

Inclusion

Quality-of-Life Characteristics of Individuals with Intellectual Disabilities

Entering a Residential College Program

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Abstract:	<p>Post-secondary education programs are increasing in the United States and worldwide with the goal of improving quality-of-life (QOL) outcomes for people with intellectual disabilities (ID). The current study explored if people with ID entering college are comparable to others with ID on QOL indicators. Findings indicate that soon-to-be college students responded similarly to national samples on a majority of QOL indicators. An important difference existed in paid employment; college-bound individuals responded more often that they had a paid job compared to respondents of the national surveys who were not pursuing a post-secondary education. Implications for studying QOL outcomes of people with ID who attend college are discussed.</p>



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Abstract

The number of post-secondary education (PSE) programs is increasing in the United States and worldwide with the goal of improving quality-of-life (QOL) outcomes for people with intellectual disabilities (ID). The current study explored if people with ID entering a residential college-based PSE program differed or were the same in their reported QOL outcomes as other young adults with ID. Findings indicate that soon-to-be college students responded similarly to national samples on a majority of QOL indicators. An important difference existed in paid employment; college-bound individuals responded more often that they had a paid job compared to respondents of the national surveys. Implications for studying QOL outcomes of individuals with ID who attend college and for practice and policy are discussed.

Keywords: intellectual disabilities; post-secondary education; inclusive higher education; quality-of-life outcomes; NLTS2; NCI

Quality-of-Life Characteristics of Individuals with Intellectual Disabilities

Entering a Residential College Program

Countries around the world are expanding their post-secondary education (PSE) programs to include students with intellectual disabilities (ID) in an effort to promote inclusion, limit segregation, and improve lifelong outcomes for all people (Strnadová et al., 2018). The World Conference on Special Needs Education (UNESCO) first adopted the principle of inclusive education in 1994 and reinforced this principle in 2000. The 2006 UN Convention on the Rights of Persons with Disabilities expanded the right of equal opportunity to education, including inclusive lifelong education to people with disabilities (United Nations General Assembly, 2006).

PSE programs across the world (e.g., Australia, Canada, Iceland, Ireland, and United States) seek to provide a “normative pathway” to positive adult outcomes for people with ID (Björnsdóttir, 2017; Corby et al., 2020; Grigal et al., 2011; O’Brien et al., 2009; Plotner & May, 2019; Rillotta et al., 2020; Uditsky & Hughson, 2012, p. 299). The 2004 United States Individuals with Disabilities Education Act (IDEA) (formerly known as the Education for all Handicapped Children Act of 1975) ensures students with disabilities have access to a public-school education in “the least restrictive environment.” Likewise, federal legislation supports student with disabilities participating in PSE (Americans with Disabilities act, 2008; Section 504 of the Rehabilitation Act, 1973). However, until recently, students with ID have not had opportunities to attend PSE programs (Thoma et al., 2011). Results from the National 2009 Longitudinal Transition Study 2 (NLTS2) (U.S. Department of Education, n.d.a) confirm that only 28.5% of people with ID reported ever having enrolled in a PSE program and none reported attending a four-year college/university. In part to address this need, the U.S. Higher Education

Opportunity Act (HEOA) (2008) increased support for students with ID to attend inclusive higher education programs and contributed to an increase in college programs for people with ID (Jernudd et al., 2019).

PSE Program Features and Student Characteristics

PSE programs vary significantly among the structures, supports, and services offered (Björnsdóttir, 2017; Corby, et al., 2020; Grigal et al., 2011; Grigal et al., 2013; O'Brien et al., 2009; Plotner & May, 2019; Rillotta et al., 2020). Some programs are limited to segregated special education courses and others offer only individualized versions of fully-inclusive offerings; the most common structure is a hybrid of the segregated and fully inclusive models (Grigal et al., 2011; Grigal et al., 2013). Further, the level of integration in social activities and the campus community varies, by, among other factors, the purpose of the program, the mission of the institution (e.g., a two-year college versus a four-year university), and residential options.

Along with the variation in the characteristics of PSE programs for students with ID, the backgrounds of the students with disabilities who attend a college program and their families are variable. Smith and colleagues (2017) reported on the demographic characteristics of 734 students participating in 52 Transition and Postsecondary Programs for Students with ID (TPSID) programs during the 2014-2015 school year. They found that 57% of students were male and 42% were female. Most of the students were White (73%) with 15% Black or African American, 10% Hispanic, and 6% Asian. Researchers have studied experiential factors that are related to people with disabilities that may influence whether they pursue a PSE program such as whether a young person with a disability has had paid or unpaid employment or participated in a work-study program, was included in general education courses in high school, or was actively involved in transition planning (Mazzotti et al., 2021;. Papay, 2011). In addition, the level of

personal characteristics such as demonstrated autonomy, level of independent living skills, self-determination and self-advocacy, social skills, and technology skills seem to be predictors of postsecondary education participation (Mazzotti et al., 2021; Papay, 2011; Smith et al., 2017). These same characteristics may interact with their college experience, impacting their post-college outcomes. Likewise, family factors such as financial stability, extensive advocacy experience, or parental expectations and involvement may be related to whether the individual with ID chooses to attend a college program and further influence post-college outcomes (Mazzotti et al., 2021; Papay, 2011; Papay, et al., 2018; Shogren et al., 2018).

Quality-of-Life Outcomes

The concept of Quality-of-Life (QOL) has become prominent in developing and evaluating efforts to support people with ID (Wang et al., 2010), including the impact of college-based PSE. QOL is an ambiguous term that can be defined as a general sense of wellbeing. It is a complex construct (Wehmeyer & Schwartz, 1988) that is associated with values of happiness, satisfaction, feelings of well-being, and opportunities to achieve (Townsend-White et al., 2012). Researchers, theorists, and policy makers from a variety of disciplines have studied QOL and its related outcomes (e.g., Claes et al., 2010; Cummins, 2000; Faragher et al., 2017; Friedman & Rizzolo, 2018) across countries and geographical regions (e.g., Beyer et al., 2010; Bigby & Beadle-Brown, 2018; Downs et al., 2019; Nieuwenhuijse et al., 2019; von Loon, 2021; Wang et al., 2010). QOL “has become an agent for social change ... [it] makes us think differently about persons with ID” (Shalock et al., 2008, p. 181).

Researchers are using QOL measures to study the impact of PSE programs and the outcomes of individuals completing them, particularly employment outcomes (Björnsdóttir, 2017; Corby et al., 2020; O’Brien et al., 2009; Plotner & May, 2019; Rillotta et al., 2020).

Employment is often used as a QOL indicator for people with ID in part because people with disabilities, and especially those with ID, are likely to experience unemployment and low wages at greater rates than persons without disabilities (Grigal et al., 2011; Prohn et al., 2018; Thoma et al., 2011). Independent living, satisfying relationships, community involvement and connections, self-determination, lifelong learning, and health and wellness are also considered when assessing the QOL of people with ID (Sheppard-Jones et al., 2018; Thoma et al., 2011). Additionally, Bertelli and colleagues (2020) found that spirituality, spiritual well-being, and religion are recognized as significant QOL outcomes for all people, including those with disabilities.

Expanded research is needed regarding QOL indicators as people with ID are gaining access to college-based PSE. Butler et al. (2015) used the National Core Indicators (NCI) to survey people with ID who had completed at least two semesters of a college program and compared their responses to those of people with ID who did not attend college. They found that the college environment seemed to support improved QOL outcomes in employment, health, relationships, and community involvement. In addition, Moore and Schelling (2015) conducted a comparative case study of two types of college-based PSE programs for students with ID: an integrated program, where students with ID access college courses with individualized supports, and a specialized program, where students attend only classes with other students with disabilities. Moore and Schelling found that students in both the integrated and specialized programs reported higher levels of past and current employment than NLTS2 respondents. Both of these studies indicate that college programs for people with ID seem to impact the QOL outcome of employment. However, missing from analysis in both these studies were data on QOL indicators of college-bound students with ID before they attended college and how this data compares with their counterparts who did not attend college.

Similar to Butler et al. (2015) and Moore and Schelling (2015), Sheppard-Jones and colleagues (2018) used a national survey, the NCI, and studied the outcomes of 19 people with ID who completed a college-based PSE program. The researchers found that the responses of program completers differed on several indicators (e.g., employment, social relationships, health, community inclusion, and autonomy) from a statewide sample of people with ID who completed the NCI survey. However, the authors recognized that they could not make clear conclusions on the impact of the college program on these outcomes, as they were not able to establish if the statewide sample was indeed comparable to the college program completers on important characteristics such as family socioeconomic status and K-12 school experiences. Moreover, differences in QOL outcomes after completing college program may be related to differences in these same indicators prior to attending a college program. Comparing responses of students prior to beginning their college program with responses from a larger representative sample may provide insights into the comparability of the two groups. The aim of this study, was to examine the characteristics of the students beginning a residential college program and compare them to a broader sample of people with ID, thereby determining if the two groups were the same or different on key indicators before participation in college-based PSE.

Study Purpose

There is evidence that people with ID who complete a college program have better employment and independent living outcomes than those who do not attend PSE (Björnsdóttir, 2017; Corby et al., 2020; O'Brien et al., 2009; Plotner & May, 2019; Rillotta et al., 2020); however, more research is needed regarding the QOL of these students upon entering a PSE program. The purpose of this study was to explore if students with ID, who attend a residential college-based PSE program, differ or were the same in their reported QOL outcomes as young

adults with ID in general. Specifically, this research addressed the following question: Are QOL indicators for people with ID who are entering a residential college-based PSE program the same or different than people with ID in general?

Methodology

There is a need for longitudinal research on the outcomes of students with ID who attend PSE programs (Grigal et al., 2013; Thoma et al., 2011). This research was part of a longitudinal study, where the researcher measured QOL outcomes over three time points:

1. During the summer before the accepted student begins college to capture pre-program QOL data;
2. Six months after graduation (in November of the same year); and
3. One-year past graduation (in May/June of the year following graduation).

Data collection (interview surveys) began in Fall 2018 and will be completed Spring 2024. For this specific study, the researcher analyzed the QOL data of four cohorts of students ($N = 27$) entering a residential college program and compared the data to data from the National Core Indicator (NCI) (Human Services Research Institute & The National Association of State Directors of Developmental Disabilities Services, 2002) and the National Longitudinal Transition Survey 2 (NLTS2) (National Center for Special Education Research, n.d.). The purpose of the NCI survey is to provide data on the outcomes of people receiving state intellectual and developmental disability services; therefore, all participants are 18 years or older and receive at least one paid service from the state where they live. The number of respondents in the national survey varied with each indicator with 66% identifying as male and 33% as identifying as female. Sixty-seven percent of participants identified as White, 16% identified as Black or African American, 10% identified as Hispanic/Latino, 2% identified as Asian, and 1%

each identified as unknown, two or more races, or other (Human Services Research Institute & The National Association of State Directors of Developmental Disabilities Services, 2002). The NTL2 selected a nationally representative sample of 11,700 youth representing all special education categories. Researchers surveyed participants in five waves over the 10-year period of 2001-2011, examining student characteristics, educational experiences, and early adulthood outcomes. (Griffin & Steinbrecher, 2013; Murray et al., 2021; National Center for Special Education Research, n.d.).

Setting

This research study was conducted at a private, faith-based liberal arts institution located in the United States. The student population of approximately 5,000 was evenly distributed between traditional undergraduate and post-traditional (adult undergraduate, graduate, and seminary students). The majority of the traditional undergraduate students are residential.

Within this institutional context, the college-based PSE program for young adults with ID is a fully residential two-year program. These students earn an Applied Skills Certificate, while focusing on five benchmarks: self-care, home care, relationships, academics, and employment. The PSE program is a mixed program, providing inclusive opportunities in coursework, employment, residential, and social activities with traditional students, as well as life skills and career training in courses specific to students with ID. (Harrison et al., 2019). The PSE program employs eight full-time staff, along with traditional students who serve as mentors for students with ID in academics, employment, and residential life. The University welcomed its eighth cohort of students with ID in fall of 2022.

Procedures and Participants

Twenty-seven students, spanning four cohorts, completed the QOL survey before beginning their residential college program. All 27 students (18 females and 9 males) were White and had been accepted to the college-based PSE program. They planned to move to campus and begin their college experience within a few weeks, some within a few days of completing the survey. All students admitted to the college-based PSE program are 18 – 25 years old and meet the American Association on Intellectual and Developmental Disabilities criteria for ID, including having a documented IQ score of 75 or lower and demonstrating limitations in adaptive functioning (American Association on Intellectual and Developmental Disabilities (n.d.). The researcher read the survey questions aloud and each participant completed the interview and survey by saying aloud their responses to the researcher who marked the survey.

All incoming students were invited by the researcher to participate in the study, along with notifying the students' parent(s) or guardian(s). The director of the program provided the names and contact information of incoming students; the director and the rest of the college-based PSE program staff were not involved further with recruitment and were not informed by the researcher which students were participating in the study. Students who agreed to participate in the study submitted the necessary consent/assent forms as indicated by the student's guardianship status prior to completing the survey. Each participant was assigned a study identification number.

Surveys were completed through a direct interview with the study participant; the researcher read each question and the answer options and recorded the participants' responses. The interviews lasted approximately 30 minutes with some variations based on the additional information each participant offered. Interviews in the first two cohorts were conducted in person at a place chosen by the participants (e.g., their home, a coffee shop, on the university campus)

and recorded. Prior to the interviews, the researcher explained the types of questions on the survey to aid the participants in determining if they would like to meet in a private or public setting. Interviews in the last two cohorts were conducted and recorded via zoom due to the COVID-19 global pandemic. Participants were advised that they did not have to answer each question and they could end the interview at any time. Data from the interviews were transferred to a spreadsheet for analysis. The study was approved by the University Institutional Research Board.

Instrument and Data Collection

The researcher adhered to Schalock et al.'s (2008) guidelines for developing a tool to measure QOL:

1. Derive the item pool from previous research and the professional literature,
2. Incorporate feedback from experts in the field,
3. Seek input from focus groups of stakeholders on each potential item,
4. Plan a pilot of the measure and procedure,
5. Administer a pilot study,
6. Select final items, and
7. Finalize items, administration, and scoring instruction.

To begin the process, the researcher reviewed professional literature on measuring outcomes for people with disabilities, particularly for people with ID, and identified the college-based PSE program goals and developmental benchmarks. Possible assessment items were initially selected from the NLTS2 Wave 5 survey (National Center for Special Education Research, n.d.a) and NCI (Human Services Research Institute & The National Association of

State Directors of Developmental Disabilities Services, 2002) that aligned with the five program benchmarks.

The researcher met with college-based PSE program stakeholders including staff and Advisory Committee members to review how each draft item aligned with the Program benchmarks and added value to these students. In addition, the study author met with two groups of experts in researching QOL outcomes of people with ID who have knowledge of administering and analyzing the NLTS2, and two researchers with knowledge of the NCI from the National Association of State Directors of Developmental Disabilities. These experts in assessing QOL outcomes of people with ID concurred that the items selected would be useful to measure the outcomes of program graduates.

A total of 70 researcher-selected items were reviewed by program stakeholders and 43 items were ultimately selected for the survey. Twenty-five items were selected from the Wave 5 Young Adult Survey of the NLTS2. The NLTS2 measures the secondary school and postschool outcomes of youth in the education, employment, social, and residential domains through five waves of data collection. The Wave 5 survey was selected because this was the final NLTS2 data collection and participants had completed high school (National Center for Special Education Research, n.d.b). Fourteen NCI items were chosen for the current survey. The NCI are standard measures used across states to assess outcomes of people and families who receive public services. They address key areas including employment, rights, service planning, community inclusion, choice, and health and safety (Human Services Research Institute & The National Association of State Directors of Developmental Disabilities Services, 2002). Finally, the researcher, with Program stakeholder input, wrote four survey items directly aligned to program goals. The researcher piloted the interview protocol and survey with an alumnus of the Program;

following their feedback, redundant items were removed from the survey and the time expectations for completing the survey were adjusted from approximately 45 minutes to 20 – 30 minutes. This process resulted in a final survey with 43 forced-response items aligned to the program's independent living and employment goals and provided opportunities for participant and administrator comments.

Data Analysis

For the current study, participant responses for each interview question were compared to reported responses on the NCI (2017-2018) and NLTS Wave 5 (2009). The researcher compared college-bound participants' responses to similar NCI and NLTS2 items which were administered to larger populations of adults (18 – 25 years old) with ID.

Results

Table 1 lists 33 items from the current survey that align with NCI and NLTS2 items and offer percentage of respondents who answered the question affirmatively. Additional follow-up survey items on these questions are discussed below. Table 1 indicates that the responses from the college-based PSE participants and the participants in the national surveys (NCI and NLTS2) are similar on 18 of the 33 items.

Table 1

Survey Responses of PSE Students with Intellectual Disabilities and Respondents to National Survey

Item	PSE Program Group %	National Average	
		NCI %	NLTS2 %
Living Arrangement			
Live with a parent, foster parent, or adult family member	100	78	71
Happy with current living arrangement	69	91	
Employment			
Currently has a paid job outside the home	64		37
Chooses to work part-time if working part-time	73		49
Treated well by others at the job	93		87
Education/training is put to good use at this job	100		85
Get along well with co-workers	47		56
Get along well with boss	67		59
Likes current job very much/fairly well	93		87
Community Inclusion			
Volunteer	52		21
Took lessons or classes in the last year	68		15
Attended a religious/spiritual service in the last month	68	40	
Able to go out and do the things you like to do	65	82	
Go to a coffee shop or restaurant in the last month	96	86	
Go out on errands in the last month	96	86	
Out for entertainment in the last month	75	75	
Participate as a member of community groups	80	63	
Relationships and Social Life			
Go on dates	20	85	
Hung out with friends in the last few weeks	88		71
Friends you like to talk to or do things with who are not family or staff	92	83	
Invited to social activities with friends in the past year	88		61
Friends connected with you in the past month	92		87

Item	PSE Program Group %	National Average	
		NCI %	NLTS2 %
Choice Making			
Did a hobby in the last week	100		43
Choose how to spend free time/has help deciding	100	92	
Decide your daily schedule or have input into deciding	88	85	
Choose what you buy with your spending money	96		88
Chose or had input into your place of work	93	74	
Financial Independence			
Have money from an allowance or paycheck that you can decide how to spend	100		79
Has a savings account	88		41
Has a checking account and writes checks	32		27
Has a credit card in own name	20		18
Wellness			
Someone to talk to if you feel afraid	92	95	
Exercise in the last month	92	44	

Living Arrangement

All of the respondents from the current study currently lived at home with family as they prepared to go to college, differing from respondents to the national surveys who lived with family (78% NCI and 71% NLTS2). The difference between the reported satisfaction of the current living situation (91% of the NCI respondents and 69% of PSE respondents) may reflect the fact that each respondent to the PSE survey was anticipating moving to college soon and mirrors the situations of other young adults in similar situations.

Employment

Two of the items related to employment revealed differences in the college-bound respondents and respondents to the national surveys. Sixty-four percent of students entering the program reported having a paid job outside the home compared with 49% of the NLTS2 respondents. Follow-up responses indicate differences between groups on the weekly hours

worked. A greater percent of PSE participants with a paid job indicated that they worked part-time. Sixty-two percent of program respondents indicated they worked less than 20 hours a week compared to 25% of NLTS2 respondents. The percent of people working 20 – 34 hours a week was similar between the two surveys (PSE Program 31% and NLTS2 34%). Thirty-seven percent of NLTS2 respondents indicated they work 34 – 40 hours a week compared to 8% of current respondents, indicating that 37% of NLTS2 respondents have reached the quality of life outcome of having paid full-time employment. Current study participants indicated that they preferred to work part-time (52%) compared to those in the national sample (21%).

Community Inclusion

Students entering the college-based PSE program indicated they attended a religious or spiritual service (68%) more often than those who responded to the NCI survey (40%).

Additionally, 36% of students entering the PSE program reported that they participated in a religious practice three to four times in the last month compared to 17% in the NCI survey. An additional question on the current survey revealed all incoming college students attended these services with family members and friends. These findings are not surprising given that the PSE program has a distinctive religious focus and likely draws students and families who are interested in pursuing a faith-based college experience.

A far greater percentage of students entering college (68%) indicated they had participated in a class or lesson in the past year than NLTS2 respondents (15%). It seems likely that people who have participated, enjoyed, and found success in classes and lessons would be drawn to a college program.

Relationships and Social Life

Although the overall responses to the question of “hanging out with friends” does not appear very different between the PSE respondents (88%) and the NLTS2 respondents (71%), the survey question asks respondents to indicate frequency. Data show people coming to college reported they socialize with friends in both the “sometimes” category and “every day” category (56% and 32%) more often than those in the NLTS2 survey (43% and 28%). Further, 29% of the NLTS2 sample indicated they never got together with friends in the last week, compared to 12% of the PSE sample.

A greater percentage of current survey respondents (88%) indicated they had been invited to join friends in social activities than NLTS2 respondents (61.1%). Through the survey development process, the current survey question added examples of social activities (“like events, hanging out, parties, trips, or other”) and during the years when the COVID-19 global pandemic influenced people’s inclination to meet in person, prompts like “zoom activities” were included to help respondents better understand the question. The NLTS2 data included responses from parents and people with a disability.

Responses to the question of dating varied between the PSE and NCI respondents. Only 20% of the current study participants indicated that they go on dates with some restrictions, 20% indicated they did not want to date and 60% indicated they simply did not date. Eighty-five percent of the NCI respondents noted that they date, are married, or are living with a partner (71%), or are able to date with some restrictions (14%).

Choice Making

The responses on the two surveys diverged around choosing to engage in a hobby. This item was modified from the NLTS2 survey for the current survey after consultation with stakeholders from the PSE program. Sixty percent of respondents in the current survey indicated

that they sometimes discovered or participated in a hobby in the last week; 40% of respondents said they did a hobby every day. No respondents on the current survey indicated they never did a hobby within the last week. These results are in contrast to the NLTS2 results on which 57% of respondents indicated they did not enjoy a hobby in the past few weeks.

Financial Independence

All of the PSE respondents (100%) and 79% of the NLTS2 respondents indicated they have some money that they can spend as they choose. A large majority of current survey respondents (88%) indicated that they have a savings account compared to 41% of NLTS2. The current survey also asked participants if they used a debit card as this is currently common among adults; this product was not mentioned in the NLTS2. Seventy-six percent of students entering the college-based PSE program responded that they use a bank debit card to make purchases and pay for entertainment, indicating a level of financial independence.

Wellness

In the area of exercise, more PSE respondents (92%) than NCI respondents (44%) indicated they had exercised in the past month. The survey question further probed into the frequency of participants' exercising. With input from the PSE program stakeholders, this item was modified from the original NCI item. The original item "Do you exercise or do physical activity?" (Human Services Research Institute & The National Association of State Directors of Developmental Disabilities Services, 2002) was changed in this study's survey to "In the past month, did you exercise?" followed by "How many times?" because stakeholders believed study participants would more likely offer a reliable response with this format. Table 2 records the data on reported frequency of exercise from the two surveys. It is interesting to note that nearly 40% of students preparing to go to college reported exercising almost every day.

Table 2

Reported Frequency of Exercise

Frequency of Exercise	PSE Program Group %	NCI % National Average
0 / none	9	56
2-8 times per month / 1-2 times per week	43	21
12-16 times per month / 3-4 times per week	9	12
Greater than 20 times per month / 5 or more times per week	39	11

The current survey asked a follow up question on who the respondent usually exercised with.

The PSE program respondents were split almost evenly between exercising alone (55%) and exercising with family and friends (45%).

Discussion

This study explored if students with ID who were entering a residential college-based PSE program differed or were the same in their reported QOL outcomes as young adults with ID in general; in other words, are the two groups comparable? Researchers have studied a range of QOL outcomes of people with ID who completed a college PSE program including rates of employment, community involvement, relationships, living situation, and healthy habits (Butler et al., 2016; Ryan et al., 2019; Sheppard-Jones et al., 2018) by comparing people completing a college program with others with ID. This study “answers the call” of previous studies by specifically providing pre-program data on important QOL outcomes and comparing the responses of students with ID entering a residential college PSE program with other 18 – 21-year-olds with ID (Hendrickson et al., 2015; Sheppard-Jones et al., 2018).

The current study indicates that people with ID who are beginning a residential college program are similar in many ways to other young adults with ID. Seven broad QOL domains were studied (living arrangement, employment, community inclusion, relationships and social

life, choice making, financial independence, and wellness). Survey participants who were entering a university program and respondents to the national surveys (NCI and NLTS2) responded in similar ways to many of the prompts. They differed in their responses to questions related to their living arrangements and employment. Across all other domains, the students entering college can be considered comparable to other young adults with ID (i.e., those who completed the corresponding NCI and NLTS2 surveys).

The differences in employment responses are important and nuanced; a greater percentage of respondents entering college indicated that they had a paid job outside of the home than NLTS2 respondents but fewer PSE participants reported working full-time. Previous research indicates that young people, and especially those with ID, who have any paid employment are more likely to secure future paid employment (Cmar, 2015; Mazzotti et al., 2021; Rabren et al., 2014; Spencer et al., 2021). Employment levels are often studied as an important QOL indicator for people with disabilities generally and specifically those with ID who complete a PSE program. Also, people with ID who responded to the NLTS2 survey indicated more often than PSE participants that they worked full-time. Bouck (2014) analyzed NLTS2 data of participants with “mild intellectual disability” and found that full-time employment increased over the six years following high school graduation (64%). The relatively low rate of full-time employment of the current study participants may be related to the amount of time since they graduated from high school as they are going to college in the first years after graduation.

Researchers identified paid employment as a research-based predictor of future PSE education and employment (Mazzotti et al., 2016; Mazzotti et al., 2021; Test et al., 2009). The current study supports their findings; students entering the college program were stronger in the

area of employment than respondents to the NLTS2. Additionally, this study's findings may indicate that past and present employment of people with ID entering college has set them up for a high rate of future employment whether or not they attended a residential PSE program. Therefore, these findings should be expanded upon in future studies and considered when analyzing post-college employment responses.

The data also revealed differences in some indicators related to community engagement. Specifically, current study participants who were entering a residential college program indicated that they volunteered more often than NLTS2 respondents. While some consider volunteering part of a community involvement domain (Ryan et al., 2019), others link volunteering with employment outcomes (Butler et al., 2016). Trembath and colleagues (2010) reported many benefits to volunteering (e.g., growth in self-esteem and confidence, expansion of social networks, development of skills). However, they cited limited findings that volunteering necessarily led to employment for people with ID. The current results indicate that college-bound students with ID were more likely than national survey respondents to be involved with their communities through volunteering.

Researchers increasingly explore the impact of PSE options on QOL outcomes of program participants by comparing them with broader groups of people with ID; however, more information is needed on how people with ID who attend PSE programs are similar and different than those who do not. As Sheppard-Jones and colleagues (2018) reported, it is not possible to conclude that participating in a university program contributed to post-program QOL differences without knowing if the two groups were comparable before entering college. This study explored areas of similarity and difference between people approaching college and others with ID and found that the two groups are similar on most QOL indicators. The finding that students

approaching college are more likely to have had paid employment is noteworthy as past and current research on the impact of PSE on individuals with ID often focuses on the QOL indicator of employment. The differences in rates of employment after completing a college-based PSE program may be related to difference in rates of employment before attending the program and needs to be researched more fully.

This study is part of a larger longitudinal study of the QOL outcomes of people with ID who complete a two-year, residential university program. Over time, the data collected before people begin the college-based PSE program will be compared twice to responses six months and one year after graduation. This future analysis will begin to address more specifically the impact of college-based PSE on people with ID.

Limitations

This study's small sample size of 27 as well as drawing from one college program limits the generalizability of the study findings. In addition, it is a difficult task to determine data that appropriately represents "others" to which to compare the responses of people with ID entering a PSE program. The researcher chose items from the NCI (Human Services Research Institute & The National Association of State Directors of Developmental Disabilities Services, 2002) and NLTS2 Wave 5 surveys (National Center for Special Education Research, n.d.b) and compared the responses of incoming PSE students to the responses of these large national surveys; this method introduced several limitations. For example, the sample represented by the NCI survey included only adults who were receiving federal developmental disability funds; not all of the students in the college-based PSE program access these funds introducing a variation with unknown influence. Also, comparison was made to NCI data that were reported for 2017-2018 which preceded the current study with student data from 2018-2021.

Using NLTS2 data also presents limitations as the NLTS2 data was collected in 2009. It is likely that circumstances surrounding the NLTS2 participants were different in several ways than the circumstances for the PSE program students starting in 2018. For example, the HEOA was passed in 2008 opening up federal financial assistance to people with ID and making college more accessible for this population. The possibility of college for people with ID has become more available and widely known due, in part, to the HEOA establishing a National Coordinating Center and funding an initial 52 Transition and Postsecondary Education Programs for Students with Intellectual Disabilities (TPSIDs) (Agarwal et al., 2020). Think College, a federally-funded center focused on increasing quality inclusive higher education opportunities for students with ID, currently recognizes 312 PSE programs for students with ID at four-year colleges in the United States (Institute for Community Inclusion, 2022). Also, in 2008, the U.S. Department of Labor added questions related to disability to the monthly Current Population Survey and began monitoring the employment status of people with disabilities. Policy makers now have access to accurate employment data when making policy decisions which was not possible prior to 2008 (U.S. Department of Labor, n.d.). While limitations are acknowledged (e.g., age of the data), the broad representation of national data sets continues to offer one possible avenue to research QOL outcomes people with ID who complete college-based PSE programs as well as implications for future research.

Implications for Future Research

A limitation of research examining the outcomes of students with ID in college-based PSE programs, including the current study, is the small number of program participants at each university. As college programs for people with ID are increasing, researchers need to collaborate to draw study participants from across college programs. This will provide a clearer

picture of the characteristics of people with ID who are headed to college as well as the outcomes of college program completers and provide opportunities for generalization. In addition, researchers need to explore methodologies to develop a more appropriate comparison group of young adults with ID who do not go to college. Finally, robust instruments to measure a range of outcomes need to be identified or developed to aid in studying the impacts of higher education experiences for students with ID.

Implications for Policy and Practice

Employment continues to be an important QOL outcome for people with disabilities, including those with an intellectual disability. Practitioners and policy makers should increasingly support practices that promote paid community employment through comprehensive transition planning, incentives to employers to hire people with disabilities, and increased funding for job development, placement and coaching services. P-12 school programs as well as PSE programs should systematically focus on career development to support people with ID to identify pathways to satisfying careers. In addition, there is a continuing need to invest in quality research to identify and measure factors that contribute to improving a broad spectrum of QOL outcomes for people with ID, not relying only on employment outcomes.

The results of this study suggest that college programs are attracting a subset of people with ID: those who are more likely to have had a paid job than others with ID. Efforts are needed to build awareness of college possibilities among children and youth with ID, families, and school and county case managers. Disseminating information about paying for college, including using state developmental disability funds and financial aid options, is also needed to increase the pool of students with ID who seek and attend college.

Conclusion

The results of this study show that people with ID who are starting a residential college program are similar to other young adults with ID in most QOL domains. Because survey participants who were entering a university program and respondents to the national surveys (NCI and NLTS2) responded in similar ways, the two groups can be considered mostly comparable across seven broad QOL domains: living arrangement, employment, community inclusion, relationships and social life, choice making, financial independence, and wellness. However, those headed to college were more likely to have a paid job; this is an important difference as previous and current paid work is a predictor of future employment outcomes and employment is often studied as an important QOL outcome for people with ID.

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