Journal of Postsecondary Education and Disability

Volume *26*(4), Winter 2013

AHEAD Association on Higher Education And Disability®

Journal of Postsecondary Education and Disability

Table of Contents
Journal of Postsecondary Education and Disability
Volume *26*(4)

JPED GUEST REVIEWERS (2013)

The editorial board wishes to thank the following guest reviewers for their time and expertise:

Jennifer Kowitt (University of Connecticut)

Adam Lalor (University of Connecticut)

Karen Pettus (University of South Carolina)

Stephanie Smith Lee (Independent Public Policy Professional)

Donna Marie Sorrentino (University of New Hampshire)

Tom Thompson (Higher Education Consultant)

FROM THE GUEST EDITORS
COLLEEN A. THOMA & DAWN CARLSON

We are pleased to bring this special issue of the Journal of Postsecondary Education and Disability, focusing on research on programs designed for students with intellectual disability (ID). While college-based programs for this population of students are not new, there has been an influx of federal dollars to develop model programs through the Transition and Post-Secondary Education for Students with ID (TPSID) projects and financial assistance through the Higher Education Opportunity Act (2008) to help cover some of the tuition costs associated with attending these programs that have been designated as Comprehensive Transition Programs (CTP). These relatively recent developments have resulted in an increase in the number of these programs across the country and the number of students educated in them.

In addition, in the past four years, faculty and staff who have developed and run these programs have met at conferences on postsecondary education (PSE) to share their experiences, strategies, successes, and challenges. Like many innovative approaches in the field of special education and disability, a small group of highly committed practitioners, advocates, family members, and individuals with disabilities forge ahead and support each other as they learn what works (and doesn't) through these model demonstration projects. As we participated in these conferences, we realized that (a) students with ID are benefiting from their participation in these programs; (b) students with other disabilities are also participating in these programs, including students with traumatic brain injury, physical disabilities, and students on the autism spectrum; and (c) the published research does not yet reflect all that we know about what works regarding PSE programs for students with ID.

That was the reason we proposed this special issue of JPED, to share research on programs and their impact on improving outcomes for students with ID and developmental disabilities. The articles in this issue discuss an array of topics that we believe to be highly relevant to researchers and practitioners in the field of PSE for students with ID. All contain insights and findings drawn from a variety of data sources. Four of the eight contributions focus on the nature of postsecondary education transition programs. The other four contributions describe actual experiences of students with ID and those who support and educate them, and outcomes associated with the education and training students with ID receive in their transition programs.

This issue begins with two articles that examine the nature of PSE programs broadly. Thoma conducted a year-long qualitative investigation of a small number of transition postsecondary programs and explored how they pursue their purpose and mission in challenging environments. These programs were chosen to reflect the range of programs, characterized by the degree to which students participating in them are included in the day-to-day experiences of the university. This article describes some of the challenges faced by program directors as they work to implement effective supports and services for students with ID in college and university settings.

The second article introduces the reader to a taxonomy designed to classify the genotypical features of transition programs that are part of institutions of higher learning. McEathron, Beuhring, Maynard, and Mavis examined components of a variety of PSE programs to gain a clearer understanding of the range of program characteristics, funding sources, program focus and goals, admission procedures, student support structures, academic coursework, and other unique features. As the authors suggest, the value of this taxonomy lies in its focus on what can be observed and recorded about PSE programs, and measured and compared. The authors challenge us to think about PSE programs broadly and address specific components in our analysis of program features.

The other four research articles focus more specifically on either PSE program components or the impact of their program on specific outcomes or programmatic goals. In the first of these, Izzo and Shuman conducted a qualitative investigation of the impact that these programs have on the other students on campus. A component of many of these PSE programs is the establishment of mentoring relationships between students with ID and other university students. These mentoring relationships may be informal as in a university student organizing a group of students to attend a basketball game (including students with ID) or more formal in terms of earning credit for their work providing supports and/or educational services to students with ID. A rationale

for these mentorship experiences is that they provide a mutually beneficial learning opportunity for both the students with ID and the mentors. This research study found that this was indeed the case.

Ross, Carlson, Marcell, and Williams present findings from an annual follow-up survey of graduates of a college transition program. Altogether, 125 representatives from 11 cohorts of transition program graduates responded to a comprehensive survey of employment status, living arrangements, sources of income, money management, shopping, meal preparation, self-care, transportation, family and community participation, and more. The authors focused on employment and independent living outcomes. A comparison of findings with data and statistics about persons with ID in the literature revealed that the employment and independent living outcomes these respondents attained were quite favorable. The authors suggest that the education, training, and support the graduates received during and after transition program participation contributed to their successful integration into the community.

McKeon, Alpern, and Zager explored how college faculty perceptions of classroom behavior of students on the autism spectrum disorder (ASD) affects their responses with regard to changing teaching styles to better accommodate these students. In their survey of 69 faculty members at a private university, questions about a set of atypical classroom behaviors were asked that included items such as difficulty answering questions in class or lack of impulse control such as calling out or leaving the room suddenly. The authors complemented the structured questions with open-ended answering options. Based on the responses and comments from faculty, the authors developed a set of recommendations and instructional strategies that will help other faculty prepare their lessons for classes that include students with ASD.

Lastly, Eisenman, Farley-Ripple, Culnane, and Freedman describe their development of an assessment of the social networks in which PSE students with ID participate. Their work is critically important as we grow in our understanding of the influence that social connections can have in facilitating a number of positive life outcomes such as employment. Despite this, the possibility that a young adult with ID will have a connected life after high school is not likely; this study seeks to determine if participation in a PSE program can change the nature of social connections for young adults with ID.

In addition to these research articles, this special issue includes two Practice Briefs. The first practice brief by Lynch and Getzel describes an evaluation of one program, using the Think College Standards, Quality Indicators, and Benchmarks as the overarching framework. Think College is a federally-funded training and technical assistance program that provides support for PSE programs funded under the TPSID program. Their standards provide a unifying conceptual framework that program directors and staff can use to evaluate the inclusiveness of their program, measure student outcomes, and identify program improvement plans. This practice brief provides an example that other programs can replicate for the future.

In the second brief, Smith and Benito describe the initial steps that were taken by the University of South Florida Center for Excellence in Developmental Disabilities to establish the Florida College Collaborative (FCC), a statewide network of 51 stakeholders from various professions and interests. In two surveys of students and support professionals, the authors of the brief explored barriers to access to PSE programs, goals of students with ID who want to participate in PSE, and necessary supports and services for successful participation in PSE. Based on the responses, the FCC drafted a strategic development plan that aimed at raising awareness about the initiative, building partnerships with agencies that serve students with ID and are interested in collaboration, and setting up a Florida PSE registry.

We hope these articles will facilitate the evolution of meaningful quantitative and qualitative studies on PSE programs for students with ID. The field has come a long way, but there remain additional research questions that must be addressed. We welcome an opportunity to engage in a dialogue about next steps, and applaud those who are involved daily in supporting the dream for PSE for youth with ID. We also want to thank Drs. Michael Wehmeyer and David Parker who provided wise counsel for our work in identifying potential research studies that could be included in this special edition, in organizing our work, and in understanding the other countless, unseen tasks that are part of the world of journal editing.

Postsecondary Education for Students with Intellectual Disability (ID): Complex Layers

Colleen A. Thoma
Virginia Commonwealth University

Abstract

This phenomenological research study investigated nine postsecondary programs for youth and young adults with disabilities to determine the range of supports and services provided as well as the program development process. Each program had unique features and components and those differences were typically the result of the mission, values, and/or priorities of the program directors and staff. Findings also indicated that there were a number of complex layers that program staff navigated as they developed, implemented, and evaluated their program activities and the impact they had on student growth and development. Some of these complex layers involved policies and procedures at the university itself. Other layers included collaboration with other agencies including local school districts and efforts to identify, collect, and analyze evaluation data that could provide information on important program components. Implications for policy and practice as well as further research are provided.

Keywords: Postsecondary education, intellectual disabilities, program development, qualitative research

Students with disabilities, and in particular students with intellectual and developmental disabilities (ID), continue to lag behind their peers without disabilities in terms of their postschool outcomes. Longitudinal studies have found that students with disabilities are more likely to be unemployed, to work at lower wages, and to be isolated from their communities and friends once they exit high school (National Longitudinal Transition Study-2, 2003). Students with ID are least likely to participate in postsecondary education and experience some of the most dismal adult outcomes (Blackorby & Wagner, 1996; Neubert, Moon, Grigal, & Redd, 2001). Compared with their age peers, youth with ID typically earn less, are engaged in lower skilled jobs, experience higher rates of poverty, and have limited access to employee benefits (Stodden & Dowrick, 2001; Wagner, Cameto, & Newman, 2003).

These abysmal transition outcomes have persisted despite more than 20 years of research and programming designed to prepare students for their transition from high school to adult life. These national efforts began as a call to the field to improve transition to employment experiences for young adults with disabilities (Will, 1984). Transition planning and services as mandated under IDEA 2004 (PL 108-446) require that schools provide individualized education programs that prepare students for their post-school goals in the areas of employment, postsecondary education, and independent living. Many approaches have evolved to address this complex process and improve student outcomes; one of the most promising of these is the expansion of postsecondary education (PSE) programs designed to meet student transition needs (Webb, Patterson, Syverud, & Seabrookes-Blackmore, 2008). These PSE programs have been developed to reflect a range of perspectives and goals, so one program may look very different from another even though each is classified as a postsecondary education program (Thoma, Lakin, Carlson, Domzal, Austin, & Boyd, 2011). Attempts to categorize these programs have focused on the degree to which students with ID interact with peers without disabilities (Neubert et al., 2001), which may not be the most critical distinction between programs (Thoma et al., 2011). The purpose of this qualitative study was to gain a clearer and more thorough understanding of the range of programs, their goals/outcomes, and the practices they use to address the transition needs of young adults with ID. This study used phenomenological qualitative research methodology (Creswell, 2009; Moustakas, 1994) to investigate PSE programs for students with ID.

Review of Literature

Given such generally poor outcomes for youth and young adults with ID and the strong evidence that postsecondary education is generally associated with improvement in those outcomes for other groups of students (Baum & Ma, 2007; Bureau of Labor Statistics, 2010; Mischel, Bernstein, & Allegretto, 2007), there has been a growing commitment to providing access to post-secondary education for youth with ID (Hughes, 2009; Rusch & Wolfe, 2009; Talis & Will, 2006). Despite this movement, however, a review of published research on postsecondary education for individuals with ID found that much of it is focused on descriptions of programs or evaluations of program components (Thoma et al., 2011). While this research can be helpful for program development, it does not provide guidance about the efficacy of program implementation.

Types of PSE Programs

The Thoma et al. (2011) review of the literature on PSE programs for students with ID found a consistent method of categorizing these programs based on a model first identified by Hart, Grigal, Sax, Martinez, and Will (2006). They identified three distinct categories of programs: inclusive, substantially separate, and hybrid. Inclusive programs provided instruction to students with ID in classes available to any other students on campus and opportunities to participate in other campus activities and experiences, while substantially separate programs provided instruction in classes designed exclusively for students with ID. Those students often engaged in campus experiences open to all students and/or the general population (such as sporting events or on-campus concerts), but their coursework was typically separate. Students with ID attending programs categorized as hybrid participated in a mix of inclusive and separate courses and experiences.

More recent research on postsecondary programs has found that these three categories may be insufficient to differentiate between programs and conduct research designed to investigate the impact of participation in programs on improving postschool outcomes (Thoma, et al., 2012). The Institute on Community Integration (2011) outlined a taxonomy designed to identify key program components (in this issue). This work established a framework to guide future research based on components of programs and outcomes. In addition to this taxonomy, Grigal, Hart, and Weir (2011) identified

standards that program developers can use to evaluate the quality of their inclusive PSE programs and ensure greater consistency among inclusive PSE programs.

The work of the Think College project has been important to help guide the development of postsecondary programs for students with ID and, in particular, those programs funded under the Transition and Postsecondary Programs for Students with Intellectual Disability (TPSID) competition from the Office of Postsecondary Education in the U.S. Department of Education. Project staff members at Think College were charged with providing training and technical assistance to the 27 projects funded through TPSID and to collect and analyze evaluation data on project effectiveness. Projects funded under this program had to meet very specific guidelines and program requirements and were chosen based on a competitive peer-review process. The request for proposals for TPSID required that funded PSE programs have the following components:

- Provide individual supports and services for academic and social inclusion
- Include academic enrichment, socialization, independent living skills and integrated work experiences, and career skills
- Integrate person-planning planning in the development of the course of study
- Participate with the coordinating center in the evaluation of the program
- Partner with one or more local education agency (LEA) to support students still receiving special education under IDEA
- Plan for the sustainability of their program after the grant period; and
- Create and offer a meaningful credential upon the completion of the program (U.S. Department of Education, 2010)

The review of literature (Thoma et al., 2011), development of the taxonomy (Institute on Community Integration, 2011), and Think College standards (Grigal et al., 2011) highlighted an ongoing need to gain a better understanding of existing programs, their components, and organization. While projects funded under the TPSID program had some consistency in program components, procedures, and experiences, these are not the only PSE programs for students with ID. Other programs have also been developed at universities across the country, many of which were

established much earlier than the inception of the TPSID projects. So while there is an umbrella term "PSE programs for students with ID," these programs can look very different, making it more difficult for program directors to understand whether the findings of a specific research study are applicable to their own program or participants. Programs could enroll students with ID only or expand their eligibility criteria to include a broader definition of intellectual and developmental disabilities, which could include students with traumatic brain injury and/or students on the autism spectrum. Program experiences could also be very different and may not be explained in sufficient detail to fully evaluate whether a specific research finding would have a similar impact. The purpose of this study was to investigate the similarities and differences between program components, procedures, activities, and experiences to document this relatively new development in the field. It is believed that this examination will help describe the history of this latest inclusive movement in the field of special education and provide a framework that can be used to support the development of a body of evidence-based practices to further improve and guide program development and implementation. This qualitative study was designed as an initial step in this investigation.

Methodology

This was a phenomenological qualitative research study, designed to gain a clearer understanding of PSE for students with ID (Creswell, 2009). Phenomenological research (Smith & Fowler, 2009) refers to research that seeks to explain a phenomena as it is experienced by those most directly involved. In this study, the phenomenon of interest is PSE programs for students with ID from the perspective of program staff. A number of PSE programs were identified to participate in this study and qualitative data collection included interviews, non-participant observations, and review of documents. Information was collected from teachers, faculty, program administrators, and/or parents when possible. Observations of program activities include students but, because the focus of this study was on the process of conceptualizing, implementing, and evaluating programs experienced by program directors and staff, students themselves were not interviewed. Document analysis focused on application materials; program descriptions; program evaluation documents when

available; program proposals for funding when relevant; examples of program activities (i.e., lesson plans, portfolios of student work, and/or instructional materials); and other marketing or program dissemination materials (i.e., videos, published manuscripts describing program components, and/or web-based materials).

Participant Programs

In all, nine PSE programs for students with ID participated in this research study, with five of them participating in all phases and types of data collection procedures. A purposeful selection process was used to identify participant programs (Creswell, 2008), identifying those programs that were relatively close to the researcher in location (Eastern, Southern, and Midwestern States) to facilitate travel for observation visits. In addition to proximity, participant programs were chosen to reflect the range of program types (that is, inclusive, hybrid, and substantially separate) and funding sources that exist in PSE for students with ID. Of the programs that participated in all aspects of the study, four of the programs were located in public universities; the other one was at a private university. Two programs were dual enrollment programs where students receive services from their LEA. Two other programs were funded through a grant from the U.S. Office of Postsecondary Education (OPE) under their TPSID, while one of the dual enrollment programs was also connected to the TPSID project funded at the same university. The last program received funding primarily through the tuition students and their families paid to the university. All programs were located at four-year colleges or universities, but not all programs were themselves designed to be four years in length.

Using the common categorization criteria for inclusiveness developed by Neubert et al., 2001, program directors were asked to categorize their program based on the inclusive criteria: one of these programs was a substantially separate program, two were inclusive, and the other two described the program as a hybrid program. Four other PSE programs for students with ID participated in one or more aspects of the research study. These programs participated in interviews of one or more program staff and most shared documents for analysis. They did not participate in observations, primarily due to time constraints in completing the study. Of these programs, three were funded through the TPSID grants while the other program was funded through tuition only. Two of these programs were lo-

cated at private universities (one in the South and one in the Northeast). The other two programs were located at public universities in the Midwest. One of these programs was a substantially separate program, while the other three described themselves as inclusive. See Table 1 for a summary of characteristics of all programs that participated in this research study.

Data Collection Procedures

This study used a variety of data collection procedures including semi-structured interviews, observations, and document analysis. Data collection began with an interview with the project director by phone. A semi-structured interview process was used to collect information about each program, which assured that consistent information was collected while permitting the collection of additional information unique to each. See Appendix A for the interview protocol.

Interviews were audio-recorded and then transcribed into Word documents. An online transcription program was chosen that would assure the confidentiality of the interview data and a quick turn-around for receiving transcripts. Written transcripts were compared by the researcher to the corresponding recorded interview to check for accuracy (particularly for the use of acronyms, initials, and other more technical terms that were not easily understood by the transcriptionists). Once the accuracy of the transcripts was verified, the Word document was forwarded to the interviewee for a member check. That interviewee had the opportunity to expand on any answer, to delete or correct answers, or otherwise assure that he or she was comfortable with the answers to the questions. All participants responded to this request for a member check, either by sending comments and updates within two weeks using the track changes feature, or by saying that the transcripts were accurate as they were and required no further clarification. There were a few minor changes made to most transcripts, involving clarifications for names, acronyms, or program details. One transcript required a great deal of editing, mainly due to the poor quality of the interview recording. The researcher worked with the program director who was the subject of the interview to recreate as much of the interview as possible.

After initial interviews with the project director were completed, observation visits were scheduled. The project director was asked to identify the specific observation opportunities for the researcher. The researcher explained that the purpose was to see typical examples of the PSE program experiences for students with ID, but allowed flexibility to identify the key components as well as the examples of where and when those activities occurred. For example, one director was particularly proud of the program's employment/internship activities, so the observations included three examples of the work that current students were doing on or near campus. Another program was proud of the fact that students blended into the campus and learned to be independent with their daily experiences. One of the observations at this site, consequently, focused on the teacher in the student commons who served as a checkpoint for students as they came and went to their various activities and/or classes.

In addition to the observations, the researcher conducted interviews with the key program staff on site and/or conducted follow-up interviews with the project director. For interviews with the project staff, a semi-structured interview process was again used. The original questions used for the interview with the program director were adapted to gather information specific to the interviewee's role and responsibilities. For example, the question on how the components of the program were chosen was changed to address the components related to employment when interviewing the program's job coach/employment specialist. Follow-up interviews with the program director were also semi-structured. The researcher developed follow-up questions after conducting an initial coding of interview transcripts and observation notes. The purposes of these follow-up interviews were to seek clarification for any unclear answers or discrepancies between data sources (e.g., interview and observation). The researcher kept a journal that was used to record questions and initial reflections from interviews and observations. These field notes were also used to identify follow-up questions.

Regarding the four programs which the researcher did not visit, interviews with additional program staff were completed for only one person. An observation scheduled at a second site had to be canceled due to time constraints. The other two programs agreed to participate in the study late in the year, making additional interviews and observations unfeasible for this time-limited study.

The last component of this research was the collection of documents for analysis. Project directors were asked to provide documents that described the program and/or how the program began. Most pro-

Table 1

Characteristic of Participant Programs

Program	Location	Type of University	Type of Program
University A	Northeast	Private; Urban	Dual Enrollment; Hybrid
University B	Midwest	Public; Urban	Dual Enrollment; TPSID; Connection; Inclusive
University C	South	Public; Urban	TPSID; Hybrid
University D	East	Public; Urban	Substantially Separate; Tuition Funded
University E	East	Public; Suburban	TPSID; Hybrid
University F	South	Public; Rural	Substantially Separate; Tuition Funded
University G	Midwest	Public; Suburban	TPSID; Hybrid
University H	Midwest	Public; Urban	TPSID; Hybrid
University I	Northeast	Private; Suburban	TPSID; Inclusive

grams had these documents readily available on their website and included application materials, examples of student work, listings of courses and/or programs of study, and brochures or flyers used to recruit students. Some projects shared the application submitted for the TPSID grant and one project shared results of a formal evaluation of their program that was used to guide program improvements. Two projects shared a DVD film that described their program and its unique features. Table 2 provides a listing of the data collected for each program.

Data Analysis

Once all interviews were transcribed, observations written into narrative reports, and documents collected, the researcher conducted a thorough qualitative analysis of the material. Saldana's (2009) coding manual was used to guide this stage of the research. First cycle coding utilized an *in vivo* coding method. *In vivo* coding uses the words of the participant as the codes to be sure that the correct language is employed for analysis.

The second cycle (Saldana, 2009) provides an opportunity to review the themes that emerged from the first cycle and then "reorganize and reconfigure to eventually develop a smaller and more select list of broader categories, themes and/or concepts" (p. 149). Additional discussions with project directors about these themes occurred as another step in the member check process. In addition, two outside reviewers

familiar with qualitative data analysis also reviewed the results of the first and second coding cycles, providing feedback and further analysis as a method of increasing the credibility of the findings. An example of this feedback resulted in identifying the theme of "complex layers," which was originally categorized as two themes: "working with LEAs" and "understanding university policies." One peer debriefer grouped those two categories into one theme labeled as "understanding policies and procedures" but through discussion between the researcher and the two peer debriefers, it was agreed that the underlying message was more than just understanding and following the policies. In fact, the comments revealed that they were learning to navigate between the requirements and cultures of the different settings in which program services were provided including local schools, university classrooms, and the campus more broadly, as well as community settings such as work, recreation, and neighborhood venues. In re-reading these comments, one program director's working of "complex layers" was determined to capture the breadth and depth of this theme.

Findings

The existing literature about PSE for students with ID identified a wide variety of program components. Program participants in this study included at least two programs from each of the three categories of PSE

Table 2

Data Collected by Program

Program	Interviews	Observations	Documents
University A	Project Director Teacher HS Administrator	Student study skills time Student club meeting	Application materials Student notebooks Program DVD Program description
University B	Project Director Project Coordinators High School administrator High School teacher State coordinator Parent	Student commons area Internship opportunity Meeting of program group	Application materials Lesson plans Bus transportation training procedures Examples of student work Videotapes of student interviews
University C	Project Director Project Coordinator Mentor coordinator Technology instructor Mentors Advising coordinator	Technology class Student life skills class Student transition/ employment class Student meeting time	Application materials Lesson plans Examples of student work FB page for program Videotapes of student presentations
University D	Project Director Project Coordinator Academic Coordinator Internship/Job Developer Parent	Math class (2 levels) Lunch time Meeting with students	Application materials Lesson plans Examples of student work Videotape of program
University E	Project Director Project Coordinator Job Coach Social skills coach Evaluator Student mentors State coordinator	Social skills class Internship sites (3) Individual tutoring	Application materials Examples of student work Evaluation report of previous program
University F	Project Director	N/A	Application materials Lesson plans Program description Course descriptions
University G	Project Director Program Coordinator Employment Coordinator	N/A	Application materials Program description Course descriptions PCP description
University H	Project Director	N/A	Application materials Program description Course descriptions
University I	Project Director	N/A	Application materials Program Description Course descriptions

types and included two that were dual enrollment programs. However, there were very few commonalities that emerged in each of these program types. In addition, differences between programs were not found to be related to the category of inclusiveness as much as to difference in program components and experiences. Differences included employment options, residential program options, student co-curricular experiences, role of parents, course instructors, and program missions/priorities. See Table 3 for a depiction of some of those differences.

Mission/Philosophy/Priorities

While programs had some commonalities and their scopes were relatively wide, these programs all had very specific missions/priorities. This resulted in a range of program components even among those with the same designation for inclusiveness. The range of components also occurred despite the relatively broad required components for programs funded under the TPSID competition.

For example, the program at University B described student self-determination as the overarching goal. As staff members described how they prioritized student goals and activities, they spoke about how that guided their work:

> And so we hope to increase self-determination by having students more cognizant of how to participate actively in a meeting and run that meeting and then on a weekly basis in that [class]...we have them establish weekly goals for what they are going to be working on this next week and then every week they review those goals and determine how its working...we look for ways to build this into all that we do.

This program also provided more autonomy to students to make choices about their daily activities. Although there were options to take courses on campus, this was not a requirement and was left up to student choice. Participating students were observed engaging in activities in line with their individual goals rather than engaged in classes designed to address common goals as in other participant programs. For example, one student reported wanting to be a nurse. Her daily experiences included volunteer work in the hospital on campus, enrolling in an anatomy and physiology class, and learning to take the bus to ultimately make her better able to apply for work in the future. Another student in that same program did not have a clearly identified career goal, so the majority of his day was spent in volunteer work experiences to explore options. He audited one class in the school of education on the use of instructional technology to improve his use of computers in daily life.

While all programs identified self-determination as a goal, not all made it a priority component. For example, the program director at University D indicated that participation in academic classes was the most important component of that program. In fact, this university's program was moving from being a substantially separate program to a hybrid one. During the on-campus observation, it was discovered that a student failed to show up for class. Program staff intervened to require that the student show up for class. This demonstrated that the academic program component was prioritized over facilitating student self-determination, which supports individual choice-making as a central tenet (Wehmeyer, Kelchner, & Richards, 1996).

Program staff spoke about times when the various goals of the program were in conflict with one another. In those instances, they were able to identify the priority goal that was used to guide a specific decision. For example, one program identified both attendance in college courses and increasing a student's independence in the community as key features. However, as program staff spoke about times when these goals conflicted with one another, they clearly identified which was most important. For example, program staff at University B stated, "If a student decided that he or she wanted to drop a course and instead work on learning to use a bus, that's what he or she did."

Another program at University I described the opportunity to take academic classes on campus as its primary goal. The course of study outlined on this program's website listed a vast array of academic classes, including ones developed by the program that were open to all students on campus. Both University B and I identified themselves as "inclusive" programs, but their differences highlighted a range of ways that students with ID were included on the college or university campus. Inclusion was not narrowly defined as inclusion in academic courses alone, but having opportunities to be included in the range of campus learning, social, and recreational activities.

Another program identified universal design for learning (UDL) as a key philosophical underpinning

Table 3

Features of Programs

Program	Type of Program	Academic Classes	Employment	Residential Component	Other Features
University A	Dual Enrollment; hybrid. Two years.	Audit classes. Some separate classes/experiences.	Employment funded through grant with local agency. Free to university, student paid by grant. Job coach from school district	None	Students learn to ride public transportation. Participation in student clubs. Summer program focuses on social skills.
University B	Dual Enrollment; TPSID connection; inclusive. One year.	Audit some classes, no separate classes.	Volunteer experiences on campus and/or nearby.	None	Students learn to ride public transportation. Focus on increasing student independence/self-determination. TPSID focus in coming year will help with expanding beyond one school district. May change to 2 years.
University C	TPSID; hybrid	Audit classes, some separate classes on life skills.	Vast internship options.	None	Started as dual enrollment program; but that stopped with TPSID funding. Focus on social networks.
University D	Substantially separate; tuition funded	Started as separate with no inclusive class options. Those are growing now.	Some internship options; program is focusing on increasing those.	Optional, not required.	Students at university are the teachers of the substantially separate classes and/or serve as mentors/resident advisors in dorm.
University E	TPSID; hybrid	Audit classes, some separate classes focused on using technology, employment, life skills.	Internship options mostly on campus.	Optional	Large mentorship component. Use of social media to communicate between students in program, faculty, community members. Sought state funding for scholarships for equity.
University F	Substantially separate; tuition funded	All separate classes focusing on employment, community living, independence	Internship and paid employment opportunities.	Required component; apartments off campus.	Project staff paid for by tuition charges. 100% employment outcome.
University G	TPSID; hybrid	Audit; some separate classes.	Internships and paid employment opportunities.		Parent participation is noted as important. Transition focus/person-centered planning.
University H	TPSID; hybrid	Audit	Organized around specific employment training model.	Is planned but not yet implemented.	
University I	TPSID; inclusive	Audit; classes designed for program students are open to all students at school.	Internships		Use of technology important.

of their program. UDL is an approach to instructional design and delivery that creates access to learning by using methods, materials, and assessments that meet the needs of a range of learners (Center for Applied Special Technology, 20012. It "acknowledges that there is no one size fits all approach to students learning; teachers must deliver instruction in multiple ways and allow students multiple ways of expressing mastery" (Thoma, Bartholomew, & Scott, 2009, p. 8). Students in that program at University C took a class in a computer lab where they learned to use a variety of technology programs. They videotaped themselves throughout the program and posted examples of their work on a program Facebook page. They also used an electronic portfolio process to document their progress through the program. Despite the variety of campus experiences, program staff continued to question whether they were doing enough or having the desired impact:

> ...one of my biggest worries about the program is...if this is ultimately going to be a good use of the student's time. I mean these are two valuable years that we are working with them, and if we're not -- if this program isn't ultimately successful in helping them to get to that next step -- then that's really bad.

This concern with program impact was echoed as staff spoke about program conclusion or graduation. TPSID funding required a "meaningful credential" but regardless of how they addressed this in a proposal or at program inception, many of the program directors described uncertainty about how to meet or measure this goal. One program director from University D described how they made the determination of when a student had successfully completed the program:

> I know also the challenge becomes, at what point do we say the student is ready? We have...some students -- who could stay with us forever because -- it could take them a while to reach a point of similar independence. I think that -- I could envision us allowing students to stay in a little bit longer [than two years]...

Another program director from University E spoke about the desired outcomes for students attending their program:

We want the students to be gainfully employed. We want them to not have a separate place. What we want the students to have the functional skills that they need, to eventually be able to meet their postschool goals, if they want to be in a position to eventually live on their own or live with a roommate. We want them to have the skills and the resources so that somehow be able to move themselves in that direction. We want them be independent by the time they leave us.

This individualization of priorities for students creates challenges in terms of knowing when the student has sufficiently achieved the desired outcomes. Successful completion is not measured in terms of accumulating a predetermined number of credits or passing some type of exit exam as is typical of postsecondary programs, but is more holistic than that. Program directors and staff used a variety of methods to determine when students had successfully completed their program including job attainment, attendance for a specific length of time (typically one or two years), passing a comprehensive portfolio that documented growth over time, and/or meeting transition goals identified through an individualized process such as a person-centered plan or student-directed IEP process. Yet most program directors identified that this remained an area of concern for them. As one program director from University A said:

> The priority is the independence building of the whole student. That's actually what it is. Is that it's really the ability of the program to address the social aspect of each individual, the cognitive, academic aspect of each individual, the transitional needs, the job-related needs, and the functional needs. To put all of that together in a program that's really going to address every aspect, so that each individual can be a successful adult.

Program priorities played a role in the types of assessments used to measure student progress toward program completion and students' individual goals. One program director spoke about the challenge in identifying relevant assessments to document student growth in areas that matched their program's priorities at University I:

Well, and that's something I think could be a real benefit to the field to come up with [assessments that measure student growth and outcomes]. It's not just employment. I think that another area that has been done very well at PSE program...is feeling a part of the college campus, and that's again something I don't know exactly how one measures, but when I look at all of the students that I've seen come out of this program, they have had so many opportunities to be involved in clubs, participate with sororities, manage teams, working out at the gym, going to the pool, participating in -- going to the sports events...This is just what you want to really be a part of a college campus and have that experience.

Program directors and staff were asked about the role of parents in their PSE programs. Not surprisingly, the degree to which they involved parents also reflected their priorities for participating students. Some programs sought an active role for parents, as this project director from University G described:

...one of our co-directors, has done such a great job working with the parents. We have monthly parent meetings...she tries to make it the parents' meeting and to address concerns that they have about their students, about their kids. I don't see how postsecondary ed programs can be successful without a very strong family and parent component.

Other programs described helping students assert a greater degree of independence while in the PSE program, similar to the experience of "typical" undergraduate students. As this program director said, the role of participants' parents is reflective of this program priority:

Then when we admit families we give a couple of orientation meetings with them to explain that college is different than high school, that in terms of communication, we are going to be communicating with your son or daughter, not with you We treat our students like other college students, and we describe they will get support they need to be successful academically and socially, but we're not going to be taking your phone calls every day. This is college; it's different.

Another priority/mission of note had to do with the degree to which students were included in campus classes. The program director from University E described how inclusion guided their priorities, even when they had competing priorities:

We finally move into the new location, and then [including students on campus] actually became much easier. By that time, I think staff were convinced [that] having all these special classes is not such a good idea. And the students felt that way, too...We had said we wanted to wait until spring to have students sit [in] on some of the regular classes on campus. And the students said, No, no, no. I want to do it now. And so there were three or four of them who did that in the fall semester... sitting in on an English class, computer classes, I forget what else.

Another program director from University I spoke of the impact of their focus on full inclusion:

After class, I....was walking back to my office, and I looked out at the lawn in front of...our administration building...and there were about eight or nine students sunning themselves, talking. About four of the students were students with disabilities from our program, and five were...other random undergrad students. Just that picture for me kind of described the intangibles of [our program].The students with disabilities won't think about themselves in the same way. They sense that they are in real ways like everybody else...It's what makes doing this worthwhile and important.

In summary, the program directors and staff were thoughtful in talking about their goals for the program and whether the challenges were worthwhile. The program director from University E's comments reflected a common theme heard in all interviews:

...I love this project. I struggle with it. Sometimes I'm not completely happy with the way it's unfolding, but I love it. And I think it's wonderful. Probably the struggles are more about my wanting it to be the best it can be.

While there were a number of topics that emerged from the qualitative coding, one theme emerged that

described each of these codes. This overarching theme can be described as *complex layers*. This theme is described more fully in the sections below, with quotes from interview data and examples from observations and documents reviewed for this study that illustrate the components of this theme.

Complex Layers

Many of the program directors and staff spoke about the complexity of developing, implementing, and evaluating a PSE program for students with ID. In particular, they did not fully anticipate the levels or layers of work that would be required to implement their vision for the program prior to getting involved in this work. Comments about complex layers and examples identified through observations and/or document analysis reflected complexity in such diverse activities as navigating university policies and procedures, working with school district or other community agency partners, and growing and/or improving their program.

University administration/systems. All program directors and staff interviewed for this research spoke at length about the difficulty they had understanding university administration/systems as they began the process of implementing or designing a PSE program. For example, one program director at University A described the process of getting university approval to have students with ID attend classes as follows:

> Our largest challenge to date has been including young adults in academic classes without them formally registering and we initiated the program by using our friends. The University was upset that we were not following the rule that every student in the class must be a paying student. And so … after establishing the advisory committee [we were able to] work out a solution for how the academic piece of the program will work.

In conducting observations at the various universities participating in this program, this struggle to become part of the university was at times very apparent. Most universities' programs were located within their School of Education, often because program staff and directors worked as faculty in departments of special education or they were part of larger university centers of excellence in developmental disabilities (UCEDD), funded through the Developmental Disabilities Act (DD-Act). These grant-funded programs often were located in more remote locations on campus and program staff focused on community research and service projects so they had less experience with navigating university policies. Documents shared by program directors and staff looked like any other document disseminated by the university (i.e.., they used official university and/or school logos and colors). However, despite their appearance, many of these documents communicated information about program features that were very different from programs and services available to or required of other university students. One example of this was the information required for admission to the program.

Most university programs have admission information located or linked from a broad university undergraduate admission webpage where application forms, fees, and contact information can be found and program requirements are provided. Not so in the case of these PSE programs. In most instances, these programs were not listed on that page, nor were they listed on the website for the programs of the School of Education. Instead, information about the program was listed under research projects or in descriptions of community-engaged service programs of the university or research center responsible for overseeing the program. Some programs had their own website that was shared with potential students through their high schools or transition case managers and with the general population through a link to the Think College website (www.thinkcollege.org). One program that participated in this study was not listed on the Think College website and was also not found through a search of the university's website, but did maintain a Facebook page for current students.

Another layer of complexity related to the application process was working with the university on determining student status. Some university programs admit students with ID into a certificate program; others admit students into their program with a "special student" status. Still others accept students into the program without having a university student status. Instead, they are "X-program" students, which denotes a marginalization of the program and its students by the university community. Every project director interviewed for this project described his or her struggles working with university staff to determine the status of students accepted into the program. Most were seeking ways to include these students within the day to day life of the university. Are they considered

students of the university or do they have a different status altogether? Perhaps more importantly, are these university programs that will be sustained over time or are they programs run by certain individuals that will disappear if that person moved on? Do they qualify for services that every student can access or not? One of the first steps of the process is in convincing university administrators and faculty that this program makes sense pedagogically. As the project director from University G described:

It took a lot of convincing people that this makes sense; that it is possible...Our response was we think special education actually works and what we're going to try to do is to apply what we've learned about inclusion in K-12, and the kinds of things that we think should be happening in K-12. We're going to build those seamlessly into the support that these students get...attending the typical college courses, participating in typical college social activities. I think at that point we couldn't have anticipated how much work it would take to make it happen.

Despite common struggles in negotiating the application process and university designation of student status, many program directors found that once administration understood the intent of the program and clear parameters were identified, it then became easier to ensure that program students had access to the range of supports and services available to any other university student. In some instances, students paid fees such as recreation fees and technology fees so they were able to access these services on campus just as any traditionally admitted student would be able to do through existing fee structures. In other instances, the designation between university students and PSE program students was very different and seemed to be impossible for program directors and staff to bridge the gap. Non-participatory observational visits by the researcher (Creswell, 2009) to campuses provided an opportunity to observe students accessing a range of services, participating in campus activities, working and/or interning in campus admissions offices, libraries, and with athletic teams. Students blended into the campus settings and routines, "hanging out" in the student unions, cafeterias, libraries, computer labs, and lounges between classes. This was expressed by another project director who said:

Our students are paying full fees, so any of the fees that are required of full-time students they're paying. So they have access to activities on campus like the bowling alley, the services there, they have meal plans available, they have an ID [identification card] of course, because everything's connected to their ID. The library, the gym, the bus system is part of that, their computer systems, they have an email and a login just like other students.

While students with ID were typically able to receive generic services available to regularly admitted and enrolled students, most programs identified separate services they provided directly to students with ID in their program. Even programs that identified themselves as "inclusive" could identify one or more examples of services and/or supports that they provide directly to students with ID. Some of these supplemented generic services such as additional academic supports to students to adapt assignments or academic materials. Other services were developed specifically for students with ID even if examples of these services were available for others on campus. For example, one university program worked with the psychology department to provide counseling for their students with ID rather than have them use the university's counseling services when the Counseling Services Director expressed uncertainty about her staff's ability to address the needs of students with ID. Still other services were created for students with ID but did not have a parallel on campus for other university students. For example, Universities D, E, F, and G created special courses on independent living skills for students with ID, and enrollment was limited to the students in the program only. Another university's program director spoke of the ways that they provided services even if students in the program could access similar services through the university:

We access pretty much everything on campus except, let me say, there are a few exceptions. We provide some in-house services versus having our students go over to over to the campus center. We do a better job...

Working with school districts and/or other community partners. Not only did programs struggle with understanding and navigating university policies and

procedures, those that were designed in partnership with local school districts or other community agencies found there were additional layers of complexity to their program design and implementation processes. Programs designed as dual enrollment programs by their nature faced additional challenges as they not only needed to follow the university system and policies, they had to do so while also implementing policies and procedures of the local school district. At times these policies and procedures were in conflict with one another. For example, students with disabilities can request appropriate accommodations at the university level, but these accommodations may not be implemented if they conflict with the general expectations for a specific class or program. Conversely, students with disabilities in educational programs at the secondary level are entitled to receive modifications and individualized supports and services that would not be typical at the PSE level. Yet directors of programs designed with a dual enrollment model must find a way to bridge these different expectations and requirements in a way that meets the needs of students with ID without compromising the benefits to students with ID in being included on the university campus.

This struggle was further compounded when the PSE program served the needs of more than one school district. When conflicts between the university-based program and the school district occurred, it was typically the school district's policies and procedures that prevailed. At times this was because the school district provided the majority of the funding for the program staff and services. Key staff in dual enrollment programs included a special education teacher, job coach, and/or paraprofessional assistants, who provided instructional supports and services for students with ID. However, this additional assistance created further challenges such as having students accepted into their programs recognized as university students with access to all university services. A teacher working with students in one of the dual enrollment programs at University A described this additional complex layer:

> ...they're not in the class, we just call it auditing. Right, that means they don't have access to computers, to blackboard website for class, to library or other campus services. In the last year we have been pretty lucky to get the computer teacher to help me get a guest connection to my port site but it's inconsistent: sometimes it works, sometimes

it doesn't. I have a blackboard site there so at least I can get in to get the work for them and then we print it out.

Dual enrollment programs had an even greater degree of complexity to them than the others: not only do the components of the program need to address K-12 requirements, they also need to be a good fit with the university itself. Program directors, and to a lesser degree, program staff discussed this challenge at length. One program director whose program changed from a dual enrollment program to a university-based one at University E described the rationale in terms of complexity:

> ...this really shouldn't be, from our point of view, a secondary program. It should be a post-secondary program. If it's really about being on a college campus, it needs to be about being on a college campus on a college schedule. Since we were experiencing these conflicts and they just became exacerbated when we had multiple school districts...The school day starts very differently than the college day. The school day ends much earlier than college day.

The principal of a school who had students participating in a PSE program at University B also described this struggle meeting the different priorities for students through this model:

> [We are] still finding the right balance between the rigors of the academic requirements from the university and making sure the students are getting the functional skills that they need with the life skills that they are going to need to move forward. It's….a little bit of a challenge as well, so we are always trying to form that balance.

Another complex layer was negotiating the requirements of offering a residential component of the PSE program. Residential ("dorm") life has been described as an important part of what colleges offer in terms of learning. The residential component provides an opportunity to teach some of the functional and independent living skills that young adults with ID require to achieve their goals for adult life. Although a residential component was required for each of the programs funded under TPSID, this was an aspect of

PSE that was often described as difficult to implement. One program director spoke about how they navigated challenges inherent in addressing this component of PSE programs at University E:

> So I would [like to] have a residential component, but the University wants us to wait...to implement a residential component for an extra year while they build the dorm. To be honest with you, after talking to other TPSIDs, the residential piece [requires] a huge logistical coordination [effort], and I frankly don't think we have our day program grounded out yet enough where it's moving smoothly.

Continual program improvements. Most program directors discussed the complexity of making continual improvements to their programs. That was true whether the program was still in its planning phase, newly implemented, or had been around for many years. The oldest program participating in this study was over ten years old. One program took a slow and steady approach to making program changes, as described by a parent of a student at University D:

> And one of the things that I liked about the Program Director's approach was that [the director] would take an important area each year and work to develop it, so one year it might be curriculum, another year it might be developing more inclusive class opportunities, another year it would be getting into the dorms, but really very carefully and thoughtfully moving forward and making progress in developing a program.

Another program described a process of program change and development that was more spontaneous:

> That first year, we were literally, probably the first three years we were literally building the plane while we were flying it. It was very stimulating, we were learning a lot. At the same time we were changing the college community in ways that I think we couldn't have anticipated, and the college just reacted very positively in some ways, very bureaucratically in others.

Some of the programs described how access to academic classes on campus had grown over the years. Even programs that described themselves as "inclusive" described a gradual process of identifying classes that students in their program could take at University B:

> Then we did a lot of outreach to individual faculty, we explained to them who the students were, what our expectations were and what kinds of support we could provide. We got more and more faculty who were willing to include students. Now we've got somewhere around 80 undergraduate offerings that we [can advise students to take]. Then if students have new interests or aren't interested in those then we go out, we do outreach to other faculty. So the course offerings grow, and grow, and grow.

This idea of the various layers of complexity encountered in developing and implementing a PSE program for students with ID was summarized by the following statement from a project coordinator at University I:

> I think that in the early stages the developing of a quality inclusive post-secondary program takes so much work. That at least for a small college like ours, where we don't have tremendous resources to work with, that it's difficult to find the time to share what's working with others. We have done a fair amount given just how busy we've been on developing our program, and running it day to day, and then showing that students get their right amount and type of support, so that this experience truly does help them to realize their gifts and to be able to use them as adults. It's an ambitious undertaking.

Discussion

The literature on PSE programs for students with ID categorizes programs into three different types or models: inclusive, hybrid, or substantially separate. Program directors and staff in the present study described other components as being more important to understanding the overall goals and mission of their programs. In fact, the programs designed to be fully inclusive often ended up offering supports and services that were developed exclusively for students with ID while the programs designated as substantially separate were making steps to include students with ID in campus courses and activities open to all. With the

programs that participated in this study, the designation of inclusivity which has been widely used in the field to categorize PSE programs for students with ID is losing its ability to clearly differentiate between programs. While the sample size of this study was small, there were a number of implications for policy, practice, and future research that emerged from these findings.

Implications for Policy and Practice

This study supports the findings from the review of existing literature that the term "PSE programs for students with ID" is an umbrella term for a range of programs with often very different goals, components, participants, and funding sources. In fact, the term "postsecondary" might be a misleading description as students participating in some of these programs may still be receiving secondary-level services from their LEAs through IDEA, including educational supports and services from special education teachers and paraprofessionals. Their participation in typical university classes mirrors students with ID who are not receiving services in "dual enrollment" programs, but with instructional modifications provided by the LEA.

Other than participation in college/university courses and having the program staff physically located on the college campus, there were other ways that these dual enrollment PSE programs for students with ID differed from other secondary/transition programs. Program staff of PSE programs for students with ID had greater expectations for student independence, especially when compared to the expectations for students who received educational services from other high school/transition programs. Students admitted to PSE programs were required to demonstrate greater independence and motivation through interviews, personal statements, and on-campus orientation meetings. In addition, most programs required less involvement of parents in the daily activities of program participants, making parental involvement similar to that of typically enrolled students at the university. This decrease in expectation for parental involvement coupled with an increase in expectation for independence on the part of the student may result in improved outcomes for youth enrolled in these PSE programs.

It was clear that students enrolled in PSE programs were exposed to opportunities that were not typically part of most school-run transition programs, although opportunities varied greatly between programs. Students in PSE programs learned to ride the bus to travel around their university. In some cases, they also learned to ride public transportation in their city to travel to campus as well as to increase their independence in their home communities. Students learned job skills through participation in a range of internship opportunities, on campus employment, and specific transition program components linked to best practices for improving employment outcomes (Test, 2012).

Discussions with program staff and observations of program activities revealed a range of social activities on campus in which PSE students with ID participated. Students attended sporting events, participated as managers of sports teams, joined sororities or fraternities, and "hung out" with peers with and without disabilities. Many programs had peer mentors, who spoke about the growing friendships that resulted from these interactions. While the complexity of managing large peer mentor components could be challenging, programs found that they grew quickly and provided more opportunities for students with ID to participate in a greater range of social activities.

The complexity of conceptualizing and implementing PSE programs for students with ID requires an understanding of the university program development process as well as the various rules and regulations of the university based on law and common practice. Public universities can have a mission to serve the broader communities and those program directors who used this rationale found it was easier to convince administrators to "welcome" the programs to be run on campus. In fact, the majority of the programs funded through TPSID were located on public university campuses (U.S. Department of Education, 2010). However, they are also typically larger in size, which can create additional challenges in understanding and addressing campus policies and procedures and identifying appropriate personnel to provide access to available supports and services. Program directors with a longer tenure at the university or identified university-level administrators who were supportive of the development of PSE programs for students with ID reported less difficulty in unraveling the complex layers of program development. Those program directors interested in beginning similar PSE programs at their universities would benefit from the time it may take to identify supportive administrators.

Most programs identified that they changed over time; finding a way to deal with change made that process manageable. Program staff who were unable

to describe a clearly defined mechanism or procedure for responding to change were more likely to describe their program implementation process as "building the plane while flying it." Alternatively, when programs identified a process for responding to change, they felt that changes were manageable even when they were dramatic or unpredictable.

Implications for Future Research

This phenomenological research study provided an in-depth analysis of a range of PSE programs in an attempt to gain a better understanding of the nature of postsecondary education for students with ID. Until this study, most published research focused on one program or one type of program, so this study offers new information across program types that can be useful to guide future research. Additional programs may need to be recruited to expand this study to be sure that programs included the full range of program types and services provided to students to accurately describe the phenomenon of PSE programs for students with ID.

Much remains to be learned about the outcomes that participation in PSE programs for individuals with ID can influence. First, longitudinal studies are essential to examine the range of experiences that students with ID have over the course of their PSE participation and the impact this participation has on their long-range employment, community living, and overall quality of life experiences. It is important to understand whether participation in PSE improves employment outcomes immediately after completion, but it is also important to know whether those differences maintain over time.

It will also be important to know whether specific PSE program components improve outcomes for individuals with ID, particularly those components that improve postschool outcomes for youth with disabilities transitioning from high school to adult life such as parent involvement, student self-determination, and employment experiences. Some program directors are incorporating many of these components into their PSE programs specifically because of their impact on improving transition planning in general. Consequently, it will be important to investigate whether or not incorporating these components into PSE programs has the intended result.

Lastly, future research should focus on the qualifications, experience, and backgrounds that program staff need to successfully implement PSE programs.

This has implications for those programs that are dual enrollment programs where licensed teachers are working with students but may be relying on university faculty members to deliver academic content.

Limitations

Phenomenological investigations seek to understand a process from the point of view of those who are involved in the experience. To that end, this study focused on those who developed and implement nine postsecondary education programs for youth with ID. This researcher identified participants using a purposeful selection process, identifying a sample that represented a range of PSE programs based on categories based on their degree of inclusiveness (Neubert et al., 2001). These categories, however, may not be sufficient to assure that a complete range of programs were included in this study, as there were significant differences between programs within categories and similarities across program categories. For example, one inclusive program had students attending a range of academic classes while another inclusive program had students included on campus but not always attending academic classes.

This study was part of a one year research fellowship funded through NIDRR and this time delimitation was further complicated by the programs' college schedules. A few of the programs ended their spring semester in early April and did not offer any summer programming. Since approval through the author's university's IRB process was not obtained until December and then interviews were conducted, most on-campus observations did not begin until February. Spring break weeks also made scheduling difficult as did travel by program directors and/or the researcher for conferences or other meetings. These scheduling challenges resulted in an inability of the researcher to visit each university and conduct observations to further validate the information provided through interviews and document analyses. Although this researcher conducted interviews with multiple participants associated with each university program and further validated information collected through an analysis of program documents, it can be considered a limitation of the study that observations were not conducted for each participating program. Observations can provide validation of self-reported data as well as another viewpoint to clarify the reports of participants. Therefore, the fact that some programs did not participate in all components

of the data collection process and, in particular, that four programs did not participate in observations, is another limitation of this study. Despite these limitations, there are some implications for further research as well as practice/policy development that emerge from the findings.

Conclusion

Postsecondary programs for students with ID have the potential to offer students a number of positive adult outcomes if they can be designed to have the same impact that postsecondary education has for the general population. However, the fact remains that these programs are often very different from the two- or four-year postsecondary experiences of students enrolled in degree-seeking programs. Limited research has demonstrated a number of positive outcomes for students with ID who have participated in these PSE programs, but the degree to which those outcomes are the result of this participation rather than being the result of other concurrent factors has yet to be determined. The complexity of the PSE experience will make it difficult to conduct this research, but the field as a whole is making some progress in understanding the nature of PSE experiences for students with ID. However, the fact that so many of the components of the program are built on evidence-based practices that improve transition outcomes should provide a rationale for continuing to provide funding to support demonstration projects, such as the TPSID competition, while continuing to fund research efforts to document what is and is not working. The research is essential to support further programming, to enhance programmatic efficacy, and to guide additional research that can influence positive life outcomes individuals with ID.

References

Baum, S., & Ma, J. (2007). *Education pays: The benefits of higher education for individuals and society.* Washington, DC: The College Board.

Blackorby, J., & Wagner, M. (1996). Longitudinal postschool outcomes of youth with disabilities: Findings from the National Longitudinal Transition Study. *Exceptional Children, 62*, 399-413.

Bureau of Labor Statistics (2010). Employment status of the civilian population 25 years and over by educational attainment, sex, race, and Hispanic or Latino ethnicity. In *Labor force statistics from the current population survey.* Washington, DC: Author. Retrieved from http://www.bls/cps/demographics.htm#education).

Center for Applied Special Technology (2012). *What is universal design for learning* [webpage]. Retrieved from http://www.cast.org/udl/index.html.

Creswell, J.W. (2008). *Research design: Quantitative, qualitative and mixed methods.* Los Angeles: Sage.

Creswell, J. W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches.* (3rd. ed.). Thousand Oaks, CA: Sage Publishing Co.

Grigal, M., Hart, D., & Weir, C. (2011). *Think college standards, quality indicators, and benchmarks for inclusive higher education.* Boston, MA: University of Massachusetts Boston, Institute for Community Inclusion.

Hart, D., Grigal, M., Sax, C., Martinez, D., & Will, M. (2006). Postsecondary education options for students with intellectual disabilities, *Research to Practice, 45*, 1-4. Retrieved from http://www.thinkcollege.net/for-professionals/pathways-topostsecondary-education.

Hughes, C. (2009). Postsecondary outcomes in the 21st century-A change is gonna come? *Research and Practice for Persons with Severe Disabilities, 33*(3), 100-102.

Individuals with Disabilities Education Improvement Act (IDEA) of 2004, Public Law 108-446, 20. U.S.C. (2004).

Institute on Community Integration (2011). *Postsecondary education for students with intellectual and developmental disabilities: A critical review of the state of knowledge and a taxonomy to guide future research.* Minneapolis, MN: Research and Training Center.

Mischel, L., Bernstein, J., & Allegretto, S. (2007). *State of working America, 2006/2007* (10th ed.). Washington, DC: Economic Policy Institute.

Moustakas, C. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage Publishing Co.

National Longitudinal Transition Study-2 (2003). *Youth with disabilities: A changing population. A report of findings from the national longitudinal transition study and the national longitudinal transition study-2*. Retrieved from http://www.nlts2.org/reports/changepop_ reports.html.

Neubert, D. A., Moon, M. S., Grigal, M., & Redd, V. (2001). Postsecondary educational practices for individuals with mental retardation and other significant disabilities: A review of the literature. *Journal of Vocational Rehabilitation, 16*, 155-168.

Rusch, F., & Wolfe, P. (2008). When will our values finally result in the creation of new pathways for change-Change that we can believe in? *Research and Practice for Persons with Severe Disabilities, 33*(3), 96-97.

Saldana, J. (2009). *The coding manual for qualitative researchers.* Thousand Oaks, CA: Sage Publishing Co.

Smith, M. D., & Fowler, K. M. (2009). Phenomenological Research. In J. Paul, J. Kleinhammer-Tramill, & K. Flower (Authors). *Qualitative research methods in special education* (pp. 163-178). Denver, CO: Love Publishing Co.

Stodden, R. A., & Dowrick, P. (2001). Postsecondary education and employment of adults with disabilities. *American Rehabilitation, 25*(3), 19-23.

Talis, A., & Will, M. (2006). A parent and policy perspective on the quest for ordinary lives. *Research and Practice for Persons with Severe Disabilities, 31*(2), 130-133.

Test, D. (2012). *Evidence-based instructional strategies for transition.* Baltimore: Paul H. Brookes.

Thoma, C., Austin, K., Achola, E., Batalo, C., Carlson, D., Boyd, K., Bozeman, L., & Wolfe, D. (2012). The state of postsecondary education for persons with intellectual disabilities: what are the perceptions of key stakeholders? *Creative Education, 3*, 1122-1129. doi: 10.4236/ce.2012.326168.

Thoma, C. A., Bartholomew, C. C., & Scott, L. A. (2009). *Universal design for transition: A roadmap for planning and instruction.* Baltimore: Paul H. Brookes Publishing Co.

Thoma, C. A., Lakin, K. C., Carlson, D., Domzal, C., Austin, K. & Boyd, K.S. (2011). Participation in postsecondary education for students with intellectual disabilities: A review of the literature. *Journal of Postsecondary Education and Disabilities, 24*(3), 175-191.

U.S. Department of Education (2010). *U.S. Secretary of Education Duncan announces $10.9 million in awards under new programs that help students with intellectual disabilities transition to postsecondary education.* Retrieved from http://www.ed.gov/news/press-releases/us-secretary-education-duncan-announces-109-million-awards-under-new-programs-he

Wagner, M., Cameto, R., & Newman, L. (2003). *Youth with disabilities: A changing population: Longitudinal Transition Study-2 (NLTS2)*. Menlo Park, CA: SRI International.

Webb, K. W., Patterson, K. B., Syverud, S. M., & Seabrookes-Blackmore, J. J. (2008). Evidenced based practices that promote transition to postsecondary education: Listening to a decade of expert voices. *Exceptionality, 16*, 192-206.

Wehmeyer, M. L., Kelchner, K., & Richards, S. (1996). Essential characteristics of self-determined behavior in individuals with mental retardation. *American Journal of Mental Retardation, 100*, 632-642.

Will, M. (1984). *Bridges from school to working life. Programs for the handicapped*. Washington, DC: Clearinghouse on the Handicapped.

About the Author

Colleen A. Thoma received her B.A. degree in social sciences from the State University of New York at Buffalo and Ph.D. in Curriculum & Instruction/Special Education from Indiana University. Dr. Thoma is a Professor and Chair of the Department of Special Education and Disability Policy at Virginia Commonwealth University. Her research focuses on the transition from school to adult life for youth with disabilities, including self-determination, teacher preparation, postsecondary education, and application of universal design to link academic and transition instruction. She was awarded a Switzer Distinguished Research Fellowship (NIDRR) in 2012. She can be reached by email at cathoma@vcu.edu

Author's Note

Understanding the Diversity: A Taxonomy for Postsecondary Education Programs and Services for Students with Intellectual and Developmental Disabilities

Mary A. McEathron
Trisha Beuhring
Amelia Maynard
Ann Mavis
University of Minnesota

Abstract

The number of postsecondary education (PSE) programs for individuals with intellectual and developmental disabilities (IDD) has been steadily growing over the last few decades. There has been little public information regarding these programs and schools. Consequently, students, families, and researchers alike lack details about the various postsecondary options available to students with IDD. In response, the researchers developed a taxonomy to delineate the characteristics of PSE programs for individuals with IDD, laying the foundation for further study and development. The taxonomy was developed in two phases. Using a case study approach, a diverse range of 21 programs in 2- and 4-year institutions of higher education were selected. Information was gathered from each program through interviews with disability service staff and program directors, and through a review of program documents. After creating an initial taxonomy from interview and document data, a validation phase was conducted using an online survey. The iterative process of analyzing the in-depth interview data, program materials, and survey responses, as well as constructing a logical, well-ordered taxonomy resulted in a structure that has 4 domains, 16 components, and over 100 elements. The PSE Taxonomy provides a mechanism for combining elements to provide a more comprehensive understanding of PSE programs, to clarify differences and similarities between programs, and to develop succinct, easily comparable program profiles.

Keywords: Transition, postsecondary, intellectual disability, taxonomy

Recently, postsecondary education (PSE) programs for persons with intellectual and developmental disabilities (IDD) have increased in number, supported by federal policy, grant initiatives, and the work of advocates. Community inclusion, independent living, and improved employment outcomes for people with IDD are frequently cited as benefits of participating in a PSE program (Migliore & Butterworth, 2009; Newman et al., 2011). A major federal initiative, the Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID) grants program funded by the U.S. Department of Education's Office of Postsecondary Education ([OPE], 2010), is currently supporting the development of a range of new PSE programs. Many older PSE programs for youth with IDD—those established 10-20 years ago—are also changing and evolving for a variety of reasons, including in response to guidance from the Higher Education Opportunity Act (HEOA) of 2008 and the expectations of students and their families. However, even with the HEOA guidance and the concurrent evolution of PSE programs, there remains a great deal of variation among the ever-growing number of PSE programs serving students with IDD.

Two comprehensive literature reviews illustrate the diversity among PSE programs that have existed from the 1970s to the present (Neubert, Moon, Grigal, & Redd, 2001; Thoma et al., 2011). More recently, Think College (http://thinkcollege.net), a project of the Institute for Community Inclusion at the University of Massachusetts Boston, has provided information on over 200 PSE programs currently active around the country. However, efforts to compare and contrast these diverse programs and evaluate their outcomes have been hampered by the lack of a systematic classification scheme or taxonomy. This lack was consensually identified during the discussions at the 2009 State of the Science Conference on Postsecondary Education for Students with Intellectual Disabilities (Conference Proceedings, 2009; see also McEathron & Beuhring, 2011).

The main challenge in developing a taxonomy is to determine which program characteristics will be the most useful for describing, comparing, and evaluating programs in common terms. The Thoma et al. (2011) literature review identified 47 PSE programs in the research literature from 2001-2010, but less than half of the journal articles reported enough information to be useful in defining elements that could be used to classify those programs according to their student and program characteristics. Similarly, programs listed on the Think College website differ considerably in the type and amount of information provided, making comparisons across programs difficult.

Published research on PSE program effectiveness is also of limited help in developing a common program classification scheme. Most evaluation studies of PSE programs for persons with IDD have relied on single-case studies or qualitative analyses of small samples (Hughson, Moodie, & Uditsky, 2006; Neubert et al., 2001; Thoma et al., 2011). These studies are inconsistent in how samples are defined and how programs are described and often make untested assumptions about the potential benefits of participating in a PSE program for all participants, regardless of the severity of their intellectual disability. Challenges in comparing outcomes are compounded by inconsistencies in how the term "intellectual disability" has been operationally defined (American Association on Intellectual and Developmental Disabilities [AAIDD], 2010) and the frequent failure to distinguish between program participants with intellectual disabilities and those with developmental disabilities that do not necessarily include cognitive deficits (Larson et al., 2001; Zafft, Hart, & Zimbrich, 2004).

As a result, the study described here, funded by the National Institute on Disability and Rehabilitation Research (NIDRR), was designed to create a taxonomy of PSE programs from the bottom up, starting with an in-depth examination of a small but diverse and representative sample of active programs across the country.

Methods

The study was conducted in two consecutive phases. First, the development phase used an in-depth study—based on comprehensive interviews and program documents—of a small but diverse sample of PSE programs for students with IDD to identify the key characteristics needed to classify such programs. Second, in the validation phase, a survey based on the taxonomy was administered to all known programs at institutions of higher education that served, or were likely to serve, students with IDD. The survey results and comments were used to improve the taxonomy's content validity and estimate its generalizability (external validity). Table 1 presents an overview of the two phases of the study; detailed explanations are provided in the following sections.

Documented Population of Programs and Sampling Frames

The initial challenge was to identify a population of programs from which a sample of programs could be drawn. The number of PSE programs for students with IDD in the US is in a period of great flux: new programs are being created, older programs are being discontinued, and still others are being revamped in response to changes in the field. Consequently, any comprehensive listing of these programs will be outdated almost as soon as it is constructed. Also contributing to the inevitable inaccuracy of comprehensive lists of programs is the fact that some programs are not well-publicized. In this article, we refer to the "documented population of programs" in recognition of the fact that more programs are likely to exist than are documented in publications, websites, or other public domain resources. Moreover, the fluctuation of the programs underscores the importance of clearly describing the documented population from which a particular sample of programs is drawn.

Of the available options, the Think College database identified the largest number of programs as a starting point. It included 138 programs in November

Table 1

Overview of Two Phases of Study

	Development Phase	Validation Phase
Documented Population	N=174 Programs As of May 28, 2012	N=198 Programs As of July 24, 2012
Sampling Frame	N=98 (56%) Programs at colleges or universities serving persons with AAIDD-defined ID, alone or with other DD	N=130 (66%) Expanded to include programs offered in partnership with an IHE, and those that serve persons with DD or all disabilities generally
Sample	N=34 (35%) Selected in two waves to represent regions, institutional settings, and program types	N=119 (92%) All programs in the expanded sampling frame with contact name and email address
Response Rate	N=21 (62%) Programs were representative of sample	N=47 (40%) Community colleges were underrepresented
Data Collection	Interviews Program Document Review	Survey
Data Analysis	Qualitative	Quantitative

2011, when options were being reviewed. The authors used information from the Think College database, along with information about programs known to the authors but not represented in the Think College database, to create a record of the documented population of programs over the course of the study. This record of the population was updated three times to incorporate changes in the Think College database and additional leads. These updates ensured that the most comprehensive list of programs available was used when identifying sites during the taxonomy development phase of the study and again when defining the sample for the validation phase.

At all points in time, the documented population of PSE programs was highly diverse, covering a broad range of settings, sponsors, and target populations. Not all of the programs were consistent with either the goal of the first phase of the study, which was to create a classification scheme (taxonomy), or the goal of the second phase of the study, which was to test content validity and determine external validity. Therefore, the sampling frame for the development phase was limited to programs that: (1) were located at 2- and 4-year colleges or universities; (2) were sponsored by an institution of higher education alone or in partnership with a public school or local education agency (these partnership-based programs are known as transition or "dual enrollment" programs); and (3) served students with intellectual disabilities as defined by clinical diagnostic manuals and advocacy organizations (e.g., AAIDD, 2010) or that served both students with intellectual disabilities and students with other developmental disabilities that may include intellectual disabilities as a secondary feature (e.g., autism). Using

these criteria, the May 2012 documented population of 174 programs was narrowed to a sampling frame of 98 programs that appeared to serve students with IDD at institutions of higher education, either alone or in partnership with a public school entity, based on information obtained from the Think College database and individual program websites. The characteristics of the documented population of programs at that time are summarized in McEathron, Beuhring, Maynard, and Mavis (2013).

The validation sample was drawn from a documented population that had increased to a net of 198 programs in July 2012 after taking both 36 additions and 12 deletions in the Think College database into account. The characteristics of the documented population of programs for the validation phase of the study are summarized in Table 2.

The validation sampling frame was broadened to include additional types of partnerships and more diverse target populations. Of the documented population of 198 programs, 130 PSE programs fit the criteria for the validation phase of the study (see Table 2). Specifically, the sampling frame now included programs co-sponsored by non-profit organizations, corporations, or state agencies. As a set, the 130 programs constituted two-thirds (66%) of the July 2012 documented population. This more diverse sampling frame provided a more rigorous test of the external validity, or generalizability, of the taxonomy than simply contacting non-participating programs from the more narrowly defined sampling frame used in the development phase.

A key caveat was that the process of determining which programs were eligible for the sampling frames relied on descriptions provided by the programs on their websites or for inclusion in the Think College database (based on survey responses). Program descriptions and survey responses may have been incomplete or out-of-date by the time they were reviewed in 2012 for this study. For example, the authors found that as the study progressed, especially during the validation phase, new information obtained resulted in re-categorization of some programs.

Development Phase Sample

A two-stage sampling strategy was implemented to ensure a diverse yet representative sample of programs for the taxonomy development phase. The first stage focused on selecting a diverse sample of programs from the sampling frame of 98 programs. Selections were based on a review of program listings in the Think College database and information on program websites. Invitations to participate in the study were sent to the program directors in November and December 2011 by email, with up to three follow-up contacts (two email, one telephone) between January and April 2012. Thirteen sites agreed to participate.

In the second stage, sampling focused on increasing the representation of programs at two-year community colleges and balancing the regional representation of programs. An additional 13 program directors in these underrepresented categories were contacted in May or June 2012. Follow-up was selective as the desired geographical and institutional setting slots were filled. Eight additional sites agreed to participate. Taken together, these two stages of sampling produced a diverse and representative sample of 21 programs. The combined response rate was 62% (21 of 34 programs contacted).

In the first stage, contacts were also made with directors of the disability services offices (DSOs) at the programs' host institutions in the expectation that they would provide an additional source of information. While this was true for a handful of programs, the non-response rate was high and many DSO staff had little knowledge of the PSE program at their institution. Consequently, we discontinued this effort during the second phase and focused on PSE program staff instead.

The final sample of 21 programs represented roughly one in five of all programs in the sampling frame of 98 programs for the development phase. The two-year institutions represented in the final sample were all community colleges; the four-year institutions included a mix of public and private universities, state universities, and liberal arts colleges. Six programs (24%) were partnerships between public secondary schools and institutions of higher education, also known as dual enrollment or transition programs. Seven (33%) were part of the new wave of postsecondary education programs funded under the TPSID initiative (OPE, 2010). Overall, the TPSID-funded programs, programs at two- and four-year institutions of higher education, and programs in the four major regions of the US (East, West, Midwest, and South) were represented in proportion to their numbers in the sampling frame.

Table 2

Documented Population of PSE Programs for Validation Phase (July 2012)

Setting and Sponsor	Target Population Served		
	ID, IDD, DD, or "All Disabilities"	Other[1]	Overall
Included in Validation Sampling Frame			
IHE alone (program)	50	0	50
IHE with local education agency (dual enrollment)	52	0	52
IHE with non-profit, state agency, or corporation	20	0	20
IHE with multiple partners	8	0	8
Subtotal	130	0	130
Excluded from Validation Sampling Frame			
IHE alone (program)	0	14	14
IHE alone (not a program)[2]	0	17	17
School/district or other local education agency alone	3	1	4
Non-profit, state agency, or corporation alone	15	11	26
Duplicate listing, error, or defunct	n/a	n/a	7
Subtotal	18	43	68
Total	148	43	198

[1] Any target population that excluded, or was likely to exclude, most or all persons with AAIDD-defined ID. See text for examples.

[2] This category encompassed standard services provided by the Disability Services Office to regularly enrolled individuals who self-identified with a disability.

Validation Phase Sample

The sample for the validation phase was the 130 programs in the expanded sampling frame (including programs that participated in the development phase) minus 11 programs for which no contact person was listed either in the Think College database or on the program's website. The resulting validation sample was thus comprised of 119 programs at two- and four-year institutions of higher education that alone or in partnership served, or were likely to serve, students with intellectual disabilities. Fewer programs than this actually received the survey because some contact information was incorrect (counts were not available for bounced survey emails or invitations that went undelivered due to invalid email addresses or staff turnover).

Programs that participated in the development phase were included in the validation phase for three reasons. First, the validation phase used a different method of data collection—a survey based on the new taxonomy—to collect program information not provided during the interviews or in published materials. Second, quantitative survey results for the participating programs provided a reference point for understanding how well the taxonomy generalized to the broader range of programs in the expanded sampling frame. Finally, excluding development-phase programs would have introduced systematic bias into the overall results by underrepresenting programs that explicitly served students with IDD, including many of the dual-enrollment and TPSID programs. Only by looking at the results for the entire sample would it be possible to see where additions, deletions, or revisions to the taxonomic elements might be needed in order to adequately capture the full range of variability among programs at institutions of higher education that served students with IDD.

The 61 programs excluded from the validation sample (68 total ineligible less seven duplicate, erroneous, or defunct program listings) were divided into two exploratory samples—Disability Services Offices (N = 17) and all others (N = 44)—that also received the survey in order to explore how some elements of the taxonomy might generalize to an even broader set of programs and services.

Development Phase Data Collection and Analysis

In-depth information about each of the 21 programs that participated in the development phase was obtained from two or more of the following sources: interviews with key program and college staff, program materials shared with the researchers, and information published on program websites. A comprehensive interview exploring program characteristics, students served, and administrative issues was developed using the preliminary taxonomy as a guide (McEathron & Beuhring, 2011).

A total of 27 interviews were conducted: 15 were individual interviews with one person (PSE program director, coordinator, staff member or, in one case, a DSO director) and six were interviews with two people (PSE program director and staff member for two sites; a program director and a DSO director for four sites). Interviews for two sites were conducted in person; the remaining interviews were conducted by phone. Participating program directors, program staff, and DSO directors were generous with their time and knowledgeable about their programs. Interviews with program representatives typically lasted 40-60 minutes. Interviews with DSO directors lasted between 10 (if there was no contact with the program) and 35 minutes (if there was a close working relationship).

All interviews were recorded with permission. Participating programs were guaranteed confidentiality, even though none expressed concerns about being identified. Several program directors expressed an interest in networking with others in the study in order to share lessons learned and problem-solve with colleagues who understood their challenges.

Building on earlier work (McEathron & Beuhring, 2011), the analysis for the development phase focused on identifying distinct categories of characteristics that could be used in the continued development of the Taxonomy for Postsecondary Programs for Students with IDD and, in combination, fully capture the differences and similarities among these programs.

The taxonomy was organized into three hierarchical levels: domains, components, and elements. The identification of these levels was based on the concurrent analysis of interview transcripts and program materials. Each transcript and document—over 600 pages in total—was uploaded into NVivo, a computer software package that supports the analysis of qualitative data. The process of coding was emergent and iterative. A few themes and categories were identified at the beginning of the analysis; however, we let the actual passages from the interviews and program materials drive the process as we constructed, organized, and re-organized the coding. Using NVivo also allowed us to recombine

codes as the taxonomy evolved and to test connections within the data. The taxonomy that emerged from this process was later refined based on feedback from the participating programs via an online survey (see a description of the survey in the Validation Phase section below). The survey responses supplemented the coded data from NVivo, and in some instances provided new information that was not available from the interview transcripts or program materials.

Validation Phase Data Collection and Analysis

A 28-question online survey was created based on the taxonomy that emerged from the development phase of the study. Each of the 28 survey questions represented a taxonomic component or element (such as program priorities); the response options for each question represented levels of the component or element (such as – in the example of program priorities—college experience, vocational training, and social skills). Pilot testing indicated that the survey could be completed in 15-20 minutes. In late November 2012, an email invitation to complete the survey was sent to all 119 programs in the sample; a second request/reminder was emailed a week later; the response deadline was a week after that.

The response rate varied substantially depending on the subgroup. Within the validation sample, the response rate was much higher among programs that had participated in the taxonomy development phase than among programs that had not: 71% (15 of 21) versus 33% (32 of 98), respectively. The combined response rate of 40% (47 of 119 programs) was low in part because of the untested contact information, the short two-week response window, and limited opportunity for follow-up during a holiday period. The survey was an unfunded addition to the original study and, as such, had to be developed and administered more efficiently than would have been the case if it had been part of the original research plan.

The response rate for the exploratory subgroups was consistent with what might be expected given the taxonomy's expected lack of relevance to programs and services that had been excluded from the sampling frame: none of the 17 DSOs (0%) and only 10 of 44 others (23%) returned a survey. Given the small number, data from the latter subgroup were not analyzed.

The purpose of the validation phase was to provide a preliminary assessment of the external validity of the new taxonomy to a broad range of programs and to refine the taxonomy's content in ways that improved its usefulness as a classification tool (e.g., by adding classification options). This was done through descriptive analyses of survey responses and a review of survey comments.

Due to the fact that many of the 28 survey questions required multiple independent responses (e.g., "rate the importance of each of the following" or "check all that apply"), there were 85 discrete items for analysis (e.g., ratings of the importance of education, social skills, and providing a college experience as program priorities). Responses for each discrete item were reviewed separately for the 15 respondents from the development sample and 32 respondents from the remainder of the expanded sampling frame. For each, the number of blank and not applicable responses was reviewed as an indicator of the relevance of the responses to both the development and remainder samples (content validity). In addition, the distribution of responses among programs in the two subsamples was compared to assess how well taxonomic components, elements, and levels that had been identified with a narrowly defined development sample would generalize to a more diverse set of programs (external validity). Finally, comments were reviewed to determine whether content validity or external validity might be improved by adding new elements to the draft taxonomy, adding levels to existing elements, or clarifying the language of the draft taxonomy.

Statistical analyses, such as non-parametric Chi Square, were not appropriate because the differences between the two subgroups were never of sufficient magnitude to be statistically reliable given the sample sizes. More importantly, the two subgroups were inherently different, with the development sample reflecting a more narrowly defined range of programs than those in the validation sample.

Results

While the results of the two phases of the study are presented consecutively below, the process of analyzing and clarifying components and elements of the taxonomy was more iterative. For example, the comprehensive PSE Taxonomy is presented under the results for the development phase for clarity; however, one of the elements—Program Sponsor under Institutional Components—was actually identified and refined during the validation phase.

Development Phase Results

The following sections describe how we identified the four major domains (Organizational, Admissions, Support, and Pedagogical) as well as the components and elements that make up those domains (see Table 3). When illustrative, we include the evidence from the interviews or program materials that provide the basis for our designation.

Organizational Domain. This domain includes both Program and Institutional Components. These two components and the elements that comprise them describe the general characteristics of the program and the institutional setting. Within the Program Components, Program Characteristics describe the basic parameters of the program, including its duration, its age, and the type of institution in which it is housed. These delineate the foundation of the program as well as provide a structure for clarity when comparing programs. For example, the programs that participated in the study were situated in both two- and four-year postsecondary institutions; however, the program duration, which ranged from one to four years, did not necessarily correspond to the institution type. Additionally, staff at a few programs mentioned that they did not have a set program duration; student interest and person-centered planning determined how long a student attended the program.

We included the Program Funding Sources and Program Goals in this domain since these express the vision or mission of the program planners and therefore yield differences in program intent and focus. Program funding sources identified in the study included student fees, grants (state and federal), community donations, and university or college support. While there were similarities among programs' stated goals (such as providing an opportunity for students to learn new academic, employment, independent living, and/or self-determination skills in a college setting), some programs also noted additional goals such as providing students with skills in an inclusive supportive setting, supporting students' development, molding contributing citizens, and providing a general college experience. Several sites indicated that the goals of their program did not explicitly include improving students' academic skills. Again, the strength of the taxonomy is its ability to identify and distinguish among these similarities and differences.

Four elements comprised the Institutional Components: Program Sponsor, Program-College Affiliation, Overall Institutional Climate, and Faculty Outreach and Training. All study sites participating in the Development Phase of the study were sponsored by (e.g., administered by or contained within) the institution of higher education in which they were located. However, some programs were also co-sponsored by other agencies or organizations such as secondary schools or non-profit organizations. In addition to being sponsored by the institution of higher education, programs were also usually affiliated with one or more departments or units within the institution. Typical affiliations included Colleges or Departments of Education, Extension or Continuing Education, Disability Services, the Office of Student Development, or a combination of these. Three programs reported that they were stand-alone programs within the college or university and, as such, were not officially affiliated with any campus department or office. Based on this study, we were able to identify characteristics of institutional climate that included level of college administrative support, campus-wide awareness of the program, and campus policies that supported and welcomed PSE program participants.

The faculty outreach and training element specified which faculty were included in program outreach efforts (program and non-program faculty) and the purpose of contacting faculty (permission for PSE participants to take a class, curriculum development, professional development in universal design, raising awareness about PSE for students with IDD).

Admissions Domain. The Admissions Domain is comprised of six main components. The first five—Student Enrollment Status, Academic Skills, Functional Skills, Behavioral Skills, and Admissions Selectivity—represent the characteristics or criteria that programs use for selecting and admitting students. Just like college and university programs in general, these programs vary considerably in their expectations and prerequisites of students and, as was noted in a number of interviews, often diverge from stated policies. The last component of this domain specifies the cost of attending.

Student enrollment status focuses on high school completion—that is, whether or not a program requires students to have finished their secondary schooling before enrolling. Sites that serve students still enrolled in high school are able to take advantage of their dual enrollment status, which makes them eligible for services, including funding, from their high school per the Individuals with Disabilities Education Act (IDEA). However, about two-thirds of the programs in the study

Table 3

Domains, Components, and Elements of the PSE Taxonomy

Organizational Domain	Admissions Domain	Support Domain	Pedagogical Domain

A. Program Components
  1. Program Characteristics
    a. Type of Institution
    b. Program Duration
    c. Program Age (History)
  2. Program Funding Sources
    a. Student Fees
    b. Grants
    c. University or College Support
    d. Community Donations
  3. Program Focus or Goals
    a. Improved Academic Skills
    b. Improved Employment Skills
    c. Improved Independent Living Skills
    d. Improved Social Skills
    e. General College Experience
 	
B. Institutional Components
  1. Program Sponsor[1]
  2. Program-College Affiliation
  3. Overall Institutional Climate
  4. Faculty Outreach and Training
	A. Student Enrollment Status
	  1. High School Student
	  2. Exited High School
	
	B. Academic Skills
	  1. Third- to Sixth-Grade Level of Reading, Writing, & Math
	  2. No Academic Skills Criteria for Admission
	
	C. Functional Skills
	  1. Communication Skills
	  2. Organizational Skills
	  3. Navigational Skills
	  4. Technology Skills
	  5. Independent Self-Care[1]
	
	D. Behavioral Skills
	  1. Self-Regulation
	  2. Student Motivation
	
	E. Admissions Selectivity
	  1. Open Enrollment
	  2. Competitive Selection
	
	F. Tuition and Fees
		A. Program/School-based Support
		  1. Academic Mentors/ Coaches/Advisors
		  2. Career Counseling/ Advising
		  3. Independent Living Supports
		  4. Social Mentors
		  5. Behavioral/ Emotional Counseling
		  6. Post-program Transition Supports
		
		B. Agency Support
		
		C. Family Support
		
		D. Financial Aid
		  1. Vocational Rehabilitation or Other State Funding
		  2. Pell and Other Grants
		  3. Scholarships
		  4. Student Family Funds
		  5. Secondary Schools
			A. Academic Components
			  1. Course Integration
			    a. Only Integrated Coursework
			    b. Primarily Integrated Coursework
			    c. Half Integrated Coursework
			    d. Mainly PSE Program Coursework
			    e. Only PSE Program Coursework
			  2. Credits
			    a. Transferable Credits
			    b. Non-transferable Credits
			    c. Audit
			    d. Guest in Classroom
			  3. Certificate or Degree
			    a. College Certificates Available to All Students
			    b. PSE Program Certificates
			
			B. Vocational Components
			  1. Vocational Coursework
			  2. Internships
			
			C. Independent Living Components
			  1. Independent Living Coursework
			  2. Housing
			
			D. Social Components
			  1. Social Skills Coursework
			  2. Social Activities

[1] These elements—Program Sponsor and Independent Self-Care—were identified during the Validation Phase of the study

were set up to support students 18 and older who had exited secondary school and wanted to continue their education after completing high school or aging out of the K-12 system.

Student academic skills required for admission could include reading, math, writing, and critical thinking skills. Although most sites stated that they require 3rd grade academic skills at a minimum, they noted that students' skills range from lower elementary to middle school. Some programs indicated that they do not have academic skills criteria for admission to their program.

Functional and behavioral skills are distinguished in the taxonomy. Functional skills refer to students' interpersonal abilities and capacity to manage their daily lives, as well as communication skills, organizational skills, navigation skills, technology skills, and independent self-care. The main behavioral sub-elements identified in this study were self-regulation and motivation. A number of programs noted that motivation to attend college was as important as many of the other admissions criteria, if not more so.

Program admissions selectivity varied by the number of applicants and by the percentage of applicants accepted. Programs in two-year community and technical colleges tended to mirror the open admissions policy of their institutions. Additionally, many programs tried to be as accommodating and welcoming as possible, but several programs reported having a more selective admissions process or funding structures that limited how many students could be in the program at any given time.

The amount of annual tuition and fees for each program were obtained from interview participants or program documents or estimated based on information available on the program's website. For public institutions, the tuition was calculated using in-state resident or within-district rates. In cases where students' enrollment status (i.e., part-time or full-time) varied or was not specified, tuition was estimated based on six credits per semester. These figures represent the actual cost to the family and do not include the portion covered by local education agencies (LEAs), vocational rehabilitation, Medicaid, scholarships, the institutions themselves, or other grants to the programs. Based on our analysis, the annual tuition and fees ranged from $0 to $32,125.

Overall, PSE program tuition follows an expected pattern, with the community colleges having the lowest tuition, state schools having slightly higher tuition,

and flagship universities and private schools having the highest tuition. However, some universities were able to completely cover tuition for families or at least reduce it by allowing students to audit courses for free. Otherwise, students typically used scholarships or loans to pay part or all of the tuition and fees, depending on the program (see discussion on financial aid in the Support Domain section). For programs with residential components, families were also required to cover the cost of room and board, which ranged from about $8,000 to $15,000 annually.

Support Domain. All of the programs that participated in the study reported using a variety of supports for a successful student experience. We identified four primary components of this domain: School or Program-Based Support, Agency Support, Family Support, and Financial Aid or supporting funding sources.

Within the School or Program-Based Support component are six categories. First, programs provide academic support to students through the use of tutors, peer mentors, hired academic coaches, and campus resources such as tutoring and writing centers; however, programs also varied on the levels of support within each of these categories. For example, in some programs the mentors for academic support were available to help students get settled for the first few weeks, figure out their schedule, understand the syllabus, and then are available as needed. In other programs, students are required to meet with academic coaches regularly.

Second, some programs have career counselors, typically provided by the campus career center. Third, some programs with students who live on campus or in school-affiliated off-campus housing provide residential support to students. These supports are resident assistants or mentors who help students learn independent living skills such as how to do laundry. Fourth, many programs help students participate in the community, either by providing them with special resources or pairing them with peer mentors who attend events with them and provide social support. Peer mentors may attend planned events as well as just hang out with the students. Lastly, some programs provide behavioral/emotional counseling and post-program transition supports.

A few programs mentioned working with external agencies that help students with life skills, career development, and post-program job placement. These may include government offices such as Vocational Rehabilitation or independent organizations. Additionally,

a number of sites noted that parents were considered important sources of support and are encouraged (and in some cases required) to actively participate in their sons' and daughters' lives. However, sites also recognized that college was a new, transitional period for both students and their parents. A few sites discussed working with parents and students to support this change in their lives.

Students fund their participation in PSE programs using a variety of sources: Vocational Rehabilitation or other state funding; federal (including Pell), state, or local grants; scholarships (either from the program itself or from community organizations); secondary schools (for dually enrolled students); and family funds. The range of funding options varied greatly among programs. Some programs mentioned the possibility of applying to become a Comprehensive Transition and Postsecondary Program (CTP) site (see http://studentaid.ed.gov/eligibility/intellectual-disabilities), which enables programs to access federal financial aid as delineated in HEOA (i.e., Pell grants and work-study); however, only three sites listed Pell grants as options for funding. One program's materials mentioned the scholarships available from the National Down Syndrome Society. A few programs noted that students must have the ability to "pay privately" for at least a portion of their program.

Pedagogical Domain. The Pedagogical Domain is comprised of four main components: Academic, Vocational, Independent Living, and Social. Academic components are the cornerstone of postsecondary programs and a strong influence on the overall student experience; the same holds true for PSE programs for students with IDD. This research identified four essential elements that together provide a clearer understanding of how PSE programs differ in regard to academics: (1) level of course integration, (2) type of credits awarded, (3) extent of course selection, and (4) type of credential awarded upon completion.

Based on the descriptions provided by the participating sites, we identified five distinct levels of course integration: (1) All integrated coursework, (2) Primarily integrated coursework, (3) Approximately 50% integrated coursework, (4) Mainly PSE program coursework, and (5) All PSE program coursework. For example, "All integrated coursework" means that all the courses students with IDD enroll in are offered to the general college population. "Primarily integrated coursework" indicates that students with IDD take most of their courses with general college students, but also take one or two PSE program-specific courses or seminars.

The second element captures the manner in which students receive credit for their coursework. Sub-elements of this category included: (1) Transferable credits, (2) Non-transferable credits, (3) Audit, and (4) Guest in the classroom (No official credit given). The type of credit awarded was often primarily determined by student interest and ability. In some cases, students' options of type of credit to be earned depended on the level of support the professor or program was able to provide to students with IDD enrolling in regular college courses.

Programs varied in whether students could earn transferable credits—that is, credits that could be applied toward a college degree at the host institution or other institutions of higher education. In half of the PSE programs in the study, many of the students received non-transferable credits for the courses they took. In most cases, these credits count toward the student's completion of the program or certificate but cannot be applied to other programs.

Over half of the participating programs allow students to audit courses. Auditing students' level of participation in class varies between and within programs. Some students participate in all course activities, while others are more like observers of the class. In a few programs, students may attend regular college courses as a guest but not officially audit them.

While current PSE programs are not generally designed for students to earn college degrees, most allow students to graduate by earning some sort of a certificate, either from the program itself or from the college. Certificates offered by the college are typically available to all students, with or without disabilities. Several programs also mentioned that they are in the process of developing program-specific certificates for their students.

The usefulness of the taxonomy is predicated on how well the discrete components and elements can be compared and contrasted to highlight the variety and distinctions among PSE programs. Table 4 illustrates how level of integration and type of institution may affect the credits or certificates that participating students receive. For example, students attending integrated programs at two-year institutions tended to receive more transferable credits than students in integrated programs in four-year institutions. Students in almost all of the integrated programs in four-year colleges

Table 4

Credit and Certificate Options by Level of Course Integration and Two- and Four-Year Sites

Levels of Integration	Credit				Certificate	
	Transferable	Non-Transferable	Audit	Guest	College	PSE Program
100% or Primarily Integrated						
College 2A	✓+++		✓-			
College 2C	✓++		✓++		✓	
College 2D	✓++		✓++			✓
College 2F	✓++	✓++	✓-		✓	
College 4B			✓+++			✓
College 4E	✓-	✓-	✓+++	✓-		
College 4F			✓+++			✓
College 4H			✓++++			
College 4I		✓-	✓+++			✓
College 4J				✓++++		
College 4K			✓++++			✓
Half Integrated						
College 2B	✓+	✓++	✓+			✓
College 2G	✓+	✓++	✓-		✓	
College 4A	✓-	✓+++	✓-			✓
Mainly PSE Program Courses						
College 2E	✓+	✓+++				✓
College 2I		✓++++		✓-		✓
College 4C		✓++++				✓
College 4D	✓-	✓+++	✓+			✓
College 4G		✓++	✓+			✓
College 4L	✓-	✓+++	✓++		✓	
Not Integrated						
College 2H		✓++++				✓

Source: Interview and survey data

✓- = Seldom occurs (less than 10%   ✓+++ = Occurs frequently (approx. 75%)
✓+ = Occurs infrequently (approx. 25%)   ✓++++ = Occurs 100% of the time
✓++ = Occurs moderately (approx. 50%)

participated by auditing classes. Students attending less integrated programs in both two- and four-year institutions received mostly non-transferable credits. As noted above, many programs said that students could receive transferable credits, but it was not possible to determine how frequently that occurred. To protect the confidentiality of the participating sites, a simple two-digit code was assigned to each program so that the study authors could report on similarities and differences among programs without revealing program names.

The last three components for the pedagogical domain are Vocational, Independent Living, and Social Components. Programs vary in the vocational components they include, although all sites identified this as an essential part of their curricula. When asked what percentage of their program was employment-related, sites responses ranged from 45% to almost 100%. We identified two distinct elements within this component: Vocational Coursework, including career exploration activities, and Internships. Based on the study, we identified four sub-elements for Vocational Coursework: Career Exploration Coursework and Activities, Service Learning, Soft Skills, and Work-based Training. Most sites in the study include internships—on- or off-campus, paid or unpaid—as part of their programs.

We identified two elements within the Independent Living Component: Independent Living Coursework and Housing. The majority of programs offered the former to develop and enhance students' skills in four areas: daily living, financial, health and wellness, and transportation skills. The sub-elements for Housing include on-campus housing, campus-affiliated housing, and independent housing (whether living with their family, in an apartment, or in a group home). Although many students continued to live at home, a majority of programs discussed supporting students to live independently whenever possible.

The Social Components of PSE programs include coursework related to social skills and social activities, both campus events and program events. A few programs reported offering courses specifically related to social skills, such as courses on diversity, communication, and dating and relationships.

Almost all of the programs allow students to participate in campus activities such as sports events, fairs, and student groups. Students also generally have access to campus resources such as recreation centers. Students are often free to join whatever clubs suit their interests. Programs emphasized that while they may

encourage participation in college activities, the level of participation depends on each student. In addition to alerting students to campus events and connecting them with peer mentors, some programs provide their own activities to encourage social development and replicate the college experience.

Validation Phase Results

Classic validity theory considers evidence of validity to be the outcome of an evaluative integration of multiple sources of data which, taken together, support the inference that a measure is assessing what it intends to measure (Cizek, 2012; Messick, 1989). In practice, it is a recursive process in which each successive assessment of validity reveals opportunities to improve the instrument and expand its evidence base (Cizek, 2012). In this study, the administration of a survey to the expanded sampling frame represented the initial gathering of evidence regarding the preliminary taxonomy's validity for the diverse set of programs at institutions of higher education that alone or in partnership served, or were likely to serve, students with IDD. Recall that the expanded sampling frame included institution of higher education partnerships with non-profit organizations, state agencies, and corporations as well as local education agencies; it also included programs that served students with unspecified developmental disabilities, a broad range of disabilities, or all disabilities, in addition to programs that served students with AAIDD-defined ID alone or jointly with DD.

The high response rate from Development Phase sample of programs, together with the nature of responses from the other programs in the sampling frame, suggested that the taxonomy-based items were sufficiently relevant to be worth a program director's time to complete the survey. Consistent with that inference, respondents only occasionally left survey items blank or marked "does not apply." By contrast, none of the 17 DSOs responded to the survey, which was consistent with their pre-survey coding as services for regularly enrolled individual students rather than programs for groups of students with IDD. Only 10 of the 43 other programs excluded from the expanded sampling frame returned surveys (23%). Those that did respond skipped many or most items, or rated them as not applicable; some commented that the survey as a whole did not really apply to them. This was consistent with the pre-survey coding of the "other" programs as qualitatively different from the institution of higher

education programs included in the expanded sampling frame. Due to the low response rate and incomplete surveys, however, it was not possible to determine whether a subset of the taxonomic elements might have been useful for characterizing the 60 excluded programs and services.

The principle of recursive validation (Cizek, 2012) was illustrated by the modifications to the draft taxonomy that grew out of the process of classifying programs and responding to comments from survey respondents. As a result, we added "program sponsor" as an element in Institutional Components and "independent self-care" as a new sub-element in Functional Skills.

External validity indicates the extent to which the results obtained with a specific sample can be expected to generalize to the larger population from which the sample was drawn (Cizek, 2012; Messick, 1989). The concern is that a product like the taxonomy might be idiosyncratic to the sample on which it was based. The expanded sampling frame, which included a broader array of programs than the taxonomy development sample plus 36 programs that were not part of the documented population at the time the taxonomy was developed, provided a meaningful preliminary assessment of external validity. Overall, the distribution of responses for the 15 programs that were part of the taxonomy development sample was more restricted than the distribution of responses for the remaining 32 programs that were part of the expanded sampling frame. This was consistent with the fact that the taxonomy development sample was a more focused subset of the expanded sampling frame. The fact that the same response options applied to both the development sample and the validation sample, however, is initial confirmation of the generalizability of the taxonomy to the population of programs for which it was intended.

Applications of the PSE Taxonomy

The summary presentation of the evidence and logic used to create the taxonomy provided above addresses the first goal of this paper. An additional, and perhaps more important, goal of the study was to create a taxonomy that would be useful not only to researchers but also to program developers, students, and their families. Therefore, the authors created a matrix that could be used to develop easily comparable profiles for PSE programs. Table 5 presents the template for the matrix.

Table 6 presents an example based on information from an actual, de-identified program from the development phase. The program at *College 4I* is a two-year program at a four-year college. It does not require that applicants possess any specific academic skills; nonetheless, it has a competitive admissions selection process (far more applications are received than students accepted and admitted to the program). The program is fully integrated (all of the courses students with IDD enroll in are offered to the general college population) with graduate students providing academic coaching and mentoring. There is no on-campus housing available; annual tuition is $11,000.

Discussion

The structure and organization of this version of the PSE Taxonomy differs significantly from the preliminary taxonomy developed in 2011 (McEathron & Beuhring, 2011). Two interconnected aspects from the preliminary taxonomy bear discussion: the ecological model and person-centered planning. While the authors find both of these critically important, the process of refining the taxonomy led to the realization that the domains, components, and elements needed to be under the sole jurisdiction of the programs as the taxonomy is a classification of programs, not of individuals or of systems. Thus, the taxonomy characterizes how programs view student characteristics via criteria for admission in the Admissions Domain and institutional characteristics via measurable policies and practices in the Organizational Domain.

In fact, the focus on what can be currently observed within and understood about a program, rather than what would be ideal, grants the current PSE Taxonomy its clarity and foundation. For example, person-centered planning was a central component in the preliminary version but is not specifically listed in the current version. This is not because it is not important or valuable. Person-centered planning is often used as shorthand for designating a type of program that provides an individualized, authentic college experience (e.g., selection of course driven by individual interest). Every program that took part in our study said that they used person-centered planning – which again is highly commendable – however, programs differed widely as to how many individually different courses students actually took. In some programs, students might take nearly all the same core courses

Table 5

Significant Domains, Components, and Elements of PSE Taxonomy Matrix

PSE Taxonomy Matrix					
Organizational Domain	Type of Institution	Program Administration or Sponsor	Program Length	Program Funding Sources	Program Goals
Admissions Domain	Student Status	Student Academic Skills	Student Functional & Behavior Skills	Selectivity	Tuition & Fees
Support Domain	School or Program Based Support	Agency Based Support	Family Support	Financial Aid	
Pedagogical Domain	**Academic Components** Integration Credit Certificate/ Degree	**Vocational Components** Coursework Internships	**Independent Living** Components Coursework Housing	**Social Components** Coursework Activities	

with just one or two courses that seemed individually selected. Even those choices might be limited by the small number of possible courses. Therefore, the current PSE Taxonomy provides a more direct way to characterize programs by focusing on percentage and types of courses in conjunction with level of integration and credit options, rather than just the occurrence of person-centered planning.

The limitations of this study primarily stem from sampling challenges. While defining the documented population and sampling frame, the classification of programs was based on published information that was often incomplete, sometimes inaccurate and constantly evolving. For example, the documented population becomes quickly outdated as the documented population via the Think College database continues evolving after a snapshot is taken, illustrated by the fact that 217 programs and initiatives are now listed in the Think College database (compared to the 198 programs listed in 2012). These continuous changes could influence the completeness and generalizability of the taxonomy over time.

In addition, the use of semi-structured interviews as the primary data collection technique also presents limitations. While the taxonomy is likely representative of other PSE programs, the qualitative method does not allow for the generalization to all programs in the documented population. The taxonomy is based on what the interview participants shared with the researchers, and it is possible that other useful details would have emerged if the participants had been asked directly about each component and element. The researchers used the survey to partially counter this limitation and allow sites to answer questions that were standardized across programs. Unfortunately the validation survey had a very limited response rate and was intended to improve the taxonomy rather than provide a final test of the taxonomy's external validity.

Lastly, the lack of input from DSOs may limit the completeness of the taxonomy in cases where the DSOs were knowledgeable about their institutions' PSE program. The researchers did contact DSOs initially, but found that many were not aware of the program on their campus or did not know much more

Table 6

PSE Taxonomic Program Profile for College 4I

Domains	Components and Elements				
Organizational	Type of Institution Four-year IHE	Program Sponsor IHE	Program Length 2 Years	Program Age 5-10 Years	Program Goals Academic Vocational Ind. Living General College Exp.
Admissions	Student Enrollment Status Both in High School & Exited High School	Student Academic Skills No Criteria for Admission	Student Functional & Behaviorial Skills Communication Student Motivation Self-regulation	Admissions Selectivity Competitive	Tuition/Fees $11,000 / year
Support	School/ Program Based Academic Mentors/ Coaches (Grad Students)	Agency Based State Agencies Private Disability Vendors	Family Support Required	Financial Aid/Funding Sources Family Funds Scholarships LEA Medicaid Waivers	
Pedagogical	Academic Coursework: Fully Integrated 75% Audit 25% Guest in Classroom PSE Program Certificate	Vocational Coursework: Soft skills Internships (2 unpaid)	Independent Living Coursework: Daily Living Skills Financial Skills No On-campus Houseing	Social Coursework: Interpersonal Communication	

than the fact that they existed. Through this limitation, the study revealed the disconnect between DSOs and PSE programs at many institutions. The taxonomy may help administrators distinguish between DSO and PSE program services.

The current taxonomy has many potential applications that span from research to policy to practice. One of the primary purposes of the tool is to help researchers identify areas for future investigation. While the taxonomy highlights common components and elements in PSE programs, additional research will need to explore the extent to which these are working and to identify essential elements that are missing from PSE programs. Future research could also compare the outcomes for programs with different foci to determine if some domains or components are more essential for academic or vocational success. Policy makers could use the taxonomy to better understand what is happening in PSE programs, how they compare to other programs, and how to move forward with development and funding. Finally, program administrators could use the taxonomy to create standard comparable program profiles to help future students and families identify appropriate programs. Administrators may also use the taxonomy as a guide to reflect on and change the structure of their programs.

Conclusion

The field of PSE for students with IDD is in a highly fluid, evolving state. It is anticipated that over time certain aspects of the domains and elements of the taxonomy may change and that the taxonomic profile of a program may also change. Nonetheless, even in its current iteration, the PSE Taxonomy provides a mechanism for combining elements to provide a more comprehensive understanding of PSE programs, to clarify differences and similarities between programs, and to develop succinct, easily comparable program profiles based on a PSE Taxonomy Matrix (see Table 6). Most importantly, the PSE Taxonomy can support further research on student-level outcomes of PSE programs.

References

American Association on Intellectual and Developmental Disabilities (2010). *Intellectual disability: Definition, classification, and systems of supports* (11th ed.). Retrieved from http://www.aamr.org/intellectualdisabilitybook/

Cizek, G. J. (2012). Defining and distinguishing validity: Interpretations of score meaning and justifications of test use. *Psychological Methods, 17*(1), 31–43.

Higher Education Opportunity Act. (2008). Pub. L. No. 110-315. 122 STAT. 3078 (2008).

Hughson, E. A., Moodie, S., & Uditsky, B. (2006). *The story of inclusive postsecondary education in Alberta: Final research report 2004-2005.* Alberta [Canada] Association for Community Living Adult Education Network.

Individuals with Disabilities Education Improvement Act (IDEA) of 2004, Public Law 108-446, 20. U.S.C. (2004).

Larson, S. A., Lakin, K. C., Anderson, L., Kwak, N., Lee, J. H., & Anderson, D. (2001). Prevalence of mental retardation and developmental disabilities: Estimates from the 1994/1995 National Health Interview Survey Disability supplements. *American Journal on Mental Retardation, 106*(3), 231–252.

McEathron, M., Beuhring, T., Maynard, A., & Mavis, A. (2013). A taxonomy for postsecondary education programs for students with intellectual and developmental disabilities. *Policy Research Brief, 23*(1). Minneapolis, MN: University of Minnesota, Institute on Community Integration. Retrieved from http://ici.umn.edu/products/prb/231/default.html.

McEathron, M., & Beuhring, T. (2011). Postsecondary education for students with intellectual and developmental disabilities: A critical review of the state of knowledge and a taxonomy to guide future research. *Policy Research Brief, 21*(1). Minneapolis, MN: University of Minnesota, Institute on Community Integration. Retrieved from http://ici.umn.edu/products/prb/211/default.html.

Messick, S. (1989). Validity. In R. L. Linn (Ed.), *Educational measurement* (3rd ed.) (pp. 13–103). New York, NY: Macmillan.

Migliore, A., & Butterworth, J. (2009). *Postsecondary education and employment outcomes for youth with intellectual disabilities.* Data Note XXI. Boston, MA: University of Massachusetts-Boston, Institute for Community Inclusion.

Neubert, D. A., Moon, M. S., Grigal, M., & Redd, V. (2001). Postsecondary educational practices for individuals with mental retardation and other significant disabilities: A review of the literature. *Journal of Vocational Rehabilitation, 16*, 155–168.

Newman, L., Wagner, M., Knokey, A.-M., Marder, C., Nagle, K., Shaver, D., & Wei, X., with Cameto, R., Contreras, E., Ferguson, K., Greene, S., & Schwarting, M. (2011). *The post-high school outcomes of young adults with disabilities up to 8 years after high school. A report from the National Longitudinal Transition Study-2 (NLTS2)* (NCSER 2011-3005). Menlo Park, CA: SRI International.

Office of Postsecondary Education. (2010). *Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID).* Washington, DC: U.S. Department of Education. Retrieved from http://www2.ed.gov/programs/tpsid/index.html

State of the Science Conference on Postsecondary Education for Students with Intellectual Disabilities (November 6, 2009). *Proceedings.* Co-sponsored by the National Institute on Disability and Rehabilitation Research (NIDRR) and the Office of Postsecondary Education (OPE), U.S. Department of Education. Fairfax, VA: George Mason University. Retrieved from http://kihd.gmu.edu/assets/docs/kihd/conference/Summary.pdf.

Think College. (2012). *Think College Program Database.* Retrieved from http://www.thinkcollege.net/?Itemid=127

Thoma, C. A., Lakin, K. C., Carlson, D., Domzal, C., Austin, K., & Boyd, K. (2011). Postsecondary education for students with intellectual disabilities: A review of the literature 2001-2010. *Journal of Postsecondary Education and Disability, 24*(3), 175–191.

Zafft, C., Hart, D. & Zimbrich, K. (2004). College career connection: A study of youth with intellectual disabilities and the impact of postsecondary education. *Education and Training in Developmental Disabilities, 39*(1), 45-53.

About the Authors

Mary McEathron received her M.A. degree in liberal studies/critical writing from Hamline University and her Ph.D. in evaluation studies from the University of Minnesota. She is currently director of The Evaluation Group at the Institute on Community Integration, University of Minnesota. Her research interests include evaluation use in policy making, systems science approaches in evaluation, and inclusive evaluation practices. She can be reached by email at: mceat001@umn.edu.

Trisha Beuhring received her Ph.D. degree in developmental psychology from the University of Southern California. Her experience includes survey research, advising community organizations on translating research into practice, and improving research on college options for youth with intellectual disabilities. She is currently a Research Associate at the Institute on Community Integration, College of Education and Human Development, University of Minnesota. Her research interests include risk and resiliency in children and adolescents with cognitive, emotional or behavioral disabilities. She can be reached by e-mail at: beuhr001@umn.edu.

Amelia Maynard received her B.A. degree in psychology from Bard College at Simon's Rock and M.A. degree in Evaluation Studies from the University of Minnesota. Her experience includes working as a program evaluator for educational and social programs. She is currently a doctoral student in the Department of Organizational Leadership, Policy and Development. Her research interests include inclusive evaluation practices, cultural competence and transition programs for vulnerable populations. She can be reached by email at: mayn0065@umn.edu.

Ann Mavis received her MA degree from the University of Minnesota and is a Ph.D. candidate in Educational Policy and Administration. Her experience includes serving as coordinator of the National Center on Secondary Education and Transition at the Institute on Community Integration, University of Minnesota. She is currently working on evaluation and research projects related to dropout prevention and student engagement, postsecondary retention, and transition-age youth with disabilities. She can be reached by email at: mavis001@umn.edu.

Impact of Inclusive College Programs Serving Students with Intellectual Disabilities on Disability Studies Interns and Typically Enrolled Students

Margo Vreeburg Izzo
Amy Shuman
Ohio State University

Abstract

The purpose of this study was to confirm and extend prior research on the attitudes and experiences of typical college students towards students with intellectual disabilities who were enrolled in an inclusive postsecondary program. College students enrolled in a Disability Studies Internship class completed surveys, journals, and participated in a focus group to share their perceptions and experiences as educational coaches and mentors with students with intellectual disabilities. The results confirmed previous studies that typical students, with prior experience and high comfort ratings, agree that students with intellectual disabilities have the ability to participate in college experiences such as classes, campus organizations, and living in dorms with support. Additional themes that emerged from the qualitative analysis indicated that the disability studies interns were challenged to balance program requirements and the dignity of risk and self-determination of students with ID; and the disability interns clarified their own career goals by supporting students with ID. Findings suggest that typically enrolled college students benefit from inclusive postsecondary programs that serve students with intellectual disabilities.

Keywords: Intellectual disabilities, postsecondary education, inclusion; disability studies

The emergence of postsecondary (PSE) programs for students with intellectual disabilities (ID) is increasing due to federal funding, legislation, and most importantly, advocacy efforts of families, service providers and persons with ID themselves. In Alberta, Canada, inclusive postsecondary programs have been available for students with intellectual and multiple disabilities for nearly 25 years (Uditsky & Hughson, 2012), and employment outcomes of program completers exceed 70% (Hughson, Moodie, & Uditsky, 2006). In the United States, the growth of postsecondary programs for students with ID has accelerated during the past decade. In 2004, Gaumer, Morningstar, and Clark (2004) identified 48 programs for students with ID located at postsecondary institutions for students with ID ages 18-21.

The first national database of PSE options for students of all ages was developed in 2004 by the Institute of Community Inclusion (ICI) at the University of Massachusetts at Boston, and 78 programs were described in their searchable database (Zafft, Hart, & Zimbrich, 2004). In 2008, there were 148 programs in ICI's searchable database and in 2009, 244 programs were identified through outreach efforts by the National Center for Postsecondary Education for Students with Intellectual Disabilities funded by the National Institute of Disability Rehabilitation Research (NIDRR), also located at ICI (Grigal, Hart, & Weir, 2012). In a qualitative analysis of conference transcripts involving a variety of experts, five themes regarding the state of PSE programs emerged: outcomes for students with ID, self-determination, funding, program design, and

research. Potential outcomes for students with ID included better access to competitive employment, and improved academic performance, self-determination, social engagement, and independent living (Thoma, et al, 2012).

According to a 2013 query of the Think College Database (2013), 202 PSE institutions have submitted information to describe their college program for students with ID. Of these programs, 70 serve students who are still enrolled in high school, 125 serve students who have exited high school, and few programs serve both high school and adult students with ID. All but 8 states have submitted information about their programs to the database.

In a national survey, Grigal, et al. (2012), reported the following characteristics of the 149 program respondents from 39 states: 51% of programs were located in four-year institutions, 40% were in two-year community colleges, and 9% were located in adult vocational programs. Regarding gaining accommodations from disability service offices (DSO) located at each respective university campus, 58% of the respondents indicated that students with ID gained services from their campus' DSO, 39% indicated that students did not, and 3% of respondents indicated that they did not know (n = 128). The types of accommodations the students received paralleled the types of services provided for students with disabilities such as peer note takers, gaining professor notes, priority seating, and tape recording class lectures. The majority of respondents indicated that they offered social skills training, independent living, and life-skills instruction. Regarding academic instruction, "45% of respondents indicated that 76% to 100% of the instruction students received in their program was provided only with other students with ID" (Grigal et al., 2012, pp. 226-227).

In 2010, the U.S. Department of Education funded 27 model demonstration grants within the Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID) program. These grants are required to create or expand inclusive comprehensive transition and postsecondary programs for students with ID, as authorized by the Higher Education Opportunity Act (HEOA) of 2008. The Developmental Disabilities Assistance and Bill of Rights Act of 2000 defines the term "inclusion" as the right of persons with ID and/or developmental disabilities (DD) to participate in the same community activities as individuals without disabilities so they can learn, work, and enjoy life in contact with their peers without disabilities (Developmental Disabilities Assistance and Bill of Rights Act of 2000).

Growing evidence suggests that inclusive activities promote social acceptance (Siperstein, Glick, & Parker, 2009; Wilhite, Devine, & Goldberg, 1999) and more positive attitudes about people with ID (Hardman & Clark, 2006). Students with ID enrolled in inclusive college programs where students were able to audit or enroll in a variety of college courses, and participate in college clubs and internships that supported their career plans, had a relatively high rate of paid employment after they exited the college program (Grigal & Dwyre, 2010). All of these positive outcomes of inclusive programs reduce the stigma that is often associated with having an ID.

More recent studies report the benefits of inclusive postsecondary programs for students with ID for typical students without disabilities who enroll in classes with students with ID. May (2012) involved 138 traditional college students and eight students with either an ID or DD in her research on the impact of enrolling in inclusive psychology classes (as opposed to non-inclusive classes) on students' attitudes towards diversity, and observed a reliable and positive shift in attitudes on diversity among traditional students without disabilities. Griffin, Summer, McMillan, and Day (2012), surveyed 256 students about their attitudes towards including students with ID in college classes. They reported that typically developing college students expressed positive attitudes toward including peers with ID in college classes: "Respondents who indicated greater comfort with people with ID had more positive perceptions of their abilities, perceived more benefits associated with their inclusion, and were more willing to interact with them," (p. 236). Both of these studies concluded that inclusive postsecondary programs for students with ID have positive benefits for typically enrolled students.

In a study to evaluate the effectiveness of a mentoring program involving students with ID, Jones and Goble (2012) reported that both mentors and mentees found that one of the most difficult barriers to overcome were the stereotypical notions of incompetence people have of individuals with ID. As one mentor witnessed, "The one thing I've noticed is that a lot of people have lower expectations for individuals with disabilities." Professors admitted the initial lack of expectations, as demonstrated when one said, "I didn't know how much to expect a student to do in the class," (p. 274).

Perske (1972) discussed the importance of dignity of risk to promote personal development and growth among persons with ID, that is, reasonable risk taking can and should be a part of everyone's daily living experiences. To deny persons with ID the opportunity to experience risks that are commensurate with their abilities tends to have a deleterious effect on both their sense of human dignity and personal growth. Managing the risk involves the input of many stakeholders including the student, family members, and college personnel (Dwyre, Grigal & Failka, 2010). With careful planning, students with ID have the opportunity to experience new challenges in inclusive college settings that better prepares them for integrated employment and adult life than more traditional sheltered options that are available.

Many researchers agree that more research is needed to understand both the nature of the interactions among traditional students and students with ID, as well as the types of training and supports that may further enhance outcomes for both student populations and reduce the stigma that plagues many students with ID who are often categorized as inferior (May, 2012; O'Connor, Kubiak, Espiner, & O'Brien, 2012). O'Connor et al. recommended in-depth exploration of student views on the learning competence displayed by students with ID as they audit college courses, and Griffin et al. (2012) stated that observational data would enhance our understanding of the interactions among typical students and students with ID.

The purpose of our study is to explore (1) factors that position traditional students enrolled in a Disability Studies Internship class to gain more from their experiences with individuals with ID, (2) how extended engagement with individuals with ID benefits regularly enrolled students, and (3) how educational coaches and mentors articulate the challenges they face in promoting self-determination of individuals with ID. In particular, our work extends the previous research described above by adding observational data in the form of two focus groups and a series of 10 weekly journals where students reflect on their interactions with students with ID.

Methods

College students enrolled in a Disability Studies (DS) Internship class received credit to participate in a class with 10 students with ID, read relevant publications, and write journals to reflect on their experiences as they assisted students with ID who were participating in a PSE program. In addition to providing 3-6 hours of weekly support to students with ID, the DS interns completed the following: (1) weekly journals submitted as partial completion of the DS internship class, (2) a survey completed after the class grades were submitted, and (3) a focus group after the class was completed.

Participants

Participants included eight typical students who were enrolled in a DS Internship class and were interning as educational coaches or mentors to support 10 students with ID in the academic and social components of their college program. For the purpose of this study, the educational coaches and mentors are described as DS interns. All DS interns were undergraduate students ages 20 or 21; all were female but one; two students were majoring in psychology and the other six students were majoring in biology, early childhood education, English, neuroscience, public affairs and special education. They were recruited through email notices and encouraged to enroll in the DS Internship class. DS interns attended the weekly three-hour internship class with students with ID who were required to take the class. The DS interns who served as educational coaches attended a variety of college classes with a student with ID and assisted them to participate fully in the class. Some students interned in the tutoring center to assist students with coursework, and other interns participated in social events on campus with students with ID as mentees. In addition to the eight student participants, a structured interview was conducted with the Director of DS and the Americans with Disabilities Act Coordinator of the university.

Setting

The TPSID program is located at a large Midwestern university that is a tier 1 research institution. The disability studies specialization is the third largest minor within the university, with an enrollment of 125 students. The DS internship class is designed to involve DS students and students with ID to help stu-

dents gain experiences that connect disability studies to social, political, economic, and educational issues that confront people with ID and to learn how the various issues impact individuals with ID. Upon successful completion of the course, students will be able to do the following:

1. Describe the role of disability organizations and/or advocates in the lives of young adults with disabilities, including the need to promote self-determination;
2. Gain experience working with students with disabilities as either an educational coach or mentor to help students maximize their college experiences and become contributing members of their communities;
3. Place their internship experience in a larger theoretical and empirical context through reading about disability organizations, current issues, and participation in discussions with internship instructors.

Students with ID learned to use the university's learning management system, email, and other technological tools, as well as practiced the social skills needed to participate in inclusive college courses with the support of their DS intern. The required text was *Think College: Postsecondary Education Options for Students with Intellectual Disabilities*, and DS students submitted weekly journal entries to reflect on their experiences working with students with ID with regard to their professional, personal, and academic development.

Procedures

Survey instrument. We adapted the Undergraduate Student Attitude Survey used in prior research on the attitudes of typical college students toward including students with ID (Griffin et al., 2012; Siperstein et al., 2007). The final survey instrument was composed of 35 items and included demographic information (name, gender, major, age, year in college); interactions with people with ID (previous experience, frequency of contacts, types of relationships, and comfort level); perceptions of abilities of students with ID (six items to rate if students with ID can take classes, eat meals on campus, participate in clubs, live in dorms, play inter-mural sports, and use libraries); willingness to interact with students with ID (eight items to rate their willingness to talk to students before/after class, lend

them a pencil, tell them about a lecture, include them on class projects, etc.); level of agreement with eight specific statements to determine positive (e.g., help him find a building on campus, invite him to dinner) and negative (e.g., professor might pay more attention to the new student than other students, new student might not know how to act in a class at OSU) perceptions. The survey was administered to all eight students prior to the focus group and, for students who could not attend the focus group, collected via an email request.

Focus group. We conducted a focus group with five of the eight participants at the end of the semester to learn more about their experiences and attitudes. All focus groups/interviews were videotaped and transcribed in preparation for analysis. The student focus group questions follow:

1. Describe your prior experience in interacting with people with disabilities.
2. What do you want to share about your experiences this past semester?
3. What do you wish you were told prior to starting this internship experience?
4. What were you unprepared for?
5. Let's talk about particular experiences, challenges, moments that were memorable in a good way or moments when you were challenged in a way that made you uncomfortable.
6. What suggestions or recommendations do you have to improve the internship experience for you or the program overall for students with ID?

After the student focus group data were analyzed, we shared the preliminary findings with two university administrators and asked the following questions.

1. How does the PSE program for students with ID benefit regularly enrolled students?
   a. How might the presence of the students with ID affect general attitudes toward students and others with disabilities?
   b. Will the presence of students with ID provide an atmosphere in which students with invisible disabilities might be more willing to disclose?
   c. What adverse consequences might result from the presence of students with ID?

2. What is the best rationale for having students with ID audit classes?

3. How does the ODS address questions of self-advocacy and what are the major challenges?

4. What is the best argument to counter attitudes against including people with disabilities?

5. Does the ODS ever face the concern that these students might "lower the excellence" of the student body?

Journals. As discussed previously, all DS interns submitted weekly journals to reflect on the content of an assigned chapter in context of their internship experiences working with students with ID enrolled in the college program. At the end of the semester, over 20 single-spaced pages of journal entries were compiled, totaling approximately 16,233 words.

Analysis Process

For this research, we are particularly interested in interactions among regularly enrolled university students and students with ID in a postsecondary program. The survey instrument was designed to learn about students' attitudes toward postsecondary students with ID and descriptive statistics are used to summarize these results. To learn more about these attitudes, we analyzed focus groups transcripts and journal entries from the DS interns who were working closely with individuals with ID. Three readers independently read the transcripts and used discourse analysis to analyze the focus group and journal entry data. Discourse analysis is designed to identify not only what people say but also how they say it (Tannen, 1993). We coded all of the discussion of interactions with individuals with ID and further differentiated between generalized impressions, ideas and opinions, and accounts of particular interactions, told as narratives. We identified all references to students with ID as well as other disabilities and observed patterns (which we refer to as "alignments")[1] both in how the speakers characterized their own attitudes and how they characterized others' attitudes.

Discourse analysis is particularly useful for understanding how people implicitly refer to categories. Tannen (1993) describes these categories as "structures of expectation," and provides a model for studying how people align themselves with or in opposition to these structures. How people describe their position in relation to the structure of the relationship and the performance of others reveals their perceptions (Bamberg, 1997). Further, we draw on Goffman's (1963) frameworks for understanding discourses related to stigma to more particularly assess students' attitudes toward the stigmatized group of individuals with ID. Goffman describes stigma as the "management of spoiled identity," a framework that understands the stigma as the product of cultural interactions rather than as attributes belonging to persons or groups. This perspective, which has been taken up by disability studies generally, considers "normalcy" to be a social fact as well as a biological fact (Davis, 1995).

We analyzed accounts of particular interactions using narrative analysis. Narratives provide data about the complexity of interactions (Shuman, 2005). In our data, we identified narratives told by DS interns about (1) interactions between the DS interns and individuals with ID, and (2) interactions among regularly enrolled students and students with ID that the DS interns observed. We attended to three dimensions of narrative:

1. We observed the "script" of the narrative (what happened first and next and how this order of events implied causality). Scripts are especially useful for identifying the structures of expectation, a priori categories, or available discourses that the respondents bring to their experiences with individuals with ID.

2. We observed how the narrators described the different participants in the account, how they categorized the participants, and how they "positioned" themselves and the others in relation to each other. We used positioning analysis to learn how the educational coaches differentiated between how they viewed their interactions with individuals with ID in contrast to others' interactions.

3. We observed how the narrators qualified or explained the events/actions in the narratives.[2] We used this dimension of our analysis to observe how the educational coaches assigned value (positive or negative) to interactions with individuals with ID.

---

1 "Alignment" is Erving Goffman's term for how individuals position themselves in relation to each other and how they reposition (realign) themselves in relation to what they imagine to be perceptions of themselves, especially when dealing with stigmatized groups (Goffman, 1959).

2 These qualifiers are referred to as the "evaluative" dimension of narrative, a much studied dimension of narrative research beginning with the work of William Labov (1972).

Results

Survey Findings

Of the eight student respondents, five served as an educational coach to support students with ID in academic classes and tutoring centers, and three served as mentors who engaged in social activities. All had prior experience with persons with disabilities. Most experience came from family members with disabilities (two were siblings, one had a cousin with Down syndrome, and one had a grandmother with a disability); seven had prior experience volunteering with Special Olympics or other types of programs for people with disabilities. Regarding frequency of interactions with a person with ID, six respondents reported interacting "nearly every day" and two reported interacting once or twice a week. All respondents reported feeling very comfortable interacting with students with ID.

All eight respondents indicated that students with ID have the ability to take classes, eat meals on campus, participate in clubs, and use the library. On a 5-point scale with 5 indicating "yes" and 1 indicating "no," the means for the above items were 5.0. Two items received a mean of 4.75: living in dorms and playing inter-mural sports. Regarding providing assistance in class or interacting in social settings, all items received a mean of 5.0, indicating that all eight respondents would be willing to assist students with ID in college classes and invite them to dinner or introduce them to other friends. Overall, student respondents indicated low levels of agreement with negative statements such as "the professor might make the class too easy" and "I might not know how to talk to and act around the new student" with mean scores of 1.5 each. The item that was rated most inconsistently by the respondents was "The new student might not know how to act in a class." This item received a mean score of 3.0.

The surveys also provided opportunities to comment on interaction with people with ID. The respondents wrote the following:

1. I learned so much from this experience.
2. Every experience I have ever had with people with intellectual disabilities has been wonderful and I have learned so much from working with them. I wish everyone was as open to learning something too.
3. I believe that people with intellectual disabilities are just like us. Sometimes they may need

extra help, but we are all the same.
4. I love spending time with the students with ID. They are a joy to be around and teach me so many things about myself and how to be a better person.
5. I feel that students with disabilities should be included in campus events and courses, but I believe these students will need varying degrees of aid and support.
6. I think a lot of people have a skewed perception of people with disabilities. They think that they are all the same, that they would waste their time, and possibly don't have any potential. I disagree with all of these statements but do know that it is tough to get the messages across to people who are not around people with disabilities as much.

Overall the attitudes of DS interns regarding including students with ID in PSE were very positive. DS interns who worked with students with ID recommended involving students with ID in all aspects of campus. One student commented, "the more visibility … the better campus life will be." We will expand upon these survey findings in our narrative results and discussion sections.

Results of Thematic Analysis of Survey and Narrative Data

Four themes emerged from our analysis of the survey, journals, and focus group data. [3]

1. Prior experience enhanced regularly enrolled students' comfort levels with students with ID.
2. DS interns observed others' attitudes towards students with ID.
3. DS interns were challenged to balance program requirements with students with ID's self-determination and dignity of risk.
4. DS interns clarified their own career goals by supporting students with ID.

Each theme includes excerpts from the narratives as supporting documentation.

1. Prior experience enhanced students comfort level with ID. Our narrative analysis confirmed survey

---

[3] Journal entries and focus groups transcripts were coded by a team comprised of Amy Shuman, Leigh Neithardt, and Olivia Caldeira.

data indicating that prior experience enhances DS interns' comfort level with students with ID. In the survey data, journal entries, and focus groups, respondents articulated not only willingness to interact with individuals with ID but also their belief that these interactions were beneficial to them. In the focus group and journal entries, the respondents elaborated on the one or two sentences they provided in the survey to describe their first encounters with individuals with ID. Some of the respondents described interacting as children with children with ID and not recognizing ID as a category until several years later. We observed that through their personal and academic experiences, these respondents had acquired a discourse for talking about the benefits of diversity and inclusion in the academy.

All of the DS interns reported prior experience with individuals with ID. In the focus group, they elaborated on these responses and described how they conceptualized the influence of these experiences. One intern described her mother and her prior long-term experience with someone with ID whom her mother had cared for and then said that several years later, when someone in her family was born with ID, she responded, "It's okay, like, we have experience with students, and with, you know, friends like this, and, you know, we can handle it." In other words, she both recognized how her prior experience shaped her and understood that others, without that experience, might not be able to "handle it" as well. Another intern described how her long-term and very early engagement with someone with ID shaped her acceptance of difference:

> Narrative 1:
> From the very beginning, like, I never understood, like, why… like, I just accepted it, like, I remember being really young and, you know, these were my best friends when I was little, and, you know… we would play together, and even as I grew, got, a little bit older, you know, the… my best friends' interests were still younger, and like, that was okay. And then my sister was born and, you know, they played together, and… and um… I never thought anything of it.

We refer to this as a narrative of emerging recognition of difference, following a period of acceptance. It is epitomized by the DS intern's statement, "I never thought anything of it." Many of the interns positioned themselves in this first narrative script, as individuals who grew up accepting individuals with disabilities as part of the range of human diversity; several interns reported that they did not recognize any significant difference until they were older. We contrast this to a second narrative script in which someone describes first feeling uncomfortable around people with disabilities and then getting to know someone, leading to greater comfort. The survey question is designed more to address the second narrative script and to learn whether experiences with individuals with ID promote greater comfort. Through our focus group research, we discovered this differentiation between the two narrative scripts, and we found that our focus group participants' stories used the first narrative script.

2. Observations of others' attitudes. We coded the focus group transcriptions and journal entries to identify others' perceptions of interactions with individuals with ID. This data revealed not only whether respondents viewed others as having positive or negative attitudes but also (1) What kinds of interactions they had observed; (2) how they assessed those interactions as valuable or most harmful; (3) how the respondents described *potential* interactions among others; and (4) how the educational coaches articulated their views of obstacles and opportunities for the individuals with ID who were auditing classes.

The survey data suggest that individuals with prior experience with individuals with ID are able to produce discourses of acceptance. Discourses of acceptance are one kind of available discourse, contrasted with discourses of intolerance, fear, or rejection. In the focus groups and journal entries, the interns differentiated between their own comfort and the discomfort they perceived among other regularly enrolled students who encountered students with ID in classes.

In the following journal entry excerpt, the educational coach differentiates her alignment from others who *aren't* as open to this learning. The idea that "people with intellectual disabilities are just like us" and "we are all the same" is one available discourse for talking about people with ID. One of the respondents to the survey additionally described how others (with less experience) perceive individuals with ID as "all the same"; in other words, others fail to differentiate and notice the many differences among people with ID. These responses are consistent with how the respondents position themselves as accepting of individuals with ID and as different from other regularly enrolled students who might not be as accepting. In the follow-

ing excerpts from the focus group and journal entries, the DS interns describe their observations of other students. Journal entry excerpt:

> The general public may question why someone with an intellectual disability should be allowed in a college class, let alone act as a participating member. Many people might even say it is a waste of space and money because these students are unlike the 'normal' students. Through my background, I know this idea is far from the truth, but as an educational coach it is my job to help demonstrate to the public [how] a strong transition program from high school will make a tremendous difference for the family and individual with an intellectual disability.

> Narrative 2:
> You will have some students that will just stare and try to figure out the relationship and what y'all are doing there?

> But then there's some, like in (individual with ID's) class last year, one girl, we had to form small groups, and she would always come over and meet with us "cause she would enjoy talking to him."

In both the journal entry excerpt and Narrative 2, the educational coaches imagine what other students might say or think. In Narrative 2, the coach describes a positive interaction and attributes a motive to the student who chooses to engage with the student with ID: "cause she would enjoy talking to him." The educational coaches often reported what they imagined other students might think and why they might learn to have a positive attitude. In many of the focus group discussions and journal entries, the educational coaches articulated a preference for students who chose to interact with individuals with ID without being asked. For example:

> Narrative 3:
> [The professor] had forgotten to do the Power-Point, so everyone had to let him [individual with ID] borrow their laptop. It wasn't the professor telling them, but it was nice that other people noticed that he would need this.

These two examples rely on what we described above in narrative script 2 in which people with little or no prior experience with students with ID are characterized as possibly intolerant or uncomfortable. The educational coaches, all of whom do have prior experience, differentiate themselves from students who might stereotype individuals with ID. According to narrative script 2, when those others actually get to know an individual with ID, they recognize that the ID students have something to offer. In our examination of the narratives, one of the patterns we observed was that individuals who choose, without being asked, to associate with individuals with ID are particularly valued by the DS interns.

3. DS interns were challenged to balance program requirements with students with ID's self-determination and dignity of risk. The DS interns had extensive interactions with students with ID; most worked one-on-one with one or more students with ID in the PSE program. In their journal entries and in the focus group, the interns described their frustrations and achievements and, especially in the journal entries, offered their understandings of the complex goals of transition programs. The DS interns, who unilaterally reported a high comfort level with students with ID, wrestled with what appeared sometimes to be conflicting goals related to the dignity of risk. In the focus group, the interns expressed their frustrations and confusions in trying to balance the different goals for individuals with ID, including meeting expectations and responsibilities, encouraging self-advocacy, assessing strengths and limitations, and identifying goals and interests.

The focus group and journal entries provided opportunities to better understand how the DS interns wrestle with the complex, intersecting, sometimes competing goals of self-determination, self-assessment, and self-advocacy with program procedures and safety guidelines. In a focus group discussion of some of the challenges faced in working with students with ID in a PSE program, one of the respondents described negotiating independence when an individual with ID wanted to find his way across campus at night:

> Narrative 4:
> B was, like, trained to like, uh, walk certain places he would want to walk, like, from the [program office] to the [recreation center] at night. And, I knew that he wasn't allowed to do that and he would be

telling me, like, "No! I can do it!" And I'm like, "No! You really can't, like, you're not allowed to yet, like, you're not trained to be walking around, like, this huge campus at night when you can't see that well."

When asked how she felt about this, she continued:

Well, I felt bad, because I kept thinking that he just thought that I didn't think he was capable of walking, but that wasn't the problem. I just knew he wasn't allowed. And I didn't want, like, something to happen, like, he got lost or something, and then, like I would be freaking out and everything like that and I would feel terrible, like, it was my fault and it was like, I felt bad that he… I was getting the sense that he thought I just didn't think he was capable of doing it. Which, that just wasn't it. It was just that he wasn't… you know, like… they had told me that he couldn't go wandering off, like, at night by himself, so I was just following, like, what I knew was right. But, he was getting more, like, flustered with me for not letting him.

In narrative 4, the DS intern positions herself as someone who thinks that B is capable, but she worries that he does not know that she thinks he is capable. Her position is compromised by her responsibilities for monitoring an activity not permitted (walking alone at night to the destination across campus). The coach is careful both to explain that she regards B as capable and to express concern that he knows that: "I felt bad that he… I was getting the sense that he thought I just didn't think he was capable of doing it."

The intern describes herself as "freaking out" and B as "flustered with me." In this narrative, B's competence and independence are in conflict with the intern's sense of responsibility, and interestingly, she works hard to maintain his position as competent. She does not position him as someone who cannot cross campus by himself but rather as someone who does not understand that "he couldn't go wandering off, like, at night by himself." Importantly, this phrase is not her own but is attributed to "they," presumably the supervisors of the program. To go "wandering off" is not an account of competence. There are many reasons why a person goes "wandering off," for example as a choice not to comply with a direction or as a lack of ability to stay on the directed path. In

either case, describing someone as "wandering off" provides a warrant for monitoring them.

One way to understand narrative 4 is that it puts the narrator's alignment in conflict. She wants to validate B's competence and independence; she has been taught that it's important that he be a good self-advocate, which she may be interpreting as arguing for his own competence. In our focus group conversation with administrators, they stressed that self-advocacy must begin with self-awareness: "The absolute root of self-advocacy is self awareness." In their journals, the students in the internship class often described self-advocacy as speaking for themselves. For example, "Advocacy has always been important to me. I have always been in a position of ensuring that those who cannot advocate for themselves have a voice loud enough and unignored." Several of the interns equated self-advocacy with being able to describe their goals. For example, one intern wrote in her journal about a student she was mentoring, "She talks about exactly what she wants to do and is vocal about her wishes and interests and I think that is one important reason why she is thriving in the program." Another wrote, "I want to help these students to discover their passions. Every person, regardless of ability, has something that they are utterly passionate about doing." Several expressed concern or confusion about how and when to facilitate and/or permit the person with ID to fail. One wrote:

It is not my job to speak for the student, but to provide them with "out of class" advice in order [to assist them to develop]...their skills to speak for themselves. Furthermore, by facilitating conversations between the student and myself about any questions in class, I will help provide the tools to the student to succeed independently in their education through the postsecondary option.

These comments demonstrate the interns' understanding of the central goals of the postsecondary program, and they also reveal one of the complicated dimensions of their relationships with students with ID. The interns see themselves as understanding and supportive of independence and self-advocacy for students with ID, but they express frustration about trying to balance self-advocacy, independence, and the desire of students with ID to self-advocate with meeting requirements or expectations of the PSE program.

Another intern described a similar situation about her effort both to be a responsible coach and to respect the student with ID's independence.

Narrative 5:
My biggest concern is whether W will have finished the reading and reading response in time in order to then be ready to discuss what he has read...At our meeting, we printed off one of the articles due Thursday to see how long it was and then I encouraged W to come up with goals for his weekly goal sheet. I was disappointed to learn he had not finished and turned in his first assignment (due the day before), but was given an extension by the professor. It was challenging because I had intended to move forward on the next assignments at our meeting, but we were still dealing with late assignments, making us fall even more behind. I hope that writing the goals down in addition to me checking up on W will result in better time management. I also hope that W does not show up late to class! It is obviously frustrating as an educational coach to go to your student's class without your student. I mentioned this to him at our meeting and I know he already feels very badly about it, but I wonder how to make him more motivated to take his class more seriously. I wondered how important is it then that W "passes" his class? What should be of greater emphasis: encouraging W to participate fully in all of the class's expectations or getting the experience and discovering career interests?

In this narrative, the intern demonstrates respect for the student with ID, concern about his not meeting class expectations, and concern about her role. In both the journal entries and the focus group, DS interns explored the complexity of the "dignity of risk" described in Chapter 6 of *Think College* text (Grigal & Hart, 2010, p. 208). The educational coach describes W's failure to meet the expectations of the class in some detail. She describes her own frustration with the professor who gave W an extension and describes her efforts to help W to create goals. Throughout the narrative, the educational coach describes her reluctance to position W negatively. For example, she reports that W feels badly about letting her down when he doesn't show up. She is equally worried that she is letting him down. When she wonders "how to make him more motivated to take his class more seriously," she is asking about

how to do her own job better. Throughout the narrative, the educational coach avoids stereotypes and expresses concern for the integrity of W's decisions and actions. At the end of the journal entry, the coach asks whether she should just help W to discover his career interests.

All of the students' journal entries demonstrated careful reading of the text and included interesting questions based on their experiences working as DS interns. The experiences helped them to understand the complexity of the issues presented. Narrative 5, like several other entries for this theme, addressed the complexity of the concept of dignity of risk. The educational coach in Narrative 5 asked an important question that implies a possible choice between meeting class expectations or discovering career interests. These are not necessarily mutually exclusive, and journal entries such as these, combining comments on the chapter and discussions of actual interaction with individuals with ID, are helpful for identifying some of the challenges the educational coaches faced.

The DS interns who took part in the survey, class and journal writing, and focus group all expressed a strong comfort level in their willingness to interact with individuals with ID. They were all able to articulate the value of these interactions and to observe the obstacles individuals with ID faced in interactions with students who were less comfortable or whose interactions were based on stereotypes. Beyond this, through their engagements in prolonged interactions with individuals with ID, they experienced and had insights about more complex uncomfortable situations. For example, they were able to ask questions such as those posed in Narrative 5 about self-determination.

This narrative and others we collected in the journals and focus groups are evidence of the potentially complex relationships between regularly enrolled students and students with ID. The focus group afforded the possibility of an extensive and nuanced discussion of the interrelated questions of competence and independence for students with ID in the PSE programs.

4. DS Interns clarified their own career goals while assisting students with ID. A major goal of the program is the development of career and employment skills of students with ID. To facilitate this goal, typical students engaged in the DS internship to serve as educational coaches or mentors to support students with ID's academic and social development. All of the students with ID participated in internships to develop

these skills, and specially trained job coaches provided direct instruction and supervision during these internship sites. Ongoing topics of discussion within the DS internship class ranged from developing employability skills (e.g., following directions, communication, self-management, problem-solving) to exploring careers and selecting appropriate internship sites that were a good match to the individual's skills, abilities, and interests and may result in competitive employment. The student journals and transcripts revealed that these discussions had a positive impact on typical college students involved in the program in two areas: (1) Typical students embraced improving employability of students with ID, and (2) The career development of typical students was enhanced.

Improving employability skills. The DS interns expressed their desires and plans to assist students with ID to develop and improve their employability skills. One student wrote:

> As an ed coach, I will help sharpen communication skills. Communication skills are crucial in any environment we find ourselves in. It is very important that all persons can express themselves through words, writing, or sign language. I would like to help them to develop social ties as well. It is also super important in the "real world" and the workforce to be able to work well with others...I want to expose the students I work with to the many opportunities and options available to them, whether those opportunities are here on campus, in the community, or in the workforce. Introducing students to the numerous opportunities out there will hopefully help them find their "niche"...something they are interested in and could possibly turn into a career.

A second DS intern wrote, "I think it will be fun and beneficial to [help W] plan for future careers and find what is most interesting to W. In turn that could really motivate him to work hard in his class." A third DS intern wrote:

> Meaningful work is so important, which is why programs like this should exist everywhere and students with ID should be just as prepared as the next student for the workforce…. As an ed coach, I want to help them channel those passions and find what they need to do to succeed in their field … learning how to be independent, keep

schedules and appointments, communicate and set goals is so important to becoming successful.

A fourth DS intern wrote:

> It is crucial that we give them the utmost support and encouragement during these next 15 weeks... Whether it is advice on interviewing, writing a resume, how to dress for the first day of work... we need to...help them succeed.

A fifth DS intern wrote, "Some goals I have … is to make sure I really encourage my student to do the best that he can do at all times… and help [my student] feel comfortable asking for help." Finally, a sixth DS intern wrote, "By helping these students build a strong academic and social base, they will flourish in their career..."

The majority of students who served as DS interns were passionate about connecting the academic and social components of the program to employment. DS interns assisted students with ID to develop the employability skills that will enhance their success in competitive employment.

Career development of typical students. Students shared how participation in the program enhanced their own career development, as evidenced by the following journal excerpts.

> For the past two years, I have been struggling with how I am going to utilize my degree in Public Affairs to make the difference that I strive to make in the world. I volunteered and interned at several non-profit organizations, trying to find my niche -- the field of non-profit organizations that will allow me to reach my full potential and be passionate about what I am doing. After reading Chapter 2, I am coming to realize that I can easily combine my two passions -- public sector work/legislation and working with people with IDs. With pieces of legislation such as the Higher Education Opportunity Act and the Individuals with Disabilities Education Improvement Act, I can put my knowledge of government and the legislative process to work, while continuing to work with persons with disabilities. This is very important to me because I do not want to and should not have to jeopardize my passions for a career. This gets me excited for the future and what is to come.

A second DS intern wrote, "My ideal career would be to teach high school students with special needs. It is my hope that such programs will continue to evolve and improve..." while a third DS intern indicated, "As a future speech language pathologist, I love inspiring children..."

As the above examples demonstrate, the DS interns often integrated discussion of the students' goals with their own goals. In particular, discussions of the students' potential was connected, in many of the journal entries and focus group comments, with their own assessment of potential. Further, some of the DS interns found that reading Think College and working with the students provided an opportunity to articulate their own goals, itself an accomplishment for an undergraduate student. In the focus group, the DS interns had an extensive discussion of how to assess expectations and whether or not it would be helpful to have more knowledge about each student's abilities and limitations. They expressed concern about prior labeling of students and at the same time felt that more prior knowledge would make coaching more productive. One educational coach said, describing her expectations for one of the students:

> One thing is that you can set your expectations differently if you know, um, and if you don't know, I feel like I had really high expectations and I really pushed him really hard, and so, if I had known stuff it wouldn't had been the same. And, I mean, I don't know if that's good or bad, because, I don't know if that was fair.

In summary, the DS interns all expressed the desire to help students to reach their goals. The survey data revealed a group with positive attitudes toward the inclusion of individuals with ID. The narrative data provided observations that described both how the DS interns and students with ID benefit from inclusive PSE programs that establish high expectations for all students.

Discussion

The purpose of this study was to confirm and extend prior research on the attitudes and experiences of typical college students who were enrolled in a DS Internship class towards students with ID who were enrolled in an inclusive PSE program. The results indicate that the majority of typical students who served as disability interns had extensive prior experience, high comfort ratings, and stated that students with ID had the ability to participate in college experiences such as participating in classes, campus organizations, and living in dorms. These findings confirm prior studies of positive attitudes of typical students towards including students with ID in college (Griffin et al., 2012; May, 2012). Additional themes that emerged from the qualitative analysis indicated that the disability studies interns were challenged to balance program requirements with the dignity of risk and self-determination of students with ID, and the disability interns clarified their own career goals by supporting students with ID. Findings suggest that typically enrolled college students benefit from inclusive PSE programs that serve students with ID.

The narrative data was particularly useful for elucidating the survey results about "comfort level" with individuals with ID. Griffin et al. (2012), reports that college students who were less comfortable with students with ID were more concerned about knowing how to act whereas students who indicated greater comfort had more positive perceptions of students with ID's abilities. Our survey findings confirm earlier findings that individuals who have had more contact with individuals with ID are more comfortable with their participation on campus. The narratives illuminate that DS interns suggested that exposure leads to both greater visibility and greater acceptance of individuals with ID.

Narrative analysis supports the survey data finding that "positive perceptions of abilities" is related to "comfort level." However, in our data, the DS interns ascribed this connection to *other* regularly enrolled students with presumably less exposure to people with ID. The DS interns described situations in which, in their view, regularly enrolled students became more comfortable with students with ID through the course of a semester. In their narratives about their own interactions with individuals with ID, the DS interns were more concerned with trying to help the students fulfill their goals and achieve greater self-determination. In these narratives, the DS interns' positive perceptions were equated with working hard, doing well on assignments, self-advocacy, independence, pride, and high expectations. This equation became problematic and especially frustrating when the DS interns worried that the students with ID were not meeting expectations. For the DS interns, this presented a potential conflict between self-determination and high expectations.

The DS interns wanted to motivate the students, but they first wanted to know that these were the students' goals, not just the goals of the intern. The problem was exacerbated by the problem that the students with ID were not necessarily adequately assessing their own abilities. The concerns of DS interns parallel the questions that a variety of experts expressed at a 2009 conference when they asked, "Is a student able to have characteristics of self-determination – self awareness?" and "Do the postsecondary experiences increase self-determination and then does that further enhance those outcomes [such as employment, independent living, academic performance, and social engagement]?" (Thoma et al., 2012, p. 1225).

The ten students with ID who were supported by the DS interns in this study had between 3 and 12 months of experience within the PSE program. Although this study does not focus on changes in self-determination of the students with ID within the program, the anecdotal evidence shared by DS interns, program staff, and parents indicates that many of our students are choosing college classes and activities appropriately and, in many cases, negotiating the transportation and supports needed to successfully participate in a variety of classes and activities across campus. DS interns provided support directly to students with ID and modeled for regularly enrolled students how to support them. Ultimately, these results indicate that DS interns have an important role to increase comfort levels and acceptance of students with ID across campus.

The narratives of DS interns help us to move beyond these questions of willingness to interact to better understand some of the complexities of those interactions. The population of DS interns we studied made a commitment to working with individuals with ID and report that those interactions have benefited them. We owe it to them to better understand how the available discourses of acceptance and positive value can be confusing, especially when, during specific instances, program requirements and restrictions appear to be in conflict with concepts of high expectations and self-determination. Understanding the limitations some people with ID face in assessing their own abilities is one part of that confusion. However, further clarifying for both the DS interns and students with ID how to increase their independence on campus may increase self-determined behaviors of students with ID such as their self-awareness and ability to advocate appropriately.

This study highlights the importance of establishing inclusive PSE experiences for students with ID. Previous research indicates that many PSE programs delivered the majority of instruction to students with ID in segregated programs involving only students with ID (Grigal et al., 2012; Papay & Bambara, 2011; Thoma et al., 2012). This study supports previous researchers who highlight the benefits of inclusive programs for the typical students on campus (Griffin et al., 2012; May, 2012). Clearly, the DS interns involved in this study gained valuable experiences with diverse student populations and clarified their own career goals, as they provided support and direction to the students with ID. If programs remain separate and self-contained, opportunities to increase diversity among the campus that have a positive impact on the attitudes and comfort levels of their nondisabled peers will be missed. Given the need to reduce stigma associated with persons with ID, inclusive PSE show promise that may lead to more inclusive communities, at large. In addition, inclusive programs increase opportunities for students with ID to experience the dignity of risk with supports from typical students.

Several limitations of this study include the small sample size of DS interns who had positive previous experiences with persons with ID, and the fact that the majority of DS interns were female. Because the sample of involved students who had selected the Disability Studies specialization, their perception of disabilities is most probably more positive than that of typical students who did not have prior experience with people with disabilities. Also, the use of the journals that were collected during a class for which students would earn a pass/fail grade brings to question the social desirability of the self-report data. Researchers attempted to control for this by collecting the survey responses and conducting the focus group after the grades were submitted and clearly explaining that participation in the research would not impact grades.

In conclusion, DS interns and regularly enrolled students can serve as important partners in assisting students with ID increase their self-awareness, make choices, and negotiate the supports needed to safely pursue their goals of attending college, preparing for employment, and living independently. Will participation in inclusive PSE programs increase the self-determination and adult life outcomes of students with ID? Further collection and analysis of narratives of interaction would no doubt yield more insights on

this and other issues. Given the limited opportunities and abysmal adult life outcomes that individuals with ID currently experience, inclusive PSE programs described above show promise in creating more diverse communities that enhance the participation and adult life outcomes of all students.

Future research should examine the attitudes of typical students' attitudes towards college students with ID who do not have extensive prior experience with persons with disabilities to determine how their attitudes and perceptions compare to students with extensive experience. Further collection and analysis of surveys, narratives and focus groups of these students, family members, faculty, and students with ID themselves will provide insights into the effects of PSE programs on students with IDs' self-determination and ultimately, the impact of such programs on increasing students' employment and independent living adult life outcomes.

References

Bamberg, M. (1997). Positioning between structure and performance. J*ournal of Narrative and Life History. 7*(1-4), 335-342.

Davis, L. (1995). *Enforcing normalcy: Disability, deafness, and the body*. London: Verso.

Developmental Disabilities Assistance and Bill of Rights Act of 2000. (2000). Pub. L. 106–402, §1809, 114 Stat. 1677.

Dwyre, A., Grigal, M., & Failka, J. (2010). Student and Family Perspectives. In M. Grigal & D. Hart, (Eds.). *Think college: Postsecondary education options for students with disabilities* (pp. 189-227). Baltimore: Paul H. Brookes Publishing Co.

Goffman, E. (1959). *Relations in public*. New York: Harper & Row.

Goffman, E. (1963). *Stigma: The management of spoiled identity.* Englewood Cliffs, N.J.: Prentice Hall.

Griffin, M., Summer, A. H., McMillan, E. D., & Day, T. L. (2012). Attitudes toward including students with intellectual disabilities at college. *Journal of Policy and Practice in Intellectual Disabilities, 9*, 234–239.

Gaumer, A. S., Morningstar, M. E., & Clark, G. M. (2004). Status of community-based transition programs: A national database. *Career Development of Exceptional Individuals, 27*, 131–149.

Grigal, M., & Dwyre, A. (2010). Employment activities and outcomes of college-based transition programs for students with intellectual disabilities. *Think College Insight Brief, Issue No. 3.* Boston, MA: Institute for Community Inclusion, University of Massachusetts Boston.

Grigal, M., & Hart, D. (2010). *Think college: Postsecondary Education options for students with intellectual disabilities.* Baltimore: Paul H. Brookes Publishing Co.

Grigal, M., Hart, D., & Weir, C. (2012). A survey of postsecondary education programs for students with intellectual disabilities in the United States. *Journal of Policy and Practice in Intellectual Disabilities, 9*, 223–233.

Hardman, M. L., & Clark, C. (2006). Promoting friendship through Best Buddies: A national survey of college program participants. *Mental Retardation, 44*, 56-63.

Higher Education Opportunity Act of 2008. PL 110-315, 122 Stat. 3078.

Hughson, E. A., Moodie, S., & Uditsky, B. (2006). *The story of inclusive post-secondary education in Alberta, final research report 2004-2005*. Retrieved from http://www.steps-forward.org

Jones, M. M., & Goble, Z. (2012). Creating effective mentoring partnerships for students with intellectual disabilities on campus. *Journal of Policy and Practice in Intellectual Disabilities, 9,* 223–233.

Labov, W. (1972). *The transformation of experience in narrative syntax. Language in the inner city.* Philadelphia, PA: University of Pennsylvania Press. pp. 354-396.

May, C. (2012). An investigation of attitude change in inclusive college classes including young adults with an intellectual disability. *Journal of Policy and Practice in Intellectual Disabilities, 9*, 240–246.

O'Connor, B., Kubiak, J., Espiner, D., & O'Brien, P. (2012). Lecturer responses to the inclusion of students with intellectual disabilities auditing undergraduate classes. *Journal of Policy and Practice in Intellectual Disabilities, 9,* 247–256.

Papay, C. K., & Bambuar, L. M. (2011). Postsecondary education for transition-age students with intellectual and other developmental disabilities: A national survey. *Education and Training in Autism and Developmental Disabilities, 46,* 78-93.

Perske, R. (1972). The dignity of risk and the mentally retarded. *Mental Retardation, 10*(1), 24-17.

Shuman, A. (2005). *Other people's stories: Entitlement claims and the critique of empathy.* Urbana: University of Illinois Press.

Siperstein, G. N., Parker, R. C., Bardon, J. N., & Widaman, K. F. (2007). A national study of youth attitudes toward the inclusion of students with intellectual disabilities. *Exceptional Children, 73,* 435-455.

Tannen, D. (1993). What's in a frame: Surface evidence for underlying expectations. In D. Tannen (Ed.), *Framing in discourse* (pp. 3- 56). New York: Oxford University Press.

Think College Database of Postsecondary Programs. (2013) Retrieved from www.thinkcollege.net/databases/programsdatabase

Thoma, C., Austin, K., Achala, E., Batalo, C., Carlson, D., Boyds, K., Bozeman, L., & Wolfe, D. (2012). The state of postsecondary education for persons with intellectual disabilities: What are the perceptions of key stakeholders? *Creative Education 3*, 1122 – 1127.

Uditsky, B., & Hughson, A. (2012). Inclusive postsecondary education: An evidence-based moral imperative. *Journal of Policy and Practice in Intellectual Disabilities, 9,* 298-302.

Wilhite, B., Devine,M., & Goldberg, L. (1999). Self-perceptions of youth with and without disabilities: Implications for leisure programs and services. *Therapeutic Recreation Journal, 33*, 15-28.

Zafft, C., Hart, D., & Zimbrich, K. (2004). College career connection: A study of youth with intellectual disabilities and the impact of postsecondary education. *Education and Training in Developmental Disabilities, 1*, 45–54.

About the Authors

Margo Vreeburg Izzo received her B.A. degree in psychology from D'Youville College, her M.A. in Special Education from George Washington University and her Ph.D. from Ohio State University. Her experience includes working as a Principal Investigator and Project Director for the Ohio State University Nisonger Center and serving on the boards of the Association of University Centers on Disability and the Division of Career Development and Transition. She is a National Institute of Disability Rehabilitation Research (NIDRR) Switzer Fellow. Her research interests include career development and transition to college and careers for students with disabilities. She can be reached by email at: Margo.Izzo@osumc.edu

Amy Shuman received her B.A. degree in philosophy and anthropology from the University of California, Santa Cruz and Ph.D. from The University of Pennsylvania. She is Director of Disability Studies and Professor of Folklore, English, Women's Studies and Anthropology, chair of the Consumer Advisor Council of the Nisonger Center (UCEDD), a core faculty member of Project Narrative and the Center for Folklore Studies and a fellow of the Mershon Center for International Security at The Ohio State University. She is the author of three books and many articles on narrative, disability, human rights, literacy, and ethnographic methods of research. She is a Guggenheim Fellow. She can be reached by email at: shuman.1@osu.edu.

Postsecondary Education Employment and Independent Living Outcomes of Persons with Autism and Intellectual Disability

Jeffrey Ross
Jamia Marcell
Paula Williams
Taft College

Dawn Carlson
Virginia Commonwealth University

Abstract

The aim of this study is to report employment and independent living outcomes of 125 graduates from the Taft College Transition to Independent Living (TIL) program. The TIL program has served students with intellectual and developmental disabilities, including autism spectrum disorder, since 1995. The TIL program follows graduates from the time of commencement for a period of ten years. The follow-up includes a comprehensive survey of employment and independent living status, social participation, and personal development and growth. Graduates from the classes of 2000 to 2010 reported rates of employment, monthly income, living arrangements, and use of transportation options. The findings of this study suggest that graduates of the TIL program had employment and independent living outcomes that exceeded rates observed in the general population of persons with intellectual and developmental disabilities (ID/DD). However, the authors caution that the candidates admitted to the program were likely more motivated and prepared than their peers in the general population of persons with ID/DD. Further research that includes matched cohorts and well-designed treatment and control studies is needed to show if and how effective transition programs are in preparing students with ID/DD for employment and community living.

Keywords: Intellectual disabilities, autism, postsecondary education, transition, employment, independent living

The Higher Education Opportunity Act of 2008 (HEOA; PL 110-315) helps colleges and universities create or expand inclusive model transition programs for students with intellectual disabilities (ID). These programs are intended to promote access to postsecondary education (PSE) and supports that lead to academic enrichment, social and independent living skills, self-advocacy, and employment and career skills for a population traditionally underserved and underrepresented in PSE. The HEOA also allows students with ID to qualify for Pell Grants, Supplemental Educational Opportunity Grants, and the Federal Work Study Program. While the legislative intent of the HEOA is clear, its effects on colleges and universities and the outcomes associated with PSE for students with ID need to be examined. Among questions raised about such programs are: What benefits do students (and parents) derive from participating in such transition programs? What is the best way to structure such programs to achieve positive outcomes for students? What investments need to be made to develop high quality comprehensive transition programs for students with ID?

There are very few studies that have addressed these questions (Thoma et al., 2012). Transition programs vary in purpose and content (McEathron & Beuhring, 2011; Research and Rehabilitation Training Center on Community Living, 2013), and have experienced turnover, with some programs closing and others

starting anew. Little is known about what happens to students who participated in these programs (Thoma et al., 2011; McEathron & Beuhring, 2011). In particular, do these students indeed have better employment outcomes than their peers who did not go on to PSE? Are they more likely to live independently?

This study examines the employment and independent living outcomes of 125 graduates from a transition program that was established in 1995, the Taft College Transition to Independent Living (TIL) program. In 2009 the U.S. Department of Education selected the TIL program for funding as one of 27 Model Comprehensive Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSID).

Of nearly three million persons ages 16 to 24 who completed high school or passed the General Education Development (GED) exam in the United States in 2009, 70% went on to PSE programs (U.S. Department of Commerce, Census Bureau, 2012). Reasons for enrolling and completing college are compelling. They include a greater likelihood to obtain employment, build a career, and earn a higher income compared to persons who do not have a college education (Baum & Ma, 2007; Mischel, Bernstein, & Allegretto, 2007; U.S. Department of Labor, Bureau of Labor Statistics, 2013). Higher education is associated with better health and longevity, higher levels of quality of life and happiness, and greater participation in communal, civic, and democratic institutions (McMahon, 2009). College students forge significant and sometimes lifelong relationships with their peers (Evans, Forney, Guido, Patton & Renn, 2009), develop a sense of responsibility and self-reliance (Carnevale, 2008), and learn to become adults who must live independently in an increasingly complex world (Arnett, 2004).

Young persons with disabilities and particularly those with ID and developmental disabilities (DD) lag behind in college admission rates and do not benefit from higher education to the same extent as their peers without disabilities. In 2008, nearly 2.1 million students with disabilities (about 11% of a total of 19.2 million) attended college or university (U.S. Department of Education, National Center for Education Statistics, 2009). Only about 10% of those who successfully completed a standard four-year college program with a degree were students with disabilities (U.S. Department of Education, National Center for Education Statistics, 2012). In contrast, while no precise estimates of the number of students with ID

exist, about 30,000 students with ID graduated with a diploma or certificate in the United States in 2011 (IDEA Data, 2013). According to estimates from the National Longitudinal Transition Study 2 (NLTS-2) 29% of students with ID go on to some type of PSE (Newman et al., 2011). In the broadest sense of the term PSE includes any type of formal training or instruction after high school in academic, job skills, or life skills related subjects. Most PSE programs for students with ID listed in the Think College data base last for a duration of two years or less (Think College, 2013). This limits the length of time students with ID spent in PSE as well as their number. Accordingly, we estimate that at present the number of students with ID in PSE is around 20,000 or about 0.1% of the total student population.

A review of past research showed that students with ID/DD are not only least likely to participate in PSE but they also experience the most dismal post-school outcomes (Thoma et al., 2011; Wagner et al., 2005). Compared with persons of similar age, persons with ID/DD are least likely to be employed competitively and, if they are employed they earn less, work in low skill jobs, experience higher rates of poverty, and have fewer employee benefits (Stodden & Dowrick, 2000; U. S. Senate Committee for Health, Education, Labor and Pensions, 2011; Wagner, Cameto & Newman, 2003). In 2010, persons with cognitive disabilities participated in the work force at a rate of 22.8% (Butterworth et al., 2012). Migliore, Mank, Grossi, and Rogan (2007) found that 76% of persons with ID who worked were employed in facility-based programs or sheltered workshops. Only about 150,000 persons with ID work in community-based settings outside the sheltered work environment (President's Committee on Persons with Intellectual Disabilities, 2009).

The right to live independently in one's community of birth or choice is one of the core principles in the Americans with Disabilities Act of 1990 (ADA, P. L. 110-325) and the Supreme Court's Olmstead decision (Olmstead v. L. C., 1999). Compared to the past, fewer and fewer persons with ID/DD live in institutions but instead reside and receive services in the community (Braddock, 2011; Lakin, Larson, Salmi, & Webster, 2010). Figure 1 shows where persons with ID/DD lived who participated in the 2009-2010 National Core Indicator Survey and received formal ID/DD services (National Core Indicators, 2009; National Council on Disability, 2011).

Figure 1. Type of Residence (N = 11,429)
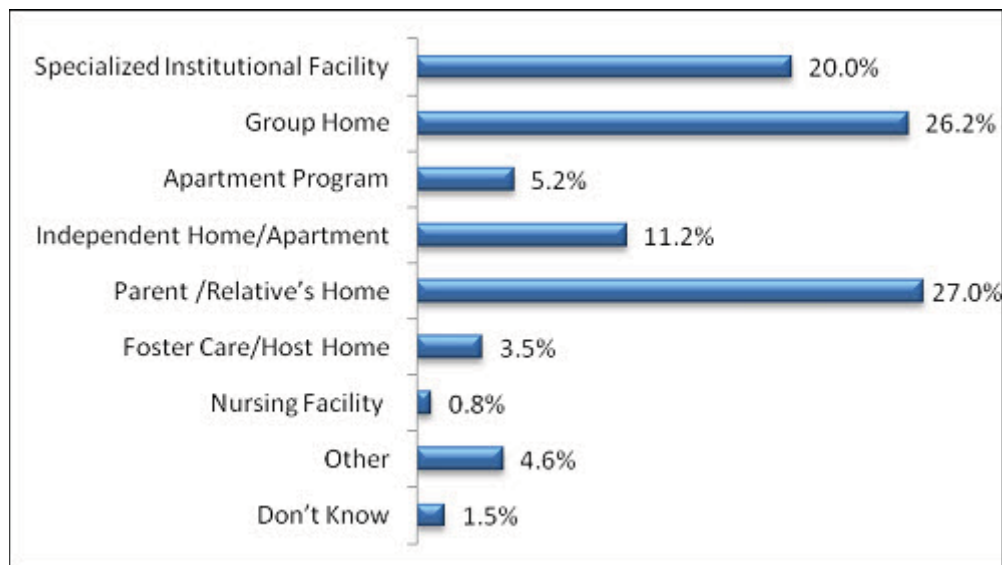
We can gather from Figure 1 that a small portion of persons with ID/DD live "on their own" (about 16%). Please note, however, that these individuals receive support from Medicare's Home and Community Based Care Services (HCBS) waiver program and are likely to be more disabled. The majority of adults with ID in this group also do not participate in decisions that affect where and with whom they live, according to research conducted at the University of Minnesota (Stancliffe et al., 2011). The authors reported that those:

> ... with more support needs because of more severe ID and/or co-occurring conditions experienced less choice regarding living arrangements. Individuals living in their own home or an agency-operated apartment were more likely to choose where and with whom to live than individuals in nursing homes, institutions or group homes (p. 746).

To help persons with ID/DD develop the skills needed to live on their own a growing number of transition programs provide training and instruction in independent living skills. In some cases such programs offer a class or two at a community college whereas in other instances students with ID/DD go through a selective and formalized four-year program in a college or university. Think College is an organization that

tracks transition programs and maintains a searchable data base that contains descriptions of the programs' particular features (Grigal & Hart, 2010). In addition, McEathron and Buehring (2011) studied more rigorously how postsecondary transition programs for students with ID are structured presently and what services they provide, and framed their findings by genotypes rather than phenotypes into a taxonomy designed specifically for characterizing such programs. In the following section we will present an example of a postsecondary transition program, the Taft College Transition to Independent Living (TIL) program, which offers instruction in all major aspects of independent living for students with ID.

Program Description

West Kern Community College District (Taft College) began offering classes to students with ID in 1976. The first classes were taught off campus at a local ARC but were moved onto the main campus in 1978. At the time the curriculum consisted of basic academics, life skills, and paid work experience in jobs at Taft College. The college is located in a rural area of Central California with only two feeder high schools. The program's capacity and size and a vendor agreement with the California Department of Developmental Services (DDS) gives qualified students from all parts

of California an opportunity to attend. The TIL program, as it is known today, formally began operations on August 1, 1995 with a class of 14 students.

Taft College provides on-campus housing for approximately 175 students. TIL students live on campus their freshman year and occupy 26 dormitory rooms. The students live in a single occupancy room with a bathroom they share with another TIL student. The TIL staff provide individualized instruction in functional areas in the student's dorm. The students are on a dorm meal plan and the cost of room and board is $710 per month which is borne by the student. In their second year, the students move into 11 houses and duplexes in the community that the program either owns or leases. The students are responsible for all of their meals, rent, and other living expenses, and budget $800 a month for these costs. Students occupy these off campus houses with TIL roommates and have no overnight adult supervision. The program contracts with a supportive living service agency to assist with meal planning, shopping and preparation, and other related household tasks. The off-campus students are responsible for transporting themselves to and from campus and work sites.

The TIL program offers students an environment that includes typical collegiate experiences. The curriculum consists of 36 individual classes which are all approved by the California Community College Chancellor's Office. Successful completion of this course of study culminates with the awarding of a Certificate of Completion. The TIL students participate in the Taft College commencement exercises and receive their diploma with their peers who are receiving their associate degrees or other certificates.

Class offerings include basic academic skills development (reading, writing, and algebra); self-advocacy skills (communication and public speaking, conflict resolution, personal planning, relationship building, personal safety, and self-determination); independent living skills (banking and personal finance, household safety, housekeeping, laundry, meal preparation, medication, mobility/travel, personal care, and shopping); career preparation (job skills assessments, interviews, resume building, timecards, work ethics, and paid internships); and transition planning (community research, community volunteer assistance, housing assistance, rehabilitation department referral, roommate options, and inter-agency transition meetings). In addition, TIL students are encouraged to enroll in traditional college courses, and individual support and accommodations are provided.

The "college experience" is viewed as one of the most important aspects of the TIL program at Taft College. The students are members of the TC Associated Student Body and participate in most of the activities sponsored by that organization, such as an overnight excursion to a theme park. Taft College has a Best Buddies program with shared activities for TIL students and traditional students. TIL students attend cultural and athletic events on campus and interact with the traditional dorm students on a daily basis. They are recognized as an integral part of the culture of the institution.

Beginning in 2009, since its selection as a TPSID, the TIL program developed a system of individual supports for all of its students who are enrolled in traditional credit classes at Taft College. Accommodation specialists work with these students inside and outside of the classroom. Forty-four students participated in 118 classes over a period of three semesters. The type of courses taken include drama, psychology, early childhood education, art, management (customer service), math (basic and algebra), computer science (Word, Excel, Access), and keyboarding. Fifty three students received "A's"; 35 students received "B's"; 16 students received "C's"; five students received "D's"; six students received "F's"; two students withdrew; and one student was dropped by the instructor.

The second program implemented through the TPSID grant focuses on specific vocational skill development leading to higher skilled, higher paying jobs. This program is designed to be a "third year" for 10 TIL graduates. The participants live in off campus housing and are employed in student internships for 20 hours a week. They are compensated at the rate of $13.25 per hour. The program partners with employers who provide these interns with challenging work assignments that will enhance their job skills, lead to a certificate, and provide a pathway to employment and career. At the time of this study twelve students completed the internship. Seven of these interns were employed, one was working as a volunteer, one went on to a community college to complete an advanced certificate, two were unemployed, and one had an unknown status.

The Taft College TIL program has operated for 18 years with stable and steady funding from the Department of Developmental Services. The Department, through the Regional Center system, funds student

participation at a rate of approximately $33,000 each per year. This funding, the TPSID grant, and Community College apportionment, provide the program with an operating budget of about $2.2 million dollars a year. The majority of expenditures are dedicated to staffing the program. All of the individuals who work in the TIL program are Taft College employees with the same pay and benefits as those of any other employee on campus. At the time of this study the TIL program employed two full-time tenure track faculty, five full-time managers, seven full-time employees, and 20 part-time employees.

The Taft College Center for Independent Living is in the final phase of constructing a state of the art facility that will contain administrative offices, classrooms shared with all of Taft College, cooking and laundry demonstration laboratories, and 32 independent living classrooms (student residences). It will house a curriculum development and teacher training program for a national and international audience. The 24,000 square foot facility, a $16 million project, is funded through a state-wide Community College capital outlay bond, a municipal bond issue, and private donations.

Research Questions

Our inquiry into the lives of 125 young men and women with ID was guided by wanting to know what happened to them after they graduated from Taft College's TIL program. Our research questions focused on their successes in building independent and self-sufficient lives in homes and communities of their choice. Were they able to find a job? Did they earn enough to pay for living expenses such as food and rent? How did they live? Were they able to get around, go to work, go to the store and shop, and visit family and friends? What did they do on their own? How much help and support did they need? To address these questions we examined data from the 2011 survey of TIL alumni who graduated between the years 2000 and 2010. Our primary focus was on their reported employment outcomes and independent living arrangements.

Methods

Taft College conducts an annual survey of its graduates and follows them over a period of ten years. The data that provide the basis for this study were taken from the 2011 survey. The oldest cohort in this survey is the class of 2000 and the youngest cohort is the class

of 2010. Between the year 2000 and the year 2010 a total of 174 students graduated from the TIL program. While intense efforts were made through direct contact and social media to stay in touch with all graduates, 49 graduates (28% of the total) could not be traced, leaving 125 graduates in our pool of respondents. Each year, graduates are recruited for the survey through announcements on Facebook, telephone calls and voice messages, emails, and parental contact. If multiple attempts fail to reach a graduate he or she is dropped from the roster. Graduates who move out of state or live in group homes are not contacted. In addition, potential respondents who do not wish to be contacted or choose not to be interviewed are also removed from the list of survey participants. Agencies that provide services to graduates assist with Taft College's efforts to stay in contact, but all information obtained during the annual survey is given by the graduates directly; there were no proxy responses.

The admission criteria published by the College influence the selection of individuals who go through the program (Taft College, 2013). In sum, the applicant must (a) be at least 18 years of age; (b) meet California Department of Developmental Services (DDS) regional centers criteria; (c) be able to function without attendant care; (d) have completed a high school or learning resource program; (e) not have a current or chronic history of arrest or probation; (f) be exempt from current or chronic history of inflicting physical harm to him/herself or others; (g) be free of any medical condition that is communicable by casual contact; (h) have an income equivalent to SSI's minimum rate for independent living; (i) agree to attend and participate in the Taft College Career Education program and required classes; and (k) possess self-help skills and be able to safely function in his/her own dormitory without direct supervision during non-program hours. Regarding criterion (b), the DDS and its 22 regional centers determine service eligibility in Section 4512 of the California Welfare and Institutions Code (State of California, Department of Developmental Services, 2013) according to which a person must have a disability that begins before the person's 18th birthday, be expected to continue indefinitely, and present a substantial disability. The diagnosis and assessment of disability is performed by the regional centers.

An applicant who meets the requirements for entry will be scheduled for an on-site first interview. During the interview, applicants may be asked to demonstrate

their knowledge of various independent living skills such as: following directions, interpreting schedules, menu planning, and explaining a basic budget. The evaluation interview is necessary to assist the interview committee in determining whether the program would be an educationally appropriate and least restrictive environment for the applicant.

We present our findings as descriptive (univariate and bivariate) statistics. Non-parametric tests helped us detect statistically significant differences between groups, and linear regression using ordinary least squares permitted testing for significant multivariate relationships. All statistical calculations were performed with SPSS v. 19 (Gray & Kinnear, 2012; IBM, 2013).

Findings

Respondent Characteristics

Our group of respondents consisted of 70 males (56%) and 55 females (44%). Almost all received a certificate of completion from high school. Table 1 shows their ages and graduation dates. We did not ask specifically what impairment or disability diagnosis our respondents received in the past, but observations and statements by teachers, coaches, and program officials familiar with the students suggest that all applicants had mild or moderate intellectual disabilities, and that the proportion of students on the autism spectrum has been increasing steadily.

At follow-up, all respondents were living in the community and none were living in group homes or institutions. Three graduates were married, two had children. Nearly all respondents (n = 121) obtained Social Security payments. The largest number received Social Security Supplemental Income or SSI (n = 111 or 89%), followed by Social Security Disability Income or SSDI (n = 9 or 7%) and an OASDI (Social Security) payment in one case. Four graduates did not qualify for benefits because their employment income exceeded the limits of eligibility. A small number of graduates (n = 15 or 12%) reported obtaining support, mostly in form of money, from their parents, and 117 graduates received a small amount of independent living support (California State Supplementary Payment Program).

Employment Status and Income

In 2011, 105 TIL graduates (84%) were employed for pay. Seven graduates (6%) volunteered or interned without pay, and 13 graduates (10%) were unemployed.

Of those who were employed 87 graduates (78%) worked or volunteered in an integrated, competitive work environment in the community; 80 graduates were paid at or above minimum wage; 23 graduates (21%) worked in a supported work setting; and 2 graduates (2%) worked in a sheltered work shop.

Respondents who were gainfully employed included 102 part-time workers and three full-time workers. Among those who volunteered or were employed part-time 11 (10%) worked 10 hours or less per week; 95 (85%) worked between 11 and 20 hours per week; and 3 (3%) worked between 21 and 30 hours per week. Three graduates worked in a second job. We did not detect any statistically significant differences between hours worked per week and gender, age, and year of graduation. Among the 13 respondents who were unemployed seven were actively looking for a job; two graduates were in the process of moving to another city; two graduates reported being unable to work because of health problems; one graduate was in school; and one graduate reported not being interested in working at that time.

Hourly wage rates of the 87 working respondents ranged from $8 to $15.05, with a mean of $8.97 (SD = 1.55). Eighteen graduates were paid below minimum wage. A dollar amount was not mentioned by these respondents with one exception: one graduate was paid $7.00 per hour. To ensure consistency in coding he was classified as "paid below minimum wage," which in California was $8.00 per hour at the time of the interview. One graduate received a sales commission that was also not specified in terms of a dollar income. Accordingly, our calculations below are based on a number of 86 graduates reporting an hourly wage rate at or above minimum wage. We grouped the hourly wage rates into three categories (see Table 2) but did not include below minimum pay because no dollar amounts were reported. We then grouped the respondents' age into two categories and the years employed in the current job into three categories in order to obtain a sufficiently large number of observations for each cell in our crosstabs to test for statistically significant differences between subgroup characteristics.

There were no statistically significant differences in hourly wage rates between males and females. There were significant differences in hourly wage rates between respondents under age 30 and age 30 and older. The older respondents had higher hourly wages than the younger ones, $\chi 2(2, N = 86) = 10.24$, p = .006.

Table 1

Respondent Year and Age of Graduation

	Number	Percent
Age Group		
22-24 years	11	8.8
25-29 years	57	45.6
30-33 years	49	39.2
34-37 years	8	6.4
Graduation Group		
2000-2002	26	20.8
2003-2005	25	20.0
2006-2007	21	16.8
2008	18	14.4
2009	19	15.2
2010	16	12.8
Total	125	100.0

Similarly, the hourly wage rate differed significantly with the number of years respondents worked in their job, $\chi2(4, N = 86) = 10.77$, p = .029, with higher rates paid to those with longer job tenure.

In multivariate regression, $R2 = .34$, $F (5, 99) = 10.33$, p < .001, we observed a statistically significant association between monthly employment income and hourly wage rate, $\beta = .46$, $t(98) = 5.31$, p < .001, and between monthly employment income and hours worked per week, $\beta = .28$, $t(98) = 3.37$, p = .001, but gender, age, and job tenure were not found to be statistically significant covariates. In a separate analysis we did not find statistically significant differences in the number of hours worked per week by gender, age, and job tenure. The majority of those employed (73%) earned $700 or less per month. Limits to employment income for those who receive Social Security benefits due to relatively few hours worked, a fairly narrow range of hourly pay close to the minimum wage rate, and the small number of observations may explain the absence of statistically significant differences in monthly income measures by gender, age, and length of employment.

Each of the 125 respondents reported at least one form of monthly income which could be a Social Security payment (SSI, SSDI, or SSA), income from employment, or both: 121 respondents (97%) received a Social Security payment, 104 respondents (83%) reported income from employment, and 100 respondents (80%) received Social Security payments and pay checks from employers. Table 3 and Figure 2 below illustrate the relationship between monthly Social Security payments, monthly employment income, and combined monthly income. The majority

Table 2

Respondent Age, Hourly Wage, and Number of Years in Current Job

	Number	Percent
Age Group		
22-29 years	49	57.0
30-37 years	37	43.0
Hourly wage		
$8.00 (min. wage)	29	33.7
$8.01-$9.00	33	38.4
$9.01 and over	24	27.9
Years in current job		
Two years or under	30	34.9
Between 2 and 5 years	32	37.2
Five years or over	24	27.9
Total	86	100

of TIL graduates (81%) received between $500 and $900 in Social Security benefits per month whereas the majority of TIL graduates (61%) earned $700 or less per month from employment. Combined monthly income exceeded $900 for 79% of the graduates. The highest monthly employment income reported by a TIL graduate was $1,900.

Since the monthly income figures reported during the survey were obtained as responses to given intervals of $100's, we employed a midpoint average for each interval and multiplied it by the number of entries for each interval. This way we were able to determine that TIL graduates received approximately $700 per month on the average from Social Security benefits. Monthly employment income amounted to about $600 on the average, and combined average monthly income approximated $1,100 per graduate. Please note that these estimates are based on a denominator of 125. Individual incomes vary in amount and number of graduates who reported receiving benefits, earned income, or both.

Job Coaches, Job Benefits, and Job Satisfaction

A number of TIL graduates who worked received job coaching (73%) and employment benefits (28%) that included paid sick leave (n = 9); health insurance (n = 18); union benefits (n = 7); paid vacation (n = 27); and work uniforms (n = 2). Among those who received assistance from a job coach, 41 respondents (53%) received job coaching on a daily basis; 23 respondents (30%) received job coaching weekly; and 13 respondents (17%) were coached about twice a month.

We detected no statistically significant differences between job coaching and gender, age, and

Table 3

Summary of Monthly Social Security Payments, Employment Income, and Combined Income by Number of Recipients

	Under $500	$501-$700	$701-$900	$901-$1,400	$1,401 and over	Total Number
Social Security payments only	8	51	50	12	0	121
Employment income only	34	42	15	8	5	104
Combined Social Security payment and employment income	0	5	21	72	27	125

Figure 2. Sources and Amounts of Monthly Income
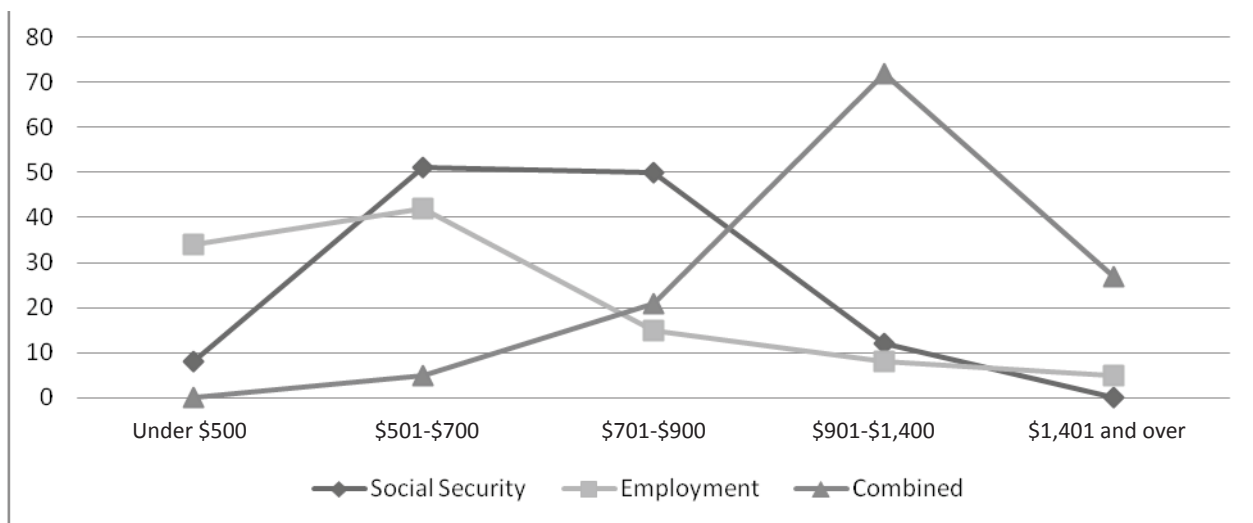
length of employment. Also, job benefits did not vary by gender and age, but those with longer job tenure were more likely to receive benefits, a finding that was statistically significant, $\chi2(2, N = 112) = 7.34$, p = .025. Respondents working in paid and non-paid occupations reported being "happy" with their place of work in 57.6% of cases, being "satisfied" in 27.2% of cases, and "not happy" or "planning to quit" in 4.8% of cases. Job satisfaction did not differ significantly by gender, age, and length of employment, but it differed significantly by level of monthly employment income, $\chi2(6, N = 112) = 17.25$, p = .008, level of combined monthly income, $\chi2(4, N = 112) = 14.20$, p = .007, and benefits, $\chi2(2, N = 112) = 8.56$, p = .014. Of the six persons who reported being not happy or planning to quit, five worked in a supported employment setting and four were paid below the minimum wage rate.

Independent Living and Place of Residence

As stated, all respondents lived in the community and in homes that they rented (83%), owned (3%), or that were owned by their parents (14%). Sixty seven graduates (54%) reported living alone; 35 graduates (28%) had one roommate, including three spouses; 13 graduates (10%) had two roommates; 3 graduates (2%) lived with three roommates each; and 7 others (6%) lived with their parents. One bedroom units counted as the most frequent form of accommodation (42%), followed by two bedroom apartments (21%), three bedroom homes (11%), and two bedroom condominiums or town houses (10%). The remaining number of units (n = 20 or 16%) was divided between studios (n = 5), two or four bedroom homes (n = 5); three bedroom apartments (n = 4) and three bedroom condominiums or townhomes (n =4), a one bedroom condominium, and a rented room. One data entry was missing. We detected no statistically significant differences between respondent gender or age and type of home or type of tenancy (own or rent). Combined monthly income level also had no significant statistical effect on the type of housing respondents occupied. However, the four graduates who owned their home had combined monthly incomes ranging from $1,001 to over $1,500.

Graduates who rented their home paid $300 or less in 25 cases (24%); between $300 and $500 in 34 cases (33%); between $501 and $600 in 26 cases (25%); and more than $600 in 19 cases (18%). We detected statistically significant differences in the amount of rent paid by age, $\chi2(3, N = 105) = 8.16$, p = .043, and by

combined monthly income, $\chi2(6, N =105) = 16.03$, p = .014. In case of the former, younger graduates paid higher amounts of rent. In case of the latter, those with higher combined monthly incomes paid higher amounts of rent. There were no significant differences in the amount of rent paid by gender.

Housing Support and Independent Living Assistance

A total of 48 graduates (38%) lived in supported housing, either for low income tenants (26 cases or 21%) or for Section 8 beneficiaries (22 cases or 18%). The only statistically significant difference we were able to detect was between age and Section 8 housing support, $\chi2(1, N = 105) = 10.48$, p = .001; older graduates were more likely to live in homes subsidized with Section 8 housing vouchers.

One hundred twelve TIL graduates (90%) reported receiving Independent Living Services (ILS) assistance at the time of the interview (see Table 4). While we could not find significant differences in the number of hours of ILS assistance provided by gender, statistically significant differences in ILS hours provided to graduates differed by age, $\chi2(1, N = 112) = 5.30$, p = .021. Younger respondents received a higher number of ILS hours per month.

Transportation

All 125 respondents reported having access to transportation at the time of the interview. The largest number (n = 117 or 94%) used public transportation. The eight graduates who did not use the public transit system owned a car (n = 7) or, in one case, used paratransit services. Five respondents reported using a personal vehicle as well as public transportation. Those who owned and used a car were male (11 out of 12 respondents); younger (eight out of 12 respondents); lived alone (n = 8) or with a spouse or roommate (n = 4); and had higher combined monthly incomes. All were employed, including two full-time employees out of a total of three. These car owners also received (or needed) fewer hours of independent living services, received or needed fewer hours of job coaching, and reported high levels of job satisfaction.

Banking, Shopping, and Meal Preparation

The ability to manage money is an important indicator of living independently. With the exception of three graduates, all respondents had their own banking

accounts and were familiar with a wide range of banking services, including writing checks and using online banking. The three respondents who reported not having a banking account did not have any earnings from work and needed higher levels of independent living support, including help from their parents.

A second measure of living independently is the ability to go shopping and preparing one's meals. TIL graduates reported being able to shop or prepare meals independently in 22 cases (18%). Eighty five graduates (68%) reported needing a little help with shopping and meal preparation, and 18 graduates (14%) needed frequent assistance with these tasks. The relationship between needing assistance with shopping and meal preparation and a higher number of hours of ILS assistance is statistically significant, $\chi2(2, N = 125) = 8.93$, $p = .011$. While we did not find significant differences between the ability to shop or prepare meals independently and gender, respondents under age 30 were more likely to report shopping or preparing meals independently, $\chi2(2, N = 125) = 14.87$, $p = .001$. In addition, respondents who independently shopped or prepared meals were more likely to live alone whereas respondents who needed assistance with these tasks lived with parents or roommates.

Discussion

Postsecondary education is associated with higher rates of employment and income for persons with and without disabilities. This finding also applies to persons with ID. Migliore and Butterworth (2008) showed that students with ID who participated in postsecondary education were employed after completing vocational rehabilitation programs in 48% of cases. Their average weekly earnings were $316, compared to $195 for those persons with ID who did not receive PSE. Not counting Social Security benefits, Taft TIL program graduates in integrated employment settings on the average earned less per week (about $168). If benefits are included the average incomes for graduates who worked were nearly the same (about $314 per week). The smaller earned income amounts among TIL graduates likely resulted from the absence of Vocational Rehabilitation (VR) services and placement into better paying jobs. Access to VR services for persons with ID is limited. According to Gilmore, Schuster, Zafft and Hart (2001), 7.2% of persons with more broadly defined cognitive disabilities receiving VR services had been in postsec-

ondary education, and a significant number of them had earned associate degrees, bachelor's degrees, or even graduate degrees. It is likely that the respondents in Butterworth and Migliore's study had higher levels of academic skills and aptitude that we were not able to control for in our study. However, we found that the TIL graduates' competitive employment rates with wages at or above minimum wage were much higher (64% vs. 48%). This finding might be attributable in part to the training and support TIL graduates received while attending the program and continue to receive after graduation.

Postsecondary education for students with ID is associated with improved independent living outcomes. There are a number of indicators that measure various aspects of independent living. In our study we chose living independently in one's own home or apartment and paying rent or a mortgage as our primary indicator. Regrettably, there are few quantitative studies that show how many persons with ID live on their own, with a spouse, or with roommates. Those that are available do not always allow direct comparisons with our study. For example, Larson, Doljanac, and Lakin (2005) reported that 84% of persons with ID/DD live with parents or family members. This estimate includes children. The remaining 16% live either independently or with supervision. The National Council on Disability report (2011) on community living showed that about 16% of respondents to the NCI survey live in their own home or apartment, or in an apartment program. The survey sample, however, includes only ID/DD service recipients. In our study, 94% of TIL graduates lived alone or with spouse or roommates in an apartment of home that they rented or owned.

One measure of success of any college graduate is his or her ability to become financially independent. Our findings show that 88% of the TIL graduates paid for their living expenses with their earnings and/or income support payments and managed their own finances. Nearly all graduates knew how to use public transportation. A good number owned a car. For persons with ID such levels of independence and mobility are exceptionally high, considering that persons with ID are generally viewed to be less independent, less likely to be involved in community events, and their leisure activities are mostly solitary and passive in nature unless they are supervised or assisted by direct service providers (Verdonschot, De Witte, Reichrath, Buntinx, & Curfs, 2009). In our study 89% of the TIL

graduates received independent living services (ILS). However, 97% of them used 30 hours of services or less each month. The cost associated with a graduate who receives 30 hours of services is $10,800.00 annually, over $22,000 less than the statewide average of 92 hours at a cost of $33,120 per year. California provides mandated services for all adults who qualify for ILS after meeting criteria by the Department of Developmental Services (State of California, Department of Developmental Services, 2012). This includes providing in-home supports for individuals with ID/DD who live independently.

As noted previously, college students forge significant and sometimes lifelong relationships with their peers. We found that 95% of our graduates continue to socialize with TIL classmates through visits, phone calls, and email. The graduates are active in their friendship circles and communities and participate in many activities that include sports teams, social groups, and volunteer opportunities. Ninety-one percent of the graduates were registered to vote.

Our experiences with graduates taught us that most of them consider their Certificate of Completion as their terminal college degree and that the course work prepared them for employment and independent living. Yet some ventured further. Eighteen percent of the graduates enrolled in community college classes and one TIL graduate obtained a bachelor's degree.

Conclusion

The evidence presented in this paper suggests that transition programs such as Taft College's TIL program can successfully prepare individuals with ID/DD to become productive members of society who will live independently and participate in civic, social, and communal activities. The TIL students master a rigorous course of study designed to meet these ends. They receive a certificate after successfully completing 36 classes. These classes were developed by Taft's TIL program faculty according to California community college curriculum development standards and practices. As with any other community college course, all TIL course content was submitted to the college district curriculum committee for review and approval and forwarded to the California Community College Chancellor's Office in Sacramento for final approval. All TIL courses are listed in the course catalogue.

While at Taft the TIL students are integrated in all campus activities campus and considered an integral part of the culture of this institution. The college benefits greatly from the program's 98% success rate, twice the rate of degree and certificate program completions, in its overall count of program completions. Paid student internships have been created by the program, a Disabilities Studies major for traditional students, and plenty of opportunities for the campus community to work and learn with this exceptional group of students.

We consider this study a first step towards more research that must include in its design control groups and better measures of effects and their magnitudes. We are confident that the outcomes we described can then be associated more directly with the types of educational interventions that TIL graduates and graduates of similar transition programs receive. Postsecondary education for students with ID is a relatively new and emerging field of inquiry, with foundations being laid with studies such as the present one. Young persons with ID have a great capacity to learn and adapt to the challenges of adult life. We can learn much from their acts of bravery as they fight the odds against them and break down attitudes and beliefs about what persons with ID can or cannot do. We can use this knowledge to teach others interested in promoting or creating postsecondary education opportunities that such transition programs can indeed improve employment and independent living outcomes of persons with ID.

Limitations

The findings presented in this study are not intended to provide conclusions that are representative of employment and independent living outcomes of persons with ID. The study participants are graduates of a unique transition program offered at a community college to young persons with ID who receive income support payments or have other sources of income and who wish to learn how to live independently. As such our respondents do not represent other persons with ID of similar age and gender. The specific criteria for inclusion in this study came from determinations of service eligibility of persons with intellectual and developmental disabilities, referrals from DDS regional centers, and Taft College TIL admissions criteria. Prospective students go through a carefully structured selection process that aims at identifying those who are most likely to succeed. The TIL program itself is

not representative of other PSE transition programs but constitutes one particular type of program in a highly diverse group of programs that is still emerging (McEathron & Beuhring, 2011).

This study was not designed as a treatment and control study. Instead, our investigation of employment and independent living outcomes of TIL graduates represents a select set of observations of their accomplishments that we wish to describe and compare to findings from similar research.

References

Americans with Disabilities Act (P. L. 110-325). Retrieved from http://www.ada.gov/pubs/ada.htm

Arnett, J. J. (2004). *Emerging adulthood: The winding road from the late teens through the twenties.* New York: Oxford University Press.

Baum, S., & Ma, J. (2007). *Education pays: The benefits of higher education for individuals and society.* College Board.

Braddock, D. L. (2011). *The state of the states in developmental disabilities 2011.* Boulder, CO: University of Colorado , Department of Psychiatry and Coleman Institute for Cognitive Disabilities.

Butterworth, J., Smith, F., A., Hall, A. C., Migliore, A., Winsor, J., Domin, D., Timmons, J. C. (2012). *StateData: The National Report on Employment Services and Outcomes.* Boston, MA: University of Massachusetts Boston, Institute for Community Inclusion.

Carnevale, A. (2008). A world of opportunity: Postsecondary training and education for all. *Community College Journal, 78*(3), 24-27.

Evans, N. J., Forney, D. S., Guido, F. M., Patton, L. D., & Renn, K. A. (2009). *Student development in college: Theory, research, and practice.* Jossey-Bass.

Gilmore, D., Schuster, J., Zafft, C., & Hart, D. (2001). Postsecondary education services and employment outcomes within the vocational rehabilitation system. *Disability Studies Quarterly, 21*(1).

Gray, C. D., & Kinnear, P. R. (2012). *IBM SPSS statistics 19 made simple.* Psychology Press.

Grigal, M., & Hart, D. (2010). *Think College! Postsecondary education options for students with intellectual disabilities.* Brookes Publishing Company, Baltimore, Maryland.

IBM (2013). SPSS Software. Retrieved from: http://www-01.ibm.com/software/analytics/spss/

IDEA Data (2013). IDEA Data Explorer. Calculation obtained from https://www.ideadata.org/DACAnalyticTool

Lakin, K. C., Larson, S., Salmi, P. & Webster, A. (2010). *Residential services for persons with developmental disabilities: Status and trends through 2009.* Research and Training Center on Community Living Institute on Community Integration/UCEDD, College of Education and Human Development, University of Minnesota. Accessed from http://rtc.umn.edu/docs/risp2009.pdf

Larson, S. A., Doljanac, R., & Charlie Lakin, K. (2005). United States living arrangements of people with intellectual and/or developmental disabilities in 1995. *Journal of Intellectual and Developmental Disability, 30*(4), 236-239.

McEathron, M., & Beuhring, T. (2011). Postsecondary education for students with intellectual and developmental disabilities: A critical review of the state of knowledge and a taxonomy to guide future research. *Policy Research Brief, 21*(1). Institute on Community Integration.

McMahon, W. W. (2009). *Higher learning, greater good: The private and social benefits of higher education.* JHU Press.

Migliore, A., Mank, D., Grossi, T., & Rogan, P. (2007). Integrated employment or sheltered workshops: Preferences of adults with intellectual disabilities, their families, and staff. *Journal of Vocational Rehabilitation, 26*(1), 5-19.

Migliore, A., & Butterworth, J. (2008). *Postsecondary education and employment outcomes for youth with intellectual disabilities. DataNote Series, Data Note XXI.* Boston, MA: Institute for Community Inclusion. Retrieved from: http://scholarworks.umb.edu/ici_datanote/16

Mishel, L., Bernstein, J., & Allegretto, S. (2007). *The state of working America.* Washington, DC: Economic Policy Institute.

National Core Indicators (2009). Retrieved from http://www.nationalcoreindicators.org/

National Council on Disability (2011). *Community in detail.* Washington, DC: Author. Retrieved from: http://www.ncd.gov/publications/2012/DIToolkit/Community/inDetail/

Newman, L., Wagner, M., Knokey, A. M., Marder, C., Nagle, K., Shaver, D., & Wei, X. (2011). *The post-high school outcomes of young adults with disabilities up to 8 years after high school: A report from the national longitudinal transition study-2* (NLTS2). NCSER 2011-3005. National Center for Special Education Research.

Olmstead v. L.C., 527 U.S. 581, 119 S.Ct. 2176 (1999). Retrieved from: http://www.ada.gov/olmstead/index.htm

President's Committee for Persons with Intellectual Disabilities (2009). *Dignity through employment.* Washington, DC: Author. Retrieved from: http://www.acf.hhs.gov/sites/default/files/add/pr_2009_dignity_through_employment_01b9.pdf

Research and Rehabilitation Training Center on Community Living (2013). A Taxonomy for postsecondary education programs for students with intellectual and developmental disabilities. *Policy Research Brief 23*(1). Minneapolis, MN: University of Minnesota, Institute for Community Integration.

Stancliffe, R. J., Lakin, K. C., Larson, S., Engler, J., Taub, S., & Fortune, J. (2011). Choice of living arrangements. *Journal of Intellectual Disability Research, 55*(8), 746-762.

State of California, Department of Developmental Services (2012). Retrieved from: https://dds.ca.gov/LivingArrang/IndLiving.cfm

State of California, Department of Developmental Services (2013). Retrieved from: http://www.dds.ca.gov/Statutes/WICSectionView.cfm?Section=4500-4519.7.htm&anchor=4512#4512

Stodden, R. A., & Dowrick, P. W. (2000). Postsecondary education and employment of adults with disabilities. *American Rehabilitation, 25*(3), 19-23.

Taft College (2013). Requirements for entry into the Transition to Independent Living program. Retrieved from: http://www.taftcollege.edu/tcwp/til/?page_id=48

Think College (2013). Online database accessed April 28, 2013 at: http://www.thinkcollege.net/databases

Thoma, C., Austin, K., Achola, E., Batalo, C., Carlson, D., Boyd, K., ... & Wolfe, D. (2012). The state of postsecondary education for persons with intellectual disabilities: What are the perceptions of key stakeholders? *Creative Education, 3*(26), 1122-1129.

Thoma, C. A., Lakin, K. C., Carlson, D., Domzal, C., Austin, K. M., & Boyd, K. S. (2011). Participation in postsecondary education for students with intellectual disabilities: A review of the literature 2001- 2010. *Journal of Postsecondary Education and Disability, 24*, 175-191.

U.S. Department of Commerce, Census Bureau (2013). *College enrollment of recent high school completers. Statistical Abstract of the United States, 2012.* Washington, DC: Author. Retrieved from http://www.census.gov/compendia/statab/2012/tables/12s0276.pdf

U.S. Department of Education, National Center for Education Statistics (2012). *Digest of Education Statistics, 2012* (NCES 2012-001).

U.S. Department of Education, National Center for Education Statistics (2009). *2007–08 National Postsecondary Student Aid Study* (NPSAS:08): Undergraduate Data Analysis System. Washington, DC: U.S. Department of Education, Institute for Education Sciences.

U.S. Department of Labor, Bureau of Labor Statistics (2013). *Labor force, employment, and unemployment statistics by educational attainment for persons age 25 and older.* Washington, DC: Author. Retrieved 2013 from: http://www.bls.gov/cps/demographics.htm#education

U. S. Senate Committee for Health, Education, Labor and Pensions (2011). *Full Committee Hearing - Improving employment opportunities for people with intellectual disabilities.* Washington, DC: Author. Retrieved from: http://www.help.senate.gov/hearings/hearing/?id=536891af-5056-9502-5d9c-9a3e588e3214.

Verdonschot, M. M. L., De Witte, L. P., Reichrath, E., Buntinx, W. H. E., & Curfs, L. M. G. (2009). Community participation of people with an intellectual disability: a review of empirical findings. *Journal of Intellectual Disability Research, 53*(4), 303-318.

Wagner, M., Cameto, R., & Newman, L. (2003). *Youth with disabilities: A changing population. A report of findings from the National Longitudinal Transition Study* (NLTS) and the National Longitudinal Transition Study-2 (NLTS2). Menlo Park, CA: SRI International.

Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). *After high school: A first look at the postschool experiences of youth with disabilities. A report from the National Longitudinal Transition Study-2* (NLTS2). Online Submission. Retrieved from: http://www.nlts2.org/reports/2005_04

About the Authors

Jeff Ross received his B.A. degree in Social Services from California State Polytechnic University at Pomona and M.A. degree from California State University at Bakersfield. His experience includes working with students with Learning Disabilities and Autism and Intellectual Disabilities for 37 years at Taft College. He is currently a professor in the Learning Skills Department and Director of Disabled Student Programs and Services and is the founder of the Transition to Independent Living Program at Taft College. His research interests include post-secondary programs and services for students with autism and intellectual disabilities. He can be reached by email at:jross@taftcollege.edu.

Dawn Carlson received his Ph.D. in Sociology from the University of California, San Diego. He is employed as a rehabilitation program specialist at the National Institute on Disability and Rehabilitation Research located in the U. S. Department of Education. He is affiliated with the Department of Special Education and Disability Policy at Virginia Commonwealth University. His research interests include postsecondary education, employment, and community living for persons with intellectual disabilities. He has volunteered for persons with disabilities as a mentor and coach for nearly 40 years. He can be reached at dawncarlson50@gmail.com.

Jamia Marcell received a B.S. degree in Business Administration from the University of La Verne in La Verne, California. She served as the Transition Specialist for the Transition to Independent Living Program at Taft College since 1997. She represents the TIL program at career fairs, transition conferences, and outreach activities. Jamia has over twenty years of work experience counseling individuals with disabilities and providing vocational guidance. She can be reached at JMarcell@taftcollege.edu.

Paula Williams received her A. A. degree in Liberal Arts and a Certificate in Direct Supports Education from Taft College. She has been employed by Taft College in the capacity of the Transition Specialist Assistant for the Transition to Independent Living Program since 2000. Paula's duties include data collection and tracking TIL graduates and assisting in preparing the annual graduates outcomes report. She volunteers for a number of causes, including Relay for Life and Best Buddies. She can be reached at PWilliams@taftcollege.edu.

Promoting Academic Engagement for College Students with Autism Spectrum Disorder

Barbara McKeon
Broome Street Academy

Carol S. Alpern
Dianne Zager
Pace University

Abstract

This paper discusses the characteristics of college students with Autism Spectrum Disorder (ASD), examines the results of a survey of college faculty with regard to their understanding and expectations of students with disabilities (including those on the spectrum), and presents suggested guidelines for facilitating access to the curriculum for all learners, including students with ASD. The article explores challenges faced by professors due to the increasing number of students with ASD entering college. Survey results provide a framework for discussion, followed by recommendations for enhancing student success for college students with ASD.

Keywords: Autism Spectrum Disorder, college students with disabilities, postsecondary education, inclusion

College students with autism spectrum disorders (ASD) often need supports that are above and beyond those typically available. Historically, colleges and universities have not offered sufficient supports to enable students with ASD to succeed academically. Today, with growing numbers of students with ASD and other significant learning differences entering colleges, the gap between the level of college support currently available and the needs of this rapidly increasing population continues to exist (Hart, Grigal, & Weir, 2010). Due to the increased number of students with ASD on college campuses, there is a critical need for effective college support services for young adults with autism (Stodden, Zager, & Hart, 2010: Wolf, Brown, & Bork, 2009. As more students with ASD continue to enter college, faculty will be faced with the responsibility of educating students with diverse learning challenges.

While the Americans with Disabilities Act does not require colleges to continue the K-12 mandate of ensuring student success, the 1978 amendments to the

Rehabilitation Act of 1973 do call for development of models at the postsecondary level to promote inclusion and foster full participation (Zager, Alpern, McKeon, Maxam, & Mulvey, 2013). This paper discusses the characteristics of college students with ASD, examines the results of a survey of college faculty with regard to their understanding and expectations of students on the spectrum, and presents suggested guidelines for engaging all learners, including those on the spectrum, in college classes. The authors' intent is to raise awareness of the needs of students with autism and related learning differences, as well to help guide faculty in engaging all learners.

Postsecondary education environments differ from secondary school environments in numerous ways. Briel and Getzel (2009) suggested that these differences include students having less focused time with their instructor, different expectations regarding independent work, and increased demands related to social and independent living skills. Such differences in the degree of required independence may lead to

difficulties for many students with ASD and intellectual disabilities (Wehmeyer & Patton, 2012).

To begin the process of providing faculty development to help college professors engage students with ASD and related learning challenges more fully in their courses, and to gain an understanding of faculty perceptions about individuals on the spectrum, the authors conducted a pilot survey of college faculty to learn about their experiences with students with learning differences. In order to effectively educate college professors so that they understand and appreciate the unique learning challenges associated with ASD and are able to employ classroom strategies to enable all students to succeed, the first step was to understand the shared experiences of the faculty. This study was supported through a grant from Autism Speaks. The intended outcome was to improve the knowledge base of college faculty, with the goal of enhancing academic success for college students with ASD.

Academic challenges of students with ASD commonly include (a) information processing difficulties, such as limited auditory comprehension especially when confronted with fast-paced language (Alpern & Zager, 2009); (b) poor ability to understand or apply abstract concepts (Bregman, 2005); (c) distractibility and short concentration span (Tsai, 2005); (d) weak organizational skills (Loveland & Tunali-Kotoski, 2005); (e) difficulty understanding subtle cues or body language (Klin, Volkmar, & Sparrow, 1992); (f) poor time management (Wolf et al., 2009); (g) hypersensitivity to particular sounds, smells, and lighting (Heflin & Alaimo, 2007); (h) self-regulation problems (Wetherby & Prizant, 2005); and (i) difficulty with theory of mind, such as understanding reasons for other people's actions (Klin et al., 1992). Specific techniques can be incorporated into inclusive college classes to increase engagement and active participation. It is within the professor's power to foster increased focus on classroom lessons, enable students to be valued contributors, differentiate presentations to reach a greater number of students, assign work that permits students to utilize their particular strengths to complete tasks, and administer tests in a manner that enables all students to demonstrate their level of competence in subject matter.

In summary, students with autism spectrum disorder and related learning challenges present unique and complex learning challenges for college faculty. In order to create a positive learning environment at the college level, it is critical to understand how faculty view these students and what strategies may prove helpful in engaging students with ASD in their classes. This study investigated the question, *What are the perceptions of college faculty toward students with learning differences?* By gathering information about professors' perceptions of students that exhibit learning and behavior challenges, opportunities for success at the postsecondary level may be enhanced.

Methods

Design and Administration

A preliminary survey of university faculty (Alpern, McKeon, & Zager, 2011) was constructed to better understand how students with ASD and other disabilities were viewed by their professors. Survey items were derived from a review of the literature, in which issues related to academic engagement of diverse learners were identified. Items were worded to elicit responses based on experiences in college classes. Qualitative and descriptive responses were studied to see if they were the same or different than the authors expected. The survey was intended as a first step for gathering information about the faculty's experiences with students with learning and behavior differences.

Content representativeness of the questionnaire design was guided by Mora's (2011) guidelines for writing attitudinal survey questions, which provide a basic framework for capturing salient elements of attitudes being examined. It is recommended that surveys use direct and universally understandable language, limit each statement to one concept, include items that are directly related to attitudes being measured, avoid generalizations and extreme positions, and balance the amount of negative and positive statements. Mora's guidelines were followed in development of the survey to ensure that items included in the instrument reflected the issues being studied so that key issues were examined.

Responses to this questionnaire were used to develop a training manual that would help professors deal with language and learning behaviors of this population. Since professors are not necessarily informed as to the nature of the students' disabilities or a specific diagnosis, the survey asked professors to respond to behaviors that they had observed in students with disabilities in general, not only ASD. The survey was designed to assess behaviors that might typically be seen in adolescents and adults with ASD. Based on a review of literature in the field (Adams, Green,

Gilchrist, & Cox, 2002; Bellon-Harn & Harn, 2006; Brinton, Robinson & Fujiki, 2004; Capps, Kehres, & Sigman, 1998) and on knowledge of the students in a campus program for high-functioning students with ASD, a survey of 17 behaviors that faculty might see in a classroom was developed. These behaviors were related to learning styles, verbal and non-verbal communication skills, and appropriateness of behavior in the classroom. The results of the complete survey can be found in Appendix A (Table A1 and Table A2).

Respondents were asked how frequently they observed a particular behavior and were given the option to respond either *Frequently, Occasionally, Never, or Not Applicable*. Results of this portion of the survey can be found in Table A1. The results of three additional items that questioned professors about adaptations to their teaching style that they had made to accommodate students' alternative learning styles are included in Table 2. They could respond either *Yes*, meaning that they had employed a particular teaching method, or *No*, they had not. Each item allowed the respondent to provide additional comments. The final question in the survey was an open-ended opportunity for additional comments.

The questionnaire was sent by Survey Monkey to faculty members at a private urban university. Rather than sample the faculty, due to the limited size of the faculty population pool, the entire full-time faculty on one campus, consisting of tenured and non-tenured research and clinical faculty was surveyed. Faculty rank information was not included in the survey to encourage more open responding through anonymity. While responders did not provide individual demographic information, institutional reports indicate that approximately 35% of faculty at the university is from minority and underrepresented groups. Of the 121 recipients, 69 completed the survey, representing a response rate of 57%. All percentages reported were calculated by Survey Monkey.

The questionnaire was constructed as the initial step in a funded project to develop a manual to help faculty at the university interact more successfully with students with ASD and other related disorders. An overall picture of faculty experiences with diverse learners was obtained that could guide development of a manual crafted for faculty at the university. As such, descriptive data were gathered related to types of interfering behaviors exhibited by students whom professors believed to have learning challenges. These data were examined to discern the most frequent types of challenges encountered, as reported by respondents, and also the most commonly employed supports that they provided.

Results

Professors' Perceptions of Students with Disabilities

Examination of results revealed that several behaviors were observed more frequently by professors than other behaviors. Between 38% and 58% of the professors' responses indicated that atypical behaviors occurred on occasion in the classroom. Furthermore, by combining the response categories of *Occasionally and Frequently* the percentage of respondents who indicated that they observed these behaviors increased to between 425 and almost 85%. There were only two behaviors that professors rated as Never seen at a higher percentage rate than the *Occasionally* category. These behaviors were demonstrating "Disrespectful language" and "Insensitive language and behavior." "Disrespectful language" was rated as *Never* observed by 52.2% of respondents and "Insensitive Language" was rated as Never observed by 46.4% of respondents. Behaviors that were most often reported as observed could be divided into two categories: Language and communication and executive function. These data support the perceptions that the behaviors listed in the survey represent a valid description of the kinds of communicative and behavioral challenges displayed by college students with ASD.

Language and communication. Frequently observed language and communication problems revolved around classroom discourse: difficulty with asking questions, answering questions, and going off topic in discussion. Professors noted that other students sometimes reacted with "sarcasm and fed-up facial expressions." Not all professors who responded to the survey perceived these behaviors negatively or expressed difficulty dealing with the problem, as indicated in the following two quotes: "Other students usually bring the discussion back on track, or I may suggest that the tangent is actually worth our exploring" and "This is not a bad thing, as it allows open discussion and thinking. I always corral them and return to the topic." Having difficulty understanding complex, nuanced information was also a frequently observed characteristic. Interestingly, several professors commented that this problem is characteristic of many of the students, not just those with disabilities.

Executive function. In the area of executive function, most frequently observed behaviors included distractibility, disorganization and/or poor time management, lack of impulse control, and unusual non-verbal behaviors (e.g. eye contact, fidgeting, posture, etc.). Examples of behaviors observed as described in the comments section included calling out in class, yelling at other students for sneezing or making noise, leaving class to answer the cell phone, and napping on the desk. Additionally, examples of difficulty with organization, attention, and comprehension were reflected in the following quotes from professors who responded to the comments section of the survey:

At the beginning of the semester, he showed poor time management in his labs. The student would only get 25% of the assignment done. But, with time...he did catch up and was able to keep pace with the other students.

Some students would ask questions that were plainly answered on the syllabus or online. They could not always comprehend what was assigned for that day's class despite multiple repetitions and the instructions being plainly listed online and in the syllabus.

An analysis of the professors' comments following each question and at the end of the survey offered additional information. Many professors indicated that their response applied to only one student in particular, not necessarily all students with disabilities that have been in their classes. Others indicated that they did not always know if the student had ASD or not. Another frequently made comment was that it was not just students with disabilities who demonstrated the problems described. There was a sense from a few respondents that many of today's students are disorganized and unprepared for the demands of college. One professor suggested that the inability to think critically "might be a hallmark of this generation." Many professors responded that having students with learning differences in their classes was a positive experience and that some outperformed the other students in the class.

Students with learning disabilities may be very bright, participate well, and in general, do well with the accommodated testing. The students certainly changed my stereotype of autistic people. I had always thought of them as somewhat remote,

un-related, un-responsive, etc. The two I had this semester were extremely friendly and related, to me and the other students. One is so connected that he has been hired as a freshman orientation leader. He will do a fine job. I think the support and tutorial services offered to the students are extremely helpful and important to them.

Professors' Teaching Strategies

The second part of the questionnaire asked professors if they had utilized the following supports for maximizing student access to the curriculum: adapting instructional styles and class activities; providing support for long-term assignments; allowing rewrites, first drafts, or other forms of writing supports; and/or providing extra opportunities for individual conferencing. Responses indicated that the majority of professors used these teaching strategies. Fifty percent reported adapted instructional styles, more than 66% provided support for long-term assignments and allowed re-writes; and 81% reported providing extra opportunities for individual conferencing. Professors reported implementing accommodations determined by the disabilities office such as extra time for exams, providing quiet places to take exams, and utilizing note-takers. Use of technology including Blackboard and on-line materials was also mentioned. One professor mentioned having students repeat directions back orally in one-on-one sessions, providing alternate assignments, and asking the student to let him/her know what the student felt would help. Responses such as the following were typical:

Although I haven't had any students with autism in the classroom, that I am aware of, I use a variety of teaching techniques- Power Point, group work, paired discussion, homework, Q & A, minute papers, etc. to reach different learners. I frequently help students with re-working their projects- not only for my classes. I provide extensive instructions on all major projects, including a grading rubric to guide their understanding. I keep an open, engaging classroom to keep interest levels up. I work with students on time management. Because I work with adults coming from work to class via public transportation or long commutes, I am not a stickler for timely arrival. And usually, most students are on time and those that are having delays notify me in advance. (Isn't texting great?)

One possible interpretation of the high percentage of professors utilizing teaching adaptations is that the research site is a very teaching-oriented campus. Numerous workshops are offered to faculty to refine instructional methods using technology and writing enhanced curricula. Syllabi are required to have learning outcomes and a clear statement of grading methodology. Student mentoring is encouraged. These results may not be typical of all university environments. Another interpretation may be that the faculty who responded to the survey were more attuned to the needs of students with disabilities. Others responded to questions by stating not what they had observed but with what they knew about ASD.

Discussion

Implications for Faculty Training

In spite of the apparent utilization of a variety of teaching methodologies, a number of respondents indicated that they would like more help with meeting the needs of these students through faculty training. They felt that not only would it be helpful to learn approaches to improve access to the curriculum but that knowing more about the individual student problems would be helpful as well. One respondent felt that accommodations did not always fit the curriculum, the course, or the students' needs. Another indicated that he or she had read about autism but needed "instruction in how to incorporate students with it into my classes." On a positive note many professors were anxious to "learn new ways of reaching students and helping them to achieve."

Based on results of the pilot survey, it can be concluded that training for both the students and the professors should focus on improved classroom strategies especially in the areas of organization, time management, classroom discussion, and appropriate behaviors. Support for language disabilities may also be required for some students based on difficulty asking and answering questions and comprehending abstract linguistic information. The types of learning activities described in this paper that help students with ASD are likely to benefit all students in the class (Rose, Harbour, Johnston, Daley, & Abarbanell, 2008). Specifically, in-class techniques can increase knowledge acquisition and increase learning by (a) presenting information to foster understanding, (b) differentiating activities and assignments to increase engagement, (c) designing group work to enable all students to be active participants, (d) directing students to focus on salient information, (e) helping students ask questions and communicate in class, (f) scaffolding instructional activities to enable students with information processing challenges to understand tasks, and (g) designing tests that provide opportunities for students to demonstrate their knowledge

Limitations

While this survey provided some important preliminary information about both the performance of students with disabilities such as ASD in the college classroom and professors' perceived abilities to respond to their language, learning, and behavioral challenges, there were some limitations to the amount and kind of information that this instrument could provide. Specifically, based on feedback from prior surveys at the university, it was determined that the time needed to complete the survey would be relatively brief so as not to discourage professors from responding. In so doing, the scope of and depth of items in the survey were at a pilot level, intended as an initial step in beginning to understand and support faculty at this one university, rather than to generalize to a wider range of universities. A future step will be to distribute a second survey with additional questions to a group of diverse universities, factor analyze the items and compare the obtained responses in order to identify perceptions and attitudes across universities.

It would be helpful if professors could identify their area of teaching expertise so that it could be determined if the responses were from a cross-section of disciplines rather than only areas where some knowledge of ASD might be expected, such as psychology or education. For example, do individuals from areas such as business or the arts respond differently from others? Secondly, an estimate of the number of students the respondents were basing their replies on would help to determine if the behaviors observed were typical of a smaller or larger sample of college students. It would also be useful to have a question that more specifically asks what the college professor needs in the way of support. Finally, while many professors report use of alternative teaching strategies, it would be informative to have a way to measure the effectiveness of these strategies from the students' point of view.

Recommendations for Practice

College professors have the opportunity to support

students with ASD by utilizing teaching methods that can increase accessibility. When working with young adults in a college setting, accessibility is often the challenge of both the student and the professor. As noted in the literature and in this study's results, college students with ASD face challenges to learning related to processing complex or nuanced language, developing and maintaining social relationships, organizing and managing time, communicating intent, taking listener perspective and being flexible to change. Despite these challenges, college faculty have many pedagogical tools at their disposal that may help minimize barriers created by students' learning and communication disorders.

Implications for College Classrooms

A number of barriers to providing accessible instruction to students with ASD can be ameliorated when their complicated executive functioning and communication needs are better understood and when strategies to improve access are applied. Executive function is a set of skills necessary to complete both simple and complex tasks of everyday life, such as getting to work on time, planning for the day or for future projects, and adapting or developing new approaches when plans change or initial attempts to achieve goals are unsuccessful.

As evidenced by the results of the faculty survey, more than 50% of respondents reported observing some degree of disorganization and/or poor time management in students with ASD. To function successfully in the academic setting one must be able to attend, initiate, and plan ahead. To do so requires organization of resources and time and the ability to generalize a set of skills to a variety of different situations. If a student is unable to control attention and/or distinguish relevant from irrelevant information as a result of executive functioning difficulties, he/she may have difficulty completing assigned tasks or comprehending instruction.

Limited executive functioning skills also contribute to disorganized communication, another area of difficulty reported by survey respondents. As demonstrated by responses to the survey and by research on language competence in adolescents and adults with ASD, (Alpern et al., 2011; Hewitt, 2011; Paul, Orlovski, Marchinko, & Volkmer, 2009), the ability to communicate succinctly, sequence spoken and written answers, engage in discourse, and ask/answer questions are significant challenges for many college

students with ASD. In the classroom, these students may respond off-topic, repeat what has already been said and/or communicate without providing enough context for the listener. Students with ASD may monopolize the discussion, call out in class, or have difficulty understanding alternative viewpoints. In the classroom, students with ASD often have difficulty sorting out background noise, a buzzing light, or another student talking in order to process the important lecture or discussion that is occurring. According to Zager et al. (2013) students with ASD may also have difficulty in classes that do not have an explicit organizational structure, require on-the-spot demand for responding or are fast-paced with multiple changes in content. College students with ASD experience challenges in time management, organization related to school work and daily life activities and sustaining focus for completing tasks both in and out of school. These students often are challenged by personal and/or social space conventions, leaving them at a disadvantage socially. It is not surprising then that a hallmark of ASD is limited social engagement.

Instructional Strategies

There are multiple options faculty members and other campus professionals can use to respond to the needs of students with ASD, such as embedding technology, modifying the physical environment, and adapting teaching styles. These approaches have the potential of increasing all students' access to the curriculum. Most postsecondary institutions have offices of disability services that offer student support and information to faculty. Students should be encouraged to communicate their individual needs to faculty prior to the beginning of the term. Professors can support students by identifying any instructional strategies they are willing to utilize to enhance that student's access to course content and activities. Students may benefit from using high and low tech strategies to facilitate organization and time management skills (Rose et al., 2008). Professors can organize their classroom, assignments and syllabi in ways that increase focus and improve comprehension for students with ASD (Iovannone, Dunlap, Huber, & Kincaid, 2003).

What follows are some strategies that offer the potential of increasing access for a wide range of learners, including students with ASD. Sample forms for implementing many of these strategies can be found in Appendix B.

1. Organizing the classroom

    - Use a portion of the first class to teach your specific organization (use of the white board, structure of the syllabus, etc.).
    - List in-class assignments on the same side of the white board each class day.
    - List homework/project assignments on the opposite side each class day.
    - If there are NO assignments for a given day, indicate that by writing NH.
    - If there are windows in your room determine if the light/sound is affecting students and modify.
    - Any changes in schedule should be announced ahead of time both verbally and in writing.
    - Written reminders on the board in a different color will enhance the recall of information.
    - Be clear on rule use in your classroom (verbally and in writing): what to call you, technology use, attendance, etc.

2. Organizing the lesson

    - Create a syllabus that is not text heavy (see Appendix B).
    - Give verbal and written reminders (daily or weekly) about what will be covered in class.
    - Provide a copy of lecture notes for review/preview purposes.
    - Use visual charts for homework and/or in-class assignments.
    - Inform students of online site use (e.g., Blackboard).
    - Begin the lesson with a preview statement ("Today we will be discussing…").
    - End each lesson with a review statement ("Today you discovered that…").
    - Break down complex assignments into smaller chunks.

3. Design hand-outs, exams, Power Point slides to increase focus

    - Review project due dates regularly.
    - Create exams in a style that is consistent with how information is presented in class.
    - Keep information on Powerpoint slides to a minimum. Use a font size that is large enough to be seen in the last row.
    - Use bold print and/or highlight important dates, information, etc.

4. Use visual organizers with explicit information

    - Compare/contrast charts to organize lecture notes.
    - Problem/solution charts to facilitate perspective taking and alternative viewpoints.

5. Provide frequent and varied assessment of performance to increase feedback

    - Give shorter, more frequent exams.
    - Use a variety of question types on each exam (multiple choice, essay, T/F, etc.).
    - Use rubrics as guidelines for grading and improvement.
    - Vary the type of assessment tool used (e.g., project based vs. oral assignment).

6. Promote collaboration and social engagement

    - Use group based learning.
    - Assign peer-buddies for in-class assignments.
    - Assign and define roles within the group.
    - Encourage information sharing using online resources.

Implications for Disability Service Providers

Disability service providers play an important role in increasing awareness for both professors and students in a college setting. It is critical that information about potential difficulties and possible supports be made available in a timely fashion to increase accessibility to the learning environment. As evidenced in the results of this survey and in the literature, communication, social skills, sensory differences, organizational, and coping skills are primary areas of concern for the student, professor and service provider in a college setting (Wolf et al., 2009). Disability service providers are encouraged to clearly discuss how classes are organized, the variable schedule of college, and increased expectations for independent functioning with students with ASD. Students and professors, with the help of service providers, would benefit from working together to determine which accommodations can help mitigate

the impact of the student's organizational difficulties. Environmental analysis can be performed by service providers to determine whether there are sensory factors that might impact a student's coping mechanisms (e.g., flickering lights, seat next to a distracting window). Information about these areas of need can be provided to faculty to enhance their understanding of environmental factors that can trigger students' anxiety (Harpur, Lawler & Fitzgerald, 2004).

Conclusion

It is evident that, as the numbers of students with ASD entering college continue to increase, they may often require supports that are typically beyond the current scope of university programs. Faculty who experience a growing number of students with diverse learning needs in their courses, including students with ASD, will benefit from information that expands their knowledge base and supports their use of accessible pedagogical practices. Suggested guidelines provided in this paper could support faculty who wish to adapt their teaching style, modify the learning environment, provide alternate means of instruction and assessment, and offer an engaging curriculum for all learners.

References

Adams, C., Green, J., Gilchrist, A., & Cox, A. (2002). Conversational behavior of children with asperger syndrome and conduct disorder. *Journal of Child Psychology and Psychiatry, 43*, 679-690. doi: 10.1111/1469-7610.00056

Alpern, C., McKeon, B., & Ramos-Perez, D. (November, 2011). *Assessing communication needs of college students with autism.* Paper presented at the annual meeting of the American Speech-Language and Hearing Association, San Diego, CA.

Alpern, C., & Zager, D. (2007). Addressing communication needs of students with autism in a college-based inclusion program. *Education and Training in Developmental Disabilities, 42*(4), 428-436.

Americans with Disabilities Act (1990). Pub. L. No. 101-336, 104 Stat. 328.

Bellon-Harn, M. L., & Harn, W. (2006). Profiles of social communicative competence in middle school children with Asperger syndrome: Two case studies. *Child Language Teaching and Therapy, 22*, 1-26. doi: 10.1191/0265659006ct295oa

Briel, L. W., & Getzel, E. E. (2009). Postsecondary options for students with autism. In P.Wehman,. M. M. Smith, & C. Schall (Eds.). *Transition for youth with autism* (pp. 189-207), Baltimore: Paul H. Brookes.

Bregman, J. (2005). Definitions and characteristics of the spectrum. In D. Zager (Ed.), A*utism spectrum disorders: Identification, education, & treatment* (3rd ed., pp. 3-46). Mahwah, NJ: Erlbaum.

Brinton, B., Robinson, L., & Fujiki, M. (2004). Description of a program for social language intervention: "If you can have a conversation, you can have a   relationship." Language, Speech and Hearing Services in the Schools, 35(3), 283-298.

Capps, L., Kehres, J., & Sigman, M. (1998). Conversational abilities among children with autism and children with developmental delays. *Autism, 2*, 325-344. doi: 10.1177/1362361398024002

Harpur, J., Lawler, M., & Fitzgerald, M. (2004). *Succeeding in college with Asperger Syndrome: A student guide.* Philadelphia: Jessica Kingsley Publishers.

Hart, D., Grigal, M., & Weir, C. (2010). Expanding the paradigm: Postsecondary education options for individuals with autism spectrum disorder and intellectual disabilities. *Focus on Autism and Other Developmental Disabilities, Supports and Services, 25*, 134 – 150.

Heflin, J. L., & Alaimo, D. F. (2007). *Students with autism spectrum disorders: Effective instructional practices.* Upper Saddle River, NJ: Pearson Merrill Prentice-Hall.

Hewitt, L. (2011). Perspectives on support needs of individuals with autism spectrum disorders. *Topics in Language Disorders, 31*, 273-285.

Iovannone, R., Dunlap, G., Huber, H., & Kincaid, D. (2003). Effective educational practices for students identified as having autism spectrum disorders. *Focus on Autism and Other Developmental Disabilities, 18*(3), 150-165

Klin, A., Volkmar, F. R., & Sparrow, S. S. (1992). Autistic social dysfunction: Some limitations of the theory of mind hypothesis. *Journal of Child Psychology and Psychiatry, 33*, 861-876.

Loveland, K .A., & Tunali-Kotoski, B. (2005). The school-age child with autistic spectrum disorder in F.R. Volkmar, R. Paul, A. Klin, & D. Cohen (eds.). *Handbook of autism and pervasive developmental disorders* (3rd ed.,Vol.1, pp. 247-287). Hoboken, NJ: John Wiley & Sons.

Mora, M. (2010). *Ten key things to consider when designing surveys.* Retrieved from http://www.surveygizmo.com/survey.

Paul, R., Orlovski, S. M., Marchinko, H. C., & Volkmer, R. (2009). Conversational behaviors in youth with high functioning ASD and Asperger syndrome. *Journal of Autism and Developmental Disorders, 39* (115-125).

Rehabilitation Act Amendments (1998). Pub. L. No. 105-220, 29 U.S.C. 705(11) et seq.

Rose, D. H., Harbour, W. S., Johnston, C. S., Daley, S. G., & Abarbanell, L. (2008). Universal design for learning in postsecondary education: Reflections on principles and their application. In S.E. Burgstahler & R.C. Cory (Eds.), *Universal design in higher education: From principles to practice.* Cambridge, MA: Harvard Education Press

Stodden, R., Zager, D., & Hart, D. (2010, April). *Postsecondary options for students with autism and intellectual disabilities.* Panel presentation at the annual meeting of the Council for Exceptional Children, Nashville, TN.

Tsai, L. (2005). Recent neurobiological research in autism. In D. Zager (Ed.), *Autism spectrum disorders: Identification, Education, & Treatmen*t (3rd ed., pp. 47-88). Mahwah, NJ: Erlbaum.

Wehmeyer, M. L., & Patton, J.R.D. (2012). Tranistion to postsecondary education, employment, and adult living. In D. Zager, M.L. Wehmeyer, & R.L. Simpson (Eds.). Educating students with autism spectrum disorders': Research-based principles and practices (pp. 247-261). New York: Routledge/Taylor & Francis.

Wetherby, A. M., & Prizant, B. M. (2005). Enhancing language and communication development in autism spectrum disorders. In D. Zager (Ed.), *Autism spectrum disorders: Identification, education, & treatment* (3rd ed., pp. 327-366). Mahwah, NJ: Erlbaum.

Wolf, L. E., Brown, J. T., & Bork, G. R. (2009). *Students with Asperger syndrome: A guide for college personnel.* Shawnee Mission, KA: Autism Asperger Publishing.

Zager, D., Alpern, C., McKeon, B., Maxam, S., & Mulvey, J. (2013) *Educating College Students with Autism Spectrum Disorders.* New York, NY: Routledge.

About the Authors

Barbara McKeon received her B.S. in Communication Science from Rutgers University, her M.S. degree in Communication Sciences & Disorders from The University of Vermont and is currently completing her doctoral studies at Seton Hall University. She holds the Certificate of Clinical Competence in Speech-Language Pathology from the American Speech-Language Association. Her career has focused on serving the needs of the most vulnerable populations. She has extensive experience working with students on the spectrum and is co-author of Educating College Students with Autism Spectrum Disorders. She is currently Head of School at Broome Street Academy, a high school for homeless and foster care children in New York City. Her research interests include transition for students with special needs at both the school and college levels. She can be reached by email at: bmckeon@broomestreetacademy.org

Dr. Carol Sober Alpern received her Ph.D. in Speech and Hearing Sciences from The Graduate Center of the City University of New York. She has the American Speech-Language Association Certificate of Clinical Competence in Speech-Language Pathology and is a Board Recognized Specialist in Child Language. Dr. Alpern is a professor and Program Director of Communication Sciences and Disorders at Pace University in the Department of Biology and Health Sciences. She can be reached at calpern@pace.edu.

Dianne Zager, received her B.S. in Special Education/ Psychology from Boston University, M.S. in Education from Boston University, and Ph.D. in Educational Research from Hofstra University. Dr. Zager has been a special educator for three decades as a teacher, administrator and professor. She was the founding director of one of the nation's first college support programs for students with autism spectrum disorders. Currently, she is the Michael C. Koffler Professor in Autism at Pace University and serves as Vice-President of the Council for Exceptional Children's Division on Autism and Developmental Disabilities. She may be reached at dazger@pace.edu.

Appendix A

Table A1

Results of Survey: Behaviors Observed

Behavior	Response Percent				Number of Comments
	Frequently	Occasionally	Never	No Response	
Difficulty learning from lecture format	10.7	56.2	9.1	24.0	21
Difficulty answering questions in class	21.7	58.0	14.5	5.8	10
Difficulty asking questions in class	20.3	55.1	18.8	5.8	8
Limited comprehension of abstract/complex nuanced information	29.0	58.0	4.3	8.7	8
Home assignments do not reflect in classroom learning	11.6	49.3	15.9	23.2	9
Difficulty working in groups	18.8	46.4	13.0	21.7	8
Difficulty understanding alternative points of view	17.4	50.7	17.4	14.5	6
Going off topic in discussions	29.0	43.5	14.5	13.0	8
Monopolizing class discussion	14.5	53.6	21.7	10.1	6
Lack of impulse control, e.g. calling out in class, leaving room suddenly	20.3	37.7	29.0	13.0	11
Unusual non-verbal behaviors, e.g. eye contact, fidgeting, posture, etc.	20.3	50.7	18.8	10.1	5
Distractibility	26.1	50.7	5.8	7.2	0
Chronic lateness or absence	18.8	46.4	29.0	5.8	8
Disorganization and/or poor time management	29.0	50.7	10.1	10.1	6
Disrespectful language or behavior	2.9	39.1	52.2	5.8	8
Insensitive language or behavior	2.9	44.9	46.4	5.8	4

Table A2

Results of Survey: Teaching Supports

Teaching Supports	Response Percent		Number of Comments
	Yes	No	
Adapting instructional style and class activities	53.1	46.9	24
Providing support for long term assignments	65.6	34.4	29
Allowing rewrites, first drafts, etc.	70.4	29.7	24
Extra opportunities for individual conferencing	81.3	18.8	27
Additional information			29

Appendix B

1. Organizing the Classroom

Monday
  Problems 1–5
  Page 17

Tuesday
  Problems 10–15
  Page 25

Wednesday   No homework
Thursday   Complete handout given in class
Friday   No homework

2. Organizing the Lesson
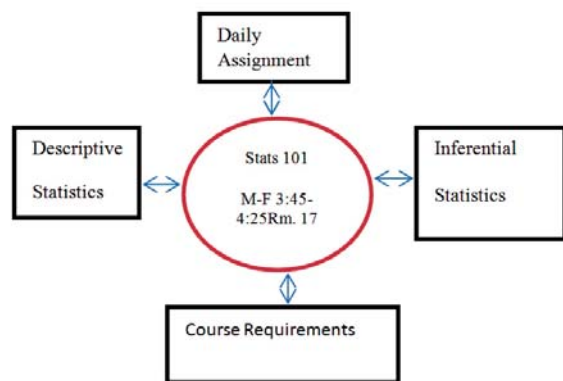
3. Design handouts, exams, PowerPoint slides to increase focus
   3a. Text heavy:
   Your team is responsible for preparing a 15-20 minute presentation each semester based on lecture topics.
   Each of you must speak for a minimum of 5 minutes. Refer to the syllabus for specific topic suggestions.
   In addition, an abstract describing the presentation is also required. Presentations will be graded based on
   the rubric attached to the syllabus distributed at the beginning of the semester.

   3b. Focused:
   Presentation Requirements:
   15-20 minutes in length. 5+minutes per person.
   Choose 1 topic from the following list.
   Submit a 1-page summary of your presentation.

4. Use visual organizers with explicit information

  4a. Visual Supports for Assignments

Week	Date of Class	Topis	Required Reading for Class

  4b. Compare / Contrast Chart

	TOPIC	TOPIC
Important Concept 1 Important Concept 2 Important Concept 3		

  4c. Problem Solution Chart

Problem	Who What Why
Solution	What was attempted
Results	How was it resolved?
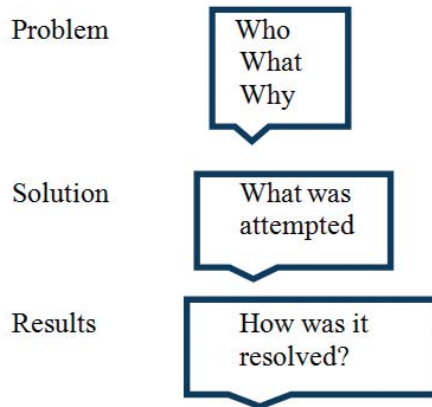
5. Provide frequent and varied assessment of performance to increase feedback

	Excellent	Competent	Needs Work
Knowledge / Understanding 20%			
Thinking / Inquiry 30%			
Communication 20%			
Use of Visual Aids 20%			
Presentation Skills 10%			

6. Promote collaboration and social engagement by assigning roles.

Facilitator:	Timekeeper:	Recorder:	Researcher:
• Moderates discussion • Ensures participation	• Sets agenda • Keeps members on task	• Takes notes • Prepares conclusion	• Acts as liason between group and instructor
Topic(s)	Time frame(s)	Facts / Concepts / Conclusions	Information Needed

Rethinking Social Network Assessment for Students with Intellectual Disabilities (ID) in Postsecondary Education

Laura T. Eisenman
Elizabeth Farley-Ripple
Mary Culnane
Brian Freedman
University of Delaware

Abstract

Social networks of persons with intellectual disabilities (ID) have been characterized as smaller and less diverse than those of typical peers. Advocates have focused on strengthening those social networks by expanding circles of social support, protection, and friendship. As young adults with ID experience increasing levels of community integration and move into new postsecondary education environments, the nature and potential functions of their social networks may shift. We describe the development and use of a social network instrument that is intended to capture an expanded view of social networks as structures influencing career opportunities. Using data from participants in our college program for students with ID, we then describe and illustrate how social network analyses can be used to examine individuals' social networks. Finally, we discuss lessons learned from our development process and implications for social network assessment and analysis with persons who have ID in postsecondary education.

Keywords: Social network analysis, intellectual disability, college, employment

The social networks of persons with intellectual disabilities (ID) have often been characterized as smaller and less diverse than those of typical peers. Due to a history of segregation across school, work, and community life domains, individuals with ID tended to have social networks that included relationships with relatively few people, and these were most likely to be family members, service professionals, and others with disabilities (Devlieger & Trach, 1999; Gotto, Calkins, Jackson, Walker, & Beckmann, 2010; Kennedy, Horner, & Newton, 1990; Rosen & Burchard, 1990). These network patterns sometimes persisted many years after moving from institutional to community settings (Forrester-Jones et al., 2006).

Disability advocates have been interested in the social networks of people with ID because of the influential assets that a network represents. From a social capital perspective (Bordieu, 1986; Putnam, 2000) the relationships within a network are resources that serve important social functions; both creating and constraining opportunity and action at individual and group levels. For persons with disabilities especially, social networks can have an empowering function by creating access to information and opportunities that would not otherwise be available to that person. Networks that create opportunities for inclusion and access to supports have the potential to improve the self-determination and quality of life of persons with ID (Eisenman & Celestin, 2012; Gotto et al.,2010; Trainor, 2008).

New Questions

As young persons with ID are now more often integrated into typical education, work, and social settings and develop higher expectations for their futures, it may be the case that the qualities of their social networks will differ from those observed in the

past. Likewise, the types of interventions and supports needed to facilitate their transitions to adult roles and relationships will change (Eisenman & Celestin, 2012; Trainor, 2008). This may be true especially of young adults with ID who participate in postsecondary education programs authorized by the Higher Education Opportunity Act (2008). The Act initiated five-year model demonstration projects called Transition and Postsecondary Programs for Students with Intellectual Disabilities (TPSIDs). The Act further created access to federal financial aid for students with ID who participate in approved Comprehensive Transition and Postsecondary Programs (CTPs). Programmatic requirements for TPSIDs and CTPs are closely aligned. Both must provide students with campus-based academic, social, and career opportunities that assist them to attain personal goals and lead to gainful employment. At least half of program components must be in integrated settings, and students must be included in typical activities to the extent possible (U.S. Department of Education, n.d., 2013). TPSIDs and CTPs are part of a larger movement to increase the number and variety of inclusive postsecondary education opportunities for students with intellectual disabilities (Grigal & Hart, 2009; Think College, 2013).

In order to qualify for a TPSID or CTP program, students must have been previously declared eligible for special education and exhibit significant cognitive and adaptive functioning deficits at the time of admission. Each TPSID or CTP program then has additional admission requirements based on the individual characteristics of that particular program. For example, the University of Delaware program (which was the subject of this pilot study), requires that students have functional communication skills, be able to manage their time independently for up to two hours in the community, and demonstrate an ability to self-monitor and self-manage behaviors in public settings.

Our University's model demonstration TPSID is a two-year, non-residential program located on the main campus, which is situated in a mid-sized suburban town with a student population of over 17,000 undergraduates and 3,500 graduate students. Students who complete the program earn a Career and Life Studies Certificate (CLSC) through the University's professional and continuing studies division. The program is supported by staff and faculty from the University's College of Education and Human Development. CLSC students have a full-time academic load comprised of core career and life studies modules, undergraduate courses, and internships. They also engage in activities on campus and in the local community. An important feature of the program is individualized coaching and mentoring to support attainment of their postsecondary education goals as identified through a person-centered planning process.

In the CLSC program, students have formal and informal opportunities to develop new relationships through activities with a variety of people. As part of our ongoing program evaluation, we wanted to know more about how participation in our program affected students' social networks. Drawing on earlier work on social-emotional supports within the networks of people with intellectual disabilities as well as studies of employment-related social networks, we developed and piloted an instrument to fit the purpose and goals of the CLSC program.

Early Focus on Social Supports

Efforts in the disability services field to enhance the networks of persons with disabilities focused primarily on expanding their networks through engagement in integrated community activities and strengthening social supports within their networks. Informal and formal interventions to expand circles of support, protection, inclusion, and friendship in the community all can be viewed as representing a concern for increasing the resources available to a person through a social network (Forrester-Jones, Jones, Heason, & Di'Terlizzi, 2004; Gotto et al, 2010; Kennedy et al., 1990; Newton, Horner, Ard, LeBaron, & Sappington, 1994; O'Brien & O'Brien, 2000). Although young adults with ID have unprecedented access to inclusive community activities, research on social networks of people with ID has continued to focus on expanding social supports within those environments and activities. For example, studies have found that peer mentors within postsecondary education programs for students with ID can serve important social support functions by acting as models of accepted social behavior and creating bridges to new social activities (Hafner et al., 2011; Jones & Goble, 2012).

Continuing along previous lines of thinking, we initially reviewed several self-report interview protocols that have been used with people with or without disabilities to assess various dimensions of their social networks in different life domains (Butterworth et al., 1993; Eisenman, 2007; Forrester-Jones & Broadhurst,

2007; Panacek & Dunlap, 2003; Tracy & Whittaker, 1990). These tools lend themselves to qualitative, individually-focused case descriptions, which could be adapted for a variety of purposes to inform individual- and program-level efforts. However, given the requirement that TPSIDs and CTPs should lead to gainful employment we wanted to sharpen the focus to assess specific features of social networks that have been associated with employment opportunities.

Social Networks and Employment of People with Disabilities

The research and practice literature on employment of persons with ID and other developmental disabilities has for some time noted that workplace social relationships are important assets that facilitate obtaining and maintaining employment (e.g., Butterworth, Hagner, Helm & Whelley, 2000; Chadsey & Shelden, 1998; Hagner & DiLeo, 1993; Szymanski & Parker, 1996). Professional providers of disability employment services are often viewed as a primary, formal mechanism for training and supporting persons with ID for employment success. Families and friends also influence employment opportunities and outcomes of persons with ID by shaping their career interests, using connections within their own networks to identify job opportunities, offering emotional and instrumental supports once employment is secured, and negotiating (or renegotiating) employment agency services based on their knowledge of a person's strengths and preferences (Donelly et al., 2010; Doren & Benz, 1998; Knox & Parmenter, 1993; Morningstar, 1997). However, studies of social networks and employment of people with or without disabilities suggest that additional employment opportunities will accrue to those who do not rely solely on formal employment services and strong ties such as family and friends (Carey, Potts, Bryen, & Shankar, 2004; Eisenman, 2007; Granovetter, 1995). Acquaintances (weak ties) are also important because they can serve as bridges to new information that is available only through others' social networks. Also, having connections to higher status networks or network members can create access to opportunities that can be used to improve one's employment situation.

Therefore, we decided to tailor previous social network assessments in ways that would capture students' relationships with a variety of individuals such as acquaintances, peers, and authorities who might ultimately serve as connectors to new employment op-

portunities. Ultimately, this would allow us to examine whether students were positioned through the college program to expand their networks in ways that have been found to improve employment outcomes. Doing so would extend the literature on social networks of people with intellectual disabilities by shifting the focus from social-emotional *supports* to examining network features most relevant to employment *opportunities*. Additionally, this work would provide basic descriptive information about the social networks of college students with intellectual disabilities, which is currently lacking in the postsecondary education literature.

In this preliminary study, our primary purpose was to pilot an instrument that would help us to establish (1) What students' social networks looked like when they entered the college program, and (2) How their networks changed while in the program. Major dimensions of interest included the distribution of relationships (i.e., with peers, authorities, and acquaintances who might serve as connectors to opportunities) and the integrated nature of their activities (i.e., engagement in inclusive versus separate situations).

Method

Participants

All CLSC students were invited to participate. Students who agreed to participate were interviewed at baseline (T1 program entry) about their experiences within the last year and at the end of their first year in the program (T2 approximately 9 months after baseline just prior to summer break). Although the study was considered exempt from human subjects' protocols required by the University's institutional review board, all students or a legal guardian, signed an informed consent prior to participating.

At the time of this study, network data were available from 12 of 13 students who entered the program at the beginning of our use of the protocol, with eight of those individuals providing data at both T1 and T2. Two students left the program before T2, and two students who did not participate at T1 decided to participate at T2. Table 1 summarizes demographic information for all twelve participants and the eight for whom we had T1 and T2 data.

Instrument & Data Collection

Development. As described above, we located several examples of social network assessments that

Table 1

Demographics at Entry: All Participants Compared to Those Providing Data at T1 and T2

Demographic	All Participants (*n*=12)	Participants with T1+T2 Data (*n*=8)
Age (Average)	20.4 years	20.0 years
Post-High School (Average)	1.6 years	2.5 years
High School Diploma	58 %	63 %
White, Non-Hispanic	83 %	100 %
Male	75 %	88 %
Autism	33 %	50 %

had been used with people who have intellectual or other disabilities. Based on these tools, we first created a semi-structured interview protocol that asked a student to identify people he or she considered to be important at school, work, community, and home. The student was then asked to name and briefly describe activities he or she did with these important individuals and the type of supports experienced. We piloted the assessment with a single student, an interviewer, and a recorder in a fishbowl arrangement with other evaluation team members as observers. We also wrote information on large, segmented poster sheets and sticky notes to provide cognitive anchors for the student as we worked across multiple life domains and people. We periodically stopped the interview to debrief with the staff and the student about clarity of questions and general administration procedures.

Based on that trial run, we revised and administered the interview protocol to other participants. We continued to ask about activities in which our students engaged and the people affiliated with those activities who they considered to be important. However, to streamline and focus the assessment process, we eliminated items that went into detailing the multiple types of supports that a student might perceive with each person in their network. Following the T1 administration, the evaluation team further refined the interview protocol to facilitate student responses and promote more efficient and consistent coding of responses when administered at T2. For example, we asked students to generate a list of activities by location before asking for information about people associated with the activities. This assisted participants to identify context-specific examples of their interactions.

Instrument content. The resulting social network assessment used in this study is in essence a structured qualitative interview that yields data suitable for social network analysis -- in particular, ego network analysis (further described below). Table 2 lists major subsections (dimensions) of the interview with sample guiding questions and related coding categories for *Activities* and *People*. Guiding questions, probes, and examples suggested in the protocol are adapted as needed to support understanding by the respondent. A copy of the full interview protocol is available from the first author.

Activities identified through the interview are coded by name and four unique dimensions: (1) where the activity takes place, (2) the purpose of the activity, (3) how often the student participates in the activity, and (4) degree of integration. Rules to code the integration dimension focus on understanding if the activity is designed especially for individuals with disabilities and if the activity occurs in an environment that is typical for persons who do not have disabilities ("inclusive" versus "specialized"). An activity is coded as hybrid if it is developed for individuals with disabilities but takes

Table 2

Data Collection Elements for Activities and People

Activity Name & ID	Activity Notes: *Provide general description of each activity (What kinds of things do you do during this activity?)*	Location: *Where does the activity take place?* (school/campus, community, home)	Frequency: *How often do you do this activity?* (weekly, monthly, occasional, annual)	Purpose: *Why do you do this activity?* (social academic, work)	Integration: *Is this activity especially for people with disabilities?* (inclusive, hybrid, specialized)
Person Name & ID	Connected Activity: (Activity Name & ID)	Gender: *Is this person male or female?*	Relation: *How do you describe you relationship with this person?* (family, caregiver, authority, peer, incidental)	Time Known: *How long have you known this person?* Just met (<1yr), few years (<4yrs), long time (5+yrs)	Help: *When you are doing this activity with this person, do you give/get more help from him/her or is it about equal? What does that help look like?* (student gives, equal, student gets) Closeness: *How close do you feel to this person?* (very close, sort of or not close)

place in typical environments; for example, job shadowing on campus with a paid coach. A work experience or internship on campus is considered inclusive because it is an experience that is available to typical students.

Students are asked to identify *People* they consider to be important who are associated with each activity. Students are prompted to provide the name of the individual and how they are linked to a previously defined activity. Then they are asked to describe each person on five dimensions: (1) how long they have known the individual, (2) the person's gender, (3) whether the individual is a family member, caregiver (e.g. group home staff, therapists), authority (e.g., teachers, bosses), peers (co-workers, friends, peer mentors), or incidental (e.g. someone known in passing), (4) the reciprocal nature of the relationship, and (5) how close they feel to the individual.

Protocol implementation. Interviewers trained in the social network interview protocol, data collection terms, definitions, and coding procedures worked in pairs to facilitate the pacing of the interview and to increase the likelihood of capturing the interview details. Most interviews were completed in less than 1.5 hours. Two interviews lasting longer than 1.5 hours total were split over two sessions.

Students were asked to identify only activities and people with whom they had been involved in the prior year. Prior to meeting with a student, interviewers reviewed the student's available records or previous interview data. If during the interview, students did not mention activities or people they had previously identified, the interviewer asked if they should be included again. During the interview, visual aids were used with some students to support making choices among response op-

tions. For example, when asked to describe the type of reciprocity with a particular person in a given activity, students were shown three index cards with one response option on each (e.g., You give help; Equal help; You get help). Students also were asked to describe examples of how they interacted with activities and people as a way to check for understanding and facilitate coding.

After the interview, data were checked for missing details and both interviewers filed a reflection on the interview, how the student reacted to the interview, and whether the student had any difficulties identifying or describing activities and people. If coding of a dimension was not clear at the time of the interview it was either determined later from other notes or the audio recording, or the first and third author discussed the item to reach consensus.

Analyses

To generate individual and program information from the data collected, we employed social network analysis (SNA), a set of quantitative methods used to explore social relationships through the lens of network theory. In the context of this project, we are concerned with a subset of SNA which examines ego networks. Ego network analysis is focused on how individuals – referred to as "egos" - are embedded in their own social networks. We were particularly interested in the composition of participants' ego networks at the start and end of their first program year, with specific emphasis on the types of individuals in the network and the nature of the activities in which they engage.

To illustrate the potential for social network analysis to further this field of study, we present exploratory analyses from our first cohort data set, focusing on size, density, and relationships dimensions of students' networks. Because of its importance to our program, we included description of the proportion of integrated activities in which students engaged, however data on this particular dimension must be interpreted cautiously. Information collected during the pilot (T1) was recoded when the protocol was refined, and the degree of integration in some instances could not be discerned if interview questioning did not elicit particular details that permitted distinguishing between "inclusive" and "hybrid". The analyses presented here are not intended to provide definitive results about program effects; rather we offer these analyses as an entry point into a line of inquiry into alternative ways to conceptualize and analyze students' networks in postsecondary education.

Data and software. The instrument developed as part of this project is a form of personal network research design (Halgin & Borgatti, 2012), in which individuals (egos) are surveyed about the people in their lives (referred to as "alters" in SNA). Our instrument specifically yielded data about (a) each ego's alter, (b) the nature of the relationship between each ego and alter, (c) the nature of activities in which the ego and alter are engaged together, and (d) characteristics of the alters. By virtue of collecting data about activities, we can also assess which alters have ties to each other through participation in the same activities with the ego, though we lack information about the nature of those relationships. Finally, we have ego demographic data collected as part of the program application process. These data were organized for analysis using software from Analytic Technologies, including E-Net (Borgatti, 2006), UCINet (Borgatti, Everett, & Freeman, 2002), and NetDraw (Borgatti, 2002).

Characteristics of ego networks. Basic measures of ego networks include size and density, and we include measures of the composition of networks as they are central to our research and program goals. Size is indicated by the total number of alters to which an ego is tied and is interpreted literally – the larger number of alters, the larger the network. Density is calculated as the percentage of all possible ties (between all members of a network) that are actually present in the network. More clearly, density helps us know the extent to which alters are connected. An ego with 0 density has connections to each alter, but no alters are connected. From a behavioral perspective, this means that an ego does one activity with one person, another activity with another person, and so on. A denser network would indicate an ego engages in an activity with a few alters, and then may engage in another activity with some of the same alters as well as new alters.

Composition can be measured as (a) a proportion of all ties made to alters of a particular type, or (b) through indices of heterogeneity. E-Net utilizes Blau's indexand Agresti's IQV to assess heterogeneity for categorical variables – more common for our research questions. Both measures range from 0 to 1, with values closer to one indicating greater degrees of heterogeneity (see Harrison & Klein, 2007 and Agresti & Agresti, 1977 for information on how these figures are calculated). E-Net uses standard deviation for continuous variable (e.g. age), but our data do not include any continuous characteristics of alters.

Results

To answer our first research question, characteristics of the ego networks for participants at T1 are presented in Table 2, with composition illustrated using the "relation" characteristic of alters and "integrated" nature of activities, as described above. At the start of the program, this cohort had an average of 22 members in their network, more than a third of which were authorities, and with families/caregiviers and peers each constituting nearly 30% of the network. On average, nearly half of activities were integrated, in comparison to an average of 20% of activities being specialized. While the cohort averages help us to answer the research question, these data also show a large range for size, density, and composition indicating diversity in participants' networks at entry. Note here that larger networks are not necessarily more diverse or denser than small networks. In fact, size, density, and composition can vary independently. For example, participants G and F have much larger networks than others, but size does not help us to understand the quality of the network. H has the densest network, which indicates he or she engages in some activities with several alters, but the network is dominated by authority figures and is less heterogeneous than peers' networks.

Figure 1 presents two example ego networks (participants D and F) as illustrations of varied characteristics. In these figures the ego is at the center (in black), and alters (in gray) are indicated by node shapes: Squares indicate family/caregiver, triangles indicate authority figures, and circles indicate peers. With the egos at the center, lines – or ties – stretch outward like a star, illustrating the connection to the other actors in the network; where they exist, ties between the other actors create additional lines that make the networks more complex and indicate greater density. The figure offers an alternative view of statistical differences presented in Table 3.

Our second research question focused on change in networks as an outcome of the program. One purpose of TPSIDs is to assist individuals with ID in developing networks likely to result in meaningful employment. Thus, we are interested in creating productive changes in participants' networks. This can be assessed in a number of ways. First we can compare network statistics at T1 to T2, where change can be measured simply by subtracting T1 statistics from T2 statistics to establish the difference (growth or loss). Table 4 presents statistics for the eight participants with data at both T1 and T2. On average, participants' networks shrunk in size by five members but increased in density by eight ties. Further, on average, the role of families/caregivers decreased while peers and authorities became more influential. Lastly, specialized activities decreased as a proportion of all activities, while integrated activities grew substantially.

However, like the results of our first research question, Table 4 illustrates a wide range of change between T1 and T2, with both increases and decreases in network characteristics varying by case. Additionally, no one statistic alone tells the story for these participants. Many students experienced shrinking networks, yet some of the smaller networks are much denser than previously. Most consistently we see a shrinking in the percent of the network considered to be family, and a growth in the proportion that consists of peers. An effect of this type of change is a decrease in the measures of heterogeneity, which if interpreted alone, may be considered a negative outcome. Thus an analysis of multiple variables over time is useful in understanding the complexity of participant's networks.

Figures 2a and 2b illustrate the changes in participants D and F. The figures show the change in composition in F's ego network quantified in Table 4, previously dominated with triangles (authorities) and now dominated with circles (peers). We can also see an increase in the alter-to-alter ties for D, which produces the increase in density in Table 4.

A second type of longitudinal analysis is the concept of tie churn (Halgin & Borgatti, 2012) a specific aspect of network change related to stability. Tie churn measures include the number of ties kept, ties lost, and new ties. An analysis of participants' tie churn is presented in Table 5 and is significantly different information than that captured in Table 4. For instance, participant A seems to have a stable network size – changing only by 4 alters; yet an examination of tie churn shows nearly all the original alters were replaced, suggesting a radical change in the student's ego network.

Discussion

Young adults with ID often have more limited social networks, which consist largely of family and professional support staff. However, increased opportunities for community inclusion, including par-

Table 3

Characteristics of Participants' Ego Networks at T1

ID	Basic		Relationship						Nature of Activity					
	Size	Density	Family/ Caregiver	Authority	Peer	Incidental	Blau	IQV	Integrated	Hybrid	Specialized	N/A	Blau	IQV
A	19	8.19	15.8	10.5	26.3	47.4	0.67	0.89	84.2	0	0	15.8	0.27	0.53
B	10	4.44	63.6	36.4	0	0	0.46	0.93	27.3	0	27.3	45.5	0.65	0.97
C	10	8.89	27.3	18.2	54.5	0	0.60	0.89	36.4	9.1	27.3	27.3	0.70	0.93
D	11	1.82	18.2	18.2	63.6	0	0.53	0.79	18.2	9.1	27.3	45.5	0.68	0.90
E	15	4.76	43.5	13	39.1	4.3	0.64	0.85	26.1	4.3	21.7	47.8	0.68	0.90
F	46	10.34	13	65.2	21.7	0	0.51	0.77	54.3	0	30.4	15.2	0.59	0.88
G	52	7.62	17.9	62.5	19.6	0	0.55	0.74	25	1.8	46.4	26.8	0.65	0.87
H	23	17.79	20.8	54.2	16.7	4.2	0.63	0.79	37.5	0	0	62.5	0.47	0.94
I*	14	9.89	52.6	36.8	10.5	0	0.58	0.86	100	0	0	0	0	0
J*	17	3.68	26.3	42.1	31.6	0	0.65	0.98	47.4	0	15.8	36.8	0.62	0.92
Mean	21.7	7.74	29.9	35.71	28.36	5.59	.58	.85	45.6	2.4	19.6	32.3	.53	.78
(SD)	(14.3)	(4.3)	(16.4)	(19.3)	(18.5)	(14.0)	(.06)	(.07)	(25.6)	(3.6)	(14.8)	(17.8)	(.21)	(.29)

Notes: * Data available for T1 only. N/A = could not be determined

Table 4

Change in the Characteristics of Participants' Ego Networks (T2-T1)

ID	Basic			Relationship						Nature of Activity					
	Size	Density	Family/Caregiver	Authority	Peer	Incidental	Blau	IQV	Integrated	Hybrid	Specialized	N/A	Blau	IQV
A	-4	10.86	-15.80	2.80	20.40	-7.40	-0.07	0.01	9.10	0.00	0.00	-9.10	-0.14	-0.28
B	-5	15.56	-63.60	63.60	0.00	0.00	-0.46	-0.93	52.70	0.00	-7.30	-45.50	-0.33	-0.33
C	8	10.07	-11.90	-2.80	14.70	0.00	-0.12	-0.18	9.80	-5.30	11.20	-15.80	-0.07	-0.09
D	2	5.87	-10.50	-2.80	5.60	7.70	-0.04	-0.15	20.30	14.00	-27.30	-7.00	-0.03	0.07
E	5	6.29	-26.10	8.70	21.80	-4.30	-0.09	-0.02	8.70	21.80	0.00	-30.40	0.06	0.08
F	-11	8.49	-13.00	-39.60	52.70	0.00	-0.13	0.00	40.60	0.00	-27.80	-12.60	-0.49	-0.74
G	-30	15.37	-17.90	7.10	10.80	0.00	-0.13	0.11	70.70	-1.80	-46.40	-22.50	-0.57	-0.70
H	-4	-5.51	-10.80	20.80	-6.70	0.80	-0.22	-0.24	12.50	0.00	25.00	-37.50	0.16	0.00
Mean	-5	8.02	-21.97	7.86	14.13	0.60	-0.17	-0.20	30.76	4.10	-10.37	-24.47	-0.18	-0.24
SD	11.07	6.25	16.73	26.87	16.95	4.06	0.13	0.30	22.23	8.66	21.84	13.13	0.24	0.30

Figure 1a. Ego Network for Participant F at T1, with Nodes Indicating Relationship.
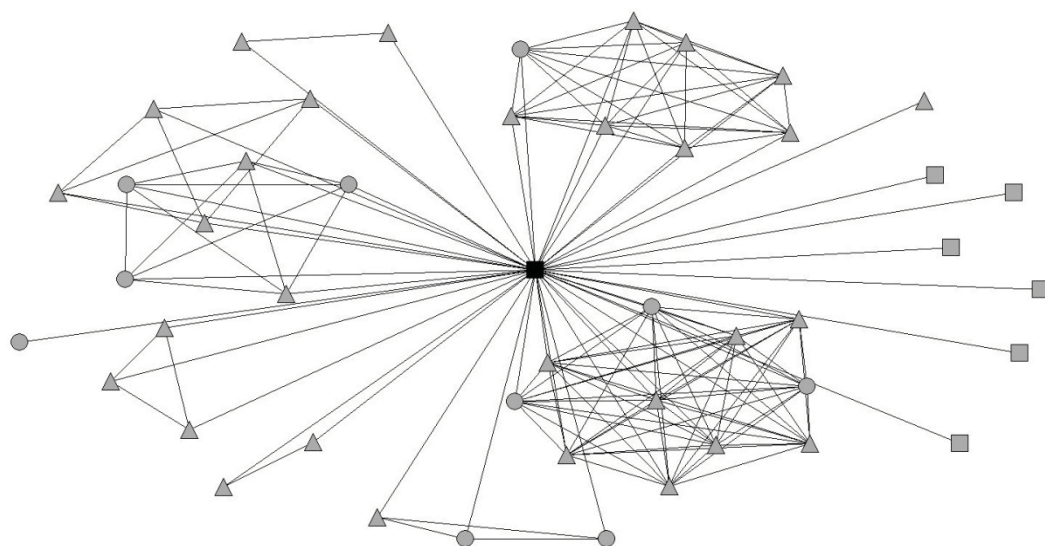
Figure 1b. Ego Network for Participant D at T1, with Nodes Indicating Relationship.
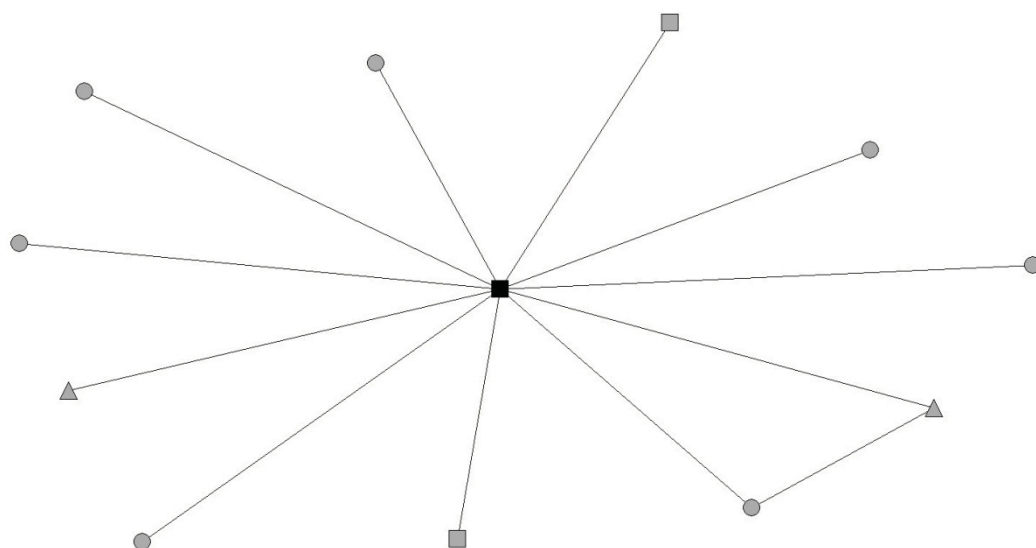
Figure 2a. Ego Network Change for Participant F, with Nodes Indicating Relationship.
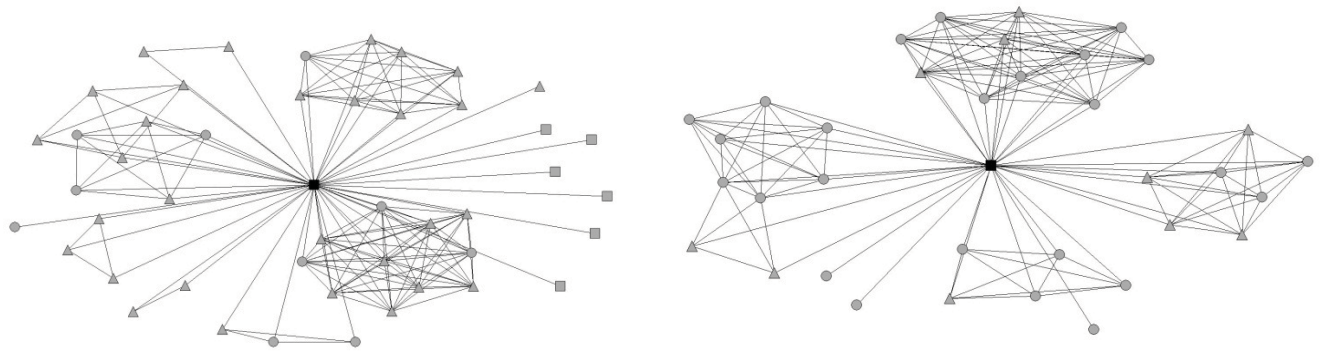

Figure 2b. Ego Network Change for Participant D, with Nodes Indicating Relationship.
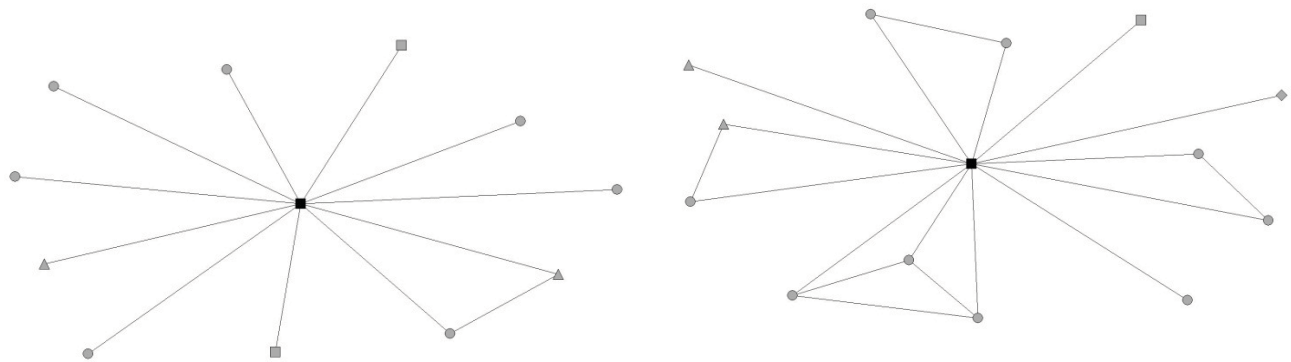
Table 5

Measures of Participants' Tie Churn between T1 and T2

ID	T1Size	T2Size	NewTies	LostTies	KeptTies
A	19	15	15	19	0
B	10	6	4	8	2
C	10	18	14	6	4
D	11	13	12	10	1
E	15	20	15	10	5
F	46	35	25	36	10
G	52	22	18	48	4
H	23	19	14	18	5

ticipation in postsecondary education, may create new opportunities for individuals to expand these networks. While research on social networks for people with ID has historically focused on its relation to general support, social network research for other groups have shown a strong relationship between social networks and employment (Rios-Aguilar & Deil-Amen, 2012). As new initiatives promote increased opportunities for people with ID to pursue higher education, social network assessment may be useful for understanding the capacity for participation in these programs to impact future employment. The purpose of this study was to develop and pilot an assessment for measuring social networks of individuals with ID in a postsecondary education program. An exploratory analysis was conducted in which networks of individual students were examined and network change over time was observed.

Participants exhibited significant variability in the size, density, and quality of their networks. However, most students appeared to rely heavily on families and caregivers overall, particularly upon entering college, which is consistent with previous research (Gotto et al., 2010; Mcvilly, Stancliffe, Parmenter & Burton-Smith, 2006). Those individuals who had larger or more dense networks typically relied heavily on authority figures (e.g., teachers) as well. For students with these types of networks, postsecondary education programs can be especially beneficial, as they place an emphasis on learning and connecting with a variety of individuals through a variety of activities (academic coursework,

internship, etc.). Through these connections, students may then be able to successfully work through their connections in order to successfully find employment post-college.

In fact, participants did experience changes in their social network over time during one year of participation in postsecondary education. Interestingly, several social networks shrunk in size and we do not necessarily interpret this as a negative change. Many individuals experienced a decrease in the relative percentage of network members who were family. Meanwhile, there was an overall increase in the relative proportion of network members who were peers. These changes make sense when you consider that a focus of our program is increasing self-determination and independence. So, while this will mean that students are relying less on their family, they may also be involved with fewer activities, since students are only pursuing those activities in which they are truly invested. Other students in the pilot exhibited similar looking networks in terms of size and shape over time; however the people in their networks changed drastically. These changes may represent students who became less connected over time with members of their network that were exclusive to high school but then "replaced" these individuals with new connections in college. This represents a change from many individuals with ID who graduate from high school and have difficulty "replacing" their high school connections with new connections (Eisenman, Tanverdi, Perrington, & Geiman, 2009; McVilly et al., 2006).

Change in networks over time may represent an important variable that postsecondary education programs for people with ID might consider focusing on when describing outcomes. Certainly one standard measure of success for these programs would be students' employment rate post-college. However, extenuating circumstances (e.g., employer bias against hiring individuals with ID) may make finding employment challenging. Postsecondary education programs offer the opportunity to pursue greater academic experiences, explore potential careers, and connect with peers who have similar interests in an inclusive community. Therefore, consideration of social networks as a potential outcome variable would seem to be a good fit for the purpose of these programs.

Social network analysis and representation, such as those presented in Table 3 and Figure 1, are useful for a number of reasons. They help program staff understand the participants in the program as they enter, which can lead to the development of individualized activities for that student. For example, social network assessment can lead to recommendations on how the student could expand their network in meaningful ways (e.g., through a student organization that's associated with a student's career goal). The visual presentations offered also tend to be effective ways of communicating social network data with a broader audience, including program participants. For example, if explicit instruction about network development is incorporated into program activities, visual displays may help participants understand the nature of their own network. Lastly, the characteristics of ego networks at T1 represent baseline information which can be compared to future networks in order to measure change.

Challenges and Next Steps in Protocol Development

The protocol as piloted accomplished the overall purpose of capturing information about activities and important people with whom students had interacted in the prior year and the dimensions of interest. The large majority of students were able to complete the protocol in the amount of time allotted and all students appeared comfortable with the nature of the questions and the method of delivery. Students also appeared to understand the questions and could respond to them with little additional explanation.

A great difficulty for some students occurred when categorizing people on the closeness dimension. Initially, we offered three response options: "very close",

"sort of close" and "not close". Some students seemed inclined to identify almost everyone in their network as "very close" because they perceived them as "friends." They also had difficulty establishing a meaningful difference between "sort of close" and "not close". Because we were most interested in determining to what degree students' networks consisted of those not considered "very close", we eventually collapsed the "sort of close" and "not close" categories.

Later coding of the activities and individuals with whom a student was connected was supported by careful questioning in order to discern important details and capture the students' perspectives. For example organizations or groups that serve as umbrella organizations could be listed as a single activity (e.g., Best Buddies) or multiple activities (e.g., Best Buddies group events). Therefore, additional questioning was occasionally needed to tease out the various types of activities and people involved. We also encountered examples of students participating in activities that had no associated "important" people, which we accepted as an indicator of the student being present but having limited engagement with others. Students also sometimes identified a "group" of people as important rather than an individual. We accepted this response and attempted to code dimensions based on students' perceptions of the group. This necessitated adding "mixed" as a code for some categories such as time known and gender. Sometimes students could not remember names of individuals. This was then recorded with a generic title (e.g., "Friend 1"); however, unless additional personal descriptors were noted, it became difficult to discern across activities and time points whether or not the same friend was being discussed.

Another challenge for some students was the length of the interview. Two interviews took more than the allocated time and had to be resumed at a second session. In such cases, it was difficult to know if the length of the interview and the possible fatigue of the student affected the quality of the responses. Some students have long lists of activities and associated important people. Given the extended time it can take to gather descriptions of all activities and people, this prompted us to consider whether it was acceptable to gather details only about aspects of the network of particular interest (e.g., integrated activities; acquaintances, peers, authorities). However, making those distinctions often depended on probing for details during the interview anyway. Ways to streamline the interview

while supporting valid responses and coding need to be further explored. Briefer protocols have been used with typically-developing populations in examining the connection between social networks and employment which may offer suggestions on next steps in transforming our protocol (Erickson, 2003).

Future Directions for Analysis

The analyses presented in this study represent illustrations of the types of information that can be gleaned from social network analysis. In this analysis, we focused largely on the composition of networks in terms of relationships and integrated activities. Yet the analysis can extend far beyond this, particularly with a larger sample.

Analysis of networks and network growth by ego characteristic. There are theoretical and practical reasons to believe that students' networks would vary by certain demographic or disability characteristics, or by other measures of attitudes and behavior. For example, particular disability types (e.g., autism) may be associated with different types of social networks due to the inherent nature of the disability. In addition, students who attend a postsecondary education program directly from high school may begin with different social networks than those who have been out of high school for some time.

Analysis of particular types of networks. Our emphasis here has been on the composition of participants' ego networks as a whole, considering all ties to be ties of interest. However, similar analyses can be conducted of particular types of relations – such as an examination of work networks or social/peer networks. Further comparisons can also be made: are participants more likely to engage in integrated activities with members of their work network, academic network or their social network? In predicting long term outcomes, such as employment success, such analyses may reveal differential impact of varied types of relations.

Longitudinal analyses. Changes over time in network characteristics or tie churn are useful for programmatic and research purposes. Findings can be useful in assessing the effectiveness of the program, either summatively or formatively. Specifically, network analyses can indicate whether the program is successful in engendering the types of changes envisioned during development and implementation. Does participation in integrated activities increase? Do participants leave with connections to authority figures positioned to help

them find jobs? Do participants sustain these types of productive networks over time? This information can be used formatively as well, to identify any needed improvements in program planning.

Implications: Use with Individuals

Active discussion of social networks can be valuable in supporting individuals with ID to develop relationships, understand how their contacts are interconnected, and ensure that they are developing a network that is in line with their goals (Carey et al., 2004). Given the growing number of students with ID enrolled in higher education (Grigal & Hart, 2009), disability support professionals in higher education may end up supporting individuals with ID in some capacity. These professionals are in a unique position to have a positive impact on the development of a student's network, particularly as it relates to supporting the student to identify and connect with faculty or other staff and students on their campus who may have similar career interests.

Eisenman & Celestin (2012) offer some exercises that may be useful in supporting students to gain greater awareness of, capitalize on and improve their social network. For example, students can examine which goals their network appears to be supporting them in working toward, as well as which goals are not represented within their network. Attaining this self-awareness is critical, after which students could be supported on strategically expanding their network.

Many students with ID also tend to have difficulty differentiating between different types of relationships in their network. However, the nature of relationships with family, professional staff and colleagues each carry specific boundaries and capacity for reaching goals and expanding the student's network. Social network discussion can be useful for supporting greater understanding of these differences.

Finally, an examination of social networks can facilitate a discussion about membership to groups outside of family and the relationships students have with support professionals. While families and support staff are critical, a network which is solely reliant on these individuals can be very limiting and potentially isolative. Once new groups and potential links to those groups are identified, students should also be encouraged to consider which supports they will need in order to be successful in that setting, as well as how to best seek out this support. Stronger overall connections may

facilitate more natural supports being created within those environments (Garrison-Wade & Lehmann, 2009; Getzel & Thoma, 2008; Storey, 2003).

Implications: Program Evaluation

Social network maps may offer a useful tool for evaluating overall effectiveness and value of programs such as TPSIDs. These maps can be used across students and cohorts in order to evaluate the impact of program engagement. Furthermore, a program might be evaluated with respect to its capacity for developing students' social networks and, in turn, improving employment outcomes. Similarly, social network maps may be used in order to discern those students who may be in a better position to succeed in a college program like a TPSID, perhaps regardless of type and level of severity of disability.

Alternatively, social networks may be an interesting variable to consider using to compare between different TPSID programs, since individual features of a program may have implications for the way in which students' social networks change over time. For example, a residential program in which students live in the dorms would be expected to generate a different social network than a non-residential program. Furthermore, a program that offers internship placements at a variety of sites may result in different social networks than programs which focus students' time in one particular worksite.

Next Steps and Future Research

In order to further an understanding of social network analysis, as well as examine its utility for young adults with ID, additional steps should be considered. First, continued validation of instruments measuring social networks for people with ID, such as the one presented in this paper, should be undertaken. This may require trials in which the assessment is conducted with a support person present or, perhaps in the context of a program activity, have the student present their social network to others who are close to them as a "check" on accuracy. However, any validation process should include careful consideration and discussion with the student about who may participate, in order to avoid the potential for biased responses from the student.

Social network analysis offers a variety of paths for future research, since little is known about the composition of social networks among students with intellectual disabilities attending college. Future research might examine how networks from this population compare to students with intellectual disabilities participating in other types of transition programs. Furthermore, comparisons between the networks of students with ID, other students with disabilities, and typical-developing students attending college may yield important information about the development and utility of social networks as well as programs like TPSIDs.

Most importantly, future investigation may examine how social network analysis can serve as a predictor of employment. Such analyses could include examination of static characteristics of networks (e.g. do participants with a greater proportion of integrated activities find employment sooner than peers with less integrated networks?) and dynamic measures of changes (e.g. do participants' experiencing significant change in their network over time have greater odds of being employed?). If in fact a strong connection is found, it would have important implications for future policy and funding of such programs, as well as in determining best practice models.

References

Agresti, A., & Agresti, B. (1977). Statistical analysis of qualitative variation. In K.F. Schuessler (Ed.), *Sociological methodology 1978* (pp. 204-237). San Francisco: Jossey-Bass.

Borgatti, S. P. (2002). *NetDraw: Graph visualization software.* Harvard: Analytic Technologies.

Borgatti, S. P. (2006). E-NET software for the analysis of ego-network data. Needham, MA: AnalyticTechnologies. https://sites.google.com/site/enetsoftware1/

Borgatti, S. P., Everett, M. G., & Freeman, L. C. (2002). *UCINet for windows: software for social network analysis*. Harvard, MA: Analytic Technologies.

Bourdieu, P. (1986). The forms of capital. In J. Richardson (Ed.), *Handbook of theory and research for the sociology of education* (pp. 241-258). New York: Greenwood.

Butterworth, J., Hagner, D., Heikkinen, B., Faris, S., DeMello, S., & McDonough, K. (1993). Social network interview guide. In *Whole life planning: A guide for organizers and facilitators.* Boston: University of Massachusetts, Institute for Community Inclusion.

Butterworth, J., Hagner, D., Helm, D. T., & Whelley, T. A. (2000). Workplace culture, social interactions, and supports for transition-age young adults. *Mental Retardation, 38*(4), 342-353.

Carey, A., Potts, B., Bryen, D., & Shankar, J. (2004) Networking towards employment: Experiences of people who use augmentative and alternative communication. *Research and Practice for Persons with Severe Disabilities, 29*(1), 40-52.

Chadsey, J., & Shelden, D. (1998). Moving toward social inclusion in employment and postsecondary school settings. In F. Rusch & J. Chadsey (Eds) *Beyond High School: Transition from School to Work* (pp. 406-437). Belmont CA: Wadsworth.

Devlieger, P., & Trach, J. (1999). Mediation as a transition process: The impact on postschool employment outcomes. *Exceptional Children, 65* (4), 507-523.

Donelly, M., Hillman, A., Stancliffe, R. J., Knox, M., Whitaker, L., & Parmenter, T. R. (2010). The role of informal networks in providing effective work opportunities for people with an intellectual disability. *Work, 36*, 227–237. DOI 10.3233/WOR-2010-1023

Doren, B., & Benz, M. (1998). Employment inequality revisited: Predictors of better employment outcomes for young women with disabilities in transition. *Journal of Special Education, 31*, 425–442.

Eisenman, L. T. (2007). Social networks and careers of young adults with intellectual disabilities. *Intellectual and Developmental Disabilities, 45*(3), 199–208.

Eisenman, L. T., & Celestin, S. (2012). Social Skills, supports, and networks in adolescent transition education. In M. Wehmeyer & K. Webb (Eds.) *Handbook of adolescent transition education for youth with disabilities.* New York: Routledge.

Eisenman, L. T., Tanverdi, A., Perrington, C., & Geiman, A. (2009). Community and social activities of youth with significant intellectual disabilities. *Education and Training in Developmental Disabilities, 44,* 168-176.

Erickson, B. (2003). Social networks: The value of variety. *Contexts, 2*(1), 25-31. Retrieved from http://www.asanet.org/images/members/docs/pdf/featured/erickson.pdf.

Forrester-Jones, R., Jones, S., Heason, S. & Di'Terlizzi, M. (2004). Supported employment: A route to social networks. *Journal of Applied Research in Intellectual Disabilities, 17,* 199–208.

Forrester-Jones, R., Carpenter, J., Coolen-Schrijner, P., Cambridge, P., Tate, A., Beecham, J., &Wooff, D. (2006). The social networks of people with intellectual disability living in the community 12 years after resettlement from long-stay hospitals. *Journal of Applied Research in Intellectual Disabilities, 19*, 285–295.

Forrester-Jones, R., & Broadhurst, S. (2007). Moving on. In *Autism and Loss* (pp. 81-89). London: Jessica Kingsley.

Garrison-Wade, D. F., & Lehmann, J. P. (2009). A conceptual framework for understanding students' with disabilities transition to community college. *Community College Journal of Research and Practice, 33*(5), 417-445.

Getzel, E., & Thoma, C. (2008). Experiences of college students with disabilities and the importance of self-determination in higher education settings. *Career Development for Exceptional Individuals, 31*(2), 77-84.

Gotto, G., Calkins, C., Jackson, L., Walker, H., & Beckmann, C. (2010). *Accessing Social Capital: Implications for Persons with Disabilities.* National Gateway to Self-Determination, Association of University Centers on Disabilities. Available at http://www.aucd.org/ngsd

Granovetter, M. (1995). *Getting a Job: A Study of Contacts and Careers*, (2nd ed.). Chicago: University of Chicago Press.

Grigal, M., & Hart, D. (2009). *Think college! Postsecondary education options for students with intellectual disabilities.* Baltimore: Paul H. Brookes Publishing Company.

Hagner, D., & DiLeo, D. (1993). *Working together: Workplace culture, supported employment, and persons with disabilities.* Cambridge MA: Brookline Books.

Hafner, D., Moffatt, C., & Nutullah, K. (2011). Cutting-Edge: Integrating students with intellectual and developmental disabilities into a 4-year liberal arts college. *Career Development for Exceptional Individuals, 34*(1), 18-30.

Halgin, D.S., & Borgatti, S.P. (2012). An introduction to personal network analysis and tie churn statistics using E-NET. *Connections, 32*(1), 37-48.

Harrison, D., & Klein, K., (2007). What's the difference? Diversity construct as separation, variety, or disparity in organizations. *The Academy of Management Review 32*(4), 1199-1228.

Higher Education Opportunity Act of 2008, Pub. L. No. 110-315 § 122 STAT. 3078 (2008).

Jones, M., & Goble, Z. (2012). Creating effective mentoring partnerships for students with intellectual disabilities on campus. *Journal of Policy and Practice in Intellectual Disabilities, 9*(4), 270–278.

Kennedy, C., Horner, R., & Newton, J. (1990). The social networks and activity patterns of adults with severe disabilities: A correlational analysis. *The Journal of the Association for Persons with Severe Disabilities, 15*(2), 86-90.

Knox, M., & Parmenter, T. (1993). Social networks and support mechanisms for people with mild intellectual disability in competitive employment. *International Journal of Rehabilitation Research, 16*(1), 1-12.

Mcvilly, K. R., Stancliffe, R. J., Parmenter, T. R., & Burton-Smith, R. M. (2006). I get by with a little help from my friends: Adults with intellectual disability discuss loneliness. *Journal of Applied Research in Intellectual Disabilities, 19,* 191-203.

Morningstar, M. (1997). Critical issues in career development and employment preparation for adolescents with disabilities. *Remedial and Special Education, 18*, 307–320.

Newton, J. S., Horner, R., Ard, W., LeBaron, N., & Sappington, G. (1994). A conceptual model for improving the social life of individuals with mental retardation. *Mental Retardation, 32*(6), 393-402.

O'Brien, C., & O'Brien, J. (2000). *The origins of person-centered planning: A community of practice perspective.* Lithonia, GA: Responsive Systems Associates.

Panacek, L. J., & Dunlap, G. (2003). The social lives of children with emotional and behavioral disorders in self-contained classrooms: A descriptive analysis. *Exceptional Children, 69*(3), 333(16).

Putnam, R. (2000). *Bowling alone: The collapse and revival of american community.* New York: Simon & Schuster.

Rios-Aguilar, C., & Deil-Amen, R. (2012). Beyond getting in and fitting in: An examination of social networks and professionally relevant social capital among latina/o university students. *Journal of Hispanic Higher Education, 11*(2), 179-196.

Rosen, J., & Burchard, S. (1990). Community activities and social support networks" A social comparison of adults with and adults without mental retardation. *Education and Training in Mental Retardation, 25* (2), 193-204.

Storey, K. (2003). A review of research on natural support interventions in the workplace for people with disabilities. *International Journal of Rehabilitation Research, 26*, 79-84.

Szymanski, E., & Parker, R. (Eds.) (1996). *Work and disability: Issues and strategies in career development and job placement.* Austin TX: Pro Ed.

Think College. (2013). *College options for people with intellectual disabilities.* Retrieved from http://www.thinkcollege.net/index.php

Tracy, E., & Whittaker, J. (1990). The social network map: Assessing social support in clinical practice. *Families in Society, 71*(8), 461-470.

Trainor, A. (2008). Using cultural and social capital to improve postsecondary outcomes and expand transition models for youth with disabilities. *Journal of Special Education, 42*, 148-162.

U.S. Department of Education. (n.d.). *Transition and postsecondary programs for students with intellectual disabilities.* Retrieved from http://www2.ed.gov/programs/tpsid/index.html

U.S. Department of Education. (2013, March 1). *Students with intellectual disabilities.* Retrieved from http://studentaid.ed.gov/eligibility/intellectual-disabilities

About the Authors

Laura T. Eisenman received her M.A. in rehabilitation counseling from the University of South Florida and Ph.D. in education and human development with a concentration in special education from Vanderbilt University. Her experience includes working in community agencies serving people with disabilities. She is currently an associate professor in the School of Education at the University of Delaware. Her research interests include school to adult life transitions of young adults with disabilities. She can be reached by email at eisenman@udel.edu

Elizabeth N. Farley-Ripple received her B.S.F.S. from Georgetown University, an M.A. from Columbia University, and her Ph.D. in Educational Policy from the University of Pennsylvania. She is currently an assistant professor in the School of Education at the University of Delaware. Her research interests include educational policy and evaluation with a focus on leadership and programs designed to improving student outcomes. She can be reached by email at: enfr@udel.edu

Mary Culnane received her M.S. in Evaluation Methods from University of Delaware and M.S.N. in Adult Primary Care from University of Pennsylvania. She is currently a Ph.D. student in the School of Public Policy and Administration at the University of Delaware. Her research interests include how to evaluate social interventions designed to improve the well-being of children and adults. She can be reached by email at: mculnane@udel.edu

Brian Freedman received his B.A. in psychology from The George Washington University and Ph.D. in clinical psychology from Nova Southeastern University. His experience includes working as a clinical psychologist and clinical director for Kennedy Krieger Institute in Baltimore, MD. He is currently the director of the Transition, Education & Employment Model (TEEM) unit at the University of Delaware Center for Disabilities Studies and is an assistant professor with the UD School of Education. His research interests include postsecondary transition for individuals with developmental disabilities and the impact of raising a child with a disability on families. He can be reached by email at: brianf@udel.edu

PRACTICE BRIEF
Assessing Impact of Inclusive Postsecondary Education Using the Think College Standards

Kathleen Bodisch Lynch
Elizabeth Evans Getzel
Virginia Commonwealth University

Abstract

Increasingly across the United States, institutions of higher education (IHE) are offering a wide array of postsecondary educational (PSE) opportunities for students with intellectual disabilities (ID). As more students with ID aspire to college, it is incumbent upon IHEs to engage in rigorous program evaluation to assess student outcomes and identify factors that foster student success. The Think College (TC) Standards, Quality Indicators, and Benchmarks provide a unifying conceptual framework that helps to focus research and program evaluation efforts. In this article we describe use of the TC Standards to evaluate an inclusive PSE program for students with ID at a large, urban university. We report preliminary outcome data and discuss how Standards-based evaluation can both guide local program improvement and contribute to the evidence base of best practices in the field. Using this accumulated knowledge, students and families will be able to make more informed educational choices.

Keywords: Inclusion, intellectual disabilities, postsecondary education, program evaluation

Individuals with intellectual disabilities (ID) are among an increasing number of students with disabilities accessing higher education as a result of legislative, academic, and social changes. During the past 10 years, more postsecondary education (PSE) options have become available for students with ID, and with this growth, the focus of PSE instruction for students with ID has been varied (Grigal, Hart, & Weir, 2012). Findings from a national survey showed that a majority of programs developed by institutions of higher education (IHE) offered instruction in social skills training, independent living, and life skills; over half offered access to noncredit college classes; and 51% offered access to credit-bearing courses (Grigal et al., 2012). However, a significant percentage of PSE programs for students with ID provided instruction in settings primarily with other students with a similar disability, rather than in typical college classrooms.

Hart, Grigal, and Weir (2010) have emphasized the need for systematic investigation of a range of program models, using rigorous program evaluation methodologies, to identify practices that support increased access of students with ID (as well as other developmental disabilities) to authentic, inclusive PSE experiences. Although we clearly still have much to learn about the effects of student participation in inclusive programs, emerging research points to positive outcomes across a variety of domains. These include reported increases in student maturity, independence, self-confidence, and capabilities (Uditsky & Hughson, 2012); measurable gains in reading and writing skills (Folk, Yamamoto, & Stodden, 2012); successful course completion, friendship building, and participation in campus organizations (Carroll, Herman, & Wickizer, 2012); and a high rate of paid employment (Grigal & Dwyre, 2010). Continued study of the contexts, features, resource requirements, and outcomes of inclusive PSE programs, and documentation of correlates of student success, will both expand the evidence base of best practices in the field and support more informed decision-making by educational administrators, policymakers, program planners, students, and families.

Depiction of the Problem

As is the nature of educational innovations, early PSE programs for students with ID were developed in the absence of formal guidelines or empirically based standards of quality on what would constitute best practice. Observing this problem, Think College (TC) at the Institute for Community Inclusion at the University of Massachusetts Boston undertook the task of developing a set of standards, quality indicators, and benchmarks grounded in both theory and practice. A diverse group of 38 higher education professionals with content expertise and practitioners with extensive knowledge of students with ID participated in a Delphi process to reach consensus and validate the resulting standards (Grigal, Hart, & Weir, 2011b). The TC Standards are aligned with the definition of a comprehensive postsecondary and transition program as specified in the Higher Education Opportunity Act (HEOA) of 2008 (Grigal, Hart, & Weir, 2011a). These standards can be used by any higher education institution to develop, expand, or enhance inclusive options for students with ID.

The TC Standards comprise eight standards, each with its own set of quality indicators and benchmarks (Grigal et al., 2011a, b). Four standards were identified as being the cornerstones of high-quality practice: Inclusive Academic Access, Career Development, Campus Membership, and Self-Determination. Another four standards provide the interdependent elements of service or programmatic infrastructure necessary to support the cornerstone practices and result in desired outcomes over time; these are Alignment with College Systems and Practices, Coordination and Collaboration, Sustainability, and Ongoing Evaluation. The TC Standards are further delineated by 18 quality indicators and 87 benchmarks, which can be used for assessing program components. The Standards provide both "a philosophical and structural framework for planning, implementing, and assessing practice, as well as designing and conducting research" (Grigal, Hart, & Weir, 2011a, p. 4). As such, they serve as a scaffold on which to systematically build an evidence base of best practices from a multiplicity of program models. Given that one of the significant findings about PSE programs for students with ID is the great variability among them (Grigal et al., 2012), the TC Standards can provide an effective mechanism for framing research and evaluation questions such that knowledge acquisition can be synthesized both within and across programs.

Description of the Practice

The ACE-IT in College academic program at Virginia Commonwealth University (VCU) has embraced the TC Standards in all aspects of its program development and evaluation. Students with ID participating in ACE-IT in College have access to VCU's undergraduate courses and are full members of the VCU community. Data collected for evaluation purposes are structured around the TC Standards, Quality Indicators, and Benchmarks. This manuscript will describe the early evaluation outcomes for students with ID enrolled at VCU. In order for project staff to assess the effectiveness of ACE-IT in College, we have used the TC Standards to assist us in measuring the program's impact and outcomes for participating students as they earn a certificate offered through the VCU School of Education.

The ACE-IT in College Program at Virginia Commonwealth University

Virginia Commonwealth University is a large, urban university with a diverse student population of 33,000. Diversity is one of the core elements in the university's strategic plan; therefore, creating an inclusive academic program for students with ID was viewed as meeting the university's mission to educate the community at large. In 2010, VCU was one of 27 universities or community colleges across the U.S. to receive funding from the federal Office of Postsecondary Education to demonstrate opportunities for students with ID to have authentic college experiences that lead to successful career and life paths. Students with ID began taking course work in the fall of 2011, and as of the spring semester of 2013, eight students have been enrolled. The academic program serves students 18-26 years of age.

Each ACE-IT in College student completes a minimum of eight college courses (20 to 22 credits total) over four semesters, as well as a semester-long work internship. Table 1 provides information on how the credits are structured for the VCU academic program. During the final semester, students seek competitive employment in their chosen career. The ACE-IT in College model is fully inclusive, meaning that students select their courses from the VCU undergraduate course catalogue and are full and active members of the campus community. There are no special curricula or classes designed solely for ACE-IT in College students. Students take most of their courses for audit and meet

Table 1

ACE-IT in College Academic Program Requirements

Required Core Courses	Credits	Elective Courses	Credits
UNIV 101 Introduction to the University	1	Elective A	3
Science (Biological, Environmental, or Natural)	3	Elective B	3
Literature, Writing, Art, or Music	3	Elective C	3
Social Studies, Civilization, or Global Studies	3	Elective D (could be science lab if required)	1-3
Total	10		10-12
Final Semester		Employment Internship	

with an academic advisor to establish a program of study based on their career interests, identified through a person-centered planning process.

Part-time employment is encouraged for ACE-IT in College students while attending the university. This is a natural part of the college experience for any student in higher education. Five of the current students obtained part-time employment on campus. Two students entered VCU with part-time employment, one working at a health diagnostic laboratory and the other at a local grocery store. Another student is employed full time on the VCU health sciences campus. This individual completed a Project SEARCH internship program and, once employed, decided to pursue higher education. Full-time employees of VCU are granted tuition waivers to take classes for credit. A change in institutional policy was made to allow the student to obtain tuition support even for audited courses.

Institutional Partners

ACE-IT in College is a collaborative project of the Rehabilitation Research and Training Center and the Partnership for People with Disabilities, entities within VCU's School of Education (SOE). The program has the full support of both VCU and SOE administration, as well as many offices and departments throughout the university. ACE-IT in College students apply for accommodations from the VCU Disability Support Services office, meet regularly with their academic advisor in the SOE, and work with educational coaches who are VCU undergraduate or graduate students trained to mentor and support the student to navigate the campus, participate in classes, and take part in VCU social activities.

Participant Demographics

The ACE-IT in College academic program's first cohort of students enrolled in VCU in Fall 2011, with a second cohort beginning in Fall 2012. A third cohort of five students has been selected and will begin taking courses in Fall 2013. The participants described here are based on the first two cohorts consisting of eight students. Table 2 provides demographic information on the students and a sampling of courses they selected in consultation with their academic advisor.

Evaluation of Observed Outcomes

To maximize the usefulness of evaluation data for the assessment and improvement of innovative educational programs, a plan for incorporating evaluation into program planning must be in place from the outset (Moon, Utschig, Todd, & Bozzorg, 2011). For the ACE-IT in College program evaluation, the TC

Table 2

Participant Characteristics

Age Range	18 – 24 years
Gender	5 females, 3 males
Financial Support	on-campus employment (4) employer scholarships (2) VCU Health System tuition waiver (1) Veteran's Benefits (1)
Employment	VCU Child Development Center (1) VCU Health Services System (1) VCU Recreation and Sports (3) private sector health diagnostics laboratory (1) local grocery store (1)

Examples of Courses Taken

Fall 2012		Spring 2013	
ARTF 121	Intro to Drawing	ECON 203	Intro to Economics
FRSC 202	Crime and Science	RELS 109	Human Spirituality
HIST 104	Survey of American History	PHYS 103	Elementary Astronomy
MHIS 243	Music Appreciation	SCPT 209	Intro to Sculpture
PHYS 103	Elementary Astronomy	SLWK 201	Intro to Social Work
PHYS 107	Wonders of Technology	SPCH 121	Effective Speech
UNIV 101	Intro to the	THEA 108	Intro to Stage Performance
UNIV 111	University Focused Inquiry I	UNIV 103	Education & Career Planning
		WMNS 201	Intro to Women's Studies

Standards have served as the conceptual framework to guide the evaluation design, monitor implementation, and assess outcomes.

Data Collection and Analysis

The ACE-IT in College project uses a variety of mechanisms to monitor program implementation and assess outcomes within the framework of the TC Standards. To facilitate the systematic collection and review of evaluation data, a comprehensive web-based data entry system has been developed. All staff members have access to data entry screens that allow them to report their program activities and observations on an ongoing basis using both structured and unstructured data entry forms. The ACE-IT in College database accommodates input of both qualitative and quantitative data, including objective measures of student progress and project implementation. Among the key methods and instruments used to collect evaluation data is the Think College Standards, Quality Indicators, and Benchmarks Level of Implementation Scale (Grigal, Hart, & Weir, 2011b). Project staff use this rating scale to obtain an overall assessment of the fidelity of implementation of ACE-IT in College to the TC Standards and to identify specific programmatic areas where improvements are needed.

Because the data in the ACE-IT in College database are in a variety of formats and include both quantitative and qualitative information, a data analysis program capable of handling mixed data media was required. ATLAS.ti 7, a powerful data analysis program that supports investigation of complex phenomena within large amounts of unstructured data (Friese, 2012; Lewins & Silver, 2007), met this criterion. All the ACE-IT in College data were therefore imported into Atlas.ti and a coding structure was established from the TC Standards, Quality Indicators, and Benchmarks. We then used a directed qualitative content analysis approach (Hsieh & Shannon, 2005) to systematically code and analyze the data to assess fidelity to the TC Standards, and to look for evidence of outcomes associated with implementation of the Standards. This approach is appropriate in situations where an initial theory or conceptual framework about a phenomenon exists but could benefit from further explication. Because we are still in the initial years of project implementation, none of the ACE-IT in College students has yet completed the program. Consequently, we are still in an exploratory phase of data analysis. Nevertheless, some preliminary trends have been observed.

Student Outcomes

To illustrate the preliminary results we are finding, we will focus on three of the TC Standards, viz., Standard 1: Inclusive Academic Access; Standard 2: Career Development; and Standard 4: Self-Determination. First, we present composite stories representing one young man and one young woman in the program (with fictitious names), based on data extracted from the experiences of all eight of the first ACE-IT in College students. Next, we present specific examples of outcomes related to the three Standards we have selected.

"Robert's" story. From the time he was a young boy, Robert had always wanted to go to college. His brothers and sisters, who were considerably older, had graduated from VCU and that was his dream, too. However, with diagnoses of autism and ID, throughout his elementary and secondary school years, Robert was educated in self-contained special education classrooms following a functional curriculum. He was shy and kept to himself. Robert exited high school with a special diploma and a low-paying part-time job that held little interest for him. At VCU, Robert has successfully completed two courses per semester in a variety of disciplines, is a well-liked and respected employee at one of VCU's recreation centers, and spends some of his free time in the gym relaxing with other students.

"Meredith's" story. Meredith had always found school challenging. Her Individualized Education Program (IEP) indicated she had multiple disabilities, including ID. Rarely having success experiences in academic settings had a negative effect on her sense of self-esteem. Meredith's parents believed that she had the personal qualities to accomplish more in life, but were at a loss as to how to go about supporting her to develop her abilities. Since beginning classes at VCU, Meredith's self-confidence has soared. Even her demeanor has changed and she looks like any other college student, wearing her VCU sweatshirt with pride. Meredith has improved in her self-management skills, learned new study strategies, and demonstrated increased competence at her part-time job on campus, so much so that she has been mentoring new employees.

Specific outcomes. The outcomes presented in Tables 3 and 4 relate to the TC Standards of Inclusive Academic Access, Career Development, and Self-Determination. Illustrative examples of quotations

Table 3

"Robert's" Outcomes

Data Sources	Implementation Evidence	Student Outcomes
	Standard 1: Inclusive Academic Access	
PF, FF	*My son...takes regular college courses*	Growth in knowledge and understanding of music and film
FF	*Coaches are an asset – they provide quick clarity one on one with their students*	Completed all course assignments and got one of the highest grades in the class
SST	*Explored and likes text to speech software*	Able to study at home independently
ECF	*...variety of approaches available to help [the] student succeed*	Developing excellent computer skills and taking good class notes
INT	*Students pick their coursework from the VCU catalogue*	Broadening of academic interests
	Standard 2: Career Development	
EF	*[He] has done so well...he has been given more responsibility, including providing building tours.*	Got promotion and pay raise at work
SF	*I am ready to train any ACE-IT in College student at the gym where I work.*	Growth in self-confidence and leadership skills
INT	*...educational coaches and his job coach... work together...to formulate...a program that's beneficial to him*	Exploration of new potential career paths
PF	*It allows him to continue to expand his world. So many folks with ID stay at home or are stuck in a job that does not allow them to grow and change. ACE-IT in College helps you grow!*	Increased comfort level in interacting with coworkers
	Standard 4: Self-Determination	
SST	*[He] advocated for himself to move from laundry to doing maintenance work...*	Increased initiative-taking
SST	*[He] checks email and Blackboard on his own; using agenda given by VCU*	Managing personal schedules independently
SF	*I got my own place.*	Choosing leisure time activities of interest
PF	*Everything that was brought up as a concern for my son was listened to...*	Got classes that he wanted to take
SST	*Initiated email to professor regarding his quizzes*	Communicating appropriately with faculty on his own

Note. ECF = Education Coach Feedback; EF = Employer Feedback; FF = Faculty Feedback; PF = Parent Feedback; SF = Student Feedback; INT = website interview transcript; SST = Student Support Team meeting

Table 4

"Meredith's" Outcomes

Data Sources	Implementation Evidence	Student Outcomes
	Standard 1: Inclusive Academic Access	
SF	*...my coach...teaches me in a way that I can learn better.*	Increased engagement in learning, use of multiple methods of studying
SST, CTS	*Explored...campus supports for Astronomy, which included Supplemental Instruction and tutoring*	Understood material better, improved presentation skills
INT	*...we would go to class...and then [later] reinforce what was just taught....By the end of the semester, I felt I didn't need to be there anymore.*	Independent in doing school work, reduced need for educational coach
FF	*I held her feet to the fire, and she came through.*	Improved classroom participation
PF	*Watching her have some success in an academic setting.*	Started to read more and enjoy it more
	Standard 2: Career Development	
EF	*She was instrumental in helping a new teacher learn the routine.*	Improved skills in working with children (her chosen career)
PF	*This program...[increases] the students' ability to function in society and become responsible young adults.*	More poised, outgoing, and self-confident
SST	*Interviewed for and began a [new] job.*	Obtained work experience that allowed her to explore her interests
	Standard 4: Self-Determination	
PF	*Courses...taken were of her own choice.*	Sense of freedom, self-assurance
PF	*Her feedback to the [planning team] resulted in several alternate methods to help her study*	More independent problem solver
SST	*Learning to save and spend money responsibly*	Growth in maturity
INT	*I've been...doing what I need to do and then going home and doing what I need to do there*	Monitoring progress toward own goals
CTS	*Learned by communicating with classmates and professor*	Improved skills in obtaining information that is helpful to her

Note. CTS = Course Tracking Sheet; EF = Employer Feedback; FF = Faculty Feedback; PF = Parent Feedback; SF = Student Feedback; INT = website interview transcript; SST = Student Support Team meeting

from the range of data sources in the ACE-IT in College database are provided. Students demonstrated gains in specific course content knowledge, word recognition, word meaning and spelling, study and note-taking abilities, and computer skills; grew in self-confidence, leadership, and job-related competencies; and improved in communication skills, self-management, independence, and initiative-taking.

Implications and Portability

A systematic qualitative content analysis of implementation and outcome data for the ACE-IT in College program at VCU indicated that implementing an inclusive PSE program for students with ID with fidelity to the TC Standards can result in positive outcomes for students in several domains. Consistent with findings that have been reported elsewhere in the literature (e.g., Carroll et al., 2012; Folk et al., 2012; Grigal & Dwyre, 2010; Uditsky & Hughson, 2012), we observed that students made gains in academic, personal, social, and career-related skills. The triangulation of data across multiple information sources and multiple data collection methods strengthens the credibility of these initial findings.

Because none of the ACE-IT in College students has yet completed the program, the results presented here are preliminary and should be considered a snapshot of a program in progress. In addition, because of the individualized nature of the program and the timing of this article, our sample size is relatively small. As more cohorts of students are accepted into this inclusive academic program and as follow-up studies are initiated and data on post-program outcomes are obtained, we expect to be able to make more definitive statements about both the short-term and long-term impact of a fully integrated college experience for students with ID.

The ACE-IT in College academic program at VCU is inclusive and individualized based on a student's interests and desired career path. The certificate that these students earn has been established by and is awarded through the VCU School of Education. What we have presented in this article is how one PSE program is using the TC Standards to inform all aspects of its development, implementation, evaluation, and ongoing improvement.

Conducting evaluations of inclusive PSE programs for students with ID using the TC Standards, Quality Indicators, and Benchmarks as a unifying conceptual framework holds great promise for moving the field forward with a strong evidence base. Individual programs can use research and evaluation results based on the TC Standards for their own programs' development and improvement, but can also collaborate with other programs and share what they have learned about what it takes to make an inclusive PSE program work. At the national level, Think College is collecting uniform sets of program- and student-level data from the 27 funded programs. Organized around the TC Standards, this database will serve as a rich source of information for educators, administrators, and policymakers about how to design and implement effective programs. Ultimately, students with ID, and the families who support them, will be the beneficiaries of these coordinated research and evaluation efforts, by having the information they need to make thoughtful choices about the PSE options that best match each student's unique interests and needs.

References

Carroll, S., Herman, A., & Wickizer, G. (2012, November). *Faculty and student insights on postsecondary inclusion.* Paper presented at the 2012 State of the Art Conference on Postsecondary Education and Individuals with Intellectual Disabilities, Fairfax, VA.

Folk, E. D. R., Yamamoto, K. K., & Stodden, R. A. (2012). Implementing inclusion and collaborative teaming in a model program of postsecondary education for young adults with intellectual disabilities. *Journal of Policy and Practice in Intellectual Disabilities, 9,* 257-269.

Friese, S. (2012). *Qualitative data analysis with ATLAS.ti.* London: Sage.

Grigal, M., & Dwyre, A. (2010). *Employment activities and outcomes of college-based transition programs for students with intellectual disabilities.* Think College Insight Brief, Issue No. 3. Boston, MA: Institute for Community Inclusion, University of Massachusetts Boston.

Grigal, M., Hart, D., & Weir, C. (2011a). *Framing the future: A standards-based conceptual framework for research and practice in inclusive higher education* (Issue brief no. 10). Retrieved from: http://www.thinkcollege.net/images/stories/Insight10new_D3.pdf

Grigal, M., Hart, D., & Weir, C. (2011b). *Think college standards, quality indicators, and benchmarks for inclusive higher education.* Boston, MA: University of Massachusetts Boston, Institute for Community Inclusion.

Grigal, M., Hart, D., & Weir, C. (2012). A survey of postsecondary education programs for students with intellectual disabilities in the United States. *Journal of Policy and Practice in Intellectual Disabilities, 9,* 223-233.

Hart, D., Grigal, M., & Weir, C. (2010). Expanding the paradigm: Postsecondary education options for individuals with autism spectrum disorder and intellectual disabilities. *Focus on Autism and Other Developmental Disabilities, 25,* 134-150.

Hsieh, H., & Shannon, S. E. (2005). Three approaches to qualitative content analysis. *Qualitative Health Research, 15,* 1277-1288. doi:10.1177/1049732305276687

Lewins, A., & Silver, C. (2007). *Using software in qualitative research: A step-by-step guide.* London: Sage.

Moon, N. W., Utschig, T. T., Todd, R. L., & Bozzorg, A. (2011). Evaluation of programmatic interventions to improve postsecondary STEM education for students with disabilities: Findings from SciTrain University. *Journal of Postsecondary Education and Disability, 24*(4), 331-349.

Uditsky, B., & Hughson, E. (2012). Inclusive postsecondary education: An evidence-based moral imperative. *Journal of Policy and Practice in Intellectual Disabilities, 9,* 298-302.

About the Authors

Kathleen Bodisch Lynch received her Ph.D. in Educational Research and Evaluation from the University of Virginia. She is Senior Research Associate at the Partnership for People with Disabilities and Assistant Professor in the Department of Special Education and Disability Policy at Virginia Commonwealth University. Her research interests are participatory and theory-based program evaluation, qualitative inquiry, and outcomes assessment within the context of programs for individuals with disabilities across the life span. Correspondence concerning this article should be directed to kblynch@vcu.edu.

Elizabeth Evans Getzel, M.A. is the director of the postsecondary education initiatives unit at the Rehabilitation Research and Training Center at Virginia Commonwealth University. Her research interests are supported education in postsecondary education for college students with disabilities; collaborative career planning for college students with autism; supported education for veterans with TBI and SCI in college; and college opportunities for individuals with intellectual disabilities and other developmental disabilities.

Authors' Note

PRACTICE BRIEF
Florida College Collaborative: Facilitating Inclusive Postsecondary Education Opportunities for Youth with Intellectual Disabilities

Tammy Jorgensen Smith
Nila Benito
University of South Florida

Abstract

In response to the paucity of transition services available for students with intellectual disabilities, the Higher Education Opportunity Act (HEOA) allocated grant funding to support model demonstration programs that promote successful transition into higher education. In accordance with the objectives of the HEOA, the Florida College Collaborative (FCC) convened to facilitate the development of an inclusive postsecondary education model that supports individuals with intellectual disabilities. This effort included collaborative strategic planning, two statewide surveys of stakeholders, the development of an informational webpage, and the creation of a registry of existing postsecondary education programs in the state of Florida. A primary goal of the FCC was to lay the groundwork for a proposal for HEOA funding that would be utilized to demonstrate the model. Other states may learn from Florida's efforts and replicate strategies to improve systems and access to postsecondary education opportunities for their youth with intellectual disabilities.

Keywords: Inclusive postsecondary education, intellectual disabilities, transition, HEOA, Think College

The Higher Education Opportunities Act (HEOA) of 2008 requires comprehensive transition and post-secondary education (PSE) programs for students with intellectual disabilities (HEOA Title VII, Part D, Section 760). Students with intellectual disabilities (ID) who are enrolled in an approved Comprehensive Transition and Postsecondary Education Program (CTP) may access federal support if they are working toward an educational credential that reflects personalized student goals for employment, independent living, and educational outcomes. Courses may be audited and students are not required to have a standard high school diploma to enroll. Additional HEOA funding has been allocated through twenty-seven Transition Programs for Students with Intellectual Disabilities (TPSID) grants designed to support model demonstration programs that promote the successful transition of students with ID into higher education.

It is important to distinguish students with intellectual disabilities from those with learning disabilities. The Individuals with Disabilities Education Act of 2004 (IDEA) defines an intellectual disability as "… significantly sub-average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance" [34 CFR §300.8(c)(6)]. This diagnosis differs from one of a learning disability which is defined by IDEA as a disorder in one or more of the basic psychological processes involved in understanding or in using language, spoken or written, that may manifest itself in the imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations, including conditions such as perceptual disabilities, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The diagnosis of a learning disability does not include learning problems that are primarily the result of visual, hearing, or motor disabilities, of intellectual disability, of emotional disturbance, or of environmental, cultural, or economic disadvantage [34 CFR §300.8(c)(10)].

Summary of Relevant Literature

Successful transition to PSE has been equated with high expectations, person-centered or student directed goals, and practices that reflect collaboration with external partners, community agencies, and organizations that support students in post-school environments (Grigal, Hart, & Migliore, 2011). In a recent study that analyzed data from the National Longitudinal Transition Study – 2 (NLTS2), Grigal et al. (2011) found that only 25% of students with ID listed a goal of PSE on their Individualized Education Plan (IEP) compared to 46% of students with other types of disabilities. The study also found that having a post-school transition goal of pursuing PSE was the only predictor associated with a greater likelihood of employment for students with ID. In addition, the study found that 68% of school systems contacted adult day programs or sheltered workshops as external partners for students with ID compared to 6% for students with other types of disabilities. Overall, the study data shows that approximately 30% of students with ID attended PSE compared to 56% of students with other types of disabilities.

Research studies correlate PSE opportunities for youth with ID with improved employment outcomes and increased community participation (Thoma, Lakin, Carlson, Domzal, Austin, & Boyd, 2011; Kleinert, Jones, Sheppard-Jones, Harp, & Harrison, 2012; Grigal et al., 2011; Migliore, Butterworth, and Hart, 2009). Higher education is also associated with better health and longevity and higher levels of reported happiness (McMahon, 2009). According to Hart, Grigal, & Weir (2010), the benefits of accessing PSE for students with ID include increases in academic and personal skill building, competitive employment, independence, self-advocacy, and self-confidence. They also indicate that "being part of campus life, taking classes (whether auditing or for credit), and learning to navigate a world of high expectations leads to the development of skills needed for successful adult life" (p. 139).

In May 2012, a database compiled by Think College documented the number of PSE programs for students with ID at 165 which did not include 9 new programs funded through TPSID grants (Research and Training Center on Community Living, 2013). According to Kleinert et al. (2012), the three most common types of PSE programs for students with ID are separate, integrated, and mixed. Separate programs typically offer specific classes for students with ID. In integrated programs, students with and without disabilities attend established courses together. Mixed programs provide a combination of specific or stand-alone courses and integrated courses or use a separate model for courses while integrating students through extracurricular activities and residential life. For a program to be considered integrated or inclusive, the HEOA requires students with ID to participate on not less than a halftime basis with non-disabled students in regular enrollment in credit-earning courses, audited courses, non-degree seeking courses, or internships/work-based training. An additional model to support students with ID in PSE is the individualized support model. This model focuses on each student's talents, strengths, and interests and uses peer mentors to help students with ID to navigate campus culture which may increase the success of these PSE programs (Hart, Grigal, Sax, Martinez, & Will, 2006; Jones, Weir, & Hart 2011).

Depiction of the Problem

According to Grigal et al. (2011), there has been an increase in students with disabilities receiving some level of PSE after high school. However, the increase in PSE for youth with intellectual disabilities is occurring at a significantly lower rate than that of youth with other types of disabilities and students with ID are the least likely to be continuously enrolled in college (Grigal & Hart, 2010; Newman, Wagner, Cameto, & Knokey, 2009; Blumberg, Carroll, & Petroff, 2008). Youth with ID are also least likely of all youth with disabilities to enroll in postsecondary education and typically do not meet the standard college entrance criteria for academic performance (Papay & Bambara, 2011; Wagner, Newman, Cameto, Garza, & Levine, 2005).

Research on PSE programs for students with ID is limited, but there are some promising practices including inclusive programs that utilize: a) natural supports such as peer mentoring; b) person-centered planning to identify the strengths and support needs of the student; and c) state-level cross-agency teams that share information and resources and strategize to develop PSE models that promote access to PSE for students with ID (Hart et al., 2010). Florida stakeholders sought a way to implement these best practices and, in 2010, the Association of University Centers on Disabilities awarded the University of South Florida a Think College mini-grant to develop the Florida Col-

lege Collaborative (FCC) with a purpose of utilizing collaboration and evidence-based best practices to facilitate the development of an inclusive PSE model that supports individuals with intellectual disabilities. A primary goal of the FCC was to lay the groundwork for a proposal for HEOA funding that would be utilized to demonstrate the model.

Participant Demographics and Institutional Partners

The Florida Center for Inclusive Communities, a University Center for Excellence in Developmental Disabilities at the University of South Florida, coordinated the development of the Florida College Collaborative (FCC) which consisted of a diverse group of 51 stakeholders including self-advocates, family members, school district personnel, representatives from state agencies, the Florida Developmental Disabilities Council, Florida Protection and Advocacy Center, and college faculty and staff from 14 academic institutions within the State of Florida. Table 1 provides more information on the collaborative partners involved in the FCC.

As part of the project, two surveys were conducted to gather perspectives from stakeholder groups. The first was conducted of students with ID and their families to identify: a) perspectives on barriers to access to PSE programs; b) goals of students with ID who want to participate in PSE; and c) necessary supports and services. The anonymous survey was created in Survey Monkey and distributed through Florida service agencies' email distribution lists. Of the 553 people who started the survey, 314 (56.8%) completed it. Sixty-four percent of respondents were male and 36% were female. A large majority of the respondents were from mid to large size cities with more rural communities underrepresented. Respondents included 289 students with a mean age of 19.5 years. Reported types of disabilities included 109 students with ID, 140 students with autism or Asperger's syndrome, 38 students with Down's syndrome, 35 students with cerebral palsy, and 99 respondents with a developmental disability. The total exceeds the number of respondents because some respondents indicated more than one type of disability.

A second survey was conducted of professionals who support students with ID. Of the 354 professionals who started the online survey, 250 (71%) completed it. Respondents included vocational rehabilitation staff (6%), support coordinators (11%), transition or supported employment providers (23%), college profes-

sionals (10%), educators (40%), and other stakeholders (10%). Urban, rural, and suburban areas were represented. However, a large number of responses came from the north-central Florida area which primarily consists or rural and suburban communities. Seventy-eight percent of respondents indicated that they serve students with ID as the primary disability.

Description of Practice

The FCC project included five primary activities that were completed with technical assistance, training, and support from Think College staff. Activities included a) establishing the Florida College Collaborative; b) developing a strategic plan; c) compiling a Florida PSE program registry; d) developing a PSE webpage; and e) completing a statewide survey of students, families, and professionals. In addition, the FCC used this mini-grant opportunity to begin strategizing for the development of a proposal for one of twenty-seven TPSID grants offered through the HEOA. The purpose of the TPSID grants is to support model demonstration programs that promote successful transition of students with intellectual disabilities into higher education and to create or expand high quality inclusive model comprehensive transition and postsecondary programs for students with intellectual disabilities (U.S. Department of Education, 2010).

Florida College Collaborative

The foundation of the FCC's work focused on the following premises: a) inclusive PSE for students with ID optimally occurs when a person-centered/individual support model is implemented; b) students with ID enroll in regular (inclusive) college classes either for audit or credit; c) customized, competitive employment is the outcome for all students; d) students have the opportunity to be meaningfully engaged in all aspects of college life including living on campus with individuals who do not have disabilities, participating in the Greek system, and attending social events with peers without disabilities; and e) staff development and ongoing technical assistance and supports are key in facilitating successful, positive outcomes. Values established by the FCC are inclusion, collaboration, support, social capital, and quality of life. The FCC defines "inclusive" as meaning all students with ID are welcome regardless of skill level or support needs. No students are excluded except on the basis of numerical capacity guidelines. Priority was placed on utilizing an individual

Table 1

FCC Member Affiliation (N=51)

Affiliation	N (%)
Institution of Higher Education	24 (47%)
Florida State University – Student Disability Resource Center	
Southeastern University (2)	
University of South Florida – Florida Center for Inclusive Communities (UCEDD) (2)	
University of South Florida – Project TEN	
University of South Florida – Center for Autism and Related Disabilities	
University of South Florida – Disabilities Services (3)	
University of South Florida – ADA Services	
University of South Florida – Department of Pediatrics	
St. Petersburg State College – Disability Services	
Warner University	
Hillsborough Community College – Disability Student Services	
St. Leo University – Student Support Services	
University of Florida (2)	
University of Florida – Florida Outreach Program for Children and Young Adults Who are Deaf-Blind	
Valencia Community College – Office for Students with Disabilities	
Pasco-Hernando Community College – Disability Services	
Bethune-Cookman University	
University of North Florida – Disability Resource Center	
University of West Florida – Associate Dean of Students	
School District	4 (8%)
School Board of Pasco County – Transition	
Orange County Public Schools (2)	
Polk County Schools – Transition Manager	
State Organization or Non-Profit	12 (23%)
Florida Inclusion Network (2)	
The Able Trust	
Florida Developmental Disabilities Council, Inc. (2)	
Partners in Policymaking	
Consortium for the Education of Individuals with DD	
Training Resource Network	
Central Florida Autism Institute, Inc.	
Florida Protection and Advocacy Center, Inc.	
Florida Youth Council	
The ARC of Jacksonville – College Experience Program	

State Agency	7 (14%)
Florida Department of Education – Bureau of Exceptional Student Services (2)	
Division of Vocational Rehabilitation (4)	
Agency for Persons with Disabilities	
Self-Advocate	2 (4%)
Elephant Herds Self-Advocacy	
ADAPT of Florida	
Family Organization or Representative	2 (4%)
Parent to Parent of Miami	
Parent Advocate	

support model where students receive individualized services in college courses, certificate programs, and/or degree programs for audit or credit. Within this model, the individual student's vision and career goals drive the services and supports that are provided.

Strategic Plan

Within the grant period, the FCC engaged in a variety of strategic planning activities during two full day meetings and interim webinars/conference calls. Focus was placed on the following priority areas defined by FCC members: a) development of partnerships with relevant agencies (Vocational Rehabilitation, school districts, Agency for Persons with Disabilities, etc.); b) integration of students with ID into on-campus and off-campus housing; c) involvement of other students attending college who are studying special education, rehabilitation, assistive technology, rehabilitation engineering, or other related fields; d) full inclusion; and e) person-centered planning. FCC members were grouped based on their interests and expertise and tasked with identifying goals, objectives, and action steps for addressing their assigned priority area. In addition, each group identified partners to involve and next steps for the accomplishing goals.

Statewide Surveys

Two surveys were conducted to gather the viewpoints of students, families, and professionals regarding postsecondary education for students with ID. The anonymous surveys were distributed through Survey Monkey and collected respondents' perspectives on PSE barriers that hinder participation, hopes and goals for individuals with ID who want to participate in an inclusive PSE program, and necessary supports and services. A full article with survey results, analysis, and implications is forthcoming.

Webpage

Members of the FCC are in the process of developing a webpage that will be a source of information about transition and inclusive PSE for students with ID. It will include information about the FCC project, inclusive PSE options, links to useful resources, and other content as suggested by the FCC and its advisors. Collaborative members have agreed to provide a link to this webpage on their websites.

Florida PSE Registry

The FCC developed a list of twelve existing PSE programs for students with ID located in Florida. These programs include both mixed and separate models for students with ID. However, none of the programs currently implement an integrated individual support model. Information for the registry has been provided to the Florida Department of Education's Project Transition Education Network (TEN) for posting on their website.

Observed Outcomes

Through this project, new partnerships blossomed and positive energy was created as the FCC worked diligently and passionately to achieve its goals. It was learned that curriculum supports or curriculum modifications are needed to facilitate success of students with ID in inclusive PSE settings. Additionally, faculty need training, beyond subject matter expertise, to maintain effective PSE programs for students with ID. PSE programs that are geared toward a student's level of learning would be ideal. Also, incorporating options for job training or employment preparation into the curricula would facilitate success in obtaining employment following completion of the PSE program.

The use of universal design and assistive technology is necessary for facilitating access to campus, classrooms, and materials. Behavioral and social supports and assistance with activities of daily living such as personal care assistance and physical supports are required. Additionally, logistical supports that include transportation assistance, financial support, and housing on or near campus are needed.

PSE programs cannot be limited to academics and be considered fully inclusive. Opportunities for students with ID to socialize among peers without disabilities and to receive supports by peer mentors are essential to full inclusion in campus life. Survey responses reflected that students with ID share the hopes and dreams of their peers without disabilities. These include having a job, a home, a spouse, good friends, and involvement in their communities.

Information learned through activities of the FCC project, including the strategic planning process, has been utilized to develop a model PSE program that is currently being implemented by members of the FCC representing the Florida Department of Education's Project TEN program. Project TEN, housed at the University of South Florida, was awarded a TPSID model demonstration grant to test the PSE model. Through the TPSID grant, Project TEN is continuing the planning and implementation process that was started by the FCC.

Implications and Portability

Lack of opportunities for individuals with intellectual disabilities to participate in PSE is a national problem. The FCC identified barriers to PSE programs including: a) lack of awareness of PSE options; b) lack of research on effective PSE programs for students with ID; c) lack of engagement of administrators at PSE institutions (President, Provost, Deans, etc.); d) limited non-degree options such as certificate programs; and e) lack of funding for necessary supports.

Challenges encountered by the FCC included limited time to bring stakeholders together to plan and develop strategies for addressing the problem. Also, taking time to learn more about FCC member's personal goals and to achieve consensus on the definition of inclusion would have aided in the collaborative process.

The efforts of the FCC can be replicated by other states by bringing together key stakeholders to identify challenges and opportunities pertaining to PSE options for students with ID. A combination of strategic planning, networking, and knowledge and resource sharing can be utilized to facilitate availability and access to inclusive PSE programs. More research needs to be conducted on utilizing the individual support model and peer mentors to assess the impact of these strategies on successful PSE outcomes. Florida's continued efforts through the TPSID grant will generate additional evidence-based best practices to guide systems in the development of inclusive PSE programs that support students with ID.

References

Blumberg, R., Carroll, S., & Petroff, J. (2008). Career and community studies: An inclusive liberal arts program for youth with intellectual disabilities. *International Journal of Inclusive Education, 12*(5-6), 621-637.

Grigal, M., Hart, D., & Migliore, A. (2011). Comparing the transition planning, postsecondary education, and employment outcomes of students with intellectual and other disabilities. *Career Development for Exceptional Individuals, 34*(1), 4-17.

Grigal, M., & Hart, D. (2010). Postsecondary education: The next frontier for individuals with intellectual disabilities. *Education and Training in Autism and Developmental Disabilities, 45*, 339-346.

Hart, D., Grigal, M., & Weir, C. (2010). Expanding the paradigm: Postsecondary education options for individuals with autism spectrum disorder and intellectual disabilities. *Focus on Autism and Other Developmental Disabilities, 25*(3) 134–150.

Hart, D., Grigal, M., Sax, C., Martinez, D., & Will, M. (2006). Postsecondary education options for students with intellectual disabilities, *Research to Practice, 45*, 1-4. Retrieved from http://www. thinkcollege.net/for-professionals/pathways-to-postsecondary-education.

Higher Education Opportunity Act of 2008, Pub. L. No. 110-315 § 122 STAT. 3078 (2008).

Individuals with Disabilities Education Improvement Act of 2004, Public Law No. 108-446, 118 Stat. 2647, 20 USC 1400 et seq.

Jones, M., Weir, C., & Hart, D. (2011). Impact on teacher education programs of students with intellectual disabilities attending college. *Insight: A Think College Brief on Policy, Research, and Practice, 6*. Retrieved from http://www. thinkcollege.net.

Kleinert, H. L., Jones, M. M., Sheppard-Jones, K., Harp, B., & Harrison, E. M. (2012). Students with intellectual disabilities going to college? Absolutely! *Teaching Exceptional Children, 44*(5), 26-35.

McMahon, W. (2009). *Higher learning, greater good: The private and social benefits of higher education.* Baltimore: Johns Hopkins University Press.

Migliore, A., Butterworth, J. & Hart, D. (2009). *Postsecondary education and employment outcomes for youth with intellectual disabilities.* Think College Fast Fact, 1. Retrieved from http://www.thinkcollege.net.

Newman, L., Wagner, M., Cameto, R., & Knokey, A. M. (2009). *The post-high school outcomes of youth with disabilities up to four years after high school: A report from the National Longitudinal Transition Study – 2*. Menlo Park, CA: SRI International.

Papay, C. K., & Bambara, L. M. (2011). Postsecondary education for transition-age students with intellectual and other developmental disabilities: A national survey. *Education and Training in Autism and Developmental Disabilities, 46*(1), 78-93.

Research and Training Center on Community Living. (2013). A taxonomy for postsecondary education programs for students with intellectual and developmental disabilities. *Policy Research Brief. 23*(1). Minneapolis, MN: University of Minnesota, Institute on Community Integration.

Thoma, C. A., Lakin, K. C., Carlson, D., Domzal, C., Austin, K., & Boyd, K. (2011). Participation in postsecondary education for students with intellectual disabilities: A review of the literature 2001-2010. *Journal of Postsecondary Education and Disability. 24*(3), 175-191.

U.S. Department of Education. (2010). *Transition and postsecondary programs for students with intellectual disabilities.* Retrieved from http://www2.ed.gov/programs/tpsid/index.html.

Wagner, M., Newman, L., Cameto, R., Garza, N., & Levine, P. (2005). *After high school: A first look at the post school experiences of youth with disabilities. A report from the National Longitudinal Transition Study – 2* (NLTS2). Menlo Park, CA: SRI International.

About the Authors

Tammy Jorgensen Smith received her B.S. degree in psychology and her M.S. degree in Rehabilitation Services from Florida State University. She received her Ph.D. in Counselor Education and Leadership from Barry University. Her experience includes working in multiple leadership and service capacities to promote full inclusion, self-determination and quality of life for individuals with disabilities. She is currently an Assistant Professor in the Department of Rehabilitation and Mental Health Counseling at the University of South Florida. Her research interests include employment, postsecondary education, and transition for persons with complex disabilities. She can be reached by email at: tjsmith@bcs.usf.edu.

Nila Benito's career focus is on promoting positive outcomes for and a greater understanding of people with developmental disabilities and their families. Her experience includes serving as chairperson of Florida's Blue Ribbon Task Force on Employment and she is on the Board of Directors of TASH and the Association for Positive Behavior Support. She is currently the coordinator of community supports and public policy for the Florida Center for Inclusive Communities –a University Center for Excellence on Developmental Disabilities housed in the Department of Child and Family Studies at the University of South Florida. Her primary interests are in family/ professional collaboration, inclusion, peer supports, transition, customized employment, and positive behavior supports. She can be reached by email at: benito@usf.edu.

Authors' Note

Journal of Postsecondary Education and Disability
Author Guidelines

The *Journal of Postsecondary Education and Disability* welcomes submissions of innovative and scholarly manuscripts relevant to the issues and practices of educating students with disabilities in postsecondary educational programs. Manuscripts must be submitted electronically via email to jped@ahead.org

Guidelines for authors:

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 Publication Manual (6th ed.), American Psychological Association, 2010. For responses to frequently asked questions about APA style, consult the APA web site at http://www.apastyle.org/faqs.html

- Manuscript length typically ranges between 25 and 35 pages including figures, tables, and references. Exceptions may be made depending upon topic and content.
- Include 3-5 keywords.
- Write sentences using active voice.
- Authors should use terminology that emphasizes the individual first and the disability second (see pages 71-76 of the 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.
- Include an abstract that does not exceed 250 words. Abstracts must be double spaced on a separate page of the manuscript, between the cover page and the first page of the body of the manuscript. List 3-5 key terms immediately beneath the text of the abstract.
- Provide a cover letter asking that the manuscript be reviewed for publication consideration and that it has not been published or is being reviewed for publication elsewhere.
- 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.

Manuscripts must be submitted as email attachments in Microsoft Word format to: jped@ahead.org

Upon acceptance for publication
For manuscripts that are accepted for publication, the following items must be provided to the Executive Editor:

- An electronic copy of the final manuscript as an email attachment.
- A 40-50 word bibliographic description for each author.
- A signed and completed Copyright Transfer form.

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.

Practice Brief Manuscripts

JPED invites practitioners and/or researchers to submit Practice Briefs that can inform readers of innovative practices that could, in time, become the basis of an empirical study. Practice Briefs will describe new or expanded programs, services, or practices that support postsecondary students with disabilities.

The overall length of a Practice Brief will be limited to 12 double-spaced pages, which includes separate title page, abstract, and references pages. Tables and/or figures may be submitted, too, above and beyond the 12 page limit. Practice Briefs should be organized using the headers/sections listed below. For a fuller description of each header/section, please refer to the complete Practice Brief Author Guidelines at http://www.ahead.org/publications/jped-guide.

- Title Page
- Abstract
- Summary of Relevant Literature
- Depiction of the Problem
- Participant Demographics and Institutional Partners/Resources
- Description of Practice
- Evaluation of observed outcomes
- Implications and Portability
- References

If you have any questions, contact the JPED Editor David Parker at 317-730-0463 or email: editor@ahead.org
Submit all manuscripts (research and practice briefs) to JPED at this email address: jped@ahead.org. Manuscripts must be submitted as email attachments in Microsoft Word format. Include a brief cover note addressed to Dr. David Parker, Executive Editor of JPED. Please confirm that the manuscript has not been published elsewhere and that it is not being reviewed at this time by another publication source. The abstract should be included in the manuscript and not attached separately. Finally, please ensure that all tables or figures are included as well. These can be included in the manuscript or attached as separate documents. You will receive an email reply from Richard Allegra, Managing Editor of JPED, to confirm receipt of your submission.