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Predictors of Employment for Youth with Visual Impairments: Findings from the NLTS2

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Abstract

The purpose of this study was to identify factors that predict employment for transition-age youth with visual impairments. Logistic regression was utilized to predict employment at two levels. Significant variables were early and recent work experiences, completion of a postsecondary program, transportation difficulty, independent travel skills, and social skills.

## Predictors of Employment for Youth with Visual Impairments: Findings from the NLTS2

Low levels of employment among transition-age youth (i.e., aged 16 to 24) with blindness or low vision (i.e., visual impairments [VI]) have long been a concern of professionals who work with this population. Recently data has become available to document the severity of the problem among persons in this age group. Results from the Current Population Survey indicate that the proportion of youth with VI aged 16 to 19 who are working (the employment-population ratio) is 19.8, compared to 29.2 for the general population (Bureau of Labor Statistics, 2009). The proportion of youth with VI aged 20 to 24 years who are working is 39.5, compared to 63.8 for the general population.

A large percentage of the population of youth with VI are not working, a much larger percentage than the general population of youth. Despite the difficulty with employment this population faces, research has been very limited in this area. Most federal-state vocational rehabilitation programs provide a special program for youth with VI to help prepare them to transition to work, yet the contents of these programs are generally not based on empirical evidence. The purpose of this study was to identify factors that are related to future employment for youth with VI, to assist blindness professionals in working with this population and to provide an empirical foundation for the development of transition programs.

A substantial amount of research has been conducted regarding factors that impact successful transition outcomes for youth with disabilities, with employment being one of the key outcomes. Several variables have consistently been found important to obtaining employment for youth with disabilities, including early work experiences, self-determination, and academic competence (e.g., Benz, Lindstrom, & Yovanoff, 2000; Bremer, Kachgal, & Schoeller, 2003; Stodden, Dowrick, Gilmore, & Galloway, 2001). Other research has documented an association

between employment and (a) education level, (b) health and (c) receipt of SSI for transition-age youth with disabilities (Berry, 2000). A much more limited amount of research has been conducted regarding factors that influence employment outcomes for youth with VI. Studies involving this population have supported the importance of self-determination, early work experience (including the number of work experiences), academic competence, level of education, parental support and expectations, health, level of functional vision, and use of assistive technology (Author [in press]; McDonnall & Crudden, 2009; Shaw, Gold, & Wolffe, 2007).

Research identifying variables that are associated with employment for adults with VI is more common. Several studies have specifically focused on barriers to employment for this population. Some of the most commonly identified barriers are negative employer attitudes, transportation problems, receipt of Social Security benefits and/or associated medical benefits, access to assistive technology, and lack of or limited work experience (Crudden & McBroom, 1999; Crudden, Sansing, & Butler, 2005; Kirchner & Johnson, 1997; O'Day, 1999). Other studies focused on factors associated with successful employment. Some key factors identified were good social skills, ability to travel independently (i.e., good orientation and mobility skills) and work independently, communication skills, basic academic skills, receiving an educational certificate or degree, and having worked since acquiring the vision loss (Capella-McDonnall, 2005; DeMario, 1992; Golub, 2003).

The goal of the current study was to further expand our understanding of the factors that impact employment for youth with VI by utilizing data from the most comprehensive study available for this population: the second National Longitudinal Transition Study (NLTS2). The NLTS2 includes variables to measure many of the factors found to be important to employment

for persons with VI. The following research question was addressed: What factors are the most important predictors of employment for youth with VI?

## **Method**

### **Data Source**

The NLTS2 was the source of the data used for this study. The NLTS2 is a longitudinal study (consisting of five waves, or occasions, of data collection) that was conducted between 2001 and 2009 by SRI International, under contract from the U.S. Department of Education. It consists of a nationally representative sample of students receiving special education services who were aged 13 to 16 in December 2000. The sample was stratified based on several factors including disability, resulting in a nationally representative sample of youth with VI who received special education services while in high school. Data was collected via interviews with youth and their parents, interviews with school personnel, and direct assessments of youth. Data was available from the first four waves at the time these analyses were conducted and all four waves of data were used. This data covers multiple topic areas, including youth characteristics; household characteristics; youths' access to and use of services; family involvement; academic and functional skills; postsecondary education; and employment. Additional information about the NLTS2 is available at <http://www.nlts2.org/studymeth/index.html>.

### **Sample**

The sample was restricted to youth who had a VI identified as the primary disability under which they were eligible for special education services. This group was further limited to youth who (a) had employment data available at Wave 4, (b) had completed or were no longer attending high school, and (c) were not currently attending postsecondary school, resulting in a maximum available sample of 246. The sample size for each analysis varied due to missing data

on the independent variables. The sample size available for the multivariate analyses ranged from 144 to 200. Demographic information about the sample available for the majority of the multivariate analyses ( $N = 179$ ) is provided in Table 1.

### **Dependent Variable**

The dependent variable was employment, measured at two levels: (a) working 20 or more hours per week and (b) working 35 or more hours per week (full-time work). Both levels of the variable were dichotomous and were coded as 0 if the individual did not work the specified number of hours per week or 1 if the individual did work the specified number of hours (or more) per week. The levels of this variable were created from two items in NLTS2: a dichotomous variable indicating whether the youth was currently employed and a variable indicating the total number of hours the youth worked per week (based on all jobs held).

### **Independent Variables**

Independent variables were selected for the study based on prior empirical research supporting their importance to employment outcomes for youth with VI or other disabilities or for adults with VI. All independent variables were based on a single item in the NLTS2 database, although the item was taken from more than one wave of data in three cases. Several categorical items were changed to dichotomous variables (to increase numbers in each category and to preserve power for multivariate analyses). The following coding system was used to identify the origin of each variable included in the analyses: created (created from more than one wave of data or other change), SRI (original item in the NLTS2), dichotomized (made into a dichotomous variable from a categorical NLTS2 variable). Because missing data on key variables reduced the available sample size for multivariate analyses, univariate analyses of each variable were conducted to identify those that were significantly related to employment for this sample. Only

those variables that were significantly related to employment in univariate analyses were considered for inclusion in the logistic regression models as recommended by Hosmer and Lemeshow (2000). Number and percentages reported in the following descriptions of the independent variables are based on the data available for the univariate analyses.

**Work experience.** Two variables were used to measure early and recent work experience. *High school employment* (created) was a dichotomous variable that indicated paid work experience anytime between the period of one year prior to Wave 1 to the Wave 3 interview, if the person was in high school during that time. Just over 42% (100/237) of youth were employed at some point during high school. *Number of recent jobs* (created) represented the number of jobs the person had held in the two years prior to the Wave 4 interview (original SRI variable), excluding the job currently held if the person was employed. The mean number of jobs held was 0.75 (1.37), with a range of 0 to 11.

**Receipt of SSI benefits** (SRI). This dichotomous variable was based on an item that asked respondents to report whether they had received Supplemental Security Income (SSI) benefits in the two years prior to the Wave 4 interview. Almost 63% (118/188) of the youth had received SSI benefits during this time period.

**Academic competence** (SRI). Academic competence in reading and math was measured with standard scores on four subtests of the Woodcock-Johnson III Tests of Achievement (WJ-III ACH): Passage Comprehension and Synonyms-Antonyms (reading), and Applied Problems and Calculation (math). Standard scores are normed to a mean of 100 with a standard deviation of 15 at each grade and can be used for across-grade analyses. The WJ-III ACH was administered to participants as part of the direct assessments during Wave 1 or Wave 2, when they were at least 16 years old. The WJ-III ACH is a well-developed and psychometrically sound

instrument; it is considered the best available instrument to measure achievement (Cizek, 2003). Passage Comprehension involves reading a short passage and identifying a missing word (M=82.45, SD=26.71). Synonyms-Antonyms requires reading a word and supplying either a synonym or antonym for that word (M=92.03, SD=21.01). Applied Problems involves analyzing and solving math problems, including deciding the appropriate mathematical operations to use and which data to include (M=83.99, SD=22.18). Calculation requires performing mathematical calculations ranging from simple addition to calculus (M=88.83, SD=25.40).

**Transportation difficulty** (dichotomized). Difficulty with transportation was measured with an item from Wave 4 that asked respondents to report how difficult it is for them to get where they need to go. A dichotomous variable was created to indicate whether the youth experienced transportation difficulty: it was coded 1 if the respondent reported that transportation was “very difficult” or “somewhat difficult” and was coded 0 if the respondent reported that transportation was “somewhat easy” or “very easy.” Almost 44% of youth (92/210) reported difficulty with transportation.

**Self-determination** (SRI). This variable was measured with items from the Arc’s Self-Determination Scale (Wehmeyer, 2000). Items with the highest factor loadings and face validity were selected from the original instrument by SRI to measure four domains of self-determination: personal autonomy, career planning autonomy, self-realization, and psychological empowerment (“Facts from OSEP’s...,” 2005). This scale was administered to youth during Wave 1 or 2, when they were at least 16 years old.

**Health** (dichotomized). Health was measured with one item from the Wave 4 youth or parent interview that asks the respondent to describe the youth’s general health. Response options were used to create a dichotomous variable, with excellent, very good, or good given a

value of 1 and fair or poor given a value of 0. A large majority of the youth were in good or better health (204/233 or 87.6%).

**Completion of postsecondary program (SRI).** This dichotomous variable was based on participant responses to three questions regarding whether the youth had received a diploma, certificate, or license from a 2-year or community college, a 4-year college or university, or a vocational, business, or technical school. Only 17.9% of the youth (44/246) had completed any type of postsecondary program at Wave 4.

**Parental expectations (created).** Parents were asked about their expectations regarding the youth's ability to financially support him/herself in the future. They provided their opinion as to the likelihood that the youth would earn enough without financial help from family or a government benefit program. The dichotomous variable used for this study was created from these responses, with negative parental responses (probably won't or definitely won't) given a score of 1 and positive parental responses (definitely will or probably will) given a score of 0. Data on this variable was available from Waves 1 through 3; the most recent data available for the youth was used. The majority of parents had positive expectations about the youth's ability to financially support him/herself (64.4% or 143/222).

**Level of vision loss (SRI).** This variable was based on parents' report of the youth's disability. Parents were asked in Wave 1 whether the youth had a list of disabilities, including complete blindness. Youth whose parents identified them as being completely blind in Wave 1 received a score of 1; youth who were not identified as being completely blind received a score of 0. Thirty-seven percent on youth (90/242) were classified as blind.

**Social skills (SRI).** Several variables were available to measure social skills. One was a social skills scale created by SRI based on parents' responses in Wave 1 to questions about the

youths' involvement in social activities, ability to cope with frustration and deal with conflict, and ability to cooperate. Scores could range from 0 to 22; the mean for youth in this study was 14.70 (3.67). Two other items were also utilized as proxy measures of social skills: (a) whether the youth was invited to social activities in the last 12 months (yes-no; most recent wave of data available was used) and (b) the number of days per week the youth got together with friends during the 12 months prior to the Wave 4 interview (on a scale of 0 to 5, with 0 being never and 5 being six or seven days per week). A large majority of youth were invited to social activities (77%, 187/243) and the average score on the getting together with friends item was 2.23 (1.62), which corresponds to approximately one day per week.

**Independent travel skills** (dichotomized). In Wave 1 parents were asked how well the youth was able to get to places outside the home on his/her own, without help. Examples of places were to school, to a nearby store or park, or to a neighbor's house. This item was used to create a dichotomous variable that measured independent travel skills; parent responses of "not at all well" or "not very well" received a score of 0 and responses of "pretty well" or "very well" received a score of 1. A majority of youth (62.1%, 141/227) exhibited good travel skills as rated by parents.

**Use of assistive technology** (created). Parents and youth were asked whether the youth used assistive technology for the computer. This dichotomous item was asked during each of the Waves 1 through 3 interviews and the most recent data available was used. A majority of the youth used assistive technology (58%, 138/239).

### **Statistical Analyses**

Logistic regression (LR) was the statistical technique utilized for this study and SAS version 9.2 was the statistical software used. Power for multivariate analyses was limited due to

the small sample size, which was due in part to the large amount of missing data on the independent variables. Therefore, the method recommended by Hosmer and Lemeshow (2000) was utilized to select variables for, and build, the LR models. The first step in this process is univariate analyses of all independent variables of interest. This involved chi-square tests for categorical variables and t-tests for continuous variables. All variables that exhibited a significant relationship with employment in univariate analyses were then considered for inclusion in the LR models. Some of these variables were eliminated due to missing data patterns which resulted in too few observations available for the LR models. All remaining significant variables were included in the two models (one for each level of employment – working 20 hours or more per week and working 35 hours or more per week;  $N = 144$ ). Variables that were not found to be significant in the LR model were removed from the model, one at a time, and a new model was evaluated. Generally, variables were removed based on their p-values; an exception was that the first variable removed was SSI benefits, as it had the smallest available sample size. The sample size was re-established with SSI benefits removed ( $N = 179$ ), and thereafter that sample was used to test each new model that was fit, as one variable was removed at a time. When the final models were established, SSI benefits was re-introduced to the models because of its presumed importance, but was not found to be significant. The final models for each dependent variable were then fit with the full sample available for them ( $N = 200$  and  $N = 189$ ). An alpha level of .10 was utilized due to relatively low power for the models.

## **Results**

### **Univariate Analyses**

Univariate analyses of 22 potential predictor variables for the LR models were conducted. Thirteen of these variables significantly predicted employment at  $p < .05$  and two

predicted employment at  $p < .10$  (see Table 2). Because all of these variables had been identified in previous research as factors that are associated with employment, it is not surprising that most of them were also significant predictors in the NLTS2 data. Perhaps more interesting to note are the variables that were *not* found to be significant predictors even in univariate analyses: health, some measures of self-determination (i.e., self advocacy score, empowerment and self-realization scores), a global measure of social skills (rated by parents), use of assistive technology, and reading achievement (one measure significant at  $p < .10$  for working 20 hours or more per week only).

### **Logistic Regression Models**

Only variables that were statistically significant in univariate analyses were considered for the LR models. Variables with the largest effect sizes were considered first; however, some of these variables had a large amount of missing data, which would result in a substantial decrease in sample size for multivariate analyses. Due to missing data, math achievement, personal autonomy, and one of the social skills measures could not be included in the models. The remaining social skills measure (invited to social activities by peers) was only a significant predictor of working 20 hours or more per week and therefore was only entered into that model.

Each model was fit with the remaining variables (9 for the 20 hour work model and 8 for the 35 hour work model). Model fitting proceeded as described in the Method section, with variables removed in the following order:

- a) 20 hour work model: receipt of SSI, level of vision loss, parental prediction, independent travel skills
- b) 35 hour work model: receipt of SSI, level of vision loss, parental prediction

After removal of the last non-significant variable and refitting of the models with the largest

sample available, the final models were established. Results for these models are presented in Table 3. Four variables were significant in both final models: early work experiences, number of recent work experiences, transportation difficulty, and completion of a postsecondary program. One additional significant variable was present in each model: peer social skills predicted employment at 20 hours or more per week and independent travel skills predicted employment at 35 hours or more per week. Relative importance of the predictor variables differed in the two models, with early and recent work experiences being the best predictor of employment at 20 hours or more, while these were the weakest predictors of employment at 35 hours or more. (With both employment variables in the full-time work model, neither one reached significance at  $p < .05$ ; if only one was retained in the model, it was significant at  $p < .05$ . This is due to low power available for the analyses.) Despite these differences, the estimated effect sizes (odds ratios) for the variables were similar in the models.

### **Discussion**

As found in other recent studies, early work experiences and the number of work experiences were important predictors of employment for youth with VI. These other studies utilized different data and therefore represented different populations of youth with VI (youth who received vocational rehabilitation services [McDonnall & Crudden, 2009] and youth from the general population who self-reported difficulty with vision [Author, in press]). These three studies provide compelling evidence for the importance of not just obtaining work experience while in high school, but of obtaining multiple work experiences. In this study, the size of that effect was substantial: youth having just two jobs in the past two years had odds 2.6 to 2.9 times higher of being employed at Wave 4 than youth who held no jobs in the past two years.

It is relevant to consider why having multiple work experiences is so valuable to future

employment. One hypothesis is that multiple work experiences result in a stronger network of people who can assist the youth in finding a job. Utilizing personal contacts (i.e., your network) in a job search is commonly considered the best way to obtain employment. Further, research has shown that most jobs are found through acquaintances rather than close friends and family, and that the more diverse and expansive a person's network is, the more likely this network will result in a successful job lead (Luecking, Fabian, & Tilson, 2004). This may be a problem for many youth with VI; research has documented that youth with VI have smaller social networks than sighted youth (Kef, 1997; Sacks, Wolfe, & Tierney, 1998). It is possible that the connections made through multiple work experiences while younger result in a greater network of contacts to call on when searching for a job later.

Another variable identified as a significant predictor of employment at both levels was transportation difficulties. Transportation difficulties have long been considered a major barrier to employment for persons with VI, but little empirical evidence to support this has been available. Youth in this study who reported that transportation was easy or somewhat easy had odds 2.4 times greater of being employed than those who reported difficulties with transportation. The fact that transportation problems were important even when other variables were taken into account is relevant. For example, if youth experienced difficulty with transportation, despite having a positive work history, their odds of being employed were lower.

The fourth variable that significantly predicted employment in both models was having completed a postsecondary program resulting in a diploma, certificate, or license. Previous research has documented the importance of completing a postsecondary educational program, but not of only participating in such a program (Capella-McDonnall, 2005). This was the strongest predictor of working full-time for youth with VI, as those who had completed a

postsecondary program had odds 3 times greater of being employed at 35 hours per week or more. It is particularly relevant to note that for the sample in this study, completing a postsecondary educational program was a more important predictor of full-time employment than previous work experience. It may be that the diploma, certificate, or license actually helps the person obtain a job, but it is also possible that the personal characteristics of the person that enabled him or her to complete a postsecondary program despite a significant VI contribute to the influence of this variable.

Another variable in the full-time employment model with an effect similar to postsecondary completion was independent travel skills. These skills were rated by the youths' parents at Wave 1, approximately six years prior to the employment outcome. Youth whose parents indicated that they could get to places outside the home on their own pretty well or very well were almost 3 times as likely to be employed full-time at Wave 4. Interestingly, this variable did not significantly predict fewer hours of employment (20 hour work model). It is possible that this variable represents more than simply travel skills, such a sense of independence in general, which is important to the capacity to work independently.

The final significant predictor in the 20 hour employment model was peer social skills. The estimated effect for peer social skills was large: those who were invited by friends to social activities had 3.5 times greater odds of being employed than those who were not. The importance of social skills to employment is obvious for everyone, visually impaired or not. Social skills are a particular concern for youth who are VI, however, as it is considered challenging for persons with visual impairments to learn social skills because the acquisition of these skills generally occurs through observation, in an incidental way (Skellenger, Hill, & Hill, 1992).

Non-significance of one variable in particular deserves attention. Recent receipt of SSI

benefits, although a significant predictor when considered alone, was clearly not important when considered in combination with other variables. This indicates that the other variables in the model were more important predictors of employment than receipt of SSI. This is an important finding as receipt of Social Security Administration benefits is often considered a major barrier to employment for persons with VI. Perhaps these financial, and medical, benefits are not as great a deterrent for transition-age youth as they are for older persons with VI. It is important to study the effect of receipt of SSI while young on obtaining early work experiences. If SSI receipt deters youth from attempting to work when young, the lack of work experience may negatively impact future employment, resulting in an indirect effect of SSI receipt on future employment.

### **Limitations**

The major limitation of this study is its small sample size, which was due in part to a large amount of missing data on some independent variables. Some variables that were strongly associated with future employment in univariate analyses could not be included in the LR models due to small samples (e.g., personal autonomy and math achievement), but may have been important predictors in multivariate models. With a larger sample, the variables found to be the most important predictors of employment could have been different.

### **Implications for Professionals**

There are important implications for professionals of each of the six factors found to predict employment for youth with VI. First, the value of obtaining employment experiences, including working during high school, must be emphasized to these youth. A focus on educational studies often prevents youth from working (O'Day, 1999), but youth should be encouraged to find time to devote to obtaining work experience. Parents may also need encouragement and education in this area, as they may not realize the importance of early work

experiences to their child's ability to obtain employment in the future. The number of recent work experiences being significantly related to employment suggests the importance of youth building a network of contacts who can potentially help them find employment in the future. Research has documented that unemployed college graduates who are VI have less extensive social and supportive networks, and use them in more limited ways than employed college graduates with VI (Roy, Dimigen, & Taylor, 1998). One way to build a network is through work experiences, but there are several other avenues to increase network contacts (extracurricular school activities, volunteer work, membership in religious or other formal organizations). Youth need to first become aware of the importance of building a network and then strive to increase their number of personal contacts. Increasing youth's knowledge about how to find a job, including how to build and use a network to do it, is an important lesson that could be included in transition programs.

Completion of a postsecondary educational program was associated with full-time employment. To complete a postsecondary program, youth with VI may need some support. In postsecondary school, the responsibility is on the youths themselves to request their accommodations and locate the support they need to succeed, which is a stark contrast to secondary school. Transition programs can help prepare youth for the different atmosphere and requirements of postsecondary school, which may help increase their ability to succeed and complete a postsecondary program. Vocational rehabilitation counselors can also provide support and assistance, as needed, to ensure the success of their consumers attending postsecondary school.

Teachers of students with VI (TVIs) and other blindness professionals are well aware of the importance of social skills and independent travel skills to the success of their students, as

evidenced by their inclusion in the expanded core curriculum (Hatlen, 1996). This study provides additional support for the importance of these variables as they relate to future employment, which is a central measure of transition success for young adults with VI. It is imperative that IEPs for youth with VI include goals in these areas. TVIs and parents should ensure that youth have training in both areas as part of their school curriculum. Transition programs could also include components that focus on social skills, such as providing feedback on poor social skills in everyday interactions and in formal interactions such as job interviews. Helping youth learn to problem solve transportation issues is another area that TVIs, rehabilitation counselors, and transition programs could address as part of their education or rehabilitation programs.

Youth and their parents want the youth to obtain employment following their education, yet they will likely not be aware of important factors that may contribute to their ability to do so. Professionals are in a position to both assist youth in these areas and to educate them and their parents. Transition programs designed to assist these youth as they move from secondary school to postsecondary school or work must incorporate the factors found by empirical research to predict employment. Professionals working within these programs should evaluate their contents to ensure its relevance to their consumers.

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Table 1

*Sample Demographics*

Variable	Frequency	Percent
Age		
19	9	5.0
20	43	24.0
21	40	22.4
22	52	29.1
23	35	19.6
Gender		
Female	79	44.1
Male	100	55.9
Race/Ethnicity		
White	108	60.7
African-American	44	24.7
Hispanic	23	12.9
Asian American/ Pacific Islander	3	1.7
When youth left high school		
Within last 2 years	86	48.0
More than 2 years ago	93	52.0

Table 2

*Univariate Analyses Predicting Employment for Youth with Visual Impairments*

Variable	N	Working 20+ hours			Working 35+ hours		
		$\chi^2$	<i>p</i>	$\phi$	$\chi^2$	<i>p</i>	$\phi$
<b>Dichotomous variables</b>							
Paid work while in high school	237	11.04	< .001	.22	9.21	.002	.20
Parent expectations: Able to support self (yes-no)	222	11.60	< .001	-.23	10.50	.001	-.22
Blind (parent report completely blind)	242	3.89	.049	-.13	4.69	.03	-.14
Receipt of SSI benefits (past 2 years)	188	6.77	.01	-.19	4.50	.03	-.15
Has difficulty with transportation (yes-no)	210	5.31	.02	-.16	5.34	.02	-.16
Independent travel skills	227	10.98	< .001	.22	10.96	< .001	.22
Completion of postsecondary program	246	8.37	.004	.18	10.45	.001	.21
Good health	233	0.41	.52	.04	0.23	.63	.03
Social skills: Invited to social activities by peers (yes-no)	243	5.14	.02	.15	1.97	.16	.09
Use of assistive technology	239	0.80	.37	-.06	0.21	.64	-.03
<b>Continuous variables</b>							
		<b>t-test</b>	<b><i>p</i></b>	<b><i>d</i></b>	<b>t-test</b>	<b><i>p</i></b>	<b><i>d</i></b>
Number of jobs held in past 2 years	225	-4.62	< .001	.70	-3.97	< .001	.69
Math achievement: Applied problems score	125	-2.30	.02	.43	-2.61	.01	.54
Math achievement: Calculation score	157	-1.67	.10	.29	-1.76	.08	.33
Reading achievement: Passage comprehension score	158	-1.74	.08	.30	-0.98	.33	.18
Reading achievement: Synonyms-Antonyms	159	-1.16	.25	.20	-1.20	.23	.22
Self-determination: Career autonomy scale	155	-2.31	.02	.40	-1.08	.28	.20

Variable	N	Working 20+ hours			Working 35+ hours		
		$\chi^2$	<i>p</i>	$\phi$	$\chi^2$	<i>p</i>	$\phi$
<b>Dichotomous variables</b>							
Self-determination: Personal autonomy scale	144	-3.19	.002	.58	-3.45	< .001	.68
Self-determination: Empowerment scale	157	0.75	.45	.13	1.22	.23	.22
Self-determination: Self-realization scale	155	-0.26	.80	.04	0.35	.73	.06
Social skills: How often got together with friends	193	-3.03	.003	.50	-2.79	.006	.53
Social skills scale	231	-1.09	.27	.16	-0.69	.49	.11

Table 3

*Logistic Regression Models Predicting Employment for Youth with Visual Impairments*

Variable	Working 20 or more hours/week <sup>a</sup>					Working 35 or more hours/week <sup>b</sup>				
	$\beta$	SE	Wald $\chi^2$	$p$	Odds ratio [95% CI]	$\beta$	SE	Wald $\chi^2$	$p$	Odds ratio [95% CI]
High school work	0.44	0.18	6.40	.01	2.42 [1.22, 4.81]	0.37	0.21	3.25	0.07	2.10 [0.94, 4.7]
Number of recent jobs	0.36	0.12	8.95	.003	1.44 [1.13, 1.82]	0.24	0.13	3.72	0.05	1.28 [1.00, 1.63]
Transportation difficulty	- 0.44	0.19	5.54	0.02	0.42 [0.20, 0.86]	- 0.44	0.22	4.04	0.04	0.41 [0.17, 0.98]
Postsecondary completion	0.41	0.21	3.72	0.05	2.25 [0.99, 5.12]	0.55	0.23	5.86	0.02	3.03 [1.23, 7.42]
Peer social skills	0.63	0.28	4.95	0.03	3.51 [1.16, 10.64]					
Independent travel						0.54	0.25	4.60	0.03	2.96 [1.10, 7.97]

<sup>a</sup> Model  $\chi^2 (5, N = 200) = 37.78, p < .0001$ ; Nagelkerke  $R^2 = .25$

<sup>b</sup> Model  $\chi^2 (5, N = 189) = 29.65, p < .0001$ ; Nagelkerke  $R^2 = .23$