Participation in Postsecondary Education for Students with Intellectual Disabilities: A Review of the Literature 2001-2010

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Abstract

Various forms of participation in postsecondary education by students with intellectual disabilities have received increased attention from the field of special education over the past decade. This review of literature from 2001 through 2010 builds on a similar review conducted by Neubert, Moon, Grigal and Redd (2001) to determine whether there have been changes in the types of programs offered, whether participation in various degrees of postsecondary education results in improved outcomes for individuals with intellectual disabilities, and whether the evidence indicates that postsecondary education is a preferred outcome to other transition outcomes. This review found that postsecondary education for individuals with intellectual disabilities has increasingly been defined as programs for students in the 18-21 year old age range who continue to receive educational services from their local school districts. The literature provides more details about program design and implementation and describes services across state, regional, and national levels. Few studies to date have attempted to determine participant outcomes. A discussion of the strengths and limitations of this body of literature are provided as well as recommendations for next steps for the field.

Keywords: postsecondary education; transition; intellectual disability

The senior year of high school is full of anticipation for students and parents alike as they plan for adult life. More and more students plan to continue their education as the necessity of working toward and obtaining a college degree becomes more evident. In fact, the economic value of a two-year or four-year degree from a college or university is well-established. In 2005, the median annual earnings of persons 25 years or older with a two-year associate degree ($40,600) or bachelors degree ($50,900) were greater than for persons completing high school only ($31,500) (Baum & Ma, 2007). Persons with associate and bachelor degrees were also more likely to have employer-provided pensions and health insurance and were less likely to be unemployed (Baum & Ma, 2007; Bureau of Labor Statistics, 2010; Mischel, Bernstein & Allegretto, 2007).

In addition to the long-term economic benefits of postsecondary education (PSE), other important benefits have been documented. Higher education is associated with long-term benefits such as better health and longevity, higher reported happiness, and more participation in civic, charitable, and democratic institutions (McMahon, 2009). Participation in PSE also has been associated with development of independence, lifelong friendships

and professional relationships, and higher self-esteem (National Center for Educational Statistics, 2006).

Unfortunately, individuals with disabilities, and in particular individuals with intellectual disabilities (ID), lag behind in these critical adult outcomes. Longitudinal studies have found that this group of individuals is 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 PSE 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, 2000; Wagner, Cameto, & Newman, 2003).

Given such generally poor outcomes for youth and young adults with ID and the strong evidence that PSE education is generally associated with improvement in those outcomes for other groups of students, there has been a growing commitment to providing access to PSE for youth with ID. Recent descriptions of programs in more mainstream publications such as the *Chronicle of Higher Education* and the *U.S. News and World Report* have increased public awareness of the options available for individuals with ID to transition to some form of PSE (Schmidt, 2005; Calefati, 2009). In addition to the mainstream media, professional journals published a number of opinion pieces calling for changes in transition planning to provide more opportunities for individuals with ID and other significant disabilities to go to college and/or participate in PSE (Hughes, 2009; Rusch & Wolfe, 2009; Talis & Will, 2006).

In 2003, in anticipation of the reauthorization of the Higher Education Act, the National Council on Disability released a report that identified factors that influence the preparation, access, participation, and retention of students with disabilities in PSE (National Council on Disability, 2003). This report called for a number of changes, including the coordination of supports and services across agencies that facilitate the transition to PSE for students with disabilities, increasing access to financial assistance to make higher education more affordable, increasing the awareness of the options for higher education, and improving the preparation of personnel necessary to support student access to and retention in higher education settings.

In the latest amendments to the Higher Education Act, the federal government granted greater flexibility to colleges and universities in determining eligibility for Pell Grant assistance for students with ID (Higher Education Opportunity Act, 2008). This was just one component of a bill that sought to assure that a college or university education is affordable to the majority of Americans. It marks the first time that students with any type of disability were included in the wording of this legislation. Clearly, the federal government has been willing to invest federal resources into increasing the percentage of youth with ID participating in PSE, which was only at 8% in the late 1990's (NLTS-2, 2003).

Postsecondary educational experiences for students with ID include a range of different options, some of which can be very different from what one associates with typical college experiences. Hart and Grigal (2009) presented preliminary results of a national survey of PSE programs for students with ID to begin to understand the different delivery models, support services, and characteristics of individuals who attended these programs. They identified 250 programs located in 41 different states across the country. Of those programs, 38% were located in two-year colleges, 51% in four-year institutions, and 12% in trade or technical schools. These programs have been in existence for different lengths of time, from one to thirty-five years with an average of ten years. Other important characteristics of these programs include:

- 53% of the students with ID who attend these programs access courses through the typical registration process compared to 43% who do not (4% of respondents did not know).
- 45% received academic advising from college faculty compared to 52% who did not (3% of respondents did not know).
- 56% offered programs for adults with 22% providing dual enrollment programs and 22% offering both types of programs. Dual enrollment programs for students with ID could include educational programs run by the local education agency that are physically located on a college or university campus to make full use of college/university facilities. Programs for adults are targeted to those who have completed their K-12 education. In some cases, students can participate in a PSE expe-

rience run by their school and then transition to a PSE adult program at the same campus, if they offer both dual enrollment and adult programs.

- 65% provided services for students with ID not provided to other students compared to 31% which did not (and 4% did not know) (Hart & Grigal, 2009).

As these data indicate, PSE experiences for students with ID can look very similar to those for other students or they can differ significantly. Programs identified as PSE programs for students with ID offered a range of different services through their program, using a range of delivery methods provided by PSE staff, local education agency staff or a combination of the two. Given this range of options and the increase in funding for and attention to the development of these programs, an updated review of published literature in this area was warranted.

Purpose of the Review

Neubert et al. (2001) conducted a review of special education literature, finding that the majority of published works consisted of program descriptions or policy briefs. They reviewed 27 published works, spanning three decades, and summarized these program descriptions into three different categories: substantially separate, individualized inclusive, and hybrid/mixed. They reported that, during the 1970s, limited PSE programming for students with ID focused on "basic remedial education, personal and social skill development, recreational opportunities, employment readiness skills, and vocational training" (p. 160).

The 1980s saw an emphasis on compliance with Section 504 of the Rehabilitation Act of 1973, as amended, that protected otherwise-qualified persons with disabilities from exclusion, denial of benefits, or discrimination by PSE institutions or programs that received federal benefits. In general, however, individuals with ID continued to be viewed largely as not being qualified for PSE and so most did not take courses and typical tests that PSE institutions require for admission. Because of this lack of academic preparation and lower expectations, PSE services for students with ID were primarily segregated programs designed specifically for this group of students, with supports and services provided by staff hired for that purpose. Because of this, fears that students with ID coming to campus would significantly impact the already stretched resources of college/university offices for students with disabilities did not become the reality in most instances. However, this question persisted and in some instances increased as the number of programs, particularly those that were more inclusive, increased.

The 1990s brought increased support of postsecondary options for students with ID. The literature from this era described two emerging trends. The first was the design of programs that served students between the ages of 18 and 21: those who still qualified to receive local education agency services, but whose peers had moved out of the high school setting and were most typically enrolled in PSE institutions. The other trend in the literature from the 1990s was the description of an individual support model in which supports for individual students were based on each student's interests and needs, rather than based on a specific disability label or to all who participate in a specific program. This model was an extension of the full inclusion model for school and community (Stainback, Stainback, & Forest, 1989), whereby individuals with disabilities were expected to be in environments typical for their peer group and the services that he or she needed to be successful in that environment were provided. Instead of evidence documenting the impact of participation in PSE programs, Neubert et al. (2001) found that the literature focused on describing an evolution of types of programs, defined by the underlying philosophical approach to program development. They called for further research on outcomes, supports and/or accommodations, personnel training needs, as well as the best location(s) for providing PSE.

Neubert et al. (2001) categorized PSE programs for students with ID based on a level of inclusion with their peers without disabilities. They described programs as fitting into three categories: inclusive, hybrid/mixed, or substantially separate. However, in reading the articles included in their review as well the results of the Hart and Grigal survey (2009), it is important to note that PSE experiences for students with ID vary in other ways as well. The research questions that guided this follow-up review, as listed below, were developed to be broad enough to capture the range of programs available while the review process helped to delimit those that were included in the review. The review and discussion further highlights the similarities and differences in the experiences of PSE students with ID.

This review of the literature focuses on works-

published between 2001 and 2010 with the purpose of discerning the answers to three basic questions: Have there been changes in the types of PSE education programs for individuals with ID since 2001 (does it mirror PSE for students with other disabilities and/or students without disabilities or is it something very different)? Does participation in PSE experiences result in positive outcomes for individuals with ID as it does for students with other disabilities? Does the type of experience make a difference (is there evidence to warrant this transition outcome over other outcomes)? This review seeks to answer those questions for the field.

Methodology

The authors conducted a broadly-defined review of the research, program, and policy literature on PSE for students with ID from 2001 through 2010. Since one purpose was to build on the earlier literature review (Neubert et al., 2001), similar definitions and keywords were used when possible in conducting this review. Articles included in this literature review focused on students with ID. This a relatively new term for the field, and there are different definitions in the literature depending on whether it is singular (intellectual disability) or plural (intellectual disabilities). "Intellectual disability" is the newer term and has become the preferred replacement terminology for an individual who in the past had been identified as a person with mental retardation (Schalock, Luckasson, & Shogren, 2007).

However, many use the term "intellectual disabilities" to refer to a broader group of individuals who have more pervasive support needs including individuals with mental retardation, autism, traumatic brain injury, and multiple disabilities (U.S. Department of Education, 2004; U.S. Equal Employment Opportunity Commission, 2004). Intellectual disabilities in this article include this broader definition, which explains why this review of literature included articles with participants who had autism and other developmental disabilities. The decision to use this broader definition was made because it (a) provides an opportunity to make further comparison between this literature review and the earlier review completed by Neubert et al. (2001) that focused on individuals with significant disabilities, and (b) reflects a trend in the literature of using the term "intellectual disability" to describe students with a broad range of significant needs (Schalock et al., 2007).

For the purposes of this review, PSE for persons with ID was defined as "a program that provided education or vocational training to individuals with mental retardation or other severe disabilities within two- or four-year colleges or universities, or adult education programs. Programs for adults who had exited the public schools were included, as well as for those students who were 18 to 22 years old, enrolled in the public schools, and receiving services or instruction within a postsecondary setting" (Neubert el al., 2001, p. 156).

Focus areas

For this review, published articles and dissertation studies were divided into three focus areas: single program descriptions or studies; state/regional/national program overviews; and student-initiated PSE options. Single program descriptions/studies provided information about one specific program located at a specific college or university setting. State/regional/national program overviews focused on gathering a larger perspective than from one individual program, by either describing the programs in a given state or conducting a study across multiple programs and/or states. Student-initiated postsecondary options focused on individually-designed options that were not necessarily part of a pre-existing PSE program, a new development in the range of PSE experiences for students with ID that emerged during this time.

Review procedure

The fourth author conducted an initial, comprehensive search of literature related to PSE of youth with ID within the education and social sciences literature. An electronic search was conducted using the major relevant research data bases, including ERIC's Index to Education Materials, Dissertations Abstracts Online, ebary Educational Research Complete, PsychArticles, Academic Search Complete, and Applied Social Sciences Index and Abstracts (ASSIA). Keywords included *postsecondary, college, dual enrollment, inclusive postsecondary education, intellectual disability, mental retardation, developmental disabilities, significant disabilities and outcomes*. In addition, the authors conducted a secondary search for articles and published papers by examining the reference lists included in retrieved articles (i.e., the "ancestry approach") as well as through websites of programs described in published articles or national groups that promote PSE for youth with disabilities.

This initial search yielded over 1050 articles, policy documents, conference proceedings, book chapters, dissertations, and technical assistance papers. Only those studies that successfully passed a peer-review process were included, which was defined as being published in a peer-reviewed journal. In addition, three unpublished but committee-approved dissertation studies were included. Many articles focused on practices in other countries, including Canada, the United Kingdom and Australia, where PSE opportunities for students with intellectual disabilities have been in existence for years. Only peer-reviewed articles from the United States were included in this review due to the differences in laws, entrance requirements, and/or program requirements. In addition to the differences in these requirements, definitions of disabilities can also vary between countries as well, making comparisons difficult and resulting in a decision to eliminate those articles from the review of literature.

After the initial review, the first and last authors then read through the remaining 68 articles and eliminated any that either did not focus solely on individuals with ID (as defined above) or those that did not provide sufficient differentiation between supports, services, or outcomes for individuals with ID compared to other participants. This resulted in the elimination of another 43 published works. Twenty-four remaining articles and/or dissertation studies were then divided into three different groups: (a) single program descriptions/evaluation studies; (b) cross-program or national studies; and (c) single-student initiated case studies or studies.

Results

Authors

In all, 37 authors contributed to the research literature published on PSE for students with ID during the last decade. The impact of particular authors was of interest in this review to help with determining whether authors were writing about their own programs or conducting more objective research about the programs with which they were not associated. While published literature can and has been conducted by those who are also responsible for providing services and/or training, the credibility of such work is increased when done by neutral observers as well as when it is replicated by multiple researchers in multiple settings with different participants. Author order was not taken into consideration; thus, if a researcher was a primary author on one article and a secondary author on two articles, their total number of articles was three. Most authors contributed to only one publication (25). Three of the authors of the 2001 literature review were among the authors with the most published work. Neubert co-authored seven articles, while Grigal co-authored six, and Moon five. One other author, Hart, contributed to four articles, while Zimbrich and Zafft each contributed to three, and Blumberg, Carroll, Petroff, Weir, Redd, and Kamens each contributed to two articles. Those authors who published the majority of the extant literature (Neubert, Grigal, Moon, and Hart) were more likely to have multiple sites/participants in their articles and to take a statewide, regional and/or national perspective. Those who published fewer articles were more likely to be publishing works that focused on one program.

Methodologies

A variety of methodologies were included in the studies reviewed, including qualitative, quantitative, and mixed methods. The majority of studies included a qualitative component, using case study, program evaluation, or constant comparison methodologies. Data collection strategies included participant observation, interviews, focus groups, document analysis, and/or a combination of the above. A number of the articles used quantitative methods but none employed true group experimental design. Seven articles used surveys to collect their information; five were survey plus a pretest/posttest assessment of knowledge gained, and one was a secondary analysis of a longitudinal database. Only one of the studies was quasi-experimental, describing a between-group comparison of the employment outcomes for those who attended a PSE program for students with ID versus those who stayed in high school until age 21.

Focus Areas

Neubert et al. (2001) grouped articles, papers, and studies by decade and type of postsecondary program. A different categorization of focus areas was used in the present review since only one decade was included and many of the included articles described more than one type of program model. The majority of program models were physically located on a university or college campus. However, two articles were included that were listed as PSE, although the education took place in community settings. These were included, however, since they included (a) PSE as part of their

description/keywords; (b) many of the same components as the majority of the PSE programs for students with ID including employment, the development of friendships with same age peers; and/or (c) inclusion in age-appropriate environments and activities. Of the 24 articles/studies in this literature review, 10 (42%) were program descriptions/evaluations, nine (37%) were regional or national studies and five (21%) were focused on individual student-initiated involvement in inclusive PSE.

Program Descriptions

Blumberg, Carroll, and Petroff (2008) provided a qualitative description of the inclusive liberal arts-based program at the College of New Jersey, serving students with ID who are still eligible to receive supports from their local school system (18-21 years old). Information was provided about the design of a four-year certificate program by an institution of higher education, including program goals, program design, the use of universal design to modify existing liberal arts courses so that students with ID could participate meaningfully, the development of instructional modules designed to accomplish program goals, and the qualitative program evaluation process. No limitations were identified in this article.

Carroll, Blumberg, and Petroff (2008) focused on the same program as the Blumberg et al. (2008) article, but this one expanded on program information by providing a qualitative description of the curriculum design and development process from the perspective of faculty who oversee and teach courses in the inclusive liberal arts-based program. The curriculum consisted of three elective courses designed for college freshman and/or sophomores, including *Human Abilities: Unplugged; The Psychological Development of Children and Adolescents*; and *Great Conversations*. The authors highlighted strategies that were used to meet program goals, student learning goals, and provide inclusive learning opportunities. No limitations were identified in this study.

Dolyniuk, Kamens, Corman, DiNardo, Totaro, and Rockoff (2002) described the development of a transition program based at a different liberal arts college in New Jersey for students with ID in the 18-21 year old range. This program was developed by a university professor and the parent of a youth with ID, who collaborated to design a program to teach functional and social skills to students who were participating in job sampling at the university. Qualitative program evaluation data were collected, analyzed, and reported. Results of the data found that students with ID did not experience gains in levels of self-determination, self-advocacy, or social skills. They also did not seem to form friendships with peers without disabilities. They did express a willingness to go to the college campus and reported that they enjoyed their work experiences. Authors listed limitations that focused on the lack of improvement in social skills.

Eskow and Fisher (2004) provided a program description of an inclusive university-based program for young adults with ID (17-21 years old). This program focused on providing social and functional skill training for the young adults (called "outreach" students) and opportunities for university students to provide training and support in a small group dynamics class required for their program in occupational therapy. The program consisted of three phases, described in this article. Outreach students were in high school during the first two phases of the program, participating in university events and activities. By phase 3 they had "relocated" to the university and were identified as "outreach" students. Authors reported that program goals were met for outreach students and university students. Very little information was provided to describe the program evaluation methods and no limitations were listed by authors.

Hafner (2008) used qualitative case study methodology to describe the development and implementation of a PSE program at Edgewood College in Minnesota as her dissertation study. This program served seven students with ID on the college campus. Twenty-five peer mentors provided support to the students with ID and 10 faculty used universal design for instruction to make course instruction and materials more accessible to the diverse population of students. Multiple methods for data collection were used including participant interviews and documentation review (reflective papers of peer mentors; focus group interviews of faculty and peer mentors; surveys of classmates). Limitations were listed as small sample size, limited geographic area and role of researcher.

Kirkendall, Doueck, and Saladiano (2008) wrote a qualitative study of a college-based residential transition program designed to provide youth with ID an opportunity to live on a college campus and receive instruction in independent living skills. Pre- and post-intervention data were collected through interviews

with students and their parents. Participants were enrolled in a youth transition program offered by a local adult services agency, a component of which was a summer residential program. Participants included six young adults with ID, ranging in age from 20 to 23, who had been receiving day services for a minimum of one year from the Young Adult Life Transition (YALT) program. The program goal was to teach independent living skills in a "normal environment" for a short period of time. Researchers reported that both youth with ID and their parents felt that students' involvement in the program was helpful in addressing independent living skill development. The study's limitations included limited geographic area, use of an interview protocol developed for the study rather than a standardized set of questions, and self-report data.

Neubert and Redd (2004) provided a description of a public school program on a community college campus for students with ID. This case study used a variety of data collection methods including observations, focus groups, and interviews of students, parents, other key informants (including special educators, administrators, paraeducators, rehabilitation counselors). Interview protocols (Grigal, Neubert & Moon, 2001) used in other studies and based on recommended practices in transition were used in this study. Information about trustworthiness and content analysis were provided and indicated a strict adherence to recommended practices for assuring the trustworthiness and credibility of qualitative research. Information about program components and student satisfaction regarding those components was provided, including employment, community-based instruction, self-determination, student involvement in IEP meetings, parent involvement, collaboration, career education and assessment, functional academics, social skills, campus inclusion, and independent living skills. This study documented that a mixed model provides an opportunity to be in a more "normal" or age-appropriate environment but did not necessarily result in having experiences that were typical of others on the college campus. Limitations indicated by the authors included the small sample size, limited geographic area, and the participant-observer role of the researcher.

Pearman, Elliott, and Aborn (2004) provided a program description of a partnership between the Southwest Special Education Local Education Plan of the Greater Los Angeles County School District and El Camino College as a model for serving students with ID on community college campuses across California. They used program evaluation methodology to collect and analyze data based on the program goals, objectives, and overarching guiding theoretical framework. Students participating in this program developed individualized goals in the areas of employment, independent living, social/recreational, education, and transition outcomes. Individualized programs and goals were then developed, making use of the resources of the community college (e.g., courses, counseling services, recreational activities). Individualized schedules, activities, and goals were identified for each student to help meet his/her goals for the future. No limitations were listed by the authors regarding their work.

Redd (2004) completed a dissertation study that was summarized by Neubert and Redd (2008). This was a qualitative case study of a program for students with ID located on a community college campus. Paraprofessionals were used to provide training in daily living, functional, and social skills. They also provided support for students with ID who enrolled in college classes. Students worked in enclaves or mobile work crews and participated in an e-buddies program. Many of the students reported that they enjoyed the program, although a few wanted more individualized supports. The students also reported that they did not have enough interaction with students without disabilities. More detail about the study's findings and methodology were included in the full dissertation compared to the published manuscript. The authors listed the single case study nature of the research as a limitation.

State/Regional/National Studies

Fisher (2008) conducted a national study to determine the perceptions of faculty regarding PSE for students with ID, including beliefs about meaningful participation in campus life and their ability to accommodate students' diverse learning needs. This study found that faculty perceptions about PSE for students with ID did not differ regardless of their exposure to the concept (either through training or experience with a program at their university). Overall, faculty felt that students with ID had a right to participate in PSE so long as accommodations did not lessen the academic rigor of the coursework. In addition, faculty wanted to be sure that they had the appropriate resources to successfully identify and provide those accommodations. For example, if students needed to have digital versions of texts so they could be heard in addition to

read, then faculty wanted assurances that those versions existed. Another theme was that faculty felt they were already stretched too thin to be able to accommodate this new group of students if it meant that they would ultimately need to be solely responsible for providing accommodations in the classroom. This dissertation study listed the use of self-report data as a limitation.

Grigal and Neubert (2004) conducted a survey of 234 parents of students with disabilities who attended one of two urban school systems in one state regarding "their in-school values and post-school expectations related to their child's transition from school to adult life" (p. 71). In this study, the parents of students with low incidence disabilities were more likely to rank life skill instruction as most important compared to parents of students with high incidence disabilities and were more likely to rank academic instruction as least important than parents of students with low incidence disabilities. The majority of parents of students with low incidence disabilities desired a four-year college outcome while the majority of parents of students with high incidence disabilities desired a community college. Limitations of the study were listed as low response rate, limited geographic area, and self-reported data.

Grigal, Neubert, and Moon (2001) described public school/PSE programs in Maryland for individuals with ID between the ages of 18 and 21. Information was collected by conducting interviews with program staff/teachers. In Maryland in 1999, nine of the twenty-four local school systems had at least one program in postsecondary settings for students with ID and other significant disabilities. The majority of these programs were located on 2- or 4-year college/university campuses but some used community settings such as a sheriff's office, a local adult service agency, or an administrative office of the school system. Students received a range of services including job training, participating in college courses and activities, self-determination skill development, functional skill instruction, and community based instruction. Challenges identified included college/university policies and procedures that prevented students from taking desired courses, space limitations, transportation, staffing issues, and scheduling. The authors did not indicate any limitations in their data collection or reporting efforts.

Grigal, Neubert, and Moon (2002) provided an overview of PSE for students with ID/significant disabilities, describing types of programs and steps for developing a new program. They identified the strengths and challenges of basing these programs at a community college, a four-year university or a community site such as a mall or service site. Data were collected through observations, interviews, and experience the authors gained through their role in providing technical assistance to programs in Maryland. No limitations to this method of collecting and/or analyzing data were provided.

Hart, Grigal, and Weir (2010) provided a broad overview of PSE, describing the rationale for as well as the challenges of providing PSE for youth with ID and autism spectrum disorder. They outlined PSE models for students with ID and autism spectrum disorder, expanding models reported in earlier literature (Neubert el al., 2001). They described three different paths to PSE: dual or concurrent enrollment, college-initiated programs, and individual or family-initiated supports. They listed a variety of practices that are used in supporting students with ID and autism spectrum disorder, including instruction in natural environments, person-centered planning, local, regional, and/or state-level cross-agency coordinating teams, universal design, mentoring, educational coaching, engagement in competitive employment, social pragmatics and communication skills, self-determination/self-advocacy, and evaluation activities. Short case descriptions of six different paths to PSE were included in the appendix. This article did not provide detailed information about how data were collected, analyzed or synthesized, nor did it list any methodological limitations.

Hart, Mele-McCarthy, Pasternack, Zimblich, and Parker (2004) conducted a survey-based study designed to describe the characteristics of transition/dual enrollment programs for students with ID on college campuses. The authors identified the common challenges, barriers, and program components of these types of programs. Besides survey data, this article described six representative national programs. Examples of funding sources for different types of services/supports were provided as well as details regarding barriers to implementing these types of programs. Attitudes of university faculty and staff were identified as the biggest barrier to implementation.

Katsiyannis, Zhang, Woodruff, and Dixon (2005) conducted a secondary analysis of NLTS-2 data. Their research compared transition services provided to and outcomes for students with ID, LD, or emotional/behavior disorder. They found that students with ID were less likely to have PSE (including vocational

education) as a transition goal than students with LD or emotional/behavior disorder, were less involved in their transition planning, and were more likely to report little or no progress toward achieving transition goals. The authors listed the use of secondary data analysis as a limitation of this study. Although the data came from a large national sample, it provided minimal information about individual student characteristics.

Neubert and Moon (2006) provided an overview of different models for transition services for students with ID located on college/university campuses. After summarizing these models, they discussed policy issues that would need to be addressed to sustain these models. In addition, they provided information about resources available to school districts attempting to implement their own programs or improve those already in place. Lastly, they outlined future research questions. A description of methods used to collect and analyze this information was not included, nor did the authors identify any other limitations to their work.

Neubert, Moon, and Grigal (2004) conducted a descriptive study to determine how students spent their time in programs on campus. In a survey of teachers working in 13 postsecondary sites in Maryland, serving high school students with ID ages 18-21, their goal was to identify the activities in which students were participating. They found that 87% of the 137 participating students were employed on campus or in the community while 61% did not participate in credit or noncredit college courses. None of these programs provided housing or instruction in independent living skills. Limitations to this study included the use self-report employment of a survey developed for this study rather than a validated, standardized instrument.

Neubert, Moon, and Grigal (2002) provided information about PSE programs designed to provide services and education to students with ID of transition age. They summarized the literature about effective transition planning and services and described how those promising practices could be based on college campuses. No information is provided about the methods used to collect and/or analyze the data. In addition, limitations were not listed for this study.

Individual Student-Initiated Involvement.

While many PSE programs are designed or delivered by an individual PSE institution or a local education agency, a new finding in the literature describes PSE experiences that were instead initiated by the student, often through a person-centered planning or transition IEP meeting process. The following studies were grouped by this initiation process.

Casale-Giannola and Kamens (2006) conducted a case study of a young woman with Down syndrome who took a course in speech communication at a local four-year university as part of her high school transition program. Rather than attend a program designed by local education agency personnel, this student identified PSE as a preferred transition outcome and initiated her participation in a course as part of her high school program (dual enrollment option). This student received support from mentors (teacher candidates) and facilitators (faculty in the department of special education). This qualitative study used multiple researchers, multiple data collection procedures (interviews, journals, and observations) and multiple data sources (student, faculty, mentors, and faculty facilitators) as methods of triangulation. The case study described multiple benefits for the student, including gaining a better awareness of PSE options, opportunities to interact with age-appropriate peers, and establishing a mutual learning experience (for the young woman with ID as well as the peers and mentors). Challenges identified by this study included limited meaningful experiences, inconsistent goals for the young woman, and challenges with assessing her progress in class. The authors listed the small sample size, limited geographic area, and researcher bias as limitations of the study.

Hamill (2003) conducted a similar case study of an individual with ID who audited college courses. Unlike the subject of Casale-Giannola and Kamens' (2006) case study, however, this individual was 26. She lived in her own apartment and was an advocate who worked as co-editor of a newsletter for individuals with ID. Hamill used a variety of data sources to triangulate the collected data. Although the student reported that she enjoyed her PSE experience, it did not result in long-lasting friendships. Identifying clear expectations for student goals and measuring/assessing student progress in classes were challenges for faculty and mentors. The author identified the preparation of peer mentors, faculty, and university personnel as an important consideration to successful experiences. The author did not list any limitations to the research methodology.

Weir (2004) focused on the use of person-centered planning to identify the needs of students with ID who are interested in pursuing PSE. This qualitative study used participant observer data collection to describe

the diverse experiences of eight individuals with ID in college. Some of the participants were in high school and dually enrolled in one or more college classes (for credit or audit) while others had exited from high school and were pursuing college coursework through support from VR or other agencies. This study did not list any limitations.

Zafft (2006) reported a qualitative case study of three high school aged students with ID who attended college through the College Career Connection, a project based at the Institute for Community Inclusion in Boston, MA. Semi-structured interviews were conducted with students, parents, a faculty member chosen by the student, and the coordinator of disability support services. Since no validated instrument/interview protocol existed, interview questions about accommodations and supports were developed by the researcher. Supports provided to students with ID included person-centered planning to identify supports, goals, and accommodations. Accommodations provided to the students included additional time for tests, assistance in course selection, tutoring, and notetakers. Tutoring was identified as the most helpful service provided to participants in programs for students with ID. The author listed the difficulty in interviewing students with ID as a limitation of her study. In addition, she listed self-reporting as a limitation, particularly since she was the direct supervisor of those providing information about the accommodations they provided.

Zafft, Hart, and Zimbrich (2004) conducted a matched cohort follow-up study of 40 youth with ID who did and did not participate in PSE. Participants were high school students with ID from high schools in Massachusetts; 20 participated in PSE opportunities coordinated through the College Career Connections program and 20 stayed in high school, enrolled in life skills programs. The study used a follow-up survey to determine outcomes for these 40 individuals. Participation in PSE was positively correlated with independent and competitive employment, earning a high school diploma, and taking more courses at college. Students who stayed in high school were more likely to work more hours per week than those who attended PSE. Limitations to this study were not listed.

Limitations of Reviewed Literature

Limitations of reviewed articles were coded as (a) no limitations discussed; (b) self-reported data; (c) small number of participants; (d) small geographic area; (e) no reliability/triangulation information; and (f) other. Half of the articles (12; 50%) did not meet rigorous academic standards or discuss any limitations. The other published works addressed limitations to their research, most indicating more than one. In all, 28 limitations were identified by the authors of the remaining 12 articles (range of 1 to 5). The frequency of reported limitations was small geographic area (9), small number of participants (7), use of self-reported data (6), other limitations (4), and no triangulation (2). Other limitations indicated by authors included the use of survey instruments developed for the study that were not validated (three authors listed this limitation). Another study identified the secondary analysis of an existing database as a limitation.

Discussion

What Do We Know?

These 24 works, published or completed between 2001 and 2010, provide a more detailed description of the nature of PSE experiences for students with ID than the literature described in the review conducted by Neubert et al. (2001). While the majority of these articles continue to be program descriptions, they provide more detail about specific program features than in the past. They also reveal a great difference in program features, supports, and admission requirements. Included in this group are descriptive details of how faculty and program developers design programs, clearly articulating their program goals and guiding program philosophies. For example, rather than just describe a program as "inclusive" by saying that participants are able to take college courses for credit or audit them, these articles list the courses that students attended and how faculty made changes to existing courses to enhance access to instruction, materials, and assessment for students with and without disabilities (Blumberg et al., 2008; Carroll et al., 2008).

Similarly, some of the articles identified steps staff members followed to implement the programs under scrutiny and, in many cases, described the evolution of a program over several years. Challenges as well as strengths were discussed with recommendations to avoid or at least minimize challenges for the next group (Kirkendall et al., 2008; Pearman et al., 2004). These types of programmatic details are important to help the field build on the successes as well as avoid the missteps of others while improving educational

services delivered to students with ID. In fact, too often the field fails to learn from the past or from related developments that should inform their practice and research rather than replicate past mistakes in new settings. Lastly, these details help those who attempt to translate research to practice without having access to observe the program and ask questions of those involved in implementing it.

There are other ways that the literature of the past 10 years has changed from that of the preceding decades. First, there were a number of published articles that attempted to identify trends in the field or in a specific state or region, rather than one program. National studies attempted to describe transition services and outcomes more broadly (Katsiyannis et al., 2005). Other articles focused on the perspectives of parents (Grigal & Neubert, 2004), faculty (Fisher, 2008) or a range of PSE program developers (Neubert & Moon, 2006; Weir, 2004).

In addition, published works about PSE for students with ID over the past decade have focused on the students themselves. Several researchers used individual case studies to better understand and report on students' experiences. One such study was a dissertation (Redd, 2004) that was later summarized in a published article (Neubert & Redd, 2008). Others were published studies that described a different approach to PSE: students initiating the connection with a college outside of a formal "program" (Casale-Giannola & Kamens, 2006; Zafft, 2006). Zafft et al. (2004) and Hart et al. (2010) described this newer pathway to PSE as more closely associated with that of a typical dual enrollment student (that is, a student enrolled in both high school and college simultaneously). While the authors of these articles acknowledged the challenges of implementing this approach for a large number of students, they also indicated that it could assist with individualizing the supports and services needed by a specific student with ID.

Does PSE Result in Improved Outcomes?

Another goal of this literature review was to determine whether PSE experiences for students with ID resulted in improved outcomes compared to other options. Despite the fact that much of the literature published prior to 2000 recognized the need to study such outcomes, the literature has offered little in the form of actual findings. Only one study in the present review attempted to compare employment outcomes for students with ID who stayed in high school versus those who participated in a PSE program on a college campus (Zafft et al., 2004). They found improved employment outcomes for students who participated in the PSE program but also indicated that the comparison school had poor outcomes overall related to employment. Further research is necessary to learn more about the outcomes of students with ID who participate in some form of PSE experience.

The descriptions of the PSE experiences of students with ID indicate that such programs have produced a range of positive outcomes (Casale-Giannola, 2005; Dolyniuk et al., 2002; Hamill, 2003). These students reported that they learn more in academic, social, and functional domains compared to what they learned in high school settings. Not only did students with ID identify positive experiences as a result of their participation in PSE programs, others who interact with students with ID report that they benefitted from these interactions. They did not feel that their presence detracted from the academic or social experience of the college setting as some may have feared (Eskow & Fisher, 2004; Hafner, 2008).

Two primary reasons have been cited for offering PSE experiences for students with ID: to provide instruction in a more inclusive environment and to improve employment outcomes. Students with ID are eligible to continue to receive public school supports and services through the age of 21 under the Individuals with Disabilities Education Improvement Act ([IDEA], 2004). However, their peers without disabilities are no longer in high school, limiting the opportunity for them to be educated in an inclusive setting. As noted in the literature, programs for this group of students are being offered on college and university campuses to facilitate their opportunities to learn alongside and interact with their peers without disabilities. The reviewed literature provided little evidence, however, that all of these programs used empirically-effective strategies for supporting inclusive education and/or the interactions with same age peers without disabilities. While some articles indicated that students with ID were forming relationships with peers, auditing university courses, and having other PSE experiences with their peers, other studies indicated that students with ID reported that they wanted more interaction and friendships with their peers. Further investigation will be necessary to determine which program features, supports, services, and experiences if any result in

positive inclusive educational opportunities as well as interactions with same age peers (Casale-Giannola & Kames, 2006; Dolyniuk et al, 2002; Eskow & Fisher, 2004; Hafner, 2008).

Another rationale for providing postsecondary programs for youth with ID comes from the improved employment outcomes that have been linked to PSE for individuals without disabilities as well as for individuals with learning disabilities (Baum & Ma, 2007). Only one study attempted to answer the question of whether students with ID who participated in PSE experiences had improved employment outcomes. Zaftt et al. (2004) compared the employment outcomes of two matched groups of students with ID; one group received their educational services in the high school, the other in a PSE setting. This study found that the group who participated in PSE experiences did have improved employment outcomes. This is a promising finding but one that calls for further study. In addition to this study, many of the program descriptions indicated that students had work experiences and/or exited the program with jobs. Although these articles did not directly link participation with employment outcomes, they described programs that often contained components such as paid work experience that have been linked to improved employment outcomes (Eskow & Fisher, 2004; Hartman, 2009; Pearman et al., 2004).

Future research should build on cross-program studies and seek to make comparisons in outcomes for students who participate in PSE programs or experiences and those who participate in other high quality programs for students with ID in the 18-21 year age range. Such studies would benefit from being conducted by multiple researchers, both those who are closely associated with programs to provide insight and depth, as well as those who are outside the program who could bring a fully objective perspective to the studies.

Lastly, future researchers should describe their methodologies more completely, including their limitations. There may be many reasons why the limitations of studies and articles were so often missing from the published literature, including the challenges inherent in translating a large qualitative study into the size of a published manuscript. However, the fact that the limitations to these studies were not included in the published articles hurts rather than helps the credibility of this emerging practice.

Is There Evidence to Warrant This Transition Outcome Over Other Outcomes?

This literature review did not provide sufficient evidence to answer this question, particularly since participation in PSE for students with ID may not be a transition outcome but can also refer to a type of transition service or transition education. PSE for students with ID can refer to education on a college/university campus that occurs after high school (Blumberg et al., 2008), a program located on a college/university campus for students who are still receiving education as mandated by IDEA (2004) through the age of 21 (Neubert & Redd, 2004), or a program that supplements other education and/or transition services being provided by a local school district or adult service agencies (Kirkendall et al., 2008). Youth with ID are referred to as postgraduates, PSE students, outreach students, or transition students, depending on the nature of the program design and age of the young adults with ID. This makes comparisons across programs and studies difficult. Further complicating the analysis of this literature is the fact that a range of different supports, services, and strategies are described. Indeed, one article did not even include experiences on a PSE campus but was still referred to as a PSE program because it focused on individuals who were in the 18-21 age range. For some students with ID, it appears that only the location where they receive the educational supports and services has changed rather than the services, supports, or instructional strategies themselves.

Limitations of this Literature Review

The conclusions of this literature review must consider the limitations, delimitations, as well as strengths of its methodology. First, the keyword search used to identify the pool of possible articles may have been insufficient. Since many of these programs were designed for transition-aged students still receiving secondary education services, the literature on transition services in general could have been included and would have further assisted with the analysis of effective practices, programs, and services for students with ID between the ages of 18 and 21. Second, some of the programs included components delivered in settings other than colleges and/or universities. Community-based instruction, service learning, and/or employment supports and services (i.e., job coaching, supported employment, community living) could have provided a more comprehensive pool of articles

to use for comparison purposes. Lastly, some of the goals of the programs described should have been used to determine the quality of the supports and educational services provided. For example, many of these programs listed such supports as self-determination, inclusion, friendships, and independent living skills as part of their program goals. This review did not include a summary of the impact of these skills on student transition outcomes or improved quality of life.

What Questions Remain?

A number of new research questions have emerged from this review of the literature regarding the PSE experiences of students with ID. First, this group of students is small, making large scale, randomized research studies difficult or impossible to conduct. Wherever possible, however, we must attempt to understand what works from research on secondary and PSE of students with disabilities in general, such as universal design for learning, self-determination, and the use of technology. As stated by Katsiyannis et al., (2005) "identifying and implementing public school practices that are likely to result in improved post-school outcomes in areas such as independent living, employment, post secondary education and training, and community involvement is needed to meet both legal mandates and professional responsibilities" (p. 115). Not only does the field need more information about what works to prepare students with ID for postschool outcomes, additional information is needed to determine what works in these alternative settings. Very little of this information was present in the published works reviewed in this literature search.

There is a limited amount of information about how many students with ID are currently participating in the various types of PSE programs, how they participate, and with what results. The lack of basic data on this phenomenon derives in part from the challenges of conducting research that fully describes the experiences of students and programs in such a way that comparisons can be made. Based on our review of the current literature, we conclude that progress in establishing an evidence base for PSE and training for persons with ID is hampered by three fundamental limitations:

- There is no taxonomy or common terminology by which PSE programs, participants and/or outcomes are consistently described.
- There is little detail and shared understanding of the nature, goals, and objectives of the various PSE approaches and/or pathways.
- There has been a limited effort to develop and test instrumentation for gathering valid, reliable, and sufficiently comprehensive objective data on the desired outcomes of PSE programs.

In building a knowledge base about the PSE experiences of persons with ID, a more systematic approach to organizing, gathering, and analyzing data is needed. The variety of programs, participants, and experiences are simply too great to be able to improve knowledge without improving its systematization. The field will benefit from increased support for model programs that are studied systematically using high quality research methodology and published widely. We suggest three broad areas to address in future research. The areas are 1) creating a taxonomy for describing PSE programs, participants, and outcomes; 2) understanding program models in terms of the nature, goals, and objectives of individual programs; and 3) developing and testing instrumentation for gathering valid and reliable objective data on the outcomes of PSE programs.

Conclusion

The opportunity for individuals with ID to participate in PSE programs was strengthened considerably in the Higher Education Opportunity Act of 2008 as well as through promising practices for transition services as required by the IDEA (2004). The opportunity to participate in any program is by no means a guarantee of benefit from it, however, either for the individual or for society. The PSE experiences of individuals with ID remain relatively rare, particularly as described in the limited research literature of the field. In the instances where these experiences are available, they vary widely along dimensions such as social inclusion, academic integration, academic and social supports, and cost of participation. The field has made advances in categorizing the types of experiences that students with ID have reported in the past ten years as well as gathering broader perspectives about the implementation, development, and evaluation of these programs. Additional efforts to further measure outcomes and to find ways to compare implementation, models, and outcomes in a systematic way are warranted for the upcoming decade.

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 post-school outcomes of youth with disabilities: Findings from the National Longitudinal Transition Study. *Exceptional Children, 62*, 399-413.

*Blumberg, E. R., Carroll, S. Z., & Petroff, J. G. (2008). Career and community studies: An inclusive liberal arts programme for youth with intellectual disabilities. *International Journal of Inclusive Education, 12*(5-6), 621-637.

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 March 25, 2010 from http://www.bls/cps/demographics.htm#education).

Calefati, J. (2009, February). College is possible for students with intellectual disabilities. *U.S. News and World Report*. Retrieved from http://www.usnews.com/articles/education/2009/02/13/college-is-possible-for-students-with-intellectual-disabilities.html

*Carroll, S. Z., Blumberg, E. R., & Petroff, J.G. (2008). The promise of liberal learning: Creating a challenging postsecondary curriculum for youth with intellectual disabilities. *Focus on Exceptional Children, 4*(9), 1-12.

*Casale-Giannola, D., & Kamens, M. W. (2006). Inclusion at a university: Experiences of a young woman with Down syndrome. *Mental Retardation, 44*(5), 344-352.

*Dolyniuk, C. A., Kamens, M. W., Corman, H., DiNardo, P. O., Totaro, R. M., & Rockoff, J. C. (2002). Students with developmental disabilities go to college: Description of a collaborative transition project. *Focus on Autism and Other Developmental Disabilities, 17*(4), 236-241.

*Eskow, K. G., & Fisher, S. (2004). Getting together in college: An inclusion program for young adults with disabilities. *Teaching Exceptional Children, 36*(3) 26-32.

*Fisher, A. (2008). *Faculty perceptions of students with intellectual disabilities in public postsecondary education.* (Unpublished doctoral dissertation). Texas A&M University-Commerce.

*Grigal, M., & Neubert, D. A. (2004). Parents' in-school values and post-school expectations for transition-aged youth with disabilities. *Career Development for Exceptional Individuals, 27*, 65-85.

*Grigal, M., Neubert, D. A., & Moon, M. S. (2001). Public school programs for students with significant disabilities in postsecondary settings. *Education and Training in Mental Retardation and Developmental Disabilities, 36*(3), 244-254.

*Grigal. M., Neubert, D. A., & Moon, M. S. (2002). Post-secondary options for students with significant disabilities. *Teaching Exceptional Children, 35*, 68-73.

*Hafner, D. (2008). *Inclusion in postsecondary education: Phenomenological study on identifying and addressing barriers to inclusion of individuals with significant disabilities at a four-year liberal arts college.* (Unpublished doctoral dissertation). Edgewood College).

*Hamill, L. B. (2003). Going to college: The experiences of a young woman with Down syndrome. *Mental Retardation, 41*(5), 340-353.

Hart, D., & Grigal, M (2009, November). Think college! College options for people with intellectual disabilities. *State of the science conference on post-secondary education for students with intellectual disabilities*. Fairfax, VA.

*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., Mele-McCarthy, J., Pasternack, R. H., Zimbrich, K., & Parker, D. R. (2004). Community college: A pathway to success for youth with learning, cognitive, and intellectual disabilities in secondary settings. *Education and Training in Developmental Disabilities, 39*(1) 54-66.

Higher Education Opportunity Act. Public Law 110-315, August 14, 2008.

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 of 2004. Public Law 108-446, 118 Stat. 264, December 3, 2004.

*Katsiyannis, A., Zhang, D., Woodruff, N., & Dixon, A. (2005). Transition supports to students with mental retardation: An examination of data from the national longitudinal transition study 2. *Education and Training in Developmental Disabilities, 40*(2) 109-116.

*Kirkendall, A., Doueck, H. J., & Saladino, A. (2009). Transitional services for youth with developmental disabilities: Living in college dorms. *Research on Social Work Practice, 19*(4), 434-445.

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

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

National Center for Educational Statistics (2006). Digest of Educational Statistics, 2006 edition.

National Council on Disability (2003). People with disabilities and postsecondary education: Position paper. Washington, DC: Author.

National Longitudinal Transition Study-2 (2003). Y*outh with disabilities: A changing population.* A report of findings from the national longitudinal transition study and the national longitudinal transition study-2. Retrieved December 3, 2003 from http://www.nlts2.org//reports/changepop_reports.html.

*Neubert, D.A., & Moon, M.S. (2006). Postsecondary settings and transition services for students with intellectual disabilities: Models and research. *Focus on Exceptional Children, 39*(4), 1-8.

*Neubert, D.A., Moon, M. S., & Grigal, M. (2002). Postsecondary education and transition services for students ages 18-21 with significant disabilities. *Focus on Exceptional Children, 34*(8) 1-11.

*Neubert, D.A., Moon, M.S., & Grigal, M. (2004). Activities of students with significant disabilities receiving services in postsecondary settings. *Education and Training in Developmental Disabilities, 39*(1) 16-25.

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.

*Neubert, D.A. & Redd, V.A. (2008). Transition services for students with intellectual disabilities: A case study of a public school program on a community college campus. *Exceptionalities, 16*, 220-234.

*Pearman, E., Elliott, T., & Aborn, L. (2004). Transition services model: partnership for student services. *Education and Training in Developmental Disabilities, 39*(1), 26-34.

*Redd, V.A. (2004). *A public school-sponsored program for students ages 18 to 21 with significant disabilities located on a community college campus: A case study.* (Unpublished doctoral dissertation). University of Maryland.

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.

Schmidt, P. (2005). From special ed to higher ed. *Chronicle of Higher Education, 51*(24), 5-6.

Schalock, R.L., Luckasson, R.A., & Shogren, K.A. (2007). The Renaming of Mental Retardation: Understanding the Change to the Term Intellectual Disability. *Intellectual and Developmental Disabilities, 45*(2), 116-124.

Stainback, S., Stainback, W., & Forest, M. (Eds.). (1989). *Educating all children in the mainstream of regular education.* Baltimore: Paul H. Brookes Publishing.

Stodden, R.A., & Dowrick, P.W. (2000). The present and future of postsecondary education for adults with disabilities. *Impact, 13*, 4-5.

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.

U.S. Department of Education (2004). *Research and innovation to improve services and results for children with disabilities* (CFDA 84.324c). Washington, DC: Author, Office of Special Education Programs.

U.S. Equal Employment Opportunity Commission (2004). *Questions and answers about persons with intellectual disabilities in the workplace and the Americans with Disabilities Act.* Washington, DC: Author.

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

*Weir, C. (2004). Person-centered and collaborative supports for college success. *Education and Training in Developmental Disabilities, 39*(1), 67–73.

*Zafft, C. (2006). A case study of accommodations for transition age students with intellectual disabilities. *Journal of Postsecondary Education and Disability, 18*(2), 167-180.

*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*(1), 45-53.

*Indicates a study or published article included in this review of literature.

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Authors' Note

This paper is intended to promote the exchange of ideas among researchers and policy makers. The views expressed in it are part of ongoing research and analysis and do not necessarily reflect the position of the U.S. Department of Education.