

## **Functional Curriculum and Students with Mild Intellectual Disability: Exploring Postschool Outcomes through the NLTS2**

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*Abstract: While students with mild intellectual disability receive less attention in research, their educational programming is still important, including the curriculum they receive in school. This study analyzed the National Longitudinal Transition Study-2 (NLTS2) as to the curriculum students with mild intellectual disability received in high school as well as students' postschool outcomes. Frequency distributions, cross tabulations and logistic regression were utilized to analyze secondary data from the NLTS2. Results indicated few students with mild intellectual disability received a functional curriculum and receipt of a functional curriculum did not influence postschool outcomes. The implications and future directions of these results are discussed.*

Students with mild intellectual disability once comprised the largest focus in special education and the category was often considered the foundation of the field (Bouck, 2007; Edgar, 1987; Polloway, 2006). But now it is a population in decline (Polloway), referred to by some as the forgotten generation (Fujiura, 2003). Students with mild intellectual disability are now often given other category labels, such as learning disabilities, and lumped into the category of high incidence disabilities or mild disabilities, despite not having mild needs (Polloway, 2004; Smith, 2006). The result of this melding is a loss of specific consideration for students with mild intellectual disability in terms of curriculum, instructional environments, and postschool outcomes (Polloway, 2004; 2005). In fact, Polloway (2004, 2005) wrote a eulogy for the field of mild intellectual disability and cited a lack of attention, research, and advocacy for this population of students and their educational needs. And yet, students with mild intellectual disability still exist and continue to have educational needs and concerns that need to be

addressed in research and practice. Attention needs to be paid to this group of students' educational services and their postschool outcomes.

Mild intellectual disability is "characterized by significantly subaverage intellectual functioning, existing concurrently with related limitations in two or more of the following applicable adaptive skill areas: communication, self-care, home living, social skills, community use, self direction, health and safety, functional academics, leisure, and work" (Polloway, Patton, Smith, & Buck, 1997, p. 298). Historically and collectively, students with mild intellectual disability struggled with short attention spans and distractibility (Dunn, 1973; Kirk, 1972; Thomas, 1996; Zeaman & House, 1963, 1979). Other characteristics often associated with this population of students include difficulty transferring and generalizing information, inputting information into memory, and retrieving information from memory (Belmont, 1966; Dunn; Kirk; Spitz, 1973; Stephens, 1972; Thomas). In opposition to the aggregation of students with mild intellectual disability with other high incidence disability categories, Sabornie, Evans, and Cullinan (2006) suggested how students with mild intellectual disability were different from students with learning disabilities and emotional/behavior disorders in the domains of

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IQ and academic achievement/skills (i.e., students with mild intellectual disability had lower IQs and lower academic achievement/skills).

Historically, students with mild intellectual disability have experienced poor postschool outcomes. Although aggregated, in the National Longitudinal Transition Study (NLTS), Blackorby and Wagner (1996) found only a 35% employment rate for students with intellectual disability. In 2009, from the National Longitudinal Transition Study 2 (NLTS2) Newman, Wagner, Cameto, and Knokey indicated only 31.0% of students were currently employed, although the data showed 51.8% had been employed sometime since they graduated from high school. Additionally, Newman et al. found only 14.1% of students with intellectual disability report living independently. For postsecondary institution attendance, Kaye (1997) reported 2.5% of students with intellectual disability participated in some form of postsecondary education; more recent data from the NLTS2 indicated an increase to 13% (Newman, 2005b).

#### *Functional Curriculum*

Given the poor postschool outcomes, one needs to consider the educational programming students with mild intellectual disability receive. In a survey of one state, secondary special education teachers reported a range of curricular offerings for students with mild intellectual disability: 23.8% used a special education curriculum, 19% a functional curriculum, and 15.3% a general education curriculum; the remaining teachers used small frequencies of other models (e.g., lower grade level, vocational education, no curriculum) (Bouck, 2004a). Teachers in this study reported being unsatisfied with the educational programming for secondary students with mild intellectual disability and indicated one of the greatest improvement needs for their program was a more appropriate curriculum (Bouck).

One curriculum advocated for secondary students with mild intellectual disability is a functional curriculum (Bouck, 2004b; Edgar, 1987; Kaiser & Abell, 1997; Patton, Cronin, Polloway, Hutchinson, & Robinson, 1989). A functional curriculum, sometimes referred to

as a life skills curriculum, is designed to teach functional life skills, or in other words, the skills necessary to live, work, and have fun in an inclusive community (Bouck; Brown et al., 1979). A functional curriculum is presumed to include the functional skills and applications of core subject areas (academics), vocational education, community access, daily living, financial, independent living, transportation, social/relationships, and self-determination (Patton, Cronin, & Jairrels, 1997). A functional curriculum stems from the belief that the general academic curriculum fails to provide students with mild intellectual disability an opportunity to develop skills they will need to be successful postschool and they would not develop these skills unless explicitly taught (Bouck; Sitlington, Frank & Carson, 1993). Hence, a functional curriculum approach is characterized by the consideration of teaching students with mild intellectual disability the skills to help them be productive members of society, and support positive postschool outcomes.

#### *Postschool Outcomes*

While a lack of research exists regarding the outcomes of a functional curriculum for secondary students with mild intellectual disability, research on a functional curriculum for students with disabilities in general suggests positive results. For example, Benz, Lindstrom, and Latta (1999) and Benz, Lindstrom, and Yovanoff (2000) indicated students with disabilities who participated in the Youth Transition Program, which involved life skills (i.e., vocational skills, including paid work experience; independent living skills; personal-social skills; functional academics skills; and self-determination), experienced increased graduation rates, higher engagement in postsecondary outcomes of employment or education, and higher wages. In another study, Riches, Parmenter, Fegent, and Bailey (1993) surveyed students with disabilities in Australia who graduated from high school. They compared responses of students who participated in a transition project, in which the curriculum focused on vocational education, community access/living, functional academics, recreation and leisure, transportation and personal management, to those who did not

participate in this program. One of the notable outcomes of this study was employment for the students in the transition program as Riches et al. found 89% students who participated in the program held at least one job after high school. Further, Phelps and Hanley-Maxwell (1997) noted the value of a functional curriculum—operationally defined as the merger of academics and vocational education, suggesting it was one of two effective practices for students with disabilities when considering postschool outcomes related to work. Finally, Alwell and Cobb (2009), in a review of research on functional curriculum and outcomes of students with disabilities over two decades, suggested students benefited from receiving a functional curriculum but the research on functional curriculum primarily targeted students with more severe or low incidence disabilities.

Yet, more than just curricula can impact students' postschool outcomes. For example, Rabren, Dunn, and Chambers (2002), examining transition data from former students with disabilities in one state, found disability category, gender, school geography, and employment in school influenced students' postschool success or lack thereof. Baer et al. (2003) reported differential effect of in-school influences when considering postschool outcomes of employment and postsecondary education. They found participation in school-supported work experiences, vocational education, having a particular disability and being educated in a rural school were positive predictors of employment for students with disabilities after school, while attendance at a suburban school and participation in a general education settings positively correlated with postsecondary education attendance. And, from the National Longitudinal Transition Study data, Heal and Rusch (1995) reported male gender status and receiving life and academic skills as positive predictors of employment after school for students with disabilities.

#### *Research Project*

Currently there is a lack of attention to students with mild intellectual disability in research and practice (Bouck, 2007), which is unwarranted in these times of evidence-based

practices and a focus on achievement and outcomes in federal policy (Bouck, & Flanagan, 2010; Individuals with Disabilities Education Improvement Act, 2004; No Child Left Behind, 2002). Further, there is a lack of current research connecting receipt of a functional curriculum to postschool outcomes for students with disabilities, particularly considering the often-overlooked population of students with mild intellectual disability. To address this gap in research, the authors sought to answer the following research questions: (a) to what extent are students with mild intellectual disabilities getting exposure to functional or life skills curriculum during their secondary education program?, (b) what are the immediate and long-term (i.e., more than 2 years) postschool outcomes for students with mild intellectual disability who receive a functional curriculum?, (c) how do the postschool outcomes of students with mild intellectual disability who receive a functional curriculum compare to those receiving other curriculum models?, and (d) what factors (i.e., curriculum, school geography) predict the ascertainment of more successful postschool outcomes (i.e., full-time employment, higher wages, independent living) for students with mild intellectual disability?

#### **Method**

This study used the National Longitudinal Transition Study-2 (NLTS2) database to explore students with mild intellectual disability, functional curriculum, and postschool outcomes (e.g., employment, postsecondary education, wages, and independent living) through a secondary analysis. We will discuss information regarding the participants and procedures used for this study and general information regarding the NLTS2, however, we invite readers to refer to reports and information from the NLTS2 website (<http://www.nlts2.org>) and other published articles (Wagner, Kutash, Duchnowski, & Epstein, 2005) for additional information specific to the overall NLTS2 project.

#### *National Longitudinal Transition Study*

The National Longitudinal Transition Study (NLTS), funded by the Office of Special Ed-

ucation Programs and conducted by SRI International, focused on secondary students with disabilities receiving special education services (Wagner, Newman, Cameto, & Levine, 2005). It was a multiyear project, beginning in 1985, and sought to understand these students' secondary education, transition to postschool, and outcomes postschool. Overall, the NLTS highlighted the poor post-school outcomes of students with disabilities and the need for change in areas of secondary education and transition (Blackorby & Wagner, 1996).

The National Longitudinal Transition Study-2 (NLTS2) is the sequel to the NLTS. It is a government-sponsored project to document the "characteristics, experiences, and achievement of youth with disabilities" through its examination of issues of secondary education, transition, and postschool outcomes (Newman, 2005a). The NLTS2 represents a comprehensive 10-year project; data collection began during the 2000–2001 academic year and the last wave of data completed during the 2008–2009 academic year. The NLTS2 gathered data through multiple means: (a) parent and/or youth telephone interviews, (b) direct assessments of students, (c) teacher survey, (d) school program survey, (e) school information survey, and (f) student transcripts (SRI International, 2000b).

The NLTS2 represents a two-stage sampling procedure (SRI International, 2000a; Wagner et al., 2005). First, Local Educational Agencies (LEA) and state-supported schools were randomly selected to participate. The selection was done in a stratified manner, to account for geographic region, student enrollment (i.e., enough respondents in each of the 12 possible disability categories at the secondary level), and wealth of LEA/community. From this, students between the ages of 13 and 16 and in at least seventh-grade receiving special education services within the selected LEAs and special schools were randomly selected to participate (SRI International, n.d). However, students were selected to ensure a 3.6% standard error in the disability categories with the highest frequency of students (i.e., learning disabilities, emotional/behavior disorders, intellectual disability, speech and language impairments, other health impairments, and hearing impairments) (SRI International;

Wagner et al.). The sampling of students was also weighted towards older students (i.e., those aged 16 as compared to 13–15 year-olds) at the start of wave 1 (SRI International). Using the weighted design of the study, a total of 19,899,621 students receiving special education services from 12,435 LEAs participated in the NLTS2 study (SRI International).

### *Participants*

Participants in this project were students from the NLTS2 study, meaning they were students 13–16 years of age in at least seventh-grade and receiving special education services in 2000. To be included in this secondary analysis, students from the NLTS2 database needed to meet the following criteria: (a) identified by school program as having a mild intellectual disability; (b) in school in wave 1 of data collection and out of school in wave 2, in school in wave 2 and out of school in wave 3, or in school in wave 3 and out in wave 4; and (c) receiving special education services while in school. While analyses were run on students who met these characteristics in the sample, all data reported are weighted using the weights provided in the NLTS2 database to represent the number of students in the population (see Javitz & Wagner, 2003; Wagner et al., 2005 for more information on weighting the data). Note, data with low unweighted counts have not been reported in this analysis.

This secondary analysis of the NLTS2 involved 60,664 students with mild intellectual disability. The majority of students with mild intellectual disability identified their ethnicity as Caucasian (62.4%, *SE* 5.7), followed by African-American (30.5%, *SE* 5.5), Hispanic (4.5%, *SE* 2.7) and multiracial or other (2.1%, *SE* 1.7). The majority were male (66.1%, *SE* 4.8) and, of those who responded, the most frequently indicated family income (i.e., parent/guardians) was less than \$25,000 per year. The average age of students in school was 17.2 while the average age for out of school for the postschool outcomes was 19.9, and 20.9 for the *long-term* postschool outcomes (i.e., more than two years out of school).

### *Data Collection*

For this analysis, we pulled data from the first four waves of data collection (i.e., waves 1, 2,

3, and 4). The immediate outcomes reflect students who were out of school in wave 2, 3, or 4, while the “long term” outcomes reflect data of students who were out of school in either wave 3 or 4 and in school in waves 1 and 2 (i.e., out for more than two years). We utilized the Parent/Youth survey at each of the four waves, the School Characteristics survey completed at wave 1, and the Students’ School Program survey completed at waves 1 and 2. At wave 1, the Parent/Youth survey was a 60-minute phone interview completed by the parents of the participating students. For waves 2, 3, and 4, students completed the 60-minute phone interview; parents completed it if the student was unable to do so. At all four waves, a mail survey was provided if a phone interview was not possible. The Parent/Youth survey focused on selected questions pertaining to student characteristics, household characteristics, nonschool factors, family involvement, academic and school experiences, personal/social issues, employment, citizenship, health, satisfactions, and behaviors (SRI International, 2000b).

The teacher most familiar with the student’s overall school program completed the Students’ School Program survey. This survey was a mail survey and questions pertained to the school program, transition, special education services, state and district assessments, accommodations, provision of supports, performance, and parental involvement (SRI International, 2000b). Finally, school personnel, such as the principal, completed the School Characteristics survey. It was also a mail survey, which elicited information regarding the school and community, students, staff, programs, special education policies and practices, parental involvement, and background information (SRI International).

### *Procedure*

For the purposes of this analysis, we focused on items from the multiple surveys that addressed our research questions. Specifically, we included items representing the curriculum focus in students’ special education classes (e.g., life skills, academic) as well as if they received life skills in school and where (e.g., special education setting, general education setting). We also used a variable from

the database called “mental skills,” which was the sum of respondents’ assessment of the student’s ability to tell time on a clock with hands, read and understand common signs, count change and look up telephone numbers in a phonebook and use the telephone. Each skill was assessed on four point rating scale ranging from one (not at all well) to four (very well), resulting in a score ranging from 4 to 16. In terms of postschool outcomes, variables of interest included where students were living (i.e., independently vs. dependently), employment status, job type, wages received, and whether they attended postsecondary education (i.e., four-year college, two-year college, vocational/technical school). Other variables related to demographics of the students (i.e., disability, gender, ethnicity) and school (i.e., geographical location, size, services nearby).

In addition to using the original NLTS2 variables, some variable categories were recoded. For instance, the variable related to type of student’s special education class originally had four values (see Table 1 for a list variables used in this study and their description). Since the focus of this project was on life skills, we recoded this variable into two categories: receipt of life skills and receipt of other (i.e., academic, basic academic, or study skills). Similarly, the independent living variable consisted of fifteen categories. These fifteen categories were recoded into three categories: lived independently (i.e., on his/her own, with a roommate or spouse, college dormitory, and military housing), and lived dependently (i.e., with his/her parents, with another relative, a group home or assisted living center, and a correctional facility/youth detention center). Finally, the wage variable was recoded from a continuous variable representing the hourly pay students received at their most current or recent job to a dichotomous variable, above or below minimum wage (i.e., \$5.15 at the time of data collection).

### *Data Analysis*

Statistical procedures such as frequency distributions, cross tabulations and logistic regression were utilized to analyze secondary data from the NLTS2. Specifically, to answer the first research question regarding exposure to

**TABLE 1**

**Description of Variables used in Secondary Analysis**

<i>Variables</i>	<i>NLTS2 Variable ID</i>	<i>Description</i>
Identification of students	ID	Randomized number assigned to each student
Disability	nprXD2a_09	Disability of student
Ethnicity	npXEth_Recod	Ethnicity of each student (i.e., white; African American; Hispanic; Asian/Pacific Islander; American Indian/Alaska Native; multiple races/other)
Age	npXCurrAge	Student age at the time of data collection
Income	npXk15Cat	Family income categories (i.e., \$25,000 or less; \$25,001–\$50,000; more than \$50,000)
Gender	npXGendHdr	Gender of each student (male, female)
Mental skills	npXG4_[a-d]	How well the student can tell time, read signs, count change and look up telephone numbers in a phonebook
Urbanicity	wX_Urb3	Geographical location of the student's school (rural, suburban, or urban)
Type of special education class	nprXD9	Focus of the non vocational special education class (i.e., academic, life skills, basic academic skills, or study skills)
Received life skills	nprXA3h	Student received life skills, social skills instruction
Instructional setting for life skills	nprXA3h_(1-4)	Instructional setting where student received life skills (general education, special education, individual instruction or community setting/different school)
Independent living	npXP1a_01_A6a_01-15*	Independent living (i.e., living on own, with a roommate), dependent living (i.e., living with parents, in supportive environment), or other (i.e., homeless)
Postsecondary attendance	npXS3a_S4a_S5a_D4a1_D4a2_D4a3	Out-of-school student attended any type of postsecondary school (i.e., vocational, technical, two- year, or four-year college)
Currently employed	npXT7a_L7a_I2b	Student has a paid job now
Ever employed	npXT6a_L6a_I2a	If student worked for pay during the last 2 years
Above minimum wage	npXT8f1_T11f_L8f1_L11f_I3a*	Out-of-school student earns more than minimum wage(\$5.15)
Full time employment	npXT8c_T11c_L8c_L11c	Out-of-school student has a full-time (≥35 hours a week) or part-time job (<35 hours a week)

Note: \* Indicates a larger variable(s) was collapsed to created fewer categories and/or combine data. X indicates the Wave year (i.e., 1, 2). All in-school variables reflect variable name from wave 1 and all the postschool outcomes refer to variable names from wave 2. There may be slight changes in the variable ID's from one wave to the next.

a functional curriculum during school, frequency distributions were conducted on both responses to the curriculum in students' special education class as well as the reported receipt of life skills in school.

For the second and third research questions regarding postschool outcomes, we ran frequency distributions on the postschool outcome variables of interest (e.g., employment, independent living, postsecondary education attendance, wages). The frequency distributions of these variables were conducted for students with mild intellectual disability who received a functional curriculum and students with mild intellectual disability who received a different curriculum (non-functional curriculum). To compare the postschool outcomes of these two groups, an *F* test was conducted. Note, this *F*-test was provided with the NLTS2 dataset. Wagner, Newman, Cameto, Levine, and Marder (2007), suggested the *F* test can be used to identify the existence of statistically significant differences between groups rather than just merely looking at the differences between observed and expected frequencies.

Finally, to answer research question four regarding what factors predict more successful postschool outcomes for students with mild intellectual disability a logistic regression was utilized. Logistic regression is used in a regression model for analyzing dichotomous variables (Peng, Lee, & Ingersoll, 2002). Binary categories (0 = no and 1 = yes) were created for all the six outcomes of interest (i.e., independent living, ever attended a postsecondary education institution, currently employed, ever employed, received above minimum wage, or working full time), for both immediate and long-term outcomes. Included in each logistic model were the following independent variables: curriculum (functional vs. non-functional), mental skills (sum of parental reporting of four skills on a scale of 1–4 with a range of 4–16), gender (male vs. female), family/parental income (<\$25,000, \$25,000–\$50,000, >\$50,000), ethnicity (Caucasian, African-American, Hispanic, Asian, American Indian, Multi/Other), and school location (rural, urban, suburban).

For each univariate logistical regression analysis, a Goodness of Fit test (i.e.,  $G^2 = -2 [\text{loglikelihood}(R) - \text{loglikelihood}(F)]$ ), or in other words, the  $-2\text{loglikelihood}$  of the re-

duced model [i.e., without the variable of interest] minus the  $-2\text{loglikelihood}$  of the full model) was conducted to determine if each particular variable should be included in the model. Note, the Goodness of Fit is compared to the  $\chi^2$  table with an alpha of .05 and appropriate degrees of freedom to determine whether or not to reject the null hypothesis (i.e., exclude the variable of interest). Thus, the full model with all six predictors was conducted for each of the six dependent variables for both immediate and long-term outcomes. Then, each predictor was removed individually to assess its significance to the model.

## Results

Given the nature of survey and interview data, responses to questions were not available for every individual. Also, not all questions were answered with the same frequency as individual responses may not have been gathered because a particular question was not asked (i.e., skip logic was imposed) or because the respondent chose not to answer the question. Hence, data are reported out of the number who responded to the question rather than the number of the complete dataset (i.e., 60,664 for students with mild intellectual disability).

### *Exposure to Functional Curriculum*

Functional curriculum was reported as the curricular focus of students' non-vocational special education class for approximately one-fifth of the students with mild intellectual disability (17.5%, *SE* 3.8). For the majority of the students with mild intellectual disability, academic skills was the main focus (60.1%, *SE* 5.4), followed by basic academic skills (19.2%, *SE* 4.0). Outside of a functional curriculum, almost 75% students with mild intellectual disability received life skills, including social skills, at school (74.3%, *SE* 4.1). The majority of those who indicated where they received life skills ( $N = 45,086$ ), reported it was in a special education setting (76.7%, *SE* 5.9), followed by a general education setting (13.1%, *SE* 4.7), community setting (6.5%, *SE* 3.4), and then multiple settings (2.2%, *SE* 1.0).

Students who received a functional curriculum were not different from students who

**TABLE 2**

**Immediate Postschool Outcomes for Students with Mild Intellectual Disability by Curricula Received**

<i>Postschool Outcomes</i>	<i>Functional Curriculum</i>			<i>Non-Functional Curriculum</i>		
	<i>N</i>	<i>%</i>	<i>SE</i>	<i>N</i>	<i>%</i>	<i>SE</i>
Independent living	8,879	8.7	5.4	41,545	13.8	4.5
Postsecondary attendance	9,112	12.6	7.2	39,612	27.1	5.4
Currently employed	6,257	64.0	12.9	34,324	45.0	7.6
Ever employed	6,772	71.5	10.5	37,430	62.3	6.7
Above minimum wage	4,669	56.9	17.4	16,832	85.1	7.2
Full-time employment	—	—	—	18,690	38.7	9.5

Note: The percent is based on those in each category who responded to the question (i.e., some individuals did not have responses to every question). Ever employed refers to whether students were employed any time after they left high school. Currently employed refer to whether students were employed currently when they responded to the interview/survey. The wage variable was calculated based on current or most recent wages of participating youth, in case students were currently unemployed. Minimum wage was \$5.15 at the time of data collection. Postsecondary attendance includes attendance at vocational school, two-year college, or four-year college. Please also note data with low unweighted count are not reported (i.e., represented by dashes in the table).

received a non-functional curriculum in school in terms of parent assessed “mental skills.” The average mental skills of students with mild intellectual disability who received a functional curriculum were 10.6 (*SE* 0.6), while students who received a non-functional curriculum (i.e., academic skills, basic academic skills or study skills) averaged 11.8 (*SE* 0.3). These differences were not found to be statistically significantly different ( $p > .05$ ). Among the students who received a non-functional curriculum, students who received a study skills curriculum averaged the highest mental skills (15.1, *SE* 0.6), followed by those who received an academic skills curriculum (12.0, *SE* 0.5) and a basic academic skills curriculum (10.9, *SE* 0.8).

*Postschool Outcomes*

Less than 10% of students with mild intellectual disability who received a functional curriculum lived independently after exiting school (8.7%, *SE* 5.4) (see Table 2 for the percent, standard error, and population size for each postschool outcome). For students who received a non-functional curriculum just over 10% reported living independently (13.8%, *SE* 4.5). While the majority of students with mild intellectual disability reported

they experienced paid employment, (71.5%, *SE* 10.5 for those who received a functional curriculum and 62.3%, *SE* 6.7 for those who received a non-functional curriculum), a larger percentage of students who received a functional curriculum indicated they were currently employed (64.0%, *SE* 12.9 vs. 45.0%, *SE* 7.6). Regardless of in-school curricular focus, the majority of students with mild intellectual disability earned more than the minimum wage, which was \$5.15 at the time of data collection. Specifically, 56.9% (*SE* 17.4) of those who received a functional curriculum and 85.1% (*SE* 7.2) of those who received a non-functional curriculum earned more than \$5.15 per hour. In the final postschool outcome examined, 12.6% (*SE* 7.2) of students who received a functional curriculum attended any postsecondary educational institution (i.e., business/vocational/technical, two-year, or four-year college) since leaving high school. This rate more than doubled for students who received a non-functional curriculum (27.1%, *SE* 5.4). In terms of differences in postschool outcomes between students with mild intellectual disability who received a functional curriculum and those who received a non-functional curriculum, no statistically significant differences existed for any outcome ( $p > .05$ ).



**TABLE 3**

**Long term Postschool Outcomes for Students with Mild Intellectual Disability by Curricula Received**

<i>Postschool Outcomes</i>	<i>Functional Curriculum</i>			<i>Non-Functional Curriculum</i>		
	<i>N</i>	<i>%</i>	<i>SE</i>	<i>N</i>	<i>%</i>	<i>SE</i>
Independent living	—	—	—	15,273	19.4	8.6
Postsecondary attendance	4,295	21.5	12.8	16,348	25.6	9.5
Currently employed	3,687	40.4	17.9	13,766	43.9	11.1
Ever employed	3,806	49.7	23.1	16,348	54.0	10.1
Above minimum wage	1,634	95.4	3.1	7,468	96.2	3.0
Full-Time Employment	—	—	—	8,823	78.7	12.9

Note: The percent is based on those in each category who responded to the question (i.e., some individuals did not have responses to every question). Ever employed refers to whether students were employed any time after they left high school. Currently employed refer to whether students were employed currently when they responded to the interview/survey. The wage variable was calculated based on current or most recent wages of participating youth, in case students were currently unemployed. Minimum wage was \$5.15 at the time of data collection. Postsecondary attendance includes attendance at vocational school, two-year college, or four-year college. Please also note data with low unweighted count are not reported (i.e., represented by dashes in the table).

*“Long Term” Postschool Outcomes*

In terms of “long-term” postschool outcomes (i.e., more than two years after participants left school), more students with mild intellectual disability who received a non-functional curriculum responded as having ever experienced paid employment as compared to those who received a functional curriculum in school (54.0%, *SE* 10.1 vs. 49.7%, *SE* 23.1) (see Table 3). A similar frequency of respondents in both curricular categories reported they were currently employed (non-functional: 43.9%, *SE* 11.1; functional: 40.4%, *SE* 17.9). In terms of wages received, almost all students who received a non-functional or a functional curriculum in school reported they earned more than minimum wage (96.2%, *SE* 3.0 vs. 95.4%, *SE* 3.1 respectively). Finally, a slightly higher frequency of students with mild intellectual disability who received a non-functional curriculum attended postsecondary institutions as compared to those who received a functional curriculum (25.6%, *SE* 9.5 vs. 21.5%, *SE* 12.8). Similar to the examination of differences in frequencies for the immediate postschool outcomes, none of the long-term postschool outcomes examined for students who received a non-functional curriculum were statistically significantly different than

those of students who received a functional curriculum ( $p > .05$ ).

*Experiences Predicting Success*

The logistic regression analyzing the six immediate postschool outcomes represented by binary dependent variables (i.e., independent living, currently employed, ever employed, ever attended a postsecondary institution, above minimum wage, and full time work) resulted in receipt of a functional curriculum not being a statistically significant predictor for any outcome ( $p > .05$ ). Thus, receipt of a functional curriculum versus a non-functional curriculum was not a factor influencing students’ postschool outcomes. In fact, none of the factors examined (curriculum, mental skills, gender, family income, ethnicity, and school location) were predictors for the immediate postschool outcomes of students with mild intellectual disability ( $p > .05$ ). Similar results were found for the six long-term postschool outcomes, with the exception of the dependent variables “currently employed” and “ever attended a postsecondary institution.” Gender was a statistically significant predictor for being currently employed, with males more likely to be employed at the time

of the interview (3.23 times more likely to be currently employed). Income was a statistically significant predictor for the long-term outcome “ever attended a postsecondary institution,” with students who attended a postsecondary institution more likely to report higher incomes.

## Discussion

This study was a secondary analysis of the NLTS2 data focusing on issues of a functional curriculum for high school students with mild intellectual disability. Specifically, we analyzed receipt of a functional curriculum in school by students with mild intellectual disability, the postschool outcomes (i.e., independent living, employment, postsecondary attendance) of students with mild intellectual disability, and the relationship between curricular focus in school and postschool outcomes for this population. The results reveal three main findings for students with mild intellectual disability: (a) a low frequency receive a functional curriculum as their curricular focus in special education, (b) some positive postschool outcomes were found, but there is still work to be done to improve success, and (c) receipt of a functional curriculum in school does not impact students’ postschool outcomes.

The most significant result may be the lack of impact of receipt of a functional curriculum on postschool outcomes for students with mild intellectual disability. The lack of influence was apparent with the logistic regression analysis, as the binary variable of curriculum (i.e., functional or non-functional) was not a predictor in any of the postschool outcome models (i.e., independent living, ever attended a postsecondary education institution, currently employed, ever employed, above minimum wage, or working full time), and this was for both immediate postschool outcomes as well as long-term postschool outcomes. Hence, whether a student with mild intellectual disability received a functional curriculum in school or a non-functional curriculum (i.e., academics, basic academics, study skills), it did not impact his or her postschool outcomes. The lack of impact of curriculum was also supported by the lack of statistically significant differences between curricular focus in frequency of postschool

outcomes for students with mild intellectual disability (refer to Tables 2 and 3).

Despite the lack of statistical significance regarding receipt of a functional curriculum and postschool outcomes, we cannot conclude students with mild intellectual disability (a) do not benefit from receiving a functional curriculum or (b) should not be provided with a functional curriculum. The results need to be interpreted in light of the limitations with the secondary analysis. For example, the survey, from which the variable representing the curricular focus of students’ non-vocational special education class, did not include questions that might shed additional light on understanding the issues surrounding curriculum and postschool outcomes for students with mild intellectual disability. The survey asked about the curriculum in students’ non-vocational special education class (i.e., academics, basic academics, study skills, or life skills) but did not provide information regarding how much functional curriculum students receive (i.e., number of classes, hours a week). Perhaps differences depend on the amount and/or frequency with which students with mild intellectual disability received a functional curriculum, but this could not be ascertained from the data. Related, the survey did not ask about the nature of the functional curriculum and Bouck (2009) suggested different models for functional curriculum exist and that not all address aspects of a functional curriculum with equal attention or a focus towards the unique needs of students with mild intellectual disability.

It is worth noting that the results of this analysis were not consistent with previous research suggesting a relationship between receipt of functional curriculum and positive postschool outcomes for students with disabilities in general (Benz et al., 1999; Benz et al., 2000; Heal & Rusch, 1995; Phelps & Hanley-Maxwell, 1997; Riches et al., 1993). In fact, no factors examined were found to impact the immediate postschool outcomes of students with mild intellectual disability, which also conflicts with previous research (Baer et al., 2003; Rabren et al., 2002) except gender, which was influential in the long-term outcomes of “currently employed” and income for “attending postsecondary education.” While the previous research focused on stu-

dents with disabilities in general or an aggregation of disability categories (e.g., mild), this research focused exclusively on students whose primary disability classification was mild intellectual disability. Perhaps there is something qualitatively and quantitatively different about students with mild intellectual disability with respect to postschool outcomes and the factors impacting their outcomes (e.g., curriculum, school location, income, gender). Note, students with mild intellectual disability had lower mental skills (functional curriculum—10.6 and non functional curriculum—11.8) than students with learning disabilities (14.1), emotional behavior disorders (14.5), and all other disability categories other than multiple disabilities (9.8) (Wagner, Cameto, & Newman, 2003).

Students with mild intellectual disability perhaps face challenges to postschool outcomes that are different from other disability populations and these challenges may not be overcome by curricular focus, whatever that may be. For example, in comparing the outcomes from the NLTS2 of students with mild intellectual disability to the outcomes of student with learning disabilities and emotional disabilities (two common categories mild intellectual disability is aggregated within research; Edgar, 1987; Jones, 1996), 26.1% of students with mild intellectual disability attended a postsecondary institution (regardless of curriculum) as compared to 34% of students with emotional/behavior disorders and 47.3% of students with learning disabilities (Newman et al., 2009). Similarly, 49.1% of students with mild intellectual disability were employed postschool as compared to 63.6% of students with learning disabilities (42.3% for students with emotional/behavior disorders). Finally, 12.1% of students with mild intellectual disability are living independently as compared to 21.5% of students with emotional/behavioral disorders and 28.8% of students with learning disabilities (Newman et al.).

Although receipt of a functional curriculum did not result in students having statistically better postschool outcomes (i.e., higher rates of independent living, higher rates of employment, etc.), it also did not result in them experiencing lower postschool outcomes, statistically speaking. Thus, a functional curriculum remains a viable option to consider. Yet,

the results indicated less than one-fifth of students with mild intellectual disability reported receiving a functional curriculum in school. While the low frequency may not be surprising today, given the focus on the general education curriculum and participation in general large-scale assessments following No Child Left Behind (NCLB, 2002) and the Individuals with Disabilities Education Improvement Act (IDEA, 2004), the data on in-school curricular focus predate the impact of NCLB and IDEA on education. The relatively small frequency reporting a functional curriculum is aligned with the reported decrease in attention on a functional curriculum in the 1990s (Nietupski, Hamre-Nietupski, Curtin, & Shrikanth, 1997). Further, the data align with survey data from a single state study regarding the frequency of curricular focus for high school students with mild intellectual disability—19.0% (Bouck, 2004a).

#### *Implications for Practice*

The results of this study hold implications for practice. The results suggest the need to focus on issues of transition for secondary students with mild intellectual disability and particularly targeting areas of postschool success, such as independent living. There is a need to focus on what students with mild intellectual disability plan on doing after high school and how practitioners can help them achieve those goals, including curriculum choices. The results also suggest that as a field we need to engage in deeper discussion around the curriculum students are receiving. Although the results indicate receiving a functional curriculum did not predict better postschool outcomes, it also did not “hurt” the students (i.e., lower postschool outcomes). Yet lacking from this analysis is the social validity of teachers, parents, and student regarding curricular implementation. This analysis did not address what key stakeholders feel students should be receiving as a curriculum and what they see as beneficial to post school success. Student and parents may find value in a functional curriculum not captured by outcomes; previous research suggested parents express concerns about the lack of acquisition of functional life skills by their child with a disability (Love & Malian 1997; Olson, 2004).

### *Limitations and Future Directions*

Several limitations apply to this analysis. First, this is a secondary analysis of the NLTS2 data and hence experiences the limitations of the original design, which includes the self-reported nature of surveys. Related, missing data existed for the secondary analysis—both in terms of responses to some of the questions for all who participated in the study (i.e., respondents elected not to answer or skip logic was imposed so a question was never asked to respondents), as well as attrition occurred throughout the waves of data collection. The attrition is evident when examining the “long-term” postschool outcomes. Whereas over 6,000 students with mild intellectual disability who received a functional curriculum in school responded to employment outcome questions (i.e., ever and currently employed), only around 3,000 responded to the “long-term” employment questions. Although the “long-term” outcomes drew from only two waves of data (i.e., waves 3 and 4), this does not completely explain the smaller *n*. Those who responded to the “long-term” employment questions appeared to be those who were not as successful, as the ever employed frequency went from 71.5% to 49.8%. This suggests individuals with more successful outcomes might have been less likely to respond to the survey and this may be related to the design of the NLTS2. The “long-term” outcomes may need to be interpreted with caution.

Another limitation pertained to the phrasing of questions and the lack of control during secondary analyses. For example, there was a differentiation in questions between receiving a functional curriculum in a special education class and receiving life skills. Further, when inquiring about receipt of life skills, the question was phrased to be life skills, including social skills. While social skills are a component of life skills they are not the heart of life skills (e.g., skills for students to be successful in life or independent). It was assumed more students with disabilities receive social skills than life skills, and hence the variable inquiring about receipt of life skills in general was difficult to use. We could not be certain if students received life skills or just social skills. Additionally, the lack of statistically significant

results for the variable of interest—functional curriculum—could be viewed as a limitation. However, we choose to view it as an important finding warranting further consideration. Finally, the lack of significant predictors for the logistic regression models is problematic and suggests additional research is needed to understand what factors do impact the post-school outcomes of students with mild intellectual disability, given the lack of effect of curriculum, mental skills, and standard demographic variables.

Future research should continue to explore the impact of curricula on the postschool outcomes and in-school experiences for students with mild intellectual disability as well as secondary students with other types of disabilities (e.g., learning disabilities, moderate/severe intellectual disability). Although this analysis suggested a lack of statistical differences in the postschool outcomes for students who received a particular curricular focus as well as the curriculum received variable was not a factor predicting outcomes in the logistic regression, the impact of curriculum still warrants further examination. For example, what really constitutes a functional curricular approach or a basic academics approach? A teacher most knowledgeable with the students’ program indicated the curricular focus, but the nuances of the curricular approach were not explored in the NLTS2 survey. Further research should understand and characterize curricular approaches as well as the relationship between experiencing a particular curricular focus and postschool outcomes. Related, research should examine what factors do impact the postschool outcomes of students with mild intellectual disability, given the lack of predictive relationship of the variables examined in this analysis.

Additionally, future research should analyze the in-school experiences of secondary students with mild intellectual disability in greater depth. The majority of reports and research studies from the NLTS2 aggregate students with mild intellectual disability with students with moderate/severe disabilities (Newman et al., 2009; Yu, Newman, & Wagner, 2009), which does a disservice to understanding the education of this population of students. Much research in general aggregates students with mild intellectual disability with

other high incidence disabilities and refers to the grouping as students with mild disabilities (Edgar, 1987; Jones, 1996; Polloway, 2004; Smith, 2006). Seldom do we know about the education of student with mild intellectual disability.

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