

## Postsecondary and Employment Expectations of Families and Students with Intellectual Disability

Kelly R. Kelley, Ph.D.  
*Western Carolina University*

Seb M. Prohn, Ph. D  
*Western Carolina University*

A survey was administered to assess overall expectations of administrators, teachers, families, and students with mild, moderate, and severe intellectual disabilities (ID) ranging in age from 14 to 21. Survey questions assessed expectations regarding paid jobs after school, wages, obtaining a regular high school diploma, getting a driver's license, living away from home, and attending postsecondary education. The survey was completed online or returned by mail. A total of 2,015 surveys were sent to four school districts with a 33.6% (n=677) response rate. This survey analysis focused more specifically on student and family expectations. Major findings indicated student expectations were higher than family expectations especially in postsecondary education.

*Keywords:* expectations, families, intellectual disability, employment, postsecondary education

Transition planning is a lifelong process that involves coordination among key stakeholders who support individuals with disabilities. As early as middle school or even prior, students with disabilities should be included as active members of their Individualized Education Program (IEP) and transition plans (Neubert & Leconte, 2013; Weidenthal & Kochhar-Bryant, 2007). There are many steps teachers, students, and families can take during the middle and high school years to help students with disabilities be more successful in employment, education, and independent living. Providing early planning experiences in middle school opens the door for helping students in high school to refine postsecondary goals, improve job skills through community-based instruction, and increased ability to find a paid job (Carter, Austin, & Trainor, 2012).

Despite suggested practices for transition planning, many of these remain limited due to expectations communicated by families, teachers, and even the students themselves (Carter et al., 2012). In contrast, Lindstrom et al. (2007) found families talking about high

expectations and dreams with their students with disabilities leads to higher post-school employment. Today, even though there are readily available examples of individuals who have jobs, attend postsecondary education programs, and live independently, expectations remain dismal in comparison to the general population. Setting the stage for support and communication early on with families may be necessary for them to feel more empowered to letting their child work during or after high school (Carter et al., 2012). Furthermore, Carter and colleagues also found a correlation between students with significant disabilities whose families believed in possibilities of finding work and being able to take care of themselves were more likely to have jobs and take care of themselves after high school (2012).

With regards to employment and expectations, research has shown that family expectations are among the strongest predictor of post-school employment (Carter et al., 2012; Chiang, Cheung, Hickson, Xiang, & Tsai, 2012; Newman, 2005). Family expectations that a student would definitely get a paying job were associated with a fivefold odd of being employed after high school, whereas expectations that the student would eventually be self-supporting were associated with a more than threefold odds of employment. Having regular household responsibilities were also associated with increased odds of employment after high school (Carter et al., 2012). Furthermore, Papay and Bambara (2014) recently found that after two years out of high school that youth whose families expected them to be employed were 58 times more likely to be employed and after four years of being out of high school that youth whose families had higher expectations for employment were 50 times more likely to be employed compared to youth whose families did not expect them to be employed. While employment is one pathway for greater quality of life and independence, postsecondary education can also serve as another pathway leading to greater opportunities.

Postsecondary education (PSE) is considered one vehicle or pathway to community inclusion, independent living and competitive employment for persons with ID, just as it has been for the general population (Research and Training Center on Community Living, 2016). Historically, expectations for families of students with ID attending PSE have also remained dismal. In 2004, Chambers, Hughes, and Carter interviewed eight family members and siblings of individuals with significant ID about post-school perceptions, and all eight families indicated their family member would enter vocational training or not participate in PSE. Taylor, Hurd, Seltzer, Greenberg, and Floyd (2010) further examined factors that impede family expectations of educational outcomes including: parental education, family income, living in a two-parent household, birth order and number of siblings, geographic locations, and access to community resources. Based on this longitudinal study conducted in Wisconsin, family expectations remained the strongest predictor of educational attainment for their children over all other factors evaluated.

In 2012, Martinez, Conroy, and Cerreto had consistent findings as families of individuals with ID ranging in age from 14 to 22 who were asked about their overall desires and expectations about employment and PSE. In response to career or vocational preparation, 57% desired employment opportunities while 43% of families expected it. Unfortunately, 66% of families desired segregated coursework or training, while 54% expected it. Furthermore, only 38% desired coursework or vocational education on a college campus

and 20% of families expected it, and finally only 23% of families desired their young adults to enroll in college for credit and only 11% expected it (Martinez et al., 2012).

Two years later, Papay and Bambara also examined eight outcomes for best practices in transition finding that family expectations for both employment and PSE were the strongest predictors:

Youth whose parents expected they would be employed were also 28 times more likely to have enrolled in postsecondary education up to 2 years out of high school than youth whose parents did not expect employment. Family involvement was found to be significant predictor of two outcomes and an important predictor of one additional outcome. Youth who had experienced family involvement were 41 times more likely to have attended postsecondary education between 2 and 4 years out of high school than youth whose families were not involved and were also 6 times more likely to report enjoying life between 2 and 4 years out of high school (2014, p. 144)

So what does all this mean for young adults with ID and their family members?

Expectations can have greater influence over outcomes than one might imagine. In relation to students, Wagner, Newman, Cameto, Levine, and Marder (2007) established that students who had higher expectations for their future (e.g., getting a good job, going to school, living independently) tended to have more positive post-school outcomes. Wagner and colleagues also stated students who had higher expectations for themselves also had families with higher expectations, although overall, students' expectations were generally higher than the family. Little research has been conducted to examine the overall family expectations versus middle and high school student expectations for themselves beyond high school. Therefore, the purpose of this research was to examine the overall expectations of middle and high school students with ID as well as their family members on plans for continuing their education post high school.

Specific research questions included:

1. Does respondent role (student/family) predict PSE expectations?
2. Are other expectations for post-school outcomes predictive of PSE expectations?
3. Among those with PSE expectations, is role associated with expectation of college (2 or 4-year)?
4. Are family PSE expectations stronger when their children have mild ID compared to moderate/severe ID?

## Method

### Survey Instrument

The two survey instruments included a total of 11 questions each. One survey was designed for families and the other asked parallel questions to middle and high school students with ID ranging in age from 14 to 21. The questions on each survey related to postschool outcomes in the areas of employment, postsecondary education, and independent living. The first question was the option to consent to the internet survey that

was approved by the university's IRB to administer through SurveyMonkey Inc. Other questions related to describing their disability (mild, moderate, or severe/profound ID), getting paid jobs, earning enough money to support themselves, getting a regular high school diploma, getting a driver's license, living away from home with or without supervision, attending schooling after high school, and the type of further education they might pursue (community college, university, technical or vocational program, or not sure). Responses to each of these questions used a four point Likert scale (definitely will, probably will, probably will not, definitely will not). Finally, the last question was open ended if the respondents wanted to share additional comments about future goals after high school. With the exception of the disability description, the student survey questions aligned with the family questions and also included Google images to accompany the keywords in each survey question (e.g., paid job = picture of money in hand). The student questionnaire also included an item to capture whether the survey was completed independently or with the assistance of a teacher, parent, guardian, friend, counselor, teaching assistant, or job coach.

## Participants

Participants were family members and students with ID being served in four North Carolina school districts. It is important to keep in mind as we share the results of the analysis that due to the nature of the partnership with the local education agencies (LEAs) distribution of the surveys were sent directly by the LEA personnel to respect the privacy obligations they have to families and students in their districts. Therefore, demographic data or direct emails of the survey respondents could not be disseminated primarily by the researchers. LEAs kept records of the number of emails sent and dates they were disseminated to share totals with researchers as requested. See Table 1 for demographic information.

Table 1

### *LEA Demographics*

	Type	Total Population	Total Middle and High Schools	Level of Education
LEA 1	Rural	8,541	1 MS 1 HS	79% HS Diploma 14% Bachelors
LEA 2	Suburban	157,974	5 MS 5 HS	83.4% HS Diploma 21.6% Bachelors
LEA 3	Suburban	132,754	5 MS 4 HS	85.8% HS Diploma 19.3% Bachelors

	Type	Total Population	Total Middle and High Schools	Level of Education
LEA 4	Rural	45,159	2 MS 1 HS	82.4% HS Diploma 14.6% Bachelors

*Note.* Data gathered for each LEA from the United States Census Bureau (2017).

## Procedures

An email inviting participants to respond to an online survey was disseminated directly by LEA school personnel to 2,015 middle and high school students with mild, moderate, and/or severe ID ranging in age from 14 to 21, family members, teachers, and administrators during the months of May and June 2014. Three email reminders were sent in total by the designated school personnel within the four school districts which included online links to the surveys. Respondents had the option to also complete the surveys by paper and return them in a prepaid mailing envelope as they were sent home with students. As paper copies of surveys were returned, they were also entered into the online survey system. From the 2,015 invited to complete the survey by LEA personnel (by email and in printed invitations as requested) there were a total of 677 respondents (33.6%) including teachers and administrators. From this return rate, 277 (41%) completing the survey were family members and 266 (39%) were students while the remaining 134 (20%) were teachers and administrators.

## Data Analysis

We planned a hierarchical multiple regression. The first model included respondent role, a categorical variable (families = 0, students = 1) that allowed us to explore contribution to model fit while examining the differences in students and family PSE expectations. The choice to include this single variable in the first step of the regression was made because students and families had been shown to differ in some of their post-school expectations (Wagner et al., 2007). The second and more exploratory step of the analysis examined the contributions to the model made by other post-school expectations. Traditionally, PSE has required graduation from high school for greater employment opportunities compared to those who do not graduate high school and who tend to have lower employment rates (U.S. Department of Labor, 2017). PSE programs for students with ID frequently cite increased employability as a primary intended outcome (Grigal, Hart, & Weir, 2012), but the connection between expectations for graduation, employment and postsecondary education for families and students required further exploration.

### *Chi-Square Test for Association*

For respondents expecting PSE for themselves or their children, the survey asked participants to clarify what type of PSE was expected. The options were 4-year

college/university, 2-year/community college, vocational or technical program, or not sure. We created a binary variable to capture the presence or absence of college participation. Two and 4-year college responses were merged and coded as a 1 and all other responses were coded as a 0. The Chi-square test allowed us to explore categorical associations between role and expectations for college.

### *Independent Sample t-test*

We also wanted to know if family expectations for their sons and daughters to attend college differed by their child's support needs. Nearly 50% of families of middle school students with disabilities in another study estimated that their son or daughter's participation at a four-year college was not likely at all (Blustein et al., 2016), many of whom were concerned that their son or daughter's abilities would inhibit desired PSE outcomes. In this study, families initially reported the presence of mild, moderate, or severe ID. Only a few families reported significant ID so we merged the "moderate" and "significant" categories allowing us to examine whether expectations were different for families of children with mild ID (coded as "1") compared to those with more significant ID, coded as "0" in the dataset. We used an independent sample *t*-test to compare differences between the two groups of families.

## **Results**

Does respondent role (student/family) predict PSE expectations? Are other expectations for post-school outcomes predictive of PSE expectations?

Whether respondent role, graduation expectations and employment expectations predicted PSE expectations was examined through a hierarchical multiple regression analysis. In anticipation that respondents would report positive expectations creating an imbalance between expectations and no or low expectations, we used bootstrapping procedures, which do not require distributional assumptions. Bootstrapping produced bias corrected confidence intervals for each predictor and was intended to improve the accuracy of inferences about middle and high school students with ID and their families. We also assessed our regression models for collinearity among the predictors (i.e., multicollinearity). An examination of the correlation matrix showed that no predictor variables had very strong correlations (i.e.,  $r$  of .70 or greater). All predictors had variance inflation factors (VIF) less than 10 (Myers, 1990) while the tolerance exceeded .02 (Menard, 2002).

After using bootstrapping to address distribution and examining the relationship between predictor variables, we examined Cook's distance to determine whether outliers were having an undue impact on the model fit. Cook's distance measures the influence that a specific case can have on a model's predictive power. The general cut-off score for Cook's is 1, and in this sample all cases had values well below the cut-off. Standardized residuals indicated that 13 cases could be construed as outliers, yet Cook's distance scores suggested that the outliers did not have an undue impact on the model.

Table 2

*Linear Model of Predictors of PSE Expectations*

	<i>b</i>	SE B	B	<i>p</i>
Step 1				
Constant	2.95 (2.86, 3.05)	.05		.001
Role	.27 (.11, .42)	.07	.16	.001
Step 2				
Constant	.71 (.33, 1.09)	.17		.001
Role	.16 (.03, .30)	.07	.09	.014
Diploma	.36 (.25, .48)	.05	.33	.001
Paid job	.29 (.17, .42)	.06	.24	.001

*Note.*  $R^2 = .02$  for Step 1;  $\Delta R^2 = .25$  (all  $ps < .001$ )

95% bias corrected and accelerated confidence intervals reported in parentheses. Confidence intervals and standard errors based on 1000 bootstrap samples.

Comfortable that we met required assumptions, we reviewed our first model that only included role (student/family) as a predictor of PSE expectations. Model 1 had significantly less error than the baseline model, meaning the model became better at predicting PSE expectations when the single categorical variable was added to the model. In the analysis, families were coded as 0 and student as 1. The beta value (.27) expressed

the change in PSE expectation scores due to the change in predictor from family to student. On average, student PSE expectation scores were marginally greater than their families' scores. Though significant, model 1 (family vs student) only explained 2% ( $R^2 = .02$ ) of the variance in change in PSE expectations. Model 2 improved the accuracy of the model even more. In this second step, expectations for graduating high school and for paid employment after high school were added to the model. When these expectation variables were used for prediction, the second model again increased accuracy and was able to explain 25% ( $\Delta R^2 = .25$ ) of the variation of PSE expectations. All three variables, role (student/family) and expectations for graduation and employment significantly improved our ability to estimate PSE expectations.

Among Those with PSE Expectations, is Role Associated with Expectations of College (2 or 4-year)?

A Chi-square test of independence was calculated to compare how frequently, among students and their families, college listed as a likely PSE outcome. We found a significant association between one's status as a student or family member and believing college (2 or 4 year) was a likely PSE outcome  $\chi^2(1) = 15.16, p < 0.001$ . The odds ratio showed that the odds of a student selecting a 2 or 4-year college as their PSE option were 2.15 times higher than family members selecting college as a PSE option. However, it should be noted the standardized residuals (i.e., z-scores), used to further decompose the significant association showed that only the combinations of role and no college (e.g., families not viewing college as likely and students not viewing college as a likely PSE outcome) obtained values outside of  $\pm 1.96$ . More families than expected ( $z = 2.3$ ) and fewer students than expected ( $z = -2.2$ ) listed PSE outcome other than college.

Table 3

*Results of Chi-square Test for College Outcome by Role (Student vs. Family)*

	PSE Outcome	
	No College	College (2-4 yr.)
Families	97 (61.4%)	140 (42.6%)
Students	61 (38.6%)	189 (57.4%)

*Note.*  $\chi^2 = 15.16, df = 1, p < .001$  Numbers in parenthesis indicate column percentages.



## Are Family PSE Expectations Stronger When Their Children Have Mild ID Compared to Moderate/Severe ID?

Though the information was not available from student surveys, support needs were included on family surveys providing an opportunity to determine if family members' PSE expectations differed according to child support needs. On average, families whose children had mild ID had higher PSE expectations ( $M = 3.14$ ,  $SE = .06$ ) than those whose children have moderate or severe ID ( $M = 2.67$ ;  $SE = .08$ ). This difference,  $-.47$ , BCa (bias-corrected and accelerated bootstrap interval) 95% CI  $[-.67, -.27]$  was significant  $t(225.26) = -4.55$ ,  $p = .001$ ,  $d = .57$ . A Cohen's  $d$  of  $.5$  is often considered to be a medium effect.

### Discussion

While these initial findings offer a small glimpse into family and student expectations, the results illustrate that families and students communicate different PSE expectations underscoring the necessity of including both parties as respondents. The U.S. Department of Education (2017), reporting on the results of the NLTS-2, found that 76% of students with an IEP expected access some kind of postsecondary education. In most cases with previous research, only the families were asked about expectations for their child's post-school activities. This study added to the research by allowing the young adults with ID to voice their personal expectations and then compare those with family members expectations. The results of the hierarchical regression showed that it is necessary to attend to both perspectives because they are nonequivalent. In both models, being a student was related to marginally greater expectations for PSE. Further, when examining the type of PSE environment expected, a greater proportion of students than families expected to participate at two-year and four-year colleges while more families than students envisioned participation in trade schools, were not sure, or withheld an opinion altogether. In this analysis, families and students trend positively in their expectations for PSE but these results show that families and students may need more conversations about the future. It is estimated that only about half of families have future conversations with their sons or daughters about their future with greater support needs while less than half engage in future planning (Burke, Arnold, & Owen, 2018; Davys, Mitchell, & Haigh, 2010). Continued future research that includes multiple perceptions can help catalyze more of these necessary conversations.

When just considering respondents who identified as family members, we found that a student's support needs factored into the expectation for PSE. Specifically, families of individuals with mild ID compared to parents of individuals with moderate or severe ID had more affirmative expectations for participation in PSE. The NLTS-2 reported that only 6.6% of students with moderate/severe ID had attended any PSE, but the number was closer to 26% for those with mild ID (Bouck, 2012). Families may realistically adjust expectations according to their knowledge of existing college programs that serve students with moderate/severe ID. Widely shared examples of successful college students with some of the greatest support needs could also influence family expectations. However, examples such as these to date have been largely absent. Therefore, PSE programs providing these opportunities have an obligation to share these stories more widely because otherwise we are asking for families to believe in a fantasy when

expectations seem in many cases to be rooted to a perceived reality of circumstance and opportunity.

There was also a link between graduation, employment, and PSE opportunities among student and family expectations. Adding expectations for other transition milestones significantly increased the predictive accuracy of our regression model, explaining significantly more variation in PSE expectations. Though intercorrelated there was no evidence of multicollinearity among the variables. This suggests that respondents grouped many transition expectations together. It seems reasonable that if one is expected to achieve a diploma then they should be expected to go to college and work. The data rarely pointed to situations where respondents, for example, expected PSE participation but did not expect work. The situations were so rare that they were frequently identified as potential outliers.

The relationship between college and employment for students with ID has also more commonly been supported by emerging research. For example, Cimera, Thoma, Whittenburg, and Ruhl (2018) examined vocational outcomes of more than 9000 adults with ID and they reported that 70% of respondents that had some PSE were employed and had access to a wider range of occupations to work. NLTS-2 data has also shown a positive association between PSE participation and employment for students with ID (Grigal, Hart, & Migliore, 2011). Additional studies also indicated more positive impacts of PSE programs on employment outcomes of students with ID (Butler, Sheppard-Jones, Whaley, Harrison, & Osness, 2016; Moore & Schelling, 2015; Ross, Marcell, Williams, & Carlson, 2013).

### **Implications for Practice**

Because families can act as a tremendous asset or barrier to transition outcomes, it is imperative that schools and PSE programs involve families earlier and throughout the transition planning process. Educators, community agencies and extant PSE programs at colleges and universities can take a leading role in helping families understand future school and employment options available after high school. Colleges can provide information on PSE opportunities as well as accommodations for making connections in the community (Landmark et al., 2010). Teachers can be a great asset in helping families understand their son or daughter's potential and help them feel confident about their future (Doren et al., 2012). The first thing teachers need to do is get to know the family members and build rapport (Staples & Diliberto, 2010). Family workshops and mentoring networks can be valuable opportunities to helping build these relationships and present information about post-school opportunities, as well as building natural support systems among families (Kim & Turnbull, 2004). It is also important to monitor emotionally linked topics closely as well as assumptions of school's responsibility and expectations of success whether too high or low (McDonnell & Hardman, 2010). As teachers work with families to build positive expectations for their students, it is important to be mindful of the cultural differences and each family's uniqueness. In contrast, Griffin, McMillian, and Hodapp (2010) found that families that often have higher expectations for their son or daughter to attend a PSE program do not get the support or information needed from the students' teachers, especially for students with lower reading and math skills. Additionally, the utility

of college is likely not at the forefront of middle school students' or families' thoughts, but an awareness of personal interests and preferences may be more readily accessible. For example, the Discovering ME! process brings together students, families, school staff and service providers to define and build upon student interests, strengths and the conditions under which they succeed (Holland & St. John, 2018). Such information allows the team to build customized pre-employment activities in the home, school, and community. All participating in the process tend to further develop their post-school expectations, and when students are able to start identifying potential careers of interest earlier they begin thinking more about the education requirements of those fields. Discovering ME! is just one of the possible resources for middle school students and their families to start thinking early and seriously about employment and PSE opportunities, and to adjust their expectations accordingly.

### **Limitations and Future Research**

While more studies are needed, this was one survey administered to measure PSE and employment expectations from families and students with ID from four school districts with a variety of characteristics. To improve the current design researchers should start by measuring the relationship between any number of salient variables which were restricted from collection in this study. The relationship between expectations of PSE, family education and income, and the characteristics of the places they live (i.e., rural, urban, suburban) will be useful to examine in future research. Proximity to and awareness of programs offering an inclusive PSE experience is likely useful information too, and may allow programs and state consortia to strongly consider how information of PSE opportunities is disseminated through states and regions. Families must be provided accurate information and be included in the planning process to ensure a shared vision for the future (Martinez, et al 2012). When given the opportunities, families tend to be the more constant collaborators and lifelong "case managers" having a strong desire to build trust and relationships with adult service agencies and direct service providers beyond high school (Bianco et al., 2009).

Additionally, schools have a right to limit the amounts and types of data collected from their students and families. Acting upon these rights, schools in this study restricted our access to variables which impact expectations, such as gender, ethnicity and income which have shown to be predictive of PSE expectations (Doren et al, 2012). It stands to reason that external variables (which we were unable to collect for this study) likely could have influenced expectations, and thus the predictive power of independent variables in this study should be viewed with some caution. Unlike employment studies, family income may be more salient when examining PSE outcomes given costs related to tuition, fees, books and in some cases room and board. Future research should collect information about adult services to further examine the relationships between expectations, enrollment, and the ability to use community resources such as vocational rehabilitation, waiver or other funds to offset college costs.

Finally, within the analysis, we used Cook's distance as a way to check the impact of the outlying cases and discovered that distances did not exceed 1. However, it should be noted that 1/13 variables exceeded the critical value of the Mahalanobis distance (chi-

square = 7.81) and that 12/13 fall outside of the criteria for covariance ratios (.98, 1.02). Nonetheless, we felt it was important to not remove these outliers from the study. PSE can elicit extreme scores from students and families. Students may decide relatively early that they will not pursue academics beyond high school, even if they plan to graduate high school, work and live independently. Similarly, families may envision a life when their son or daughter works and lives independently, but continue to feel that college is an unrealistic expectation so creating PSE goals would lead to disappointment. The presence of extreme responses, in this case an expectation to definitely or definitely not participate in PSE outcomes, are valid even if, for the most part, those who respond with a certain type of expectation tend to maintain those low or high expectations across outcomes. If anything, most students and families were open to possibilities of outcomes occurring or not occurring and rarely responded in definites, as if there was always hope but many may not have wanted to invite the risk of disappointment.

Even though family desires may not always match expectations, many do desire a more normalized life and one that becomes reality. This has to start early with higher expectations from everyone and general practices that involve more opportunities for inclusion and greater amounts of time in general education settings so college can be a realistic and expected outcome (Martinez et al., 2012). All in all, despite previous expectations that may have been determined too prematurely, it is important for everyone to work together, communicate effectively, and consider self-determined outcomes that promote-quality of life for youth and adults with ID.

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