Four-year graduation was defined as having graduated by the end of the summer during year four. Six-year graduation was defined as having graduated by the end of summer during year six. Chi-square contingency analyses were computed to examine for significant differences.

Academic Success Outcomes

Table one presents data of three academic success outcomes (i.e., year two retention, four- and six-year graduation rates) for fall semester full-time matriculating students during 2006-2014. There were 32,409 participants in this nine-year longitudinal analysis; 300 students with disabilities participating in the FMP, 311 students with disabilities who did not participate in the FMP, and 31,798 students without disabilities. The cumulative two-year retention rate was 82.00% for participants in the FMP, compared to 78.88% for students with disabilities not in the FMP, and 79.18% for students without disabilities. The four-year cumulative graduation rate for FMP participants was 40.40%, compared with 31.68% for students with disabilities not in the FMP, and 39.76% for students without disabilities. The cumulative six-year graduation rate for FMP participants was 67.81%, exceeding students without disabilities by over 8%. There was a statistically significant difference when comparing the graduation rate of FMP participants (67.81%) and students with disabilities not participating in the FMP (60.29%).

Portability and Implications

The outcomes data for students with disabilities participating in the FMP suggests that a FMP may play a critical role in providing students with the academic and social support needed to be successful (Tinto, 1993, 1997). Despite the many transitional challenges students with disabilities encounter as they enter college (Bernard-Brak et al., 2009; Enright et al., 1996; Fichten, 1990; Rothman et al., 2008), students with disabilities participating in the FMP out-
performed their peers with disabilities and students without disabilities in all three areas in this study (year two retention rate, four- and six-year graduation rates).

Given the research that indicates a lower graduation rate for students with disabilities (Newman et al., 2011), the higher four- and six-year graduation rates for students in the FMP are noteworthy. Not only were the four- and six-year graduation rates higher for FMP students than other students with disabilities, they also outpaced students without disabilities. This higher level of persistence to graduation for FMP students speaks to the important role that faculty members can play for students with disabilities (Patrick & Wessel, 2013).

The connections that FMP students make with faculty members during the first year of college helped them attain a higher year two retention rate than other students with and without disabilities. These relationships with faculty members help students achieve academic success (Tinto, 2012) and develop the skills and confidence they need to progress through college (Campbell-Whatley, 2001). The regular contact that mentors have with their students assists the students with staying engaged academically and socially on campus, thus increasing the likelihood that the student will successfully persist towards graduation.

**Faculty Mentorship Program Implementation Suggestions**

A program similar to the FMP may be implemented on other campuses. Helping faculty members to see the importance of the role they can play in the academic success of students with disabilities is the critical first step in starting a faculty mentoring program. Faculty members are busy and asked to serve their colleges and universities in many ways. Making sure that the benefits of being a faculty mentor are clearly articulated, and that the responsibilities of joining a mentoring program will not take too much of their time, will help them understand that this is not just another meeting to fit into their crowded schedules.

In addition to the academic success outcomes described previously for students with disabilities, faculty members in the FMP have also received benefits from their participation. In program evaluations conducted with faculty participants, faculty members have reported that mentoring students with disabilities and attending program training sessions have made them more aware of the concerns their students experience and the resources available to them. Many faculty mentors have indicated that participation in the FMP has helped them make better teachers for all of their students. Additionally, some faculty are able to count their participation in the FMP as a service requirement in the promotion and tenure process (Harris et al., 2011).

Based on the success of the FMP at Ball State, the following suggestions are offered as considerations in implementing a similar program at other colleges and universities:

- Host a luncheon or a brown bag lunch meeting with some of the faculty members who have expressed interest in students with disabilities and those who have been good partners in providing accommodations. If there is a faculty advisory committee for the disability services office on your campus, those faculty members may be a good starting point to gauge interest in a mentoring program.
- Talk to faculty members about some of the reasons college may be difficult for students with disabilities, including the difficult transition due to the manner in which disability services is administered in postsecondary as compared to secondary schools. Faculty members may be surprised when they hear of the over-accommodation that often happens in high school. Understanding more about transitional challenges that students with disabilities encounter may help them see the need for a faculty mentoring program.
- If there is sufficient interest to start a mentoring program, select faculty members from a variety of academic departments to participate. If certain academic majors are more popular for students with disabilities, it may be necessary to invite multiple faculty members from those departments to participate to ensure that one faculty member isn’t assigned multiple students. Emphasizing that the FMP does not require a great deal of long-term commitment from faculty mentors has helped Ball State recruit faculty from a broad range of academic departments. There are currently almost 50 faculty members from 35 academic departments in the FMP.
- Start the program small and keep it informal. The Ball State FMP began with only about 20 faculty members, and its organizers have de-
liberately tried to keep it as a low-level commitment. Ball State faculty mentors have consistently reported that they enjoy the informal nature of the FMP and the fact that it is unlike other commitments they have on campus. They are simply asked to become a mentor to a new student with a disability and to personalize the Ball State experience for the student.

- Offer new students with disabilities and their families many opportunities to learn about the mentoring program. Provide information about the program to students with disabilities coming to campus for pre-admission visits, first-year orientation, and other new student programs. Parents have been especially receptive to the possibility of their student receiving mentoring in the student’s academic discipline. Ball State has created a brochure detailing the FMP that is sent to all matriculating students who disclose their disability to the Office of Disability Services.

- Connect the student and faculty mentor together early in the student’s first semester. The Director of Disability Services at Ball State emails the student and faculty member at the beginning of the fall semester to introduce the two. Disability Services then offers an informal lunch meeting during the second or third week of the fall semester to which new students and faculty mentors are invited. Faculty and students often meet for the first time at this lunch and set a plan for the manner and frequency of future meetings.

- Though faculty members are not paid for their service in the FMP, small incentives and “thank yous” have been well-received. Disability Services offers free luncheons for the faculty two to three times per semester in which disability resources and issues are discussed. A topic pertinent to disability and higher education is selected as the theme for the training session, and a faculty or staff member with a level of expertise on the topic is asked to lead a discussion. These luncheons are interactive, with faculty members asked to share their experiences about the topic. They often learn best practices in teaching students with disabilities from one another. Faculty members have also been given shirts and vests with the FMP logo, and letters of appreciation have been written by the Director of Disability Services, to Deans and Department Chairs, recognizing the faculty members service in the FMP.

Conclusion

Although this was a single-site study designed to provide in-depth data on a faculty mentorship program at one institution, it is clear that connecting new students with disabilities with faculty mentors has contributed to successful academic outcomes for students with disabilities. The data reflect that students with disabilities obviously have benefitted from having a faculty mentor. Faculty mentors have also reported various ways in which their involvement in the FMP has been valuable to them. However, the biggest winner in the FMP may be the Office of Disability Services. There are currently almost 50 faculty members who volunteer as mentors, representing 35 academic departments. These mentors receive specialized training from Disability Services, and then share their experiences and knowledge with colleagues in their academic departments – essentially serving as ambassadors for the Office of Disability Services. The relationships developed with faculty through their participation in the FMP have given the Disability Services staff opportunities to engage with faculty which would not have been possible without the FMP.

References


Harris, J., Ho, T., Markle, L, & Wessel, R. (June 2011). Ball state university’s faculty mentorship program: Enhancing the first-year experience for students with disabilities. *About Campus, 16*, 27-29.


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**About the Authors**

Larry Markle is the Director of Disability Services at Ball State University. He is a past president of the Indiana Association on Higher Education and Disability and serves on the review board for the *Journal of Postsecondary Education and Disability*. He can be reached by email at lmarkle@bsu.edu.

Roger Wessel received his bachelor’s degree in Biblical Studies from Lee University, and master’s and doctor of philosophy degrees in higher education from Southern Illinois University at Carbondale. He is a professor of higher education in the Department of Educational Studies at Ball State University, and has worked in multiple academic and student support offices. He can be reached by email at rwessel@bsu.edu.

Jennifer Desmond received her bachelor's degree in Political Science from The University of Maine and master's degree in Student Affairs Administration in Higher Education from Ball State University. She is the Assistant Director of Admissions and Student Ambassador Programs at the University of Maine. She can be reached by email at jennifer.desmond@maine.edu.
Table 1

Academic Success Outcomes: Retention and Graduation Rates for Faculty Mentorship Participants (FMP), Other Students with Disabilities (SWD), and Students without Disabilities (SWOD) at Ball State University, 2006-2015

<table>
<thead>
<tr>
<th>Cohort</th>
<th>Group</th>
<th>Matrics</th>
<th>Retention to year two</th>
<th>Graduated after four years</th>
<th>Graduated after six years</th>
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Notes.
1 FMP is students with disabilities participating in the Faculty Mentorship Program.
2 SWD is students with disabilities not participating in the FMP.
3 SWOD is students without disabilities.
*p < .05.
Disability in Higher Education: A Social Justice Approach
(Book Review)

Nancy J. Evans, Ellen M. Broido, Kirsten M. Brown, and Autumn K. Wilke
San Francisco: Jossey-Bass, 2017
515 pages, $45 (Hard Cover)

Reviewed by Christopher Stone¹

As it became known Drs. Nancy Evans and Ellen Broido were preparing a new text exploring disability in higher education, many disability service providers and disability advocates grew curious, myself included. This curiosity blossomed into full-on anticipation as it was learned they, along with collaborators and emerging scholars Kristen Brown and Autumn Wilke, would tackle their subject with “a social justice approach” in mind. Evans and Broido have, through their impressive careers as faculty and researchers, contextualized the role of higher education by examining its actions and impact on students through a social justice lens. Such an analysis begins with an “assumption that people’s abilities and rights to contribute to and benefit from higher education are not dependent on their bodies or psyches conforming to dominant norms” (p. xiii).

With Disability in Higher Education: A Social Justice Approach, the authors use the same insight with which they have studied minority and marginalized populations’ college experiences to “examine(s) how disability is conceptualized in higher education and ways in which students, faculty, and staff with disabilities are viewed and served on college campuses” (John Wiley and Sons, 2000-2017, para. 1). This book, given the current U.S. presidential administration having recently rescinded 70+ guidance documents meant to outlay rights for students with disabilities in the American education system, is a particularly timely addition to the national conversation on disability.

Understanding disability requires acknowledging the layers and models by which current practices have historically been formed, and through which they continue to exist and evolve. As such, after introducing the reader to their purpose and individual positionalities, Disability in Higher Education begins in earnest by chronicling the history of disability in higher education. Though an expansive and detailed account, the authors utilize key themes, events, and stories to ground their discussion of a history of disability that is “rich, extensive, and powerful” (p. 45), resulting in what I believe is an anthology readers will find engaging. Their chronology prepares the audience for a conversation of various established and emerging disability models—a transition they manage (quite organically) by connecting one landmark period to the next until reaching their destination: the shift toward inclusion (i.e., Social Justice). They detail each model, offering critical perspective along the way. One might anticipate criticisms to perhaps fall more heavily on less-preferred or less-progressive models (e.g., Moral, Medical, or Rehabilitation Model), but credit where credit is due; Evans et al. evenly offer critiques, even levying concerns with the seemingly more preferred Social Model. This is to underscore, I believe, an important point throughout the text; no singular model, theory, or understanding of disability is perfect. And, when able to appreciate that, readers may be primed to offer consideration to a social justice model of disability within their campus practices.

Part Two of Disability in Higher Education highlights disability identity development and multiple aspects of identity (Chapter 5), student populations (Chapter 6), and university employees (faculty and staff) with disabilities (Chapter 7). An important takeaway from this section is Evans et al.’s discussion of multiple identities and the predilection to consider disability as the primary identity in people with disabilities, when in actuality there exists a more complicated and complex intersectionality of identities. The authors “explore how identities, some visible, some not, intersect and interact with disability” (p. 143), and point to variations in the identifying, diagnosing, and supporting of students with disability of minority and underrepresented populations. This section serves as a call to action, prodding their fellow researchers to go deeper in examining disability within diverse populations. They advocate for greater exploration of understudied groups—American Indian, Native Hawaiian, Alaskan American, and Asian American, specifically—and for researching genderqueer and transgender students with disability. Further, this section cites gender-specific inequities, offering as support research concluding there are additional burdens placed upon girls when

¹ University of North Carolina Wilmington
seeking disability support in the K-12 system and then uneven care when provided, with girls often having to “have more significant levels of disability than boys” and then “being placed in more restrictive educational settings than boys” (p. 164, citing Russo, 2003, p. 19).

Universal Design (UD) becomes both the subject and the example of Social Justice in practice, when discussed in Part Three: Environmental Issues. Evans and their collaborators discuss the landscape of higher education institutions—the physical environment, social environment (i.e. “campus climate”), assistive technology and learning technologies, and course instruction—to demonstrate barriers to access, UD approaches to alleviating common barriers, and the connection of UD approaches to the Social Justice Model. While the authors offer critiques of UD and Universal Design for Instruction and Learning, this was an area I had hoped to see greater discussion. For instance, it is a fair statement that “most programs for students with disabilities have been designed to meet legislative dictates” (p. 299), but perhaps it was too easily suggested the simple solution to students’ needs is UD. Practitioners recognize a challenging balancing act in disability support services, with an expectation of advocating and supporting SWD while protecting the university and ensuring its academic integrity and rigor remain strong. Theoretically, one could argue a UD approach is preferred by the majority (if not all) of the profession. In practice, however, it may be more likely true universal Universal Design is aspirational and—similar to multiple identities intersecting within an individual with one becoming more or less important due to the situation encountered—the medical, legal, social, and UD models exist simultaneously, and each serves a useful and powerful role in disability support.

Disability in Higher Education: A Social Justice Approach concludes with Part Four: Serving Students. Here, readers with limited knowledge of disability support offices may find the chapter detailing these departments’ historic, present, and (perhaps aspirational) future roles and objectives particularly worthwhile. All audiences, however, will benefit from the emphasis the authors place on the shared responsibility of the university (e.g., DS professionals, faculty, administrators, and various staff) to adhere to accessibility standards, and advocate the inclusion of, and respect for, community members with disabilities. They delve into the aspects of disability resource services often aspired to—outreach, program development, and campus climate and branding—and I think, to some degree recognize there are challenges to these efforts, be they staffing, funding, “buy in,” etc.

With Disability in Higher Education: A Social Justice Approach, Evans et al. offer a fresh and noteworthy perspective to an area of higher education services that often finds itself stuck between multiple identities of its own—that of a compliance and accessibility watchdog, student (or disability) advocate, and student development collaborator. Some disability support/service providers may feel that in advocating a social justice approach the authors are challenging their practices, principles, and by extension, their professionalism. At times this may even seem an accurate portrayal, especially given the importance support departments sometimes must place on providing accommodations to a student with a disability to nullify an imbalance (rather than alleviating the cause of the barrier itself). Yet, I might argue their argument is not for an either/or approach, but that “similar to the minority group model, the social justice model is invested in achieving a positive identity among disabled students” (p. 75), and by extension, changing perceptions, structures, and policies of those without disability. The demand, then, is that within a system in which normalcy parallels ableism, there must be an institutional emphasis, an onus, to negate the inequity itself.

Reference

About the Reviewer
Chris Stone began a career in education nearly twenty years ago as a high school Language Arts teacher, following completion of their B.A. in English (with a focus in secondary education) from Central College, Pella, Iowa. Since completion of a Master’s degree in Education: Post-Secondary Disabilities Services from St. Ambrose University (Davenport, Iowa) in 2002, Chris has worked primarily as a post-secondary disability support provider, albeit with a mid-career detour to become a full-time doctoral student and Graduate Assistant at The George Washington University, Washington, District of Columbia, where they earned an Ed.D. in Higher Education Administration. As Director of University of North Carolina Wilmington’s Disability Resource Center (DRC), Chris assists students...
with disabilities in meeting their academic and personal goals, and collaborates with the university community to serve the broader mission of inclusivity. They developed DRC’s SEA.lab (Strategy Enhancement for Achievement) program, a comprehensive academic support for students with disabilities. Chris conducts research and speaks on topics related to inclusion/involvement for diverse populations, self-advocacy, the metacognitive development of students, and best practices for supporting students with disabilities. In 2016, Chris served as a Co-Chair of Programs for the Association on Higher Education and Disability (AHEAD) International Conference in Indianapolis, Indiana. Chris can be reached by email at stonec@uncw.edu.
Manuscripts must be submitted electronically as attachments via email to jped@ahead.org

**Content**
Manuscripts should demonstrate scholarly excellence in at least one of the following categories:

- **Research**: Reports original quantitative, qualitative, or mixed-method research.
- **Integration**: Integrates research of others in a meaningful way; compares or contrasts theories; critiques results; and/or provides context for future exploration.
- **Innovation**: Proposes innovation of theory, approach, or process of service delivery based on reviews of the literature and research.
- **Policy Analysis**: Provides analysis, critique and implications of public policy, statutes, regulation, and litigation.

**Format**
All manuscripts must be prepared according to APA format as described in the current edition of *The Publication Manual, American Psychological Association*. For responses to frequently asked questions about APA style, consult the APA web site at http://apastyle.org/faqs.html

- All components of the manuscript (i.e., cover page, abstract, body, and appendices) should be submitted as ONE complete Word document (.doc or .docx).
- Provide a separate cover letter asking that the manuscript be reviewed for publication consideration and stating that it has not been published or is being reviewed for publication elsewhere.
- Manuscripts should be double-spaced and range in length between 25 and 35 pages including all figures, tables, and references. Exceptions may be made depending upon topic and content but, generally, a manuscript’s total length should not exceed 35 pages.
- Write sentences using active voice.
- Authors should use terminology that emphasizes the individual first and the disability second (see pages 71 - 76 of APA Manual). Authors should also avoid the use of sexist language and the generic masculine pronoun.
- Manuscripts should have a title page that provides the names and affiliations of all authors and the address of the principal author. Please include this in the ONE Word document (manuscript) that is submitted.
- Include an abstract that does not exceed 250 words. Abstracts must be double-spaced and located on page 2 (following the title page). Include three to five keywords below the abstract.
- Tables and figures must conform to APA standards and must be in black and white only. All tables and figures should be vertical and fit on the page; no landscape format. If Tables and/or Figures are submitted in image format (JPEG, PDF, etc.), an editable format must also be submitted along with a text description of the information depicted in the Table/Figure. This will be provided as alt format in the electronic version of JPED, making Tables/ Figures accessible for screen readers.

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- Subject Line: JPED Manuscript Submission
- Body of Email: Include a statement that you are submitting a manuscript for consideration for the JPED. Include the title of the manuscript and your full contact information.
- Attach to the email:
  - Your complete manuscript, prepared as directed above
  - Cover letter as outlined above

You will receive an email reply from Richard Allegra (Managing Editor of JPED) to confirm receipt of your submission within 5-7 business days.

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For manuscripts that are accepted for publication, Valerie Spears (JPED Editorial Assistant) will contact the lead author to request:

- A 40-50 word bibliographic description for each author, following the template that Valerie will send you.
- A signed and completed Copyright Transfer form that she will send you.
- Manuscript submissions by AHEAD members are especially welcome. The JPED reserves the right to edit all material for space and style. Authors will be notified of changes.

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Please submit all components of a Practice Brief (i.e., cover page, abstract, body, appendices) as a single Word document. These manuscripts should use the following headers/sections:

- **Title Page**: Title not to exceed 12 words. Identify each author and his/her campus or agency affiliation. State in your email cover note that the work has not been published elsewhere and that it is not currently under review by another publication.
- **Abstract**: The abstract needs to answer this question: “What is this paper about and why is it important?” The abstract should not exceed 150 words.
- **Summary of Relevant Literature**: Provide a succinct summary of the most relevant literature that provides a clear context for what is already known about your practice/program. If possible, describe similar practices on other campuses. Priority should be given to current
• literature published within the past 10 years unless an older, seminal source is still the best treatment of a particular topic/finding.

• Description of the Problem: In addition to a clear statement of the problem being addressed, consider the following questions when stating the purpose of the article: What outcome, trend, or problem might improve if your practice/program works? What gaps or problems or issues might persist or arise if this practice/program did not exist?

• Participant Demographics and Institutional Partners/Resources: Maintain the anonymity of the students, colleagues, and campus(es) discussed in the article but provide a clear demographic description of participants (e.g., number of students, disability type, gender, race and/or ethnicity whenever possible, age range if relevant) and the types of offices or agencies that were collaborative partners (if relevant).

• Description of Practice: Briefly and clearly describe your innovative practice/program and how it has been implemented to date. Tables and figures are encouraged to provide specific details you are comfortable sharing. They condense information and enhance replication of your practice/program on other campuses.

• Evaluation of observed outcomes: Whenever possible, summarize formative or summative data you have collected to evaluate the efficacy of your practice/program. This can be anecdotal, qualitative, and/or quantitative data. Support any claims or conclusions you state (e.g., “Our program greatly enhanced students’ ability to self-advocate during their transition to college”) with objective facts and/or behavioral observations to support these claims.

• Implications and Portability: Discuss what you have learned thus far and how you could further develop this practice/program in the future. Be honest about any challenges you may have encountered. This transparency enhances the rigor of your reporting. What would you do differently next time to achieve stronger outcomes? Provide a clear description of how and why disability service providers on other campuses should consider adapting your practice/program. Finally, how could your practice be studied by researchers? Identify possible research questions, hypotheses, or potential outcomes that could be studied if you and/or colleagues could expand the practice/program into a research investigation.

• References: Use the current APA guidelines to format and proofread your paper prior to submitting it. This includes the proper use of spelling, punctuation and grammar, appropriate use of headers, correct formatting in listing references, and formatting any tables or figures appropriately.

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