Transition of Youth with Visual Impairment, Multiple Impairments, or DeafBlindness:

National Longitudinal Transition Study 2

In recent years, much federal, state, and local attention has been given to the need for improved educational systems for all children, including those with disabilities. A key to that process is the transition of youth from secondary school settings into young adulthood. To facilitate a better transition, the Office of Special Education Programs (OSEP) of the U.S. Department of Education felt it was important to gather information about the way that students were currently transitioning from the secondary school setting through the first 2 years after leaving school. In the mid-1980s, OSEP funded a project to do just that. This project was called the National Longitudinal Transition Study (NLTS) and provided a "snapshot in time" of the transitional tendencies of youth with disabilities in 1985. NLTS surveyed a nationally representative group of parents of youth with disabilities who were receiving services through their school system. The data were analyzed and the results were published in a series of reports beginning in 1991.

Fifteen years later, a second project was started that enhanced the data collected in the mid-80s. This second project, also funded by OSEP, was called the National Longitudinal Transition Study 2 (NLTS2) and built on the information that was gathered in the original NLTS. The data gathered in both studies were analyzed and the NLTS2 Full Report was published in 2005, showing the extent of change and whether that change was positive or negative in the way that youth with disabilities experienced the transitional years between life in a secondary school setting and life as a young adult.

We believe that the data included in the <u>NLTS2 full report</u> are extremely important and of interest to families and professionals. Since the NLTS and NLTS2 are not disability specific in their scope, and in order to make the information that relates to youth with visual impairments or deaf-blindness/multiple impairments easily accessible, we have condensed the information from the <u>NLTS2 full report</u> to show how youth with these specific disabilities experienced transition.

There are several important factors to keep in mind when reading the condensed information from the NLTS2. These factors are:

- 1. The participants are classified in groups called Cohorts. The parent participants of the 1987 NLTS are referred to as Cohort 1. The parent and youth participants of the 2003 NLTS2 are referred to as Cohort 2.
- 2. The findings are weighted. NLTS and NLTS2 were designed to be nationally representative of all youth with disabilities receiving services at the time of each study. In order to achieve this, each response from each study participant was weighted to represent the number of youth nationally in the same disability category in the kind of school district and setting from which he or she was selected. "Sample weighting" is a common mathematical calculation used by researchers to take into account the variability of factors

between the sample population and the population as a whole. In this particular case, the researchers of the NLTS and NLTS2 recognized the difference between the number of actual study participants in the "visual impairment" and "multiple impairment/ deaf-blindness" categories and the number of youth in those categories nationally. Sample weighting adjusts for those differences and allows the data to be representative nationally rather than simply descriptive of the people who participated in the study. In this report, unless otherwise noted, the data are weighted. However, it is important to keep in mind that the study utilized the same categories used in the Individuals with Disabilities Education Act and the Department of Education's annual count of students receiving services. Many educators have questioned the accuracy of these numbers, particularly for students with visual impairment (Ferrell, 1998; Kirchner & Diament, 1999a, 1999b; Mason, Davidson, & McNerney, 2000). Therefore, the weighted calculation still may not result in an accurate picture of student behavior.

- **3. Standard errors represent the precision of a given estimate.** Smaller standard errors allow for greater confidence to be placed in the estimate, whereas larger ones require caution. (National Longitudinal Transition Study 2, 2005)
- **4. Small samples influence the standard error.** Although NLTS and NLTS2 data are weighted to represent the population, the size of standard errors is influenced heavily by the actual number of youth surveyed. Since visual impairment and multiple impairment/deaf-blindness tend to be disability categories referred to as "low incidence disabilities", you will notice that both studies often included very few study participants for each area of transition that was examined. Therefore, these small sample sizes will have comparatively large standard errors. It may also be noticed that findings with fewer than 35 study participants will not have a standard error noted at all.

The NLTS2 full report covers several areas of transition:

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1. Secondary School Exit Status

A logical place to begin when talking about transition is to discuss the way in which youth with visual impairments or multiple impairments/deaf-blindness leave secondary school. Chapter 2 in the National Longitudinal Transition Study 2 (NLTS2) full report focuses a good deal of attention on the issue of youth with disabilities leaving secondary school before completion. In 2005, the United States Department of Labor determined that young people who drop out of secondary school before completion are less likely to pursue post-secondary education and training and subsequently earn lower wages than their peers who graduated with a secondary education (U.S. Department of Labor, 2005). Therefore, it is most desirable to decrease the drop out rate among young people and encourage them to complete their secondary schooling.

NLTS2 researchers found that there was a greater incidence of school completion in cohort 2 than in cohort 1 for students with visual impairments. There was an 8.9 percentage point increase in graduation rates between cohorts for this disability and an 8.9 percentage point decrease in the incidence of dropout for this group, from an 85% completion rate in cohort 1 to a 94% completion rate in cohort 2. Furthermore, the data show there were twice as many students with visual impairments in cohort 2 who were out of school at least one year by the age of 19 years than there were youth with visual impairments in cohort 1, an increase from 35% to 70% between cohorts.

Similarly, there was an increase in the rate of high school completion for students in cohort 2 with multiple impairments/deaf-blindness. The data show that youth with these impairments graduated at a higher rate in cohort 2 than in cohort 1, from 26% in the mid-1980s to 51% in 2004. The drop-out rate of cohort 2 students decreased as well, to 49.2%, compared to the 73.8% drop-out rate of cohort 1. Interestingly, there was a decrease in the rate at which these youth were out of school for at least a year by the age of 19 years, from 65% in cohort 1 to 37% in cohort 2. This, combined with the significant increase in school completion between cohorts, suggests that students in this disability category tended to stay in school until completion even beyond age 19 years.

U.S. Department of Labor. (2005). *Educational Resources: So you're thinking of dropping out*. Downloaded August 3, 2006 from http://www.dol.gov/fibre/dropout.htm.

CHANGES IN SCHOOL-EXIT STATUS AND TIMING

		Visual Impairment	Multiple Disabilities/Deaf- Blindness
Percent school	age completing high		
	Cohort 1 (1987)	85.1 (5.8)	26.2 (11.7)
	Cohort 2 (2003)	94.0 (4.7)	50.8 (13.8)

Percentage-point change	+8.9	+24.6
Percentage dropping out of high school		
Cohort 1 (1987)	14.9	73.8
	(5.8)	(11.7)
Cohort 2 (2003)	6.0	49.2
	(4.7)	(13.8)
Percentage-point change Percentage out of high school at least 1 year	-8.9	-24.6
Cohort 1 (1987)	35.3	65.2
Condit I (1707)	(7.6)	(12.2)
Cohort 2 (2003)	69.7	36.6
	(9.0)	(12.5)
Percentage-point change	+34.4*	-28.6

Sources: NLTS Wave 1 parent interviews and NLTS2 Wave 2 parent/youth interviews. Statistically significant difference in a two-tailed test is at the following level: *p < .05 Standard errors are in parentheses.

2. Household Arrangements

While attention is often focused on the postsecondary educational activities and work choices of youth leaving high school, chapter 3 of the full NLTS2 report discusses the equally important aspects of postsecondary activities, including living situations and interpersonal relationships. The following definition was included for "household arrangements":

- **Household arrangements:** with whom youth lived and their marital status. Living arrangements were defined as
 - ➤ living with one or more parents (about 75% of youth with disabilities for both cohorts 1 and 2)
 - ➤ living either with a spouse, roommate, college dorm, or military housing (11% in cohort 1 and 15% in cohort 2)
 - living in an institution or facility (3% in cohort 1, 1% in cohort 2)

Living arrangements did not change significantly between cohorts 1 and 2. There was a 4.2 percentage point increase between cohorts 1 and 2 in the rate at which students with visual impairments were living with their parents, with just over 80% in cohort 2.

Approximately 15% of youth with visual impairments lived alone in both cohorts 1 and 2; and less than 1% of youth with visual impairments lived in an institution or facility.

For students with multiple impairments/deafblindness, there was a 19 percentage point increase between cohorts 1 and 2 in the rate at which these students were living with one or more parents, from 58% in cohort 1 to 77% in cohort 2. It was also found that there was a decrease in the rate at which youth with multiple impairments/deafblindness lived in an institution or facility, with rates of 31% in cohort 1 to 6% in cohort 2, a 25 percentage point decrease. Researchers found a slight increase in youth with multiple impairments/ deafblindness living independently, from 1% in cohort 1 to 4% in cohort 2.

CHANGES IN THE LIVING ARRANGEMENTS OF OUT-OF-SCHOOL YOUTH

	Visual Impairment	Multiple Disabilities/Deaf- Blindness
Percentage who lived:		
With a parent/guardian		
Cohort 1 (1987)	76.3	58.1
	(6.8)	(12.7)
Cohort 2 (2003)	80.5	76.9
` ,	(7.8)	(10.9)
Percentage-point change	+4.2	+18.8
Independently (alone, with a spouse or roommate, or in military housing		
or a college dormitory)		
Cohort 1 (1987)	15.8	1.3
	(5.9)	(2.9)
Cohort 2 (2003)	14.8	4.4
	(6.8)	(5.3)
Percentage-point change	-1.0	+3.1
In an institution or facility		
Cohort 1 (1987)	0.8	30.6
	(1.4)	(11.9)
Cohort 2 (2003)	0.0	5.5
Percentage-point change	-0.8	(5.9) -25.1

Sources: NLTS Wave 1 parent interviews and NLTS2 Wave 2 parent/youth interviews Standard errors are in parentheses.

3. Social Activities

While attention is often focused on the postsecondary educational activities and work choices of youth leaving high school, chapter 3 of the full NLTS2 report discusses the equally important aspects of postsecondary activities, including living situations and interpersonal relationships. The following definition was included:

• **Social involvement:** participating in organized group activities outside of work or school, volunteering, and at some point experience negative consequences for behavior (i.e., disciplinary actions at school or being fired from a job or arrested) (National Longitudinal Transition Study 2, 2005)

Chapter 3 in the NLTS2 full report discusses the social involvement of youth with disabilities in both cohorts 1 and 2. For youth with visual impairments specifically, it was found that there was a 6.7 percentage point increase between cohorts for the rate at which those youth participated in one or more community group, a 41.9 percentage point increase in the rate in which youth with visual impairments volunteered work/activities or community service, but a 6.7 percentage point increase in the rate at which those youth had never experienced negative consequences for behavior.

Youth with multiple impairments/deaf-blindness had a very different experience in this category. It was found that too few youth in this disability category in cohort 1 participated in the study to even note a percentage rate and standard error. For youth in this disability category in cohort 2, it was found that about 13% of the population participated in one or more community groups and nearly 37% volunteered in work/activities or community service. It was also found that there was a 10 percentage point decrease in the incidence of negative consequences for behavior between cohorts 1 and 2 for this disability category.

CHANGES IN ASPECTS OF THE SOCIAL INVOLVEMENT OF OUT-OF-SCHOOL YOUTH

	Visual Impairment	Multiple Disabilities/Deaf- Blindness
In the past year, percentage of youth out of school more than a year who participated in:		
One or more community groups		
Cohort 1 (1987)	36.6	
· /	(13.7)	
Cohort 2 (2003)	43.3	13.3
,	(13.3)	(10.5)
Percentage-point change	+6.7	,

Volunteer work/activities or

community service

Cohort 1 (1987)	11.9	
	(8.0)	
Cohort 2 (2003)	53.8	36.4
	(13.8)	(15.3)
Percentage-point change	+41.9*	
Percent who ever had experienced		
negative consequences for behavior		
Cohort 1 (1987)	7.9	45.8
	(4.5)	(13.8)
Cohort 2 (2003)	14.6	35.8
	(7.2)	(12.8)
Percentage-point change	+6.7	-10.0

Sources: NLTS Wave 1 parent interviews and NLTS2 Wave 2 parent/youth interviews Standard errors are in parentheses

-- Too few to report separately.

Statistically significant difference in a two-tailed test at the following level: *p < .05

4. Post-secondary Education Participation

Arguably the strongest job growth in the next decade will be in occupations requiring postsecondary education. With that in mind, those youth who are transitioning into young adulthood must recognize the importance of postsecondary education to compete in the future job market for all young people leaving secondary education. The authors of the NLTS2 full report note in chapter 4 that there has been an increase in the number of students with disabilities taking and succeeding in more rigorous coursework, thereby increasing the likelihood of postsecondary success. The authors also noted that parental expectations of success in secondary and postsecondary education by students with disabilities generally tended to increase between cohorts 1 and 2, perhaps leading to an increase in the actual success of these students. The researchers of NLTS2 continued by exploring postsecondary educational participation in three main types of institutions: 2 year/community colleges; 4 year colleges; and postsecondary vocational, technical, or business schools.

Of interest to the field of blindness and low vision in particular was that the percentage of youth who participated in any kind of postsecondary education more than doubled between cohorts 1 and 2, from 32.8% to 66.1% respectively. Those attending 2-year colleges grew from 6% in cohort 1 to nearly 40% in cohort 2. Similarly, those attending a 4-year college grew from 17% to 41% between cohorts 1 and 2, a 24 percentage-point increase between cohorts. NLTS2 Researchers noted that "youth with hearing or visual impairments demonstrated the largest increase in both 2-year and 4-year college participation, resulting in their remaining among those most likely to be enrolled at these types of institutions." (National Longitudinal Transition Study 2, 2003)

For students with multiple impairments/deaf-blindness, students moved from uninvolvement in postsecondary education in cohort 1, to a slight increase in participation in cohort 2. Whereas there were too few students in cohort 1 to show involvement in any kind of postsecondary education, in cohort 2, 40% of youth with multiple impairments/deafblindness participated. NLTS researchers found that there was a 9.8 percentage point increase between cohorts of youth with multiple impairments/deafblindness in their likelihood of attending a 2-year college; a nearly 2 percentage point increase in attendance of a 4-year college; and a nearly 30 percentage point increase between cohorts in likelihood of youth attending a vocational, technical or business school.

National Longitudinal Transition Study 2. (2005). *Changes Over Time in Postschool Outcomes of Youth with Disabilities*. Downloaded June 6, 2006 from http://nlts2.org/pdfs/str6_completereport.pdf.

CHANGES IN POSTSECONDARY EDUCATION PARTICIPATION SINCE HIGH SCHOOL

	Visual Impairment	Multiple Disabilities/Deaf- Blindness
Percentage participating since high school in:		
Any postsecondary education		
Cohort 1 (1987)	32.8	
	(7.7)	
Cohort 2 (2003)	66.1	40.1
, ,	(9.6)	(16.9)
Percentage-point change	+33.3**	, ,
2-year college		
Cohort 1 (1987)	6.1	0
	(4.1)	
Cohort 2 (2003)	38.5	9.8
,	(10.1)	(10.7)
Percentage-point change	+32.4**	+9.8
4-year college		
Cohort 1 (1987)	17.2	1.6
,	(6.2)	(3.9)
Cohort 2 (2003)	40.7	3.5

	(10.2)	(6.4)
Percentage-point change	+23.5*	+1.9
Postsecondary vocational, technical,		
or business school		
Cohort 1 (1987)	10.9	
	(5.3)	
Cohort 2 (2003)	8.7	29.8
	(5.8)	(15.9)
Percentage-point change	-2.2	

Sources: NLTS Wave 1 parent interviews and NLTS2 Wave 2 parent/youth interviews Standard errors are in parentheses.

-- Too few to report separately.

Statistically significant difference in a two-tailed test at p < .05, p < .01

5. Job Characteristics

One of the main goals in training for, seeking and attaining employment is to secure financial independence. It is widely known, however, that adults with disabilities often struggle to find employment, and for those who do, wages are often significantly below those of their non-disabled peers. To get a better picture of the changes that youth with disabilities are experiencing in the workplace, the NLTS2 researchers gathered information about the job characteristics of the study participant's current or most recent job. The characteristics examined were:

- Hours worked per week
- Hourly wage
- General type or category of the job, including retail, clerical and maintenance

For youth with visual impairments, multiple impairments or deafblindness, it was found that, for the most part, there were too few participants in the sample pool in cohort 1 to produce percentages, therefore comparisons between cohorts was difficult for this category. It was found, however, that for youth with visual impairments there was a 15% decrease in the rate at which youth in that group worked full time at 35 hours per week or more, with 44% in cohort 1 and 29% in cohort 2.

CHANGES IN JOB CHARACTERISTICS OF OUT-OF-SCHOOL YOUTH

Visual Multiple Disabilities/Deaf-Impairment Blindness

Percentage of working youth who: Worked full-time (35 hours per week or more)

Cohort 1 (1987)	44.0	
Cohort 2 (2003)	(13.4) 28.7	27.1
Percentage-point change	(12.5) -15.3	(20.2)
Earned more than the federal		
minimum wage		
Cohort 1 (1987)		
Cohort 2 (2003)	67.6	65.5
	(13.7)	(19.5)
Percentage-point change		
Were employed in: ^a		
Retail		
Cohort 1 (1987)		
Cohort 2 (2003)	11.9	10.9
Conort 2 (2003)	(8.4)	(12.4)
Danaanta aa naint ahanaa	(6.4)	(12.4)
Percentage-point change		
Clerical		
Cohort 1 (1987)		
Cohort 2 (2003)	13.1	6.0
	(8.8)	(9.4)
Percentage-point change Maintenance	, ,	,
Cohort 1 (1987)		
Cohort 2 (2003)	7.4	4.6
- (- (- (- (- (- (- (- (- (- (- (- (- (-	(6.8)	(8.3)
Percentage-point change	(0.0)	(0.3)

Sources: NLTS Wave 1 parent interviews and NLTS2 Wave 2 parent/youth interviews Standard errors are in parentheses.

6. Employment Status

One of the main goals in training for, seeking and attaining employment is to secure financial independence. It is widely known, however, that adults with disabilities often struggle to find employment, and for those who do, wages are often significantly below those of their non-disabled peers. To better prepare youth with disabilities for the

^aThe categories of trades, child care, food service, and other support and service jobs are omitted from the exhibit because there were no significant changes over time for any category.

workforce after leaving secondary school, the NLTS2 researchers gathered information about whether these youth had worked for pay at any time since leaving high school.

Youth with visual impairments nearly doubled the rate at which they worked for pay at some point after leaving high school. Youth in cohort 1 worked for pay at a rate of 37%, while 62% of cohort 2 reported working for pay since leaving high school. When asked if those same students were currently working for pay, however, the rate decreased slightly from cohort 1 to cohort 2, with rates of 30% and 28% respectively.

For youth with multiple impairments/deaf-blindness, there was a 27 percentage point increase from cohort 1 to cohort 2, with 10% reporting having had a job at some point after high school in cohort 1 and 36% in cohort 2. For this group of youth, when asked if they were currently working for pay, 14% of cohort 1 and 26% of cohort 2 answered in the affirmative.

CHANGES IN EMPLOYMENT STATUS OF OUT-OF-SCHOOL YOUTH

	Visual Impairment	Multiple Disabilities/Deaf- Blindness
Percentage:		
Who worked for pay since		
leaving high school		
Cohort 1 (1987)	36.6	9.6
	(7.8)	(7.6)
Cohort 2 (2003)	62.4	36.1
	(9.7)	(12.7)
Percentage-point change	+25.8*	+26.5
Currently worked for pay		
Cohort 1 (1987)	29.9	14.1
	(7.6)	(11.1)
Cohort 2 (2003)	27.6	25.7
•	(9.0)	(12.0)
Percentage-point change	-2.3	+11.6

Sources: NLTS Wave 1 parent interviews and NLTS2 Wave 2 parent/youth interviews. Standard errors are in parentheses.

Statistically significant difference in a two-tailed test *p < .05

7. Engagement in School, Work, and Preparation for Work

Often the realities of life after secondary school lead to complex choices regarding postsecondary activities for students, including students with disabilities. Chapter 6 of the NLTS2 full report discusses these alternatives and narrows them down to three main categories:

- 1. paid employment
- 2. education (enrollment in a GED or other high school degree completion program; a 2- or 4- year college; or a vocational, business, or technical school)
- 3. job training (other than programs associated with a college)

Chapter 6 of the NLTS2 full report noted that often these decisions are not "either/or," but rather a combination of choices that work best for a particular student's needs and situation. The study revealed that, across disabilities, 75% of all cohort 2 participants engaged in some combination of these choices, similar to 70% of cohort 1.

Youth with visual impairments engaged in these choices at rates similar to those of youth across all disability groups. Sixty-five percent (65%) of youth with visual impairments in cohort 1 and 74% in cohort 2 chose a combination of the post secondary choices listed above. For youth with visual impairment, there were slight decreases between cohorts choosing only postsecondary education (15% to 10%), paid employment (12% to 10%), or job training only (5% to 0%). Interestingly, youth with visual impairments tended to choose the following combinations of choices: postsecondary education and paid employment (9% for cohort 1 vs. 36% for cohort 2), and postsecondary education, paid employment, and job training (3% for cohort 1 vs. 15% for cohort 2). These youth, however, showed a decrease in the rate that students chose the combinations of postsecondary education and job training (10% for cohort 1 vs. 2% for cohort 2) and paid employment and job training (12% for cohort 1 vs. 0% for cohort 2).

Youth with multiple disabilities or deafblindness had "by far the lowest rate of engagement in cohort 1... but were above three categories in cohort 2." Students in cohort 2 for this disability category increased the rate in which they engaged in postsecondary education, paid employment, or job training from 26.1% in the mid-1980s to 58.6% in 2003. The largest growth rate for postsecondary choice for youth with multiple disabilities or deafblindness was in paid employment with a 19.9 percentage-point increase between cohorts, from 9.3% participation to 29.2% in cohort 2.

CHANGES IN ENGAGEMENT IN SCHOOL, WORK, OR PREPARATION FOR WORK OF OUT-OF-SCHOOL YOUTH, BY DISABILITY

	Visual Impairment	Multiple Disabilities/Deaf- Blindness
Since high school, percentage engaged in: Postsecondary education, paid employment, or job training		
Cohort 1 (1987)	65.0 (7.7)	26.1 (14.0)
Cohort 2 (2003)	73.9 (8.6)	58.6 (13.3)

Percentage-point change	+8.9	+32.5
Postsecondary education only		
Cohort 1 (1987)	15.1	7.3
,	(5.8)	(8.3)
Cohort 2 (2003)	10.1	19.3
,	(5.9)	(10.7)
Percentage-point change	-5.0	+12.0
Paid employment only		
Cohort 1 (1987)	11.9	9.3
	(5.2)	(9.3)
C 1 (2002)	· · ·	· · · · ·
Cohort 2 (2003)	10.2	29.2
Percentage-point change	(5.9) -1.7	(12.3) +19.9
Job training only	-1./	117.7
Cohort 1 (1987)	4.5	5.1
	(3.3)	(7.0)
Cohort 2 (2003)	0.0	0.0
Percentage-point change	-4.5	-5.1
Postsecondary education and paid		
employment	0.0	0.0
Cohort 1 (1987)	8.8	0.0
	(4.6)	
Cohort 2 (2003)	35.9	7.1
	(9.4)	(7.0)
Percentage-point change	+27.1**	+7.1
Postsecondary education and job		
training Cohort 1 (1987)	9.5	0.0
Colloit 1 (1987)	(4.7)	0.0
Cohort 2 (2003)	2.1	1.5
(2000)	(2.8)	(3.3)
Percentage-point change	-7.4	1.5
Paid employment and job training		
Cohort 1 (1987)	12.4	2.9
	(5.3)	(5.4)
Cohort 2 (2003)	0.4	0.4
	(1.2)	(1.7)
Percentage-point change	-12.0*	-2.5

Postsecondary education, paid employment, and job training

Cohort 1 (1987)	2.8	1.6
	(2.7)	(4.0)
Cohort 2 (2003)	15.2	1.2
	(7.0)	(3.0)
Percentage-point change	+12.4	-0.4

Sources: NLTS Wave 1 parent interviews and NLTS2 Wave 2 parent/youth interviews Standard errors are in parentheses.

Statistically significant difference in a two-tailed test at *p < .05, **p < .01

If you are interested in further information regarding the NLTS2, please go to http://www.nlts2.org or contact Dr. Kay Ferrell at kferrell@afb.net.

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