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Gender differences in long-term postschool outcomes for youth with mild mental retardation, learning disabilities and no disabilities: Myth or reality?

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Gender Differences in Long-Term Postschool Outcomes for Youth with Mild Mental Retardation, Learning Disabilities and No Disabilities: Myth or Reality?

by

Phyllis Levine

A dissertation submitted in partial fulfillment
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Doctoral Dissertation

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Abstract

Gender Differences in Long-Term Postschool Outcomes For Youth with Mild Mental Retardation, Learning Disabilities and No Disabilities: Myth or Reality?

by Phyllis Levine

Chairperson of the Supervisory Committee: Professor Eugene Edgar
College of Education

In the past decade major efforts have been undertaken to examine the postschool life of youth who were served in special education. The follow-up study has been the primary method used by investigators seeking answers to questions regarding the immediate and long-term outcomes of youth with disabilities. The findings from these studies have provided the profession with certain general outcome data including the claim that gender is a primary factor related to outcome. While these findings are commonly accepted within the field of special education there are several troubling issues which open some of our commonly held beliefs to doubt. These include combining data across disability categories, combining data on graduates who have been out of school for unequal periods of time, ignoring the issue of missing data, combining data from different informants, and the use of non-equivalent data bases to make comparisons to a population with no disabilities.

The purpose of this study was to address the question of gender differences by analyzing a data set from the longitudinal follow-up project entitled *The First Decade After School* with attention to these methodological concerns. The sample comprised 48 graduates with mild mental retardation and 289 graduates with learning disabilities from the 1990 and 1985 graduation classes in three school districts in Washington State. A cohort of 610 youth without disabilities were randomly selected from the same districts and graduation years. Interviews were conducted at 1 and 2 years postgraduation for the 1990 graduates, and 6 and 7 years postgraduation for the 1985 graduates.

Contrary to the literature, the data revealed few significant differences between males and females, but numerous differences by disability classification. Overall, the findings suggest that 1) youth with mild mental retardation fare poorly compared to youth with learning disabilities or no disabilities; 2) youth with learning disabilities fail to attend postsecondary school at rates comparable to youth without disabilities; and, 3) females with learning disabilities parent at higher rates than females without disabilities.

Included are recommendations for practitioners and future research.

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DEDICATION

This dissertation is dedicated to my mother, Elva Levine, and in memory of my grandmother, Freda Klein, ardent, but genteel feminists, who taught me that gender differences are irrelevant in the pursuit of dreams.

CHAPTER 1: INTRODUCTION

How do graduates of special education fare after high school: What we know and what we need to know

The immediate and long-term post-high-school lives of youth who were served in special education is not well understood; little is known as to the quality of life these individuals experience, how they manage (or do not manage) to fit into their communities, how satisfied they are with their lives, and how their life adjustment compares to that of students who were not identified as requiring special education services. Even less is known about the relationship of their high school experiences, or the associations between demographic markers such as gender or ethnicity, with these outcomes. Although professionals have been trying to answer these questions since the early 1900s (e.g. Pinsent, 1906; Fitts, 1916), it has only been in the last decade that major efforts have been made to address these questions at the national level (Wagner et al., 1991).

As more recent data sets have become available, the profession has been able to ascertain certain outcomes, such as overall employment rate of special education graduates (about 60%, Hasazi, Gordon & Roe, 1985; Mithuag, Horiuchi & Fanning, 1985; Wagner et al., 1991), the finding that few special education graduates attend college or other forms of post-secondary education programs (Fairweather & Shaver, 1991; Affleck, Edgar, Levine & Kortering, 1991; Wagner et al., 1991), and that generally speaking, special education graduates do less well than their peers without disabilities (Affleck et al., 1991; Fisher & Harnisch, 1989; Hasazi, Johnson, Hasazi, Gordon & Hull, 1989; Lichtenstein, 1989; Wagner et al., 1991). Another claim that has been generally accepted by the professional community is that gender is a major factor related to outcomes, with females doing less well than males (Hasazi et al., 1989; Kranstover, Thurlow & Bruininks, 1989; Nisbet & Lichtenstein, 1992; Haring & Lovett, 1990; Scuccimarra & Speece, 1990; Wagner, 1992).

A number of follow-up studies have reported differential outcomes by gender. In a series of studies done by Hasazi and colleagues in Vermont (Hasazi et al., 1985a; Hasazi et al., 1985b; Hasazi et al., 1989) female special education students were reported to do significantly less well than their male counterparts. For example, in their initial study the authors found an overall employment rate of 65% for former students with learning disabilities and mild mental retardation; when the data were analyzed by gender, however, the rates were twice as high for the males (66%) than the females (33%). Similar findings were reported in the second study with an overall employment rate of 46% for subjects with educable mental retardation (EMR) and trainable mental retardation (TMR), a 56% rate for the males, and a 23% for the females. When employment rates of former special education students were compared to a cohort with no disabilities (Hasazi et al., 1989) the authors found that even though the employment rates of males with and without disabilities were similar (73% and 88% respectively), less than half as many young women (30%) with disabilities were employed compared to their female peers without disabilities (63%). Similar results have been reported by Nisbet & Lichtenstein (1992) who found full-time employment for 38% of the male graduates with learning disabilities compared to 16% of their female peers. More than twice as many females as males were working part-time. On a national scale, Wagner et al. (1991) reported that 52% of the males and only 22% of the females in their study were employed full-time 3 to 5 years after exiting high school. Even though unusually high employment rates (part- and full-time employment combined) were reported by Kranstover et al. (1989)--80% for the males and 76% for the females--47% of the females also indicated that they were homemakers.

While these findings are commonly accepted within the field of special education, there are several troubling issues which have not been resolved in many of these studies. These include the aggregating of data across disability categories, combining data on graduates who have been out of school for unequal periods of time, ignoring the issue of missing data (subject attrition and incomplete data sets), combining data from different informants, and the use of non-equivalent data bases to make comparisons to a population with no disabilities. These problems with the existing studies open some of our commonly held beliefs to doubt. For example:

1) There are considerable data that demonstrate that special education graduates have differential outcomes based on type of disability (Edgar, 1988; Affleck et al., 1990; Siegel et al., 1990; Wagner et al., 1991). In their follow-along study of graduates with mild mental retardation (n=200) and learning disabilities (n=892), Affleck et al. (1990) reported at three data collection points (6, 18 and 30 months postgraduation) that consistently 20% fewer graduates with mild mental retardation are employed (41%, 50%, 47%) compared to their peers with learning disabilities (65%, 71%, 68%). Wagner (1992) reported employment rates (at less than 2 years post high school) of 32% for the females and 52% for the males. When these rates are separated by disability category however, they are--for learning disabilities and mental retardation respectively--44% and 20% for females and 64% and 29% for males. The overall importance of these findings is that analyses need to be done *within* a disability category rather than through the use of combined data sets. Conclusions based on data sets that combine disability types in their analysis (e.g. Hasazi et al., 1985a, b; Mithaug et al., 1985; Kranstover et al., 1989) must be viewed with caution, and new studies should be done that allow for disaggregation by disability type.

2) There are also data suggesting that outcomes vary depending on the length of time that lapses between graduation and data collection (Hamilton, 1986; Halpern, 1990; Wagner, 1992). Youth interviewed 6 months to 1 year after graduation are less likely to be employed than similar youth who are interviewed 3 years or more after graduation. Apparently, employment status tends to change after a subject has been out of school for more than two years. For example, though Hasazi et al. (1989) reported similar employment rates at 1 year (63% for subjects with disabilities and 82% for subjects with no disabilities) and 2 years post high school (62% with disabilities and 85% no disabilities), Wagner (1992) found differences in outcomes for subjects out of school for 2 or fewer years, as against 3 to 5 years. In this substudy of 1,941 subjects from the National Longitudinal Study, 29% of males and 20% of females with mental retardation were employed less than 2 years postgraduation compared to 30% and 42% at 3 to 5 years. For males with learning disabilities, the employment rate went from 64% to 77%, and for females from 44% to 52%. Though there are studies which include outcome data at more than 5 years post high school (e.g., Kranstover et al., 1989), none report these data separately. Therefore, as with mixing disability types, mixing data from cohorts that have been interviewed at varying intervals after their graduation from high school is likely to produce misleading or over-simplified results.

Data are most believable if the data can be discretely separated by time since graduation.

3) Comparisons between youth with disabilities and those without disabilities need to be made between youth who are generally comparable to each other on demographic markers other than disability classification, and who experience similar postschool environments (e.g., Hasazi et al., 1989; Affleck et al., 1990). Using comparison groups that live in different parts of the country, who attended different high schools, who live in regions experiencing different economic pressures or, even worse, using old data sets that provide comparison across five to ten years of time does not seem appropriate for drawing serious conclusions (e.g. Wagner et al., 1991; Fairweather & Shaver, 1991).

4) Data collected from various sources may not provide comparable information (Bullis, Bull & Johnson, in press). Most studies use parents, or combinations of parents, subjects, or other sources such as relatives, teachers, or group home directors as informants. Information from follow-up studies is most often gathered by telephone (and at times in person or through the mail), but investigators rarely question the respondent's accuracy, and often use data from mixed or varied informants. While Bullis et al. (in press) explored the potential problem of informant agreement in relation to communication issues unique to former students who were deaf, no study has addressed this issue for populations with disabilities other than deafness. Studies that use mixed informants need to provide evidence that the different informants do not account for differences ascribed to other factors.

5) In any form of longitudinal survey there will be subject attrition and incomplete data sets. This poses serious problems for the researcher and demands that these data be reported so the reader can draw informed conclusions as to the representativeness of the findings (Siegel et al., 1990; Bruininks et al., 1990; Halpern, 1990). Some investigators report the number of subjects interviewed, but do not indicate either the size of the original sample, or the proportion of the total sample that the remaining subjects constitute (e.g. Mithaug et al., 1985; Nisbet & Lichtenstein, 1992). When percentages are given, they are often the percentages of a selected group, rather than of the entire original sample (e.g., Fairweather & Shaver, 1991; Bruck, 1985; Sitlington & Frank, 1990). In reporting response rates and discussing problems

of attrition at the three time intervals used in their study, Affleck et al., (1990) concluded that optimistic results may be due, at least in part, to low contact rates. A separate analysis conducted by Wagner (1992) showed a lower level of socio-economic status (SES) for the nonrespondents as a group. Weights were adjusted to account for the larger proportion of high SES respondents.

A detailed examination of each of the issues outlined above, as it relates to specific follow-up studies, is found in Chapter 2. The purpose of this study is to address the question of gender differences by analyzing an existing data set that addresses the concerns noted above.

Study Questions

1) Of youth with mild mental retardation, learning disabilities, and no disabilities who graduated in 1985 and 1990 from 3 school districts in Washington state, are there differences in postschool outcomes between males and females at four discrete points in time?

2) Of males and females, are there differences in postschool outcomes among disability groups?

3) Among disability groups, are there differences in the social status of the graduates' families at the time of graduation ?

4) For the 3 school districts, are there differences in postschool outcomes by gender and disability?

5) Among the different points in time, are there differences in postschool outcomes by gender and disability?

CHAPTER 2: LITERATURE REVIEW
The Follow-Up Study with emphasis on issues of gender, disability and specific methodological concerns

Purpose of the Follow-Up Study

Though the purposes, aims and limitations of follow-up studies are generally well-known, some investigators continue to propose unrealistic follow-up objectives. Often, investigators will state grand purposes for their data (such as identifying causal relationships) for which the follow-up study is unsuited. For example, Mithaug et al. (1985) claimed that follow-up objectives should include "examination of the activities [in school] that are having a positive impact [on the students] and an identification of those that need changing to further enhance long-term outcomes" (p. 403). Nisbet and Lichtenstein (1992) assert similar follow-up goals, including the identification of "types of experiences the public schools offer to students with a wide range of disabilities, how these experiences relate to their lives beyond high school, and what changes need to be made at the school, adult service agency, and community levels based on the analysis of outcome data" (p .1). While these (and other) aspirations have value, they are seldom attainable within the confines of quantitative follow-up methods. Given the multiple confounding and complex variables governing our lives, it is rarely possible to determine exact relationships between school experiences and later consequences.

What the follow-up study in education can do (and do well) is to produce a picture of postschool life for people with and without disabilities. It is useful for collecting quantifiable information describing outcomes for various subsets of the population, to illustrate patterns of postschool adjustment (e.g., employment, postsecondary education, residential independence, marital and childbearing status), and to provide comparisons of these outcomes among different subsets of subjects. As Siegel and associates (1990) claim, these types of data are appropriate for and needed to "provide the empirical base necessary to advocate for improvements in service

delivery" (p. 192). In order to present an argument persuasive about changing or altering established practice, we must be equipped with as much information about our subjects as possible; and this information should be concise, clear and amenable to scrutiny. Even without making grand cause-and-effect statements, follow-up data, when gathered and analyzed with attention to method, can serve the worthy purpose of rational persuasion as we seek ways to improve the quality of life for our students.

Gender Differences

There appears to be a preponderance of pessimistic reports regarding the long-term outcomes for females with disabilities compared to males with disabilities, and compared to females without disabilities. Reports of general gender differences (biological, social, and cultural) have surfaced in both the popular literature (Gorman, 1992; Perry, 1992) and in professional journals and books (Gould, 1981; Hier, 1979; NICHCY, 1990; Rousso, 1988; Sivard, 1985; Saxton & Howe, 1987; Fine & Asch, 1988). The bulk of this information is based on women in the general population; when women with disabilities are included, (i.e., Saxton & Howe, 1987; Fine & Asch, 1988), the specific disability is usually a physical, sensory or health impairment. Fine and Asch (1988) report a higher percentage of Caucasian men with disabilities are participating in the work force (44%)--that is, either working or actively seeking work--compared to only 24% of Caucasian women with disabilities. In contrast, 90% of Caucasian men with no disabilities are participating in the work force compared to 64% of Caucasian women with no disabilities. The gap between women with and without disabilities is greater than the gap between men with and without disabilities. Fine and Asch (1988) assert that "regardless of age or educational attainment, women with disabilities are employed far less than are either nondisabled women or disabled men, [and] gender and disability discrimination must interact somehow" (p. 11) to account for these outcomes. "Disabled women are more likely than disabled men to live in poverty and to rely on government income support" (p.12) the authors add. While these data are revealing, the reports rarely include young men and women with learning disabilities or mental retardation who are identified as needing special education. Because the general disability literature does not address the needs and problems specific to females with mental retardation and learning disabilities, issues of false generalization and incorrect information arise.

In their assessment of sex differences in special education practices, Williamson-Ige & McKitric (1985) assert that "taking the role of gender into account among handicapped students is often overlooked in our educational institutions...if unique gender differences exist in nonhandicapped students, one might reason that differences may be present in handicapped pupils as well" (p. 72). The authors call for studies that specifically compare males and females with disabilities.

Several investigators have addressed gender issues as they occur in regard to special education classification and school programming. For example, Miles (1986) discusses the role gender expectation plays in the phenomenon of male over-representation in classrooms for students with learning disabilities. The author reports that the male-to-female ratio for students with learning disabilities is 4 to 1, compared to 1.2 to 1 for those with mental retardation. In the study of 165 special education students, *behavior* is cited as the reason for referral almost twice as often for boys (83%) than girls (45%); "teachers are annoyed with the aggressive behavior many boys exhibit and seek ways to get them out of the classroom" (p. 105). In addition to aggressive behaviors, boys tend to be viewed as underachievers more often than girls. Miles claims that there is a higher tolerance for learning disabilities and reading problems in girls than in boys, and therefore boys will be referred at a higher rate than girls to special classes (Schlosser & Algozzine, 1980). Gillespie and Fink (1973) also claim that expectations and toleration levels influence the selection and admission process. Noting that, in treatment centers for the mentally retarded, males tend to have higher IQs than females, Gillespie and Fink attribute the fact to society's tendency to tolerate a greater amount of intellectual subnormality in women than in men.

Sex role stereotyping in the curriculum is also addressed as a serious issue by a number of authors (Gillespie & Fink, 1973; Miles, 1986; NICHCY, 1990, 1992; Rousso, 1988; Schlosser & Algozzine, 1980; Williamson-Ige & McKitric, 1985), particularly in regard to vocational training in high school. While it seems logical that gender bias within a vocational program would have a tremendous influence on postschool outcomes for these students, the authors, nevertheless, do not specifically examine the impact of curricular stereotyping on long-term outcomes. While it may be difficult to measure this impact, it is important to understand the potential influence of both variable representation of males and females in special education categories, and gender stereotyping within the curriculum on postschool outcomes.

There is, of course, the argument that even though tolerance levels and enculturation issues may influence special education placement and curricular decisions, biological differences may also account for many of the variations in the brain function between males and females (Gorman, 1992; Perry, 1992; Restak, 1979). Despite an overall lack of differences between the sexes in general intellectual ability (Hier, 1979; Gould, 1981), differences in brain function are thought to be a factor in achievement variation, particularly in academic subjects and learning styles. It is clear that differences exist between males and females; investigators conducting follow-up studies are recognizing that analyses of outcome data are most useful if they reflect the specific needs and realities that accompany these gender differences.

Summary of gender issues

Gender, as an issue, has been addressed in the literature from several points of view, including sex-role bias and stereotyping within the curriculum, differential and disproportionate classification in special education, and biological variations in brain functioning. In addition, a number of authors have compared the long- and short-term outcomes between men and women with disabilities. The majority of these reports, however, do not include youth with learning disabilities or mental retardation. In the past 8 to 10 years several investigators conducting city- and state-wide follow-up studies of special education students have recognized the importance of examining their results by gender. More recently, reports have surfaced from the National Longitudinal Transition Study (NLTS) detailing outcomes for youth with disabilities. While these studies provide valuable information regarding the postschool adjustment of former special education males and females, they are also beset with various methodological flaws. In the remaining part of this chapter, I will detail these studies and their results, and outline the methodological concerns.

The Classics

Follow-up studies have been presented in the literature since the turn of the century (e.g. Pinsent, 1906; Boehne, 1912; Fitts, 1916). In special education, survey research has been utilized to examine a wide array of educational, occupational, social, and political issues addressing a variety of disability categories, geographical areas, educational settings and programs, demographic factors, and behavior repertoires.

Certain follow-up studies in the literature may be considered classics; that is, they are well known to professionals who conduct survey research in education, are frequently cited in follow-up reports, and have served as models for other follow-up studies. Among other things, these classics have functioned as prototypes for current follow-up efforts, and as catalysts for database policy change. While each of these studies has limitations and deficits, it is from them that we have learned, and through them improve our current work. These are the studies that have set the stage for investigators to ask questions, pursue answers, and examine our efforts against ever-increasing and changing methodological standards.

The following review will focus on fourteen of these classics. They were chosen because of their focus on subjects with mild mental retardation and learning disabilities, specific postschool employment and/or postsecondary education outcomes, and gender comparisons. With one exception, they were conducted within the past fifteen years. I am including the exception because it fulfills the criteria stated above, and it reflects the historical context and continuity upon which our current efforts are based.

Review of Follow-Up Studies

Jack be nimble, Jack be quick,
Jack jump over the candlestick!
Jill be nimble, jump it too,
If Jack can do it, so can you!
Father Gander, 1985 (p. 8)

The first published follow-up study meeting the criteria for this review was conducted by **Fernald (1919)** who examined the marital, moral, and employment status of 646 subjects who were classified "mentally defective," and who had attended the Waverly institution. Fernald found differences in some outcomes between males (who comprised almost three quarters of the sample) and females. While 15% of the females were married, only 2% of the males were married. In addition, more females (35%) were placed in other institutions (or reinstitutionalized at Waverly) than males (23%), and more females had died at the time of the study (14% vs. 11% for males). On the

other hand, 12% of the males were arrested or jailed compared to none of the females. (Some may argue that the percentages of males and females who are placed in supervised or institutionalized settings are similar because of the societal tendency in the early part of this century to institutionalize women who were found to be "immoral" [e.g. prostitutes] rather than to incarcerate them in the traditional prison system.) Surprisingly, the employment figures were similar for both genders. Fernald reported that 18% of the females and 16% of the males were living at home and unable to work. The same percentage (18%) was found for females and males working under supervisory conditions, with the percentages of those who were self-supporting being 5% and 6% respectively. Despite the similar percentages of males and females who were employed, their type of occupation and salary were quite disparate. The females worked in factories or as nurse maids, and earned from $4 to $7 per week. The males either worked in factories, or as bakers, painters, or laborers, and earned from $8 to $36 per week. Fernald expressed optimism with his findings with more than half being judged as having made a successful transition to noninstitutionalized life; that is, employed, living in noninstitutional settings, and behaving "morally." In an age when women in America achieved financial security and prestige primarily through marriage, Fernald would hardly have felt called upon to address the disparity of wages earned by females and males. As opposed to careers or financial independence, it was much more important that the women conducted themselves according to the moral criteria of the community (criteria not applied to the men.)

While research on postschool outcomes, including many classics, appeared in the literature between 1919 and the mid-1980's (e.g., Baller, 1936; Peterson & Smith, 1960; Tizard, 1965; McFall, 1966; Baller, Charles & Miller, 1967; Fafard & Haugbrich, 1981) there seems to have been a resurgent interest in follow-up studies since the 1985 publication of a statewide follow-up study by **Hasazi, Gordon & Roe (1985)** in Vermont; it became the prototype of many studies to follow. The authors investigated factors associated with the postschool employment status of 301 former students who were served in the Vermont public schools in resource rooms or in self-contained placements. Though disability classifications were not used in Vermont, the classroom placements reflected the general disability categories of the students; that is, the resource room was serving primarily youth with learning disabilities, and the self-contained classrooms were serving primarily youth with mental retardation. This distinction is important for later comparisons with other statewide studies in which data

are analyzed by disability category. The subjects included all students who had left, dropped out or graduated between 1979 and 1983. The authors found an overall employment rate of 65% for students in the labor market, with higher rates for males (66% vs. 33% for females), for resource room (62% vs. 36% self-contained), and for graduates (60% vs. 51% for dropouts under the age of 18, and vs. 30% for those who left after age 18). Hasazi and associates introduced the idea of the "self-family-friend" network as the most common way for former students to secure a job. In addition, they found that students who had a paying job while in school were more likely to have a job after leaving school. Their recommendations to the school districts included the advocacy of vocational education programs and paid employment experiences during the high school years.

A second Vermont study by **Hasazi, Gordon, Roe, Hull, Finck & Salembier, (1985)** focused on the employment and residential status of 193 young adults with mild or moderate mental retardation (labeled EMR or TMR) who had left, dropped out or graduated from special class programs in Vermont between 1981 and 1983. The authors found 46% of their sample to be employed competitively, with less than half employed full-time. More subjects identified as EMR were employed (47%) than subjects identified as TMR (14%). Again, males were employed at more than twice the rate of their female peers (56% vs. 23%). As with the previous study, the authors reported a positive associations between experiences of vocational education and holding a part-time or summer job while attending high school and postschool employment.

In 1989, Hasazi and associates (**Hasazi, Johnson, Hasazi, Gordon & Hull, 1989**) published an article reporting the results from two interviews conducted with youth who left, dropped out or graduated from schools in Vermont during the 1984-85 school year. The first interview was conducted in 1986 with 43 subjects; the second interview, 1 year later, included 11 extra students (n = 54). The youth were served in two types of classrooms: special classes for students with mental retardation, and resource rooms including students with with learning disabilities, mild mental retardation, and behavior disorders. The analyses combined all the subjects. The authors also included a comparison cohort of subjects without disabilities (n=66). One year after exit, 82% of subjects without disabilities were employed compared to 63% of those with disabilities. The rates were similar at a second interview 1 year later (85%

and 62%). While the employment rates of males with and without disabilities were similar (73% and 88% respectively), less than half (30%) as many young women with disabilities were employed compared to their peers without disabilities (63%). This disparity widened in the second year with only 23% of females with disabilites employed compared to 71% of females without disabilities. (The employment rates for both groups of males remained relatively unchanged.) The authors concluded that "differences in employment outcomes between youth with and without handicaps were particularly pronounced for female students" (p. 253).

At about the same time as the original Vermont data were being gathered, **Mithaug, Horiuchi & Fanning (1985)** conducted a statewide study in Colorado of 234 graduates who had been out of high school for 3 to 4 years. While 82% of the subjects had secured jobs since graduation, most reported changing jobs often, and only 69% were employed at the time of follow-up, with only 32% employed full-time. Of those working, 43% earned less than $3 per hour, and 33% reported having no income. A relatively large proportion (42%) reported being socially inactive, and 64% lived with their parents. Nevertheless, the authors report overall positive community adjustments for the graduates, with nearly 70% working at least part-time and contributing to their own support. Of the subjects in the study, 31% of females and 69% of males were never married, compared to 46% of females and 65% of males in a national sample of youth in the general population who were 22 years old in 1977. Other than marital status, no other gender-related analyses were reported.

During this period, **Bruck (1985)** examined the adult functioning of 101 graduates with learning disabilities (79% male, 21% female) between the ages of 17 and 29, and compared them to 51 of their siblings without disabilities and to 50 peers without disabilities selected by the subjects. Using test scores and multiple interviews, the author examined the subjects' family relationships and social, emotional and psychological adjustment. On measures of academic achievement and employment status, differences were found between subjects with learning disabilities and the peer group, but *not* between subjects with learning disabilities and their siblings. While Bruck did not collect data on salary or benefits, the author did report a lack of any associations between childhood learning disabilities and juvenile delinquency or substance abuse. In interviews, Bruck asserts that family relationships were similar for all groups and concludes that, while learning disabilities persist into adulthood, few of

the subjects would be considered illiterate at follow-up, especially those who were continually exposed to literary tasks. Bruck further asserts that "while learning disabilities persist, LD individuals lead well adjusted and productive lives--a conception that is at odds with current beliefs [and follow-up data] of a poor prognosis for this clinical population"(p. 127). Even though Bruck did not conduct an in-depth analysis of gender differences, I include the study because of its unique addition of a sibling comparison group.

Kranstover, Thurlow & Bruininks (1989) examined the postschool adjustment of 199 graduates and 40 dropouts who participated in a benefit-cost project and exited from a suburban school district in Minnesota between 1977 and 1984. The authors do not indicate when the interviews occurred. Subjects were identified as having learning disabilities, emotional disturbance, educable mental retardation or speech impairments, and analyzed as a single group. Overall, more differences were found between males and females than between graduates and dropouts. While 80% of the males and 76% of the females reported paid employment, 47% of the females identified themselves as homemakers compared to only 14% of the males. These data would indicate that the women were holding part-time jobs in addition to maintaining households. The mean number of hours worked per week was 41 for the males and 36 for the females. On the average, males earned $7.66 per hour compared to $5.22 for females; however, average annual salaries were even more disparate ($14,491 compared to $8,298) because a greater percentage of males were employed full-time. Because the authors did not find differences between the graduates and the dropouts, they concluded:

> The added three years (or more) of schooling is not giving students with handicaps the advantages P.L.94-142 intended. The findings raise several questions regarding the appropriateness of the curriculum in the high school years and about the extent to which it is preparing students adequately for the transition into adulthood. This issue appears particularly important for female students with handicaps. (p. 164)

In order to have tested this conclusion, however, the authors should have distinguished disability groups--comparing graduates with learning disabilities to dropouts with learning disabilities, graduates with mental retardation to dropouts with mental retardation, and so forth.

In the mid- to late-80s, Sitlington and Frank conducted a statewide follow-up study in Iowa. Monographs of their findings included an analysis of the postschool adjustment of 677 subjects with mental disabilities (defined as scoring 85 and below on an intelligence test) who graduated from schools in Iowa (**Sitlington and Frank 1989**). The authors report an employment rate of 67% with only 43% of the subjects employed full-time. While the average wage for these graduates was low ($3.21 per hour) and their occupations of low status, the males were more likely to be employed, and earned at least $1.00 more per hour than their female peers. In their **1990** publication, **Sitlington and Frank** reported the postschool status of 911 graduates with learning disabilities 1 year after graduation, and found 77% were employed at the time of contact, with 43% full-time. They conducted their analyses for the total group of subjects with learning disabilities as well as distinguishing them by levels of disability from least to most. For the total group, the average wage was higher than for their peers with mental disabilities, but the total group also worked in low-status jobs. Again, compared to their female peers, more males with learning disabilities were employed (81% vs. 66%); worked more hours (75% at more than 37 hours per week vs. 52%); and earned higher wages (65% earning more than $3.95 per hour vs. 22%). Among their conclusions, Sitlington and Frank (1990) claimed that both groups of graduates--those with mental disabilities (1989 study) and those with learning disabilities--are a long way from achieving an independent lifestyle, and that part of the problem is the tendency for schools and adult service providers to have low expectations of the graduates.

Haring & Lovett (1990) investigated the vocational and community adjustment of 129 special education high school graduates who were classified as having learning disabilities, mild to severe mental retardation, behavior disorders, multiple disabilities, or visual impairment. While the authors report an overall employment rate of 64%, this is reduced to 33% when sheltered employment and day-activity centers are removed. This finding is reflected in the differences found by disability category: 59% of graduates with learning disabilities were engaged in competitive employment compared to only 10% and 7% of their peers with mild and moderate mental retardation respectively. Few of the sample worked full-time and only 8% received employer-provided benefits. In addition, 43% were on Medicaid and another 31% had no medical coverage at all. In terms of gender, twice as many males as females were engaged in some work activity, with an overall employment rate of 75% for males vs. 48% for

females. The average weekly salary for males ($65) was almost twice that earned by females ($34). The authors urged research into the question of "why women who have left special education are so under-employed" (p. 474) and called upon researchers to address the problems experienced by women with disabilities specifically. Further, they recommended that students who require support while in school should continue to receive support after graduation.

One of the first longitudinal efforts was reported by **Affleck, Edgar, Levine & Kortering (1990)** who examined the postschool status of 892 subjects with learning disabilities, 200 subjects with mild mental retardation, and 768 subjects with no disabilities all of whom graduated from 13 school districts in Washington state between 1983 and 1987. Interviews were conducted at 6, 18, and 30 months postgraduation. At all three contact points, graduates with mild mental retardation were consistently employed at a lower rate (41%, 50%, 47%) than graduates with learning disabilities (65%, 71%, 68%), and their peers with no disabilities (73%, 79%, 67%). The employment rates for graduates with learning disabilities and no disabilities were similar to each other ranging from 65% to 79% over the 3 points of time. Even though the graduates tended to be employed, the authors noted that "the salary rates...remained so low as to preclude a truly independent living situation" (p. 321). Graduates in the cohort without disabilities were more likely to attend postsecondary school; however, for all three groups, the rate of postsecondary enrollment declined over time (49% to 31% for graduates with no disabilities, 29% to 15% for graduates with learning disabilities, and 27% to 9% for graduates with mild mental retardation). At 30 months, the rate of engagement (that is, either working or attending school or both) was 88% for the cohort without disabilities, 75% for their peers with learning disabilities, and 50% for their peers with mild mental retardation. The authors recommended ongoing support after graduation--particularly from family, benefactors and mentors--and emphasized vocational training experiences while in school. The authors did not report specific gender analyses, but I included this study because of its unique use of multiple data points.

In their study of 65 subjects with mild disabilities (56 LD, 5 MR, 2 ED, 2 PH) who graduated from or left school in the metropolitan District of Columbia area, **Scuccimarra & Speece (1990)** found an overall employment rate of 79%. Gender differences were apparent, with 91% of the males employed vs. 52% of the females. In

addition, while 88% of the males were employed full-time, only 55% of the females were. The authors reported that 2% of the males claimed they were not in the labor force--included people who were unemployed but seeking employment--compared to 24% of the females. They also reported differences in wages between males and females, with an hourly wage of $5 or more earned by 25% and 9% respectively. The authors said their data set was insufficient to determine which factors contributed to the gender-related differences, but that the data suggested that former special education students, overall, are beset by financial instability and dependence on family.

Fairweather & Shaver (1991) examined postsecondary school attendance using data on special education graduates, dropouts, and age-outs from the National Longitudinal Transition Study (see Wagner et al., 1991), and youth without disabilities from the High School and Beyond Study (Lichtenstein, 1989). They found differences between the two groups on family demographics, with the special education cohort coming from families with lower incomes and educational attainments. In terms of postsecondary attendance, the differences were outstanding: Of all the exiters, 15% of the subjects with disabilities reported taking *any* postsecondary education course (from vocational schools, community colleges, or 2- or 4-year colleges) compared to 56% of the youth without disabilities. Examining graduates only, the figures rose to 21% of the cohort with disabilities, and 64% of the cohort without disabilities. When the disability groups were separated, the discrepancy was also apparent. Even though subjects with learning disabilities comprise the largest group of students in special education, a small proportion (17%) took postsecondary courses compared to 43% of youth with visual impairments, 39% with deafness, and 33% with health impairments. Conversely, only 6% of the students with mental retardation reported attending postsecondary classes. (The authors did not distinguish between the levels of retardation; therefore, the data may have been influenced by subjects with more severe retardation.) Surprisingly, the authors did not find gender differences for the group with disabilities, with postsecondary school participation reported by 14% of the males and 18% of the females. As one might have expected, of the youth whose parents were college educated, a larger percentage (47%) attended postsecondary institutes than those whose parents had two or fewer years of college (25%), or high school or less (12%). In conclusion, Fairweather and Shaver recommended that future studies should "focus on determining whether access to work-related programs and to vocational training for

youth with disabilities is as strongly related to long-term independence as is access to 2- and 4-year colleges for the rest of the population" (p. 269).

In the most recent outpouring of follow-up results, **Nisbet and Lichtenstein (1992)** reported on their 4-year study comprised of a matched sample of 50 male and 50 female graduates with learning disabilities who had spent at least 75% of their instruction in mainstreamed classes. Based on their findings after 2 years the authors suggest that:

> [Y]oung women with mild disabilities in New Hampshire have dramatically different patterns of post high school outcomes, compared to their male counterparts....Most striking is the variation in the rate of participation in part- vs. full-time employment. Young women with mild disabilities are working nearly twice as often in part-time employment compared to their male counterparts....This is noteworthy because a majority of these young women would prefer to be working full-time, but cannot secure the additional hours. (p. 3)

Specifically, the authors reported full-time employment for females and males respectively as 16% vs. 38%; part-time employment as 40% vs. 18%; and unemployment as 24% vs. 16%. The authors also found that the young men in their study appeared to be enrolled in job training opportunities (such as Job Corps, apprenticeships and the military) more frequently (20%) than their female peers (6%). Many of these options are considered to be male-oriented occupations. The authors claim that "subtle forces may be at play that could lead young women away from enrolling in such training programs" (p. 3). These forces include influences from guidance counselors, attitudes of family members, and barriers inherent in male-dominated programs which make it difficult for women to find appropriate support networks or role models. On the other hand, they found that 14% of females participated in postsecondary education compared to 8% of males. The results from several in-depth case studies supported the overall findings of gender disparities in postschool employment experiences of young adults with learning disabilities, including consistently fewer hours, lower wages, and insufficient job training for the females. In addition, the authors expressed concern regarding the "influence of gender role stereotyping held by key people in the transition process" and, they state that this issue has "not been adequately addressed and represents a significant barrier to equity in education, training and employment" (p. 3). They emphasize the need for other follow-

up investigators to distinguish employment rates as either full- or part-time, which would verify that women are more often employed part-time (impacting their ability to receive benefits). Finally, the authors suggest that the goal of sex equity may be pursued by removing stereotypes, increasing representation of women in all areas of policy and decision making, and broadening career choices and options for women.

The studies discussed thus far were conducted for specific programs, district-, city-, or state-wide. By the mid-1980s the Office of Special Education Programs (OSEP) recognized a need for a study done at the national level, and contracted with **Wagner, Newman, d'Amico, Jay, Butler-Nalin, Marder & Cox (1991)** of SRI International to conduct a comprehensive National Longitudinal Transition Study (NLTS) consisting of a randomly selected sample of 8,000 youth with diverse disabilities. The study had multiple components, one of which was long-term postschool adjustment assessment of young adults with disabilities. In addition, comparisons were made with a cohort of youth without disabilities, whose data were made available by the National Longitudinal Survey of Youth (NLSY). One of the findings from this component was an overall employment rate of 55% for all youth with disabilities who had been out of school for two years, a rate well below that of youth in the general population. Not surprisingly the authors also found a higher rate of employment for males, for youth who live in suburban areas (vs. urban or rural), and for those coming from families in the higher socio-economic levels. Further, they reported a much higher rate of "unengagement" (not working or attending school) for youth with disabilities than for their peers without disabilities. A separate analysis of gender differences revealed findings similar to the follow-up studies discussed above. The authors reported that female students in special education tend to be more severely impaired than their male peers, and their IQ scores and functional abilities are lower, (even within disability categories). In the area of employment, women with disabilities fared much worse than their male peers, with fewer women finding jobs, and those who did find them tending to be employed in lower paying service occupations. When the authors compared students with and without disabilities, they found a greater discrepancy between the females than between the males. "Looking at youth with disabilities as a whole obscures the particularly pressing transition difficulties of young women with disabilities [who have very] different experiences in secondary school, and followed markedly different transition paths afterward than their male counterparts" (p. 11-6). One reason given by the authors for the pessimistic outcomes may be related to

the lack of vocational education programs for females. Another reason may be related to demands of parenthood and family responsibilities, which accounted for a large proportion of female dropouts as well as those who were not working or in postsecondary school. Wagner et al. (1992) state:

> Even though married women were significantly more likely than other youth with disabilities to have achieved an independent living arrangement, we have to wonder at the prospects for future financial independence of teenage girls with disabilities who were shouldering household and family responsibilities at so young an age [average age of 19]. (p. 11-7)

As a substudy, a more in-depth examination of gender differences was conducted by **Wagner (1992)** who reported the results for 1,941 subjects with learning disabilities or mental retardation for two different points in time: less than 2 years, and 3-5 years post high school. (All levels of mental retardation were combined, a potential problem for interpretation.) Comparing males to females for both MR and LD, together and separately, resulted in consistently lower employment rates for the females. Specifically, for subjects out of school less than 2 years, employment rates for females and males respectively was 32% vs. 52% for the total group; 44% vs. 64% for LD; and 20% vs. 29% for MR. The rates at 3-5 years postschool were slightly higher but with similar disparities between genders. Wagner also found a higher rate of full-time employment at the later time frame for males (52%) than females (22%). In addition, the author explored the issue of unequal gender distribution in special education, and discussed concerns with long-term financial and personal dependence for women with disabilities.

Summary of follow-up study findings

It is clear that men and women with disabilities are under-employed and, "by now, there is little debate over the fact that almost all handicapped youth, even when they are employed, earn well below the average income for their region and era" (Siegel, et al., 1990, p .194). Graduates with learning disabilities seem to be employed at consistently higher rates than their peers with mental retardation, but both groups fall well below the rates for graduates without disabilities. Consistently, the wages for all the groups follow this pattern as well--in every study which analyzed males and females separately, the males with disabilities were employed more often, for more hours, and at

higher wages than their female peers. Further, the majority of graduates with mild to severe disabilities did not attend postsecondary institutions of education.

> Edgar (1988) notes that:
> There is little evidence that special education students can be prepared to compete with their nonhandicapped peers. Special education has been effective only with students whose prosthetic environments allow them to input or output information (e.g., those with visual impairments, hearing impairments and orthopedic impairments). With few exceptions however, students with impaired mental abilities (i.e., retardation, learning disability) continue to compete at a disadvantage with their nondisabled peers. (p. 4)

Regardless of the vast differences between populations with and without disabilities, Edgar (1990) also asserts that the majority of salary levels of both groups precludes any possibility of an independent lifestyle.

According to Siegel and associates (1990), what is lacking is "attention to those aspects of the economic structure that promote the underemployment of handicapped people" (p. 197). While it is vital that educational interventions continue to increase the opportunities to which students and graduates may avail themselves, low employment rates and wages will not disappear simply "because we have developed good interventions. [These are important, but they must coincide with a]...commitment of employers [and our government] to create jobs that pay higher wages and offer better benefits" (p.197). It seems to me that there are serious problems with the education adage, "if you give a child a fish, he eats for a day; but, if you teach her to fish, she eats for a lifetime." Because even though we are teaching our children to fish, there are no trout in the river.

Table 1 (pp. 38 to 44) summarizes each of the above studies, indicating each study's primary variables, time frame, location, subjects and disabilities included. The overall employment data are provided with particular emphasis on gender differences. In addition, several methodological issues are addressed for each study, including missing data and subjects, sampling percentages, informant identification, inclusion of a comparison cohort of subjects with no disabilities, and specific suggestions or limitations. These are discussed in detail below.

Definitions of Success and Interpretations of Data

There are numerous factors which must be considered when interpreting follow-up employment data. Among them are societal changes which occur over time, specifically, economic trends, advances in technology, loss of farming and apprenticeship opportunities, and the increasing access to cheap international labor. Siegel and his associates (1990) discuss the need to interpret data with regard to the historical posture of the time, the values of the particular communities, and the economic, political, and social influences and health of the society. They state that:

> Factors identified in any follow-up study are an interpretation of values assumed or considered to be important to society [and are]...imbedded [in our] search for meaningfulness....Studies should be read with regard for the value constraints of the time, and the theoretical commitments of the investigators. Even the most common global variable, *adjustment*, is value laden, implying a static norm that might be attained through some social service. (p. 180)

In addition, definitions of adjustment or success must take into account and respect "diverse lifestyles and cultures" (p. 181). For example, in 1917, Dr. Murdock expressed caution about the optimistic reports of adjustment of the "feebleminded" in the community. He remarked, "Labor conditions at present make it particularly easy for the feeble-minded to get good wages, and we must not be carried away by that temporary conditions, because almost any man can get work today, and when this war [World War I] is over the feebleminded are going to be the first to be shoved aside" (Kuhlman, 1917, p. 33).

Because it was commonly thought in the early 1900s that retardation was invariably linked to immoral and criminal activity, Baller (1936) included the absence of arrests or criminal records as part of his definition of success. This is another example of how historical doctrines influence our belief system and sway interpretation of data. Baller also remarked that the particular employment opportunities and industries of a region will affect both the employment rate and the types of jobs available to individuals with disabilities. For example between the time Baller published his paper in 1936 and the early 1950's, the economic demands of World War II created situations of employment for people with disabilities. The success rate of adjustment, however, fell in the 60s and 70s when over 85,000 residents were released from public institutions for retarded persons. During these years, "the trend to institutionalize only those with the very lowest IQ's came into conflict with the

increased complexity of society" (Siegel et al., 1990, p. 187). "Deinstitutionalization," states Siegel (1990), "has placed more people of lower functioning abilities in situations where it is more difficult to adapt" (p. 187). In the 60s and 70s, as had been the case in the early 1900s, ".the criteria of successful adjustment were usually based only on whether or not the individual returned to an institutional setting" (p. 182).

The advances made in technology severely impact the opportunities facing young people with disabilities in search of employment. According to Siegel et al (1990), adults with mental retardation who have IQ scores on the high side have more difficulty retaining their jobs because of economic and social factors in society. Low level service-oriented jobs are appropriate for people with more severe impairments, the authors say, but "efforts to match higher functioning abilities to more challenging tasks have not been made available in the economy" (p. 197). The authors strongly point out that the supported employment movement has been more focused on proving the "employability of even the most profoundly handicapped person" than on training "more mildly handicapped persons for more complex jobs" (p. 197).

The impact of gender over time must also be considered. In the past, criteria for women were vastly different than for men. For example, Fernald (1919), Baller (1936), and Dinger, (1961) discussed the well-adjusted retarded woman as one who had a pleasant appearance, was well-trained in domestic work, and who managed to marry a man of wealth or prestige (preferably both). Many would argue that these values have not necessarily changed; in fact, the pressures on girls today to live up to standards impressed upon them by the media and culture may be even greater than in times past (Perry, 1992). In most current studies, however, marriage no longer qualifies as an indicator of adjustment, and employment rate rarely include homemaking in their results. Whether this is an indication that marriage and motherhood are no longer considered acceptable, successful outcomes for women, or that women are not marrying during the first five years after graduation (the time period when the majority of follow-up studies have been conducted) is unclear.

While definitions of success in the above studies varied over the years, the rates of graduates who were judged "successful" were similar (around 50%). The interpretations of the data, however, reflected the societal norms of the time, as well as the political and social beliefs of the investigators. Clearly, the decision to label a 50%

success rate as "high" or "low" depends upon one's expectations. Early researchers (Fernald, 1919; Bronner, 1933; Baller, 1935; Fitts, 1916) had low expectations of their subjects and expressed sentiments of amazement that their graduates were doing so "well." On the other hand, it seems that success is not as simply definable as it once may have been; that researchers today have questions about appropriate expectations for children and adults with disabilities is demonstrated by the debates over mainstreaming, access to public resources, integrated social clubs, the right to take risks, which neighborhoods should house group homes and, more recently, the call for full inclusion.

Obviously, as Edgar (1988) states, "data on outcomes are not lacking" (p. 3). But, he argues, if our research goal is to find answers to questions that "will result in better outcomes for our students...just exactly what are these outcomes supposed to be?" (p. 2). The problem, then, does not lay in a dearth of data but in our inability to agree on what constitutes an appropriate outcome for students with mild mental retardation and learning disabilities; and, in particular, to define expectations and parameters of success for women with these disabilities.

Methodological Issues

In addition to attending to historical, economic and social factors when interpreting follow-up data, attention must also be focused on the research procedures and methods employed by the investigators. In his essay on the re-analysis of the Coleman Report, Grant (1972) details the shortcomings and limitations of survey research. He is quite pessimistic about the ability of the social scientist to influence policy makers. He discusses two major issues. In describing what he calls the "weak power of survey research to explain the complex processes and causes of educational achievement," he states that our "quantitative research techniques are in their infancy" (p. 112). Grant expresses concern regarding the "difficulties of drawing inferences [specifically from the Coleman survey, but in general as well] because of what [is *not* measureed] as well as the problems of basing policy on what was measured but whose meaning is only imperfectly understood" (p. 112). He discusses in great detail the problems of drawing conclusions from data which may only tell a portion of the "story" without considering the mass of data which are not measured. Complete data sets, however, are particularly difficult to obtain through survey research. Caution and collective commitment are necessary, claims Grant, "if new truths are not to cause more mischief than the old myths" (p. 123).

Over the past five years, changes have occurred in the education follow-up research arena. First, there is improved communication and cooperation among follow-up investigators. It appears that interviews and survey instruments are being shared from one study to another, investigators adapting from each that which has proven useful or successful. Second, as more school districts and state education departments recognize the value of tracking their graduates (and dropouts) they are more willing to participate in the follow-up process, provide support to the research organizations, and back up the endeavors financially. Finally, concerted efforts are being made to examine the analytic techniques and methods by which follow-up studies are conducted (Bruininks, Wolman, & Thurlow, 1990; Halpern, 1990; Siegel, et al., 1990; Blackorby, 1991; Levine & Edgar, in press; Bullis, Bull & Johnson, in press). It seems that with the advent of the "user-friendly" personal computer, the increased interest in the school's role in postschool adjustment and transition, and the impact the data are recently having on public policy (e.g., mandated transition initiatives), the follow-up study is becoming something of an art unto itself.

In order to adequately interpret the findings from the studies discussed, the designs and procedures of follow-up methods of inquiry need to be scrutinized. In the following section, I will identify and discuss five methodological issues which appear to impact the interpretation of data from the follow-up studies.

Disability classification

It has been well documented that the characteristics of specific disabilities can greatly impact the experiences of young people, both while in school and out (Edgar, 1988, Affleck et al., 1990; Siegel et al., 1990; Wagner et al., 1991). This influence continues to exert itself in the postschool adjustment of youth with disabilities, especially regarding employment opportunities, financial security and independence. But it has only recently become common practice to analyze (and report) follow-up data by specific disability category.

Historically, the concept of "disability" and the subsequent treatment of people with disabilities have undergone dramatic and radical changes, philosophically and in practice. For example, earlier studies of children and adults with disabilities usually

focused on homogeneous groups of students who had attended or resided in a particular school or institution (Henninger, 1912; Fernald, 1919; Bronner, 1936; Baller, 1936). As a goal, community integration was less important than the acquisition of specific work skills for use in colonies or workshops designated for individuals with disabilities; even more important to the professionals and public of that era was the "moral" development of "feebleminded children." (Pinsent, 1906; Rogers, 1907; Milburn, 1909; Davenport, 1914; VanWagenen, 1914). In the first few decades of this century, people with disabilities were sequestered into five categories (in order of severity from most to least), "moron, idiot, imbecile, feebleminded, and backwards." Individuals were given these labels, not as an indicator of what they were able to learn and accomplish, but as a rationale for their segregation, the level of which was determined by the level of disability (Boehme, 1909-10; Creswell, 1914; Fitts, 1916 & 1917). In her argument for segregation, Boehme (1909-10) asserts:

> The effect of the subnormal child over an entire grade of normal children is appalling...[with] indescribable harm done...which oftentimes mar[s] the future life of the bright child. Often a defective child will pollute an entire class by his licentiousness. (p. 83)

Despite the tendency towards segregation, there were advocates for integrating higher functioning individuals into the community; these advocates expressedconcern regarding mislabeling, setting off a heated debate regarding labeling "feebleminded as merely backwards" or "backwards as merely feebleminded" (Taylor, 1898; Bliss, 1916; McCallie, 1916).

In contrast, as the civil rights of individuals became a focus in the political and social reform campaigns intensifying in the 60s and 70s (e.g., the Womens Movement, Society for the Protection of Children), labeling became an extremely unpopular practice; many believed labels stigmatized individuals (Kroll, 1984; Hallahan, Keller & Ball, 1986). According to Litchenstein, of the High School and Beyond project in New Hampshire (1989), "definitions, as a whole, have plagued the field of special education for decades, and lack of consistency in usage has complicated numerous studies and tabulation efforts" (p. 503). Instead of using the disability definitions as outlined by federal law, Litchenstein asked students in his study to identify their own work limitations, and define themselves as one of seven specific disability groups through a self-administered survey. While this was a bold move, the limitations of such a scheme are enormous.

In an attempt to avoid specific disability labels, Hasazi and associates in Vermont (1989) reported their data for two groups: students with handicaps and students without handicaps. The authors claim that a separate analysis of specific disability categories did not generate different findings from the total group; however, it is important to consider that the incidence of students with learning disabilities is so much greater than those with mild mental retardation (e.g. see earlier examples), that any group data will reflect the subjects with learning disabilities overshadowing any differential outcomes for subjects with mild mental retardation.

Despite the emotional arguments surrounding labeling, it has become apparent in the past five to ten years that a label may have a positive function, and in fact, it is becoming common practice for follow-up researchers to distinguish the disability groups when analyzing and interpreting data results rather than lumping them into one "special education" group. As Edgar (1988) asserts, "extreme care must be given to any analysis that attempts to lump these students together" (p. 1). Grouping students into a single disability label has become less suitable since the onset of public law 94-142 (now P.L. 101-476) which highlighted the importance of individualizing instruction and evaluation. In particular, as the numbers of children identified with the relatively new category of learning disabilities swells, so does the recognition that simply being designated "special education" or "disabled" is not an adequate barometer of individual needs.

In addition, combining data from all disability groups may distort interpretation of the data. For example, in their analysis of EMR, LD, and ED subjects as one group, Kranstover et al., (1989) report that the dropouts fared as well as or better than the graduates, suggesting that the extra years in school are less valuable than the increased time in the job market. It could be, though, that the higher functioning students with learning disabilities and emotional disturbance drop out while the lower functioning students with mental retardation stay in school. To test the actual differences between graduates and dropouts, the investigators would need to compare graduates with learning disabilities to dropouts with learning disabilities, graduates with emotional disturbance to dropouts with emotional disturbance, and so forth. Even Wagner and associates at SRI (1991), who have been meticulous with their sampling procedures, categorize subjects with mental retardation into a single group without regard to

differences in functional and diagnostic levels within this group. As vast as the differences may be between subjects with learning disabilities and subjects with mental retardation, the differences between subjects whose mental retardation is severe and those whose it is mild may be as considerable (Schalock, Ross, Werbel & Peterson, 1986; Wehman et al., 1982).

Despite the lack of differention between subjects with varying levels of retardation, Wagner et al., (1991) defines disability as "a condition that limits an individual in the performance of particular tasks or in the enjoyment of certain activities. However, the tasks affected and the extent to which performance is impaired vary greatly" (p. 2-6). The authors hypothesize that "the nature of the youth's disability accounts for much of the variation in outcomes, with youth in such categories as learning disabled generally experiencing more positive outcomes than youth in categories such as.. .mentally retarded" (p. 1-9). Edgar (1988) supports the latter, saying, "even within a diagnostic category, great disparity exists between individual student abilities and needs" (p. 1). For example, while 60% of students with mild disabilities are reported to find employment within one year of graduation, when disabilities are examined separately these employment rates vary from 47% for graduates with mild mental retardation to 70% for graduates with learning disabilities (Edgar, 1988).

Even investigators who do analyze their disability groups separately report group percentages, which in light of the disparities between disability groups, school programs, and outcomes, is questionable, and perhaps even meaningless. Ironically, this issue becomes more important as schools tend towards full inclusion and an increase in the heterogeneity of the classroom.

Time

Similar to the problems associated with analytic treatment of special education subjects as a homogeneous group, is the grouping of subjects who have been out of school for different lengths of time and for different reasons. Serious interpretation problems arise when we combine outcome data for subjects who are different ages or have been out of school for different amounts of time, as well as for those who exit school at high or low periods of economic prosperity, in diverse geographic areas, and

in varying forms such as graduate, drop out, age out. Combining the data for subjects in these groups and reporting one outcome can result in misleading and distorted data. For example, the ages of the subjects in Bruck's (1985) study range from 17 to 29 with no mention of relationship between the time of data collection and the date of graduation. In the original Vermont study (Hasazi et al., 1985a), the subjects exited school between 1979 and 1983, and were aged 14 to 23 at the time of follow-up. Clearly, the outcomes for young adults who are in their early to middle twenties and have been out of school five to six years will be different than the outcomes for youth who drop out of school at age 14 and are interviewed soon after. While some investigators may mention average ages or mean length of time since exit from school, the problems associated with grouping subject data in this fashion are not often addressed.

The length of time since exiting school is a vital factor to consider when examining specific outcomes. The first few post high school years have been referred to as the "floundering period" (Hamilton, 1986; Halpern, 1992), a period which needs to be considered separately from later years. Within the "floundering period" the first 6 to 12 months following departure from high school is often a time of uncertainty and transition, and it too, needs to be understood. Transition became a buzzword in the 1980s partly because there was a recognition of a serious need to provide services to young people with disabilities who were finding themselves removed from a system to which they had been accustomed for 12 years or more, into uncertain community life for which they were ill prepared. While many youth without disabilities (and some with disabilities) put off their entry into the work world by attending colleges and universities, and others by joining the military, the majority of youth with disabilities are expected to find and secure employment immediately after leaving high school. The professional response to the need to provide services to youth with disabilities in transition was encouraging, with the onset of Individualized Transition Plans (ITPs), transition specialists, attention to future planning while in school and, more recently, the transition initiative. Many follow-up studies provided much needed data regarding this time period.

What happens 5 years beyond the transition period, or 10 years beyond, has been of less concern to the field. Questions have risen as to the adequacy of the preparation of youth served by special education to cope in later years, particularly after the major portion of services previously provided are no longer available. While some

follow-up investigators have attempted to respond to this query, the majority have simply combined data from youth in transition, youth in the floundering period, and youth in their late 20s who are well into the struggle of adjusting to adult life. It is clear that the expectations and realities for these different periods of time are quite different.

Further, we would expect to find different outcomes between graduates and dropouts (Zigmond & Thornton, 1985; Wolman, Bruininks & Thurlow, 1989; Rumberger, 1987; Blackorby et al., 1991). However, even though some investigators have taken care to separate graduates from dropouts for portions of their analyses, they combine them for other analyses (e.g., gender, disability), a potential problem for interpretation (Hasazi et al., 1985a; Hasazi et al., 1985b; Kranstover et al., 1989; Fairweather & Shaver, 1991).

Comparison to subjects with no disabilities

Despite the advent of a mass of follow-up data in the mid-80s, it became apparent to many investigators that though we were stockpiling data on special education youth, we had no point of comparison. The question of how special education graduates compare to regular education graduates needed to be explored. It became clear that we would better understand and interpret our data if we included subjects without disabilities in our studies. By their third publication in 1989, Hasazi and associates included a cohort with no disabilities for comparison. Even though the subjects with no disabilities in this study were chosen from non-college-bound, vocationally oriented programs in the same school districts and exit years as the subjects with disabilities, more subjects with no disabilities graduated (88%) than special education subjects (64%). This disproportion of graduates to dropouts could impact the interpretation of the data if, overall, graduates fare better than dropouts.

The difficulty, then, arises not with the decision to include a comparison cohort, but with how carefully that cohort is chosen. For example, Wagner et al. (1991) makes comparisons between the subjects in the NLTS study and a cohort with no disabilities from the National Longitudinal Survey of Youth (NLSY). There are a number of problems associated with this comparison. First, the data collection procedures and protocols were different for the two studies. Second, informants for the NLTS study were parents or subjects, while data for the NLSY study were self-reported by the

subjects. Third, the data for the youth with no disabilities were collected between 1979-1982, 5 to 8 years before Wagner and associates collected their data. In addition, the data were collected at different times of the year (this becomes important when data are collected in the summer). Finally, the subjects from the two studies attended different school districts, in different geographical areas of the country.

In contrast, the study conducted by Affleck et al. (1990) provided a comparable cohort of non-college-track graduates with no disabilities from the same school districts and graduation years as the special education graduates, and functions as a prototype for this current study.

Informant agreement

In reviews of survey research and follow-up methods (Halpern, 1990; Bruininks et al., 1990; Siegel et al., 1990; Dillman, 1978; Fowler, 1984; Babbie, 1973) a number of problems, including those described above, have been identified. However, one detail appears to have been overlooked, a detail which at first seems rather simplistic, but on further examination reveals an important and complex issue. I refer to the informant, the provider of the information, the "who" who gives us the data that are reported and subsequently used to guide policy decisions.

Most follow-up studies conducted in education, particularly in special education, have used the parent or guardian, or a combination of parents, guardians, group care staff, relatives, and subjects as informants. Despite the fact that most follow-up studies pull data from different informant sources, few have asked the question: Is there agreement among respondents?

Bruninks et al. (1990) expressed concern about the less than systematic procedures used in conducting survey research in education and other social service fields. In discussing the details of survey research, the authors claim that the investigators' choice of survey method (mail, telephone, or face-to-face interview) is determined by the respondent, "the person with disabilities, his or her parents, a teacher, a caretaker, or others, and on the nature of the handicap" (p. 10). A study which mixes respondents might encounter problems with validity or reliability with regard to the instrument or techniques chosen.

There are advantages and disadvantages to the use of each group of respondents. While the person with the disability is most often the focus of concern and would therefore be most likely to "know" where he or she resides, whether or not he or she is employed, etc., there are difficulties associated with interviewing individuals with disabilities (Bruninks et al., 1990; Sigelman et al., 1981) For example, persons with mental retardation may have trouble understanding the context and terminology, especially if questioned in a mailed survey. They will often respond in an overly acquiescent manner; that is, answer in the affirmative, or with what they perceive to be the socially desirable response. There is also evidence that this population, as well as persons with learning disabilities, has difficulty with recollecting past events (Bruninks et al., 1990). Further, since it is typical for young adults to leave their parents' homes after graduation, they are more difficult to locate, especially in longitudinal studies with multiple data points. On the other hand, while parents usually are more stable, and therefore easier to contact, they may not want to answer questions they consider personal or threatening (Bruninks et al., 1990). Often parents will refuse an interview from considerations of respect for their offspring's adulthood and privacy; or the parents simply may not know the information (e.g., their offspring's salary).

The number of years since the person left high school is another factor to consider when we look at variables that may influence response rates and respondent choice (Bruninks et al., 1990). The longer a subject has been out of school and the parents' home, the less likely it is that the parents will know the details of the graduate's life, and the more difficult it will be to locate the subject.

Who, then, is the best interviewee? Because it is time- and energy-consuming to conduct follow-up studies, and high contact rates are necessary (Bruninks et al., 1990; Dillman, 1978; Fowler, 1984; Babbie, 1973), most investigators will accept information from the person who is easiest to contact. While this makes sense from a practical point of view, the end results are data collected from mixed informants, with few or no studies addressing the question of congruity of answers given by different respondents (particularly the parent and subject).

A follow-up study of deaf persons conducted by Bullis, Bull & Johnson (1992) addresses the agreement question within the perspective of the communication issues

unique to this population; they say that their study is the "first of its type to examine the issue of parent-subject agreement in these types of investigations" (p. 10). They express concern that by mixing parent and subject responses into an "integrated" data set, the experiences of the subject may indeed be misrepresented. They write, "information on the disabled individual's transition can only be as good as it is accurate and it may well be that asking different people the same question yields different answers" (p. 1). In fact, they report that "different data sources provided different results, findings that could lead to different conclusions regarding the school-to-community transition of these persons" (p. 10). This question has not been adequately addressed for populations with disabilities other than deafness.

In response to these concerns, a "respondent agreement" substudy was conducted as part of the *First Decade Follow-up Study* --the data set used in this dissertation. In this substudy both the parent or parent substitute, and the subject were interviewed, and their answers were compared using percentage agreements and Cohen Kappas (Bakeman & Gottman, 1986). Comparisons were made among disability groups including a comparable cohort with no disabilities, and by specific variable.

It appears from the findings of the agreement study, that using parents as well as graduates as informants--that is, mixing informants--is acceptable (with high agreement percentages and strong Kappas) for three primary variables: attendance in postsecondary school, employment attainment, and residence. This also appears to be true for questions about childbearing and marital status. However, our data suggest the need for caution when asking subjects with mild mental retardation about their residence. The desire to be independent may influence their responses.

For specific items like the number of working hours, salary, and benefits obtained, we need to be wary of the use of mixed informants. Unless the parent or parent substitute has a very close relationship with the graduate, it is unlikely that he or she will know the specific details of the graduate's life. This issue has serious implications for the believability of certain follow-up data, especially reports of salary. On the other hand, while the graduate may be the best informant about his or her own salary or work hours, there are problems associated with using graduates who have moderate to severe mental retardation as informants. In cases where the graduate is

nonverbal or unable to answer questions, it is necessary to use the parent (or parent substitute) as informant.

The data from the substudy also indicated that timing of data collection was important. The data collected 18 months after graduation resulted in slightly higher Kappas than data collected 5 to 6 years after graduation. This is probably because there is closer contact between parents and their young adult children shortly after graduation than there is 5 to 6 years after graduation. Thus, data collected from mixed informants during the first few years after graduation are more credible than data collected at a later date. (See Appendix A for more details and data tables.)

Missing subjects (data)

Issues of subject participation, low response rates, rampant attrition, and missing data have gained the attention of social scientists and investigators conducting follow-up studies (Siegel et al., 1990; Bruininks et al., 1990; Halpern, 1990; Blackorby, 1991; Wagner et al., 1991). In particular, *missing subjects (or data)*, as a methodological issue, has become a focus of debate.

Survey research typically requires cooperation from the subject under study either in the form of written answers to a questionnaire, or verbal responses to questions asked by interviewers over the telephone or face-to-face. In addition, this type of research often requires large numbers of respondents. Because of these requirements (cooperation by many subjects), subject participation is an ongoing problem in social science research. Response rates from telephone interviews are usually greater than those obtained through mailed surveys (Dillman, 1978; Babbie, 1973; Fowler, 1984); nevertheless, the rates from follow-up research using telephone interviews generally range from 25% to 65% (Hasazi et al., 1985a; Mithaug et al., 1985; Zigmond & Thornton, 1985; Schalock et al., 1986; Lichtenstein, 1989; Sitlington & Frank, 1990; Siegel et al., 1991; Blackorby, 1991). While the problems associated with low response rates are not new, the debate seems to have grown in momentum, prompted perhaps, by a letter written by Laird Heal of the University of Illinois at Urbana Champaign, and sent on April 30, 1991, to Earl Butterfield, editor of the *American Journal of Mental Deficiency*, as well as to numerous colleagues and friends. Heal expressed dismay over the rejection of an article he wrote describing a subanalysis of

the National Longitudinal Transition Study. In his letter Dr. Heal describes the attrition process which drove the NLTS response rate down to a low of 8%. He also reveals that, while this rate is low, the data are still based on a national sample of 1,300 subjects, and he argues, the NLTS authors were not presenting their data under the guise of national estimates. Dr. Heal's primary assertion though, is that follow-up articles rarely report response rates, and few (if any) directly address the issue of missing subjects. As seen in Table 1, this is true for the follow-up studies discussed earlier.

In his dissertation, Blackorby (1991) tackled the problem of missing subjects from the perspectives of interview response rates and missing data from record reviews. He claims that it is important to address the problem because "selective drop out and failure to respond [to an interview]...introduce [a potential for] bias into the sample, limiting the generalizability of the results" (p. 37). Generalizability of results is probably the leading issue when looking at missing subjects.

Many questions arise when we examine this issue of missing subjects. What are the problems associated with contacting and interviewing special education graduates and their families? Are these problems different from those associated with contacting and interviewing regular education graduates? Are there differences in contact rates when variables are added to distinguish the populations? For example, what is the probability that we are able to contact a female graduate with mild mental retardation, and does it differ from the probability of contacting a male graduate with learning disabilities? If there is a difference, does it influence how we interpret our outcome data, especially when comparing the postschool status of special education graduates to their regular education peers? From this point of view--that is, interpreting follow-up data and using them to influence school and social policy--it is important to examine our contact rates in order to understand who our sample represents and who the missing subjects are.

In an attempt to address these questions, a subanalysis of the *First Decade* project was conducted comparing the demographic data of subjects who were and were not interviewed from two cohorts (1985 and 1990 graduates). In addition, the outcome data of subjects who were interviewed twice--that is, in years 1 and 2 of the study--were compared to the outcome data of subjects who were interviewed in year 1 only. A summary of the results of this study can be found in Appendix B.

Missing data are rarely discussed in detail in follow-up articles. Probably because if something is "missing" then there is "nothing" to report. In and of itself, though, this may be important. The reader needs to understand the sample which is chosen, and the characteristics of the subjects from that sample who participated in the study compared to those who did not participate. Because we need to compare outcomes for people with varying backgrounds and characteristics, it is vital for the investigator to illustrate who is included in the subject pool, who chose not to participate, and who could not be located. This illustration should include any data which are available on the entire sample.

Summary of methodological issues

When interpreting follow-up data, it is vital to understand the historical, political, economic and social realm in which the study is conducted, including philosophical and theoretical influences on the investigators, and the definitions of success. The follow-up studies reviewed above are beset with a number of methodological problems which impact our interpretation of their results. First, is the tendency for follow-up data to be reported for youth or adults with disabilities as a single group, distorting the differences inherent in specific disability categories. It has been demonstrated that outcome data are most meaningful if they are reported for individual disability groups. Similarly, differences are found between males and females, and thus, data need to be reported by gender. Second, is the tendency to report data for subjects who have been out of school for varying amounts of time as a single group. The life situation of young adults who have been out of school for five or more years will be vastly different than for youth who are out of school for less than two years. In addition, distinctions need to be made between youth who graduate, drop out, or age out of school. Third, data are needed on comparison groups of subjects with no disabilities. While a number of investigators include a comparison group, the subjects were not necessarily comparable; that is, they were not chosen from the same schools and exit years, were not interviewed at the same time of year, had not been out of school the same number of years, were not interviewed with the same protocol, and did not exit in the same manner (graduate, drop out) as their peers with disabilities. Fourth, none of the studies reviewed addressed the issue of informant agreement. Since we report data as it is presented to us by the respondent, attention needs to be given to the

agreement status among varying respondents (e.g., parent, subject, relative). Finally, all follow-up studies will have missing data, subjects who refuse to be interviewed, subjects who cannot be found or contacted, and attrition. It is essential that investigators report (at the least) their original samples and response rates, and (when possible) demographic information for the subjects included in the data sample as well as for those not interviewed. This will greatly enhance the reader's ability to understand the study.

TABLE 1. Thirteen Follow-up Studies of Former Special Education Students with Mild Disabilities: General Findings, Gender Issues, and Related Methodological Concerns.

Study and Location	Disability	Time	Missing data/subject	Informant	Cohort with no Disabilites	Primary Variables	Gender	Employment Rates	Other
Affleck, Edgar, Levine & Kortering (1990). WA-statewide	n's= 892 LD 200 MMR Analyzed separately	Graduation years: 1983-87; analysis compared across years at 3 points of data collection: 6,18 & 30 months post-graduation	Orignal N=2,655. Contacted 1,492, (56%) of total special education population: 60% were LD and 13% were MMR. Mentions % of subjects who refused and not contacted. Addresses attrition issue at intervals. Claims results optimistic due to low contact.	Parent only informant. Issue not addressed, but comment made that mothers were primary resource so accuracy may be related to mothers' knowledge.	n= 768 (67% of 1142) Comparable cohort of noncollege-track from same school districts and graduation years.	Employment, hours, wage, job-search methods, postsecondary education, residence, adult service usage, engagement, marital status, life satisfaction	Mild MR: 57% male 43% female LD: 72% male 28% female ND: 54% male 46% female Gender analysis not reported nor was gender addressed as an issue.	EMPLOYED: Mild MR: 6mo- 41% 18mo-50% 30 mo-47% LD: 6mo- 65% 18mo-71% 30 mo-68% ND: 6mo- 73% 18mo-79% 30 mo-67% ENGAGED: (work &/or sch) at 30 months- MMR- 50% LD - 75% ND - 88%	Discusses findings in light of "Regular Education Initiative." Authors claim things have not changed since early studies in the 1930's. Recommend restructuring secondary programs, and provision of transition and ongoing supports.
Bruck (1985) Montreal	n= 101 LD Assessed in learning center of hospital; IQ 90 and above.	Aged 17-29 at follow-up. No mention of length of time since graduation. Most analyses done with combined ages; but reported significant difference in employment rate by age.	Original N=259. Contacted 199 (78%). Of these, 156 agreed. Of the 156, 101 were selected based on age, treatment history and availability of subject and family members. Final % (not reported) was 39%. This was not discussed as an issue.	Face-to-face interviews with subjects, parents, and a nondisabled sibling were audiotaped. Informant was not discussed as an issue.	n=50 "nonLD" subjects matched for age, gender & SES. No mention of school or grad. year. Rates were not discussed. n=51 nonLD siblings of the subjects. Siblings were selected after data collection was completed because the nonLD group were "so successful." Does not discuss LD cases with no siblings.	Childhood adjustment, educational and treatment history, academic and occupational achievement, family and social relationships, social adjustment.	LD: 79% male 21% female NONLD peers: 76% male 24% female NONLD siblings: 78% male 22% female Gender analysis not reported nor was gender addressed as an issue.	LD: Student- 38% Employed- 52% Unengaged-11% NONLD peers: Student- 74% Employed- 24% Unengaged- 2% NONLD siblings: Student- 50% Employed- 40% Unengaged- 10%	Findings interpreted as optimistic. Analyses included participation in crime or with drugs with the findings of low rates with these activities for all groups.

TABLE 1 continued.

Study and Location	Disability	Time	Missing data/subject	Informant	Cohort with no Disabilites	Primary Variables	Gender	Employment Rates	Other
Fairweather & Shaver (1991) National Longitudinal Transition Study NLTS (Wagner et al., 1991, SRI)	n= 6,877 All disabilities; when categories were separated, the MR group included all levels and degrees of retardation.	Data were collected in 1987. The n of 6,877 was reduced to 1292 to include only those who were out of school 1 year or more, and aged 17 or older. No ranges or means were reported but postschool period is stated as 1 to 1.5 years. Mixed all exiters-graduates and dropouts together for analyses.	Original N was 12,648. The response rate was reported as 6,877 being 66% of 10,458, which was figured after the subjects who were not contacted were deleted. Using the original N, 6,877 is 54%, and 1292 is 19% of 12,648. Weights were adjusted to account for higher SES of respondents. Issue of missing subjects was not discussed.	Data for the NLTS were reported by parents only, whereas the data for the nondisabled cohort were self-reported. Issues of mixed informants were not discussed.	Used nondisabled cohort from High School and Beyond project. Different data collection procedures and protocol were used. Data were reported by subjects. Data were collected in 1984, 3 years before the NLTS data; 83% of the nondisabled cohort were graduates, compared to 55% of the NLTS cohort.	Postschool education and demographic variables.	Disabled: 70% male 30% female Nondisabled: 50% male 50% female Participation in postsecondary education for Disabled: 14% male 18% female No significant differences in their participation rates.	% reported in postsecondary school: ALL EXITERS: All dis- 15% Nondis- 56% LD - 17% All MR- 6% GRADUATES ONLY: All dis- 21% Nondis- 64%	Higher postsecondary education participation was found only for students with sensory, speech or health impairments. Future focus will be on access to work-related and vocational training which authors claim are strongly related to long-term independence for the disabled as is access to university programs for nondisabled.
Haring & Lovett (1990) Large metropolitan area in the Southwest.	n= 129 Randomly chose 60% of all special education students served in self-contained classes in 12 high schools for a minimum of 3 years. n= 64 LD n= 29 "mild/mod MR" n= 20 mild MR Disability categories are analyzed separately.	Graduated 1983-1985 mean age=21 Single interview point, but did not report when interview took place. Remarked that data was collected too soon after graduation to interpret longterm outcomes. All graduation years are analyzed together.	Original N = 378 208 subjects (55%) met the criteria 129 interviews took place, reported as 62% of 208. But using the original N, 129 = 34% of 378 (not reported).	Parents and subjects were interviewed. Where a discrepancy was found, employers were also interviewed to verify job status. Employer data were not reported, however, nor were the discrepancies which occurred described or addressed as an issue.	None. The authors mention the absence of a nondisabled cohort as a limitation.	Employment, hours, wage, benefits, community access, postsecondary education, residence, school experiences, social/recreation satisfaction, parent perceptions.	64% male 36% female Gender addressed as a variable. Found lower employment rates and salaries for women. Questioned problem as a societal issue rather than one of disability.	EMPLOYED: female - 48% male - 75% LD - 67% MMR- 60% Mild/Mod- 72% COMPETITIVE EMPLOYMENT ONLY: LD - 59% MMR- 10% Mild/Mod- 7%	Authors list numerous limitations to study. They recommend improvement in all areas-school program, transition, adult services, ongoing support, training, follow-up system, and family involvement.

TABLE 1 continued.

Study and Location	Disability	Time	Missing data/subject	Informant	Cohort with no Disabilites	Primary Variables	Gender	Employment Rates	Other
Hasazi, Gordon & Roe (1985) Vermont, statewide	n = 301 Graduates, dropouts, and age-outs from 9 school districts. Disabilities distinguished only as a function of the type of classroom in which the student was served: Special classes for the mentally retarded (n=87); Resource room-LD, ED & Mild MR (n=187), or other (n=18). (Other is not described).	Exited school between 1979 and 1983, ages 14-23. Exiters included graduates, (n=199) dropouts (n=69), and age-outs (n=33) analyzed together and separately. All exit years were analyzed together regardless of length of time since exit.	Original N = 462 Original sample was randomly chosen. Contact percentages were not reported, nor were any details noted as to which subjects were not contacted or interviewed and their reasons.	Parents (n=122), subjects (n=154) or others (n=25) were used as informants. Mixing responses from different informants was not addressed as an issue.	None. Comparisons were made to Vermont's employment rates for 1983: AGES 16-19: 87% male 86% female AGES 20-24: 87% male 88% female	Employment, hours, wage, job-search methods, postsecondary education, residence, adult service usage, marital status, vocational training.	Of original sample of 462, 63% male, 37% female Of 301: 66% male 34% female Gender differences were reported for employment and also comparisons made to Vermont employment rates for nondisabled youth.	PAID EMPLOYMENT Total group- 55% Male - 66% Female - 33% Resource- 62% Special - 36% Other- 78% Graduates- 60% Dropouts- 51% Age outs- 30% MEAN % OF TIME EMPLOYED (since exit) significant difs: male - 58% female - 32% Resource - 55% Special - 35% Graduates - 52% Dropouts - 49% Age-outs - 30%	Coined family-friend-self network as primary job search resource. Reported positive associations between experiences of vocational education, part-time job and/or summer job during high school and employment after exit. Recommend longitudinal data collection to account for status change.
Hasazi, Gordon, Roe, Hull, Finck & Salembier (1985) Vermont, statewide	n = 193 Graduates, dropouts, and age-outs from 17 regional special class programs for Educable and Trainable Mentally Retarded. EMR n = 167 TMR n-= 22 (?4 unreported) Analyzed separately and together (for gender and type of exit). In all results the n was reported as 192 with no mention of what happened to the 193rd interview.	Exited school between 1981 and 1983, ages 14-23. Exiters included graduates, (n=115) dropouts (n=26), and age-outs (n=25) analyzed together and separately. (?26 unreported) All exit years were analyzed together regardless of length of time since exit.	Original N = 243 Contact percentages were not reported, nor were any details noted as to which subjects were not contacted or interviewed and their reasons. In addition, missing data for individual variables were not addressed.	Parents (n=36), subjects (n=109), others having personal contact (n=22), school personnel (n=11) and unspecified (n=15) were used as informants. Mixing responses from different informants was not addressed as an issue.	None. Comparisons were made to Vermont's employment rates for 1983: AGES 16-19: 87% male 86% female AGES 20-24: 87% male 88% female	Employment, hours, wage, job-search methods, postsecondary education, residence, adult service usage, marital status, vocational training.	Of original sample of 243, 60% male, 40% female Of 189 (missing 3?): 61% male 39% female Gender differences reported for employment. Concern was raised regarding expectations, training & vocational experiences of young disabled women.	PAID EMPLOYMENT Total group- 46% Male - 56% Female - 23% EMR- 47% TMR - 14% Graduates- 48% Dropouts- 39% Age outs- 52%	As with previous article, reported positive associations between experiences of vocational education, part-time job and/or summer job during high school and employment after exit.

TABLE 1 continued.

Study and Location	Disability	Time	Missing data/subject	Informant	Cohort with no Disabilites	Primary Variables	Gender	Employment Rates	Other
Hasazi, Johnson, Hasazi, Gordon & Hull (1989) Vermont, statewide	1986 interview: n=43 Disabled 1987 interview: n= 54 Disabled Subjects came from two types of classrooms: Special classes for the mentally retarded (n=24); or Resource room-LD, ED & Mild MR (n=43); (2 resource room subjects were not classified.) These n's are from the original sample. Analyses combined all subjects with disabilities. Authors claim separate analyses did not reveal differences, but n's were small.	Exited school during 1984-85 school year, ages 15-22. Exiters included graduates, (n=43) dropouts (n=14), and age-outs (n=10). All exiters were analyzed together. 2 interviews were conducted at 1 & 2 years post high school.	Original N= 133 randomly chosen from 9 school districts; 67 with disability 66 nondisabled Contact percentages were reported for years 1 & 2 for both groups: 1986: 64% Disab 100% Nondisab; 1987: 81% Disab 92% Nondisab. %'s were not reported for each disability category. Did not report which subjects were in both rounds of interviews, but reported that analyses of these subjects was not different from whole group.	Subjects were primary informant, with parents and service providers interviewed if subject could not be contacted. Mixing responses from different informants was not addressed as an issue.	1986 interview: n=66 Nondisable 1987 interview: n=61 Nondisable Randomly chosen non-college-bound, vocationally oriented non-special education students who graduated, dropped out or ieft the same school districts in 1984-85. More nondisabled subjects graduated (88%) than did subjects with disabilities (64%).	Employment, hours, wage, job-search methods, postsecondary education, residence, adult service usage, marital status, vocational training.	Of original sample N of 67 with disability 75% male, 25% female; and of N of 66 with no disability 77% male 23% female. PAID WORK DURING HIGH SCHOOL: Male & Female: Dis- 54% Non- 83% Male Only: Dis- 67% Non- 84% Female Only: Dis- 14% Non- 81% Illustrates discrepancy between genders.	EMPLOYED: 1986- Dis- 63% Non- 82% Dis Fem- 30% NonFem-63% Dis Male-73% Non Male-88% 1987- Dis- 62% Non- 85% Dis Fem- 23% Non Fem-71% Dis Male-75% Non Male-89%	The authors conclude that gender is significantly associated to employment; and suggest that factors of gender, low expectations, socially produced role conflicts, and low self-esteem may account for poor employment outcomes for women with disabilities more than factors associated with disability itself.

TABLE 1 continued.

Study and Location	Disability	Time	Missing data/subject	Informant	Cohort with no Disabilites	Primary Variables	Gender	Employment Rates	Other
Kranstover, Thurlow & Bruininks (1989) Minnesota, suburban school district	n = 239 Disabled subjects who participated in a Benefit-Cost Project. Included EMR, LD, ED, and SP (speech impaired). All disabilities were analyzed together. Authors claim eliminated EMR from analyses and results approached significance; but did not report #'s. Did not say if compared disability groups to each other.	Exited school between 1977 and 1984. Does not say when data collection occurred. All years were analyzed together. Exiters included 199 graduates and 40 nongraduates (dropouts and age-outs together). They were analyzed separately for exit status; but put together for gender analyses.	No report of original sample nor were percentages given. Missing data, as an issue, was not addressed.	Informant is not reported, nor addressed. Used data from mailed questionnaires and telephone interviews; did not address mixed sources as an issue. Used a different questionnaire for the 1984 exiters; did not address this as an issue.	None	Leisure activities, limitations on activities, education, employment, financial independence, school experiences, special training & friendships.	n = 175 males n = 64 females Gender comparisons were made for each variable; but all exiters were combined within gender. There were no differences between sexes for paid employment but there were differences for mean # of hours (41 for males vs 36 for females) and mean $/hour ($7.66 for males, $5.22 females).	PAID EMPLOYMENT Grads- 81% Nongrad- 68% Female- 76% Male- 80% Homemaker: Female- 47% Male- 14% It appears females are both homemakers and working part-time.	Differences were not found between graduates and nongraduates. Questioned advantage of 3 extra years of school for disabled vs extra time in workforce for nongraduates.
Mithaug, Horiuchi & Fanning (1985) Colorado, statewide Over-represented rural areas.	n = 234 37% MR (did not distinguish levels), 32% P/C (perceptual/ communication including LD), 12% EBD, 19% P (physical includ sensory). Matched state expectations. All disabilities analyzed together.	Graduated 1978 and 1979. Ages 19-29 with majority 21-23. All analyzed together.	Did not mention original sample N. Reported that subjects came from 26 of the 45 administrative units statewide. Commented that initial plan of equal sampling through state was abandoned due to difficulty locating subjects and lack of phone information.	Student informant.	None	High school course information, employment, economic status.	65% male 35% female Compared to national sample of youth, in the general population, 22 years old in 1977. In the national sample, 46% of females & 65% of males were never married vs. 31% of females & 69% of males in this study.	50% attended postsec education 69% employed 32% full-time 43% < $3 / hour 13% < $4 / hour 82% ever employed since graduation	Reported 42% were socially inactive. 64% live with parents 64% reported being satisfied Comments that reliance on family, and suggests ongoing follow-up as evaluation tool.

TABLE 1 continued.

Study and Location	Disability	Time	Missing data/subject	Informant	Cohort with no Disabilites	Primary Variables	Gender	Employment Rates	Other
Nisbet & Lichtenstein, (1992) New Hampshire statewide. Part of "Following the Lives of Young Adults with Disabilities in NH" project.	n = 100 All LD; spent at least 75% of day in regular high school.	Graduated between 1989-1990. Interviews 1-2 years post-graduation. Combined for analyses.	Stratified random sampling was used to select schools according to size, demographics, employment variation, & adult services. Sample was matched by gender for age, school, setting, grad year, time in district, academic performance, and SES. Unclear if n of 100 is original N or just the final sample, since it reflects a substudy .	Informants were subjects, parents, or "other knowledgeable persons". All responses were mixed. This was not addressed as an issue.	None Provides state unemployment rate of 13% for young adults aged 19-24 as a comparison.	Current employment status, weges, benefits, employment history. Definitions of full-time and part-time are unclear.	n = 50 male n = 50 female All analyses were done for gender comparisons. Addresses the influence of gender role stereotyping by transition staff. Authors claim LD women work PT, not by choice, which impacts their ability to have job-related benefits.	Full-time empl: Female- 16% Male - 38% Part-time empl: Female- 40% Male - 18% Unemployed: Female- 24% Male - 16% Postsecond educ: Female- 14% Male - 8% Job training: Female- 4% Male - 16% Military: Female- 2% Male - 4%	Conducted several in-depth case studies to illustrate gender disparities in early employment experiences. Claims employment rates are illusions unless PT and FT are separated. Provides list of questions concerning gender, disability, and longterm outcomes.
Scuccimarra & Speece (1990) Washington DC Metropolitan area	n = 65 mildly disabled: 56 LD, 5 MR, 2 ED, 2 PH All served in self-contained room with work-study component. Analyzed as group. n=25 Caucasian n=40 African American	In 12th grade during 1983-84 school year. Did not report when interviews took place. 95% (n=62) graduated. Graduates and 3 dropouts were analyzed together.	34% of the 205 12th graders from 19 high schools were randomly selected for an original N of 70. The n of 65 is 93% of 70 (and 32% of 205). The reasons for the 5 subjects not interviewed were stated. The sample matched the population by gender & ethnicity.	Informant was subject. 86% were interviewed in person; 14% were interviewed by phone.	None Cited U.S. 1985 Census unemployment rate of 13% for youth aged 18-24 as comparison.	Demographic background, employment history, and postschool social adjustment.	n= 44 Male n= 21 Female Analyzed employment data by gender. Wage ≤ $5/hour: Female- 91% Male - 75% > $5/hour: Female- 9% Male - 25%	Employed: Total- 79% Female- 52% Male - 91% Not in labor force Female- 24% Male - 2% Full-time: Female- 55% Male - 88%	Said factors contributing to gender discrepancies not discernible with this data set, Claims overall financial instability and family dependence. (But does not indicate how long subjects have been out of school.

TABLE 1 continued.

Study and Location	Disability	Time	Missing data/subject	Informant	Cohort with no Disabilites	Primary Variables	Gender	Employment Rates	Other
Sitlington & Frank (1990) Iowa Statewide	n = 911 All LD Classified into 3 levels of disability from least (n=737) to middle (n=152) to most (n=20). (2 missing) Data are analyzed by level and together.	Graduated in 1985 and 1986. Interviews took place 1 year after graduation for both cohorts. Data were combined for analyses after separate analysis revealed no differences. Summer data collection.	Original N= 1090 (LD graduates only; each AEA in state provided lists of 50% of all special education graduates & dropouts for total N=2476). The n of 911= 84% of the LD only N of 1090. Missing subjects not addressed as issue.	Mixed informants: 47% face-to-face with subject; 37% telephone with subject; 10% face-to-face with parent; 13% telephone with parent. (107%??) Combining respondents not addressed as issue.	None	Background data, high school program, personal opinion of school experiences, current life circumstances, current & past employment.	n= 675 Male n= 234 Female (2 missing) Employment data analyzed by gender.	EMPLOYED: Female- 66% Male - 81% > 37 hours/week: Female- 52% Male- 75% > $3.95/ hour: Female- 22% Male- 65%	Used a composite of employment, residence, financial, & leisure as a measure of adult adjustment. Changed criteria for "success" after finding few "successful" graduates with original criteria. (Data only for 1 year post-school).
Wagner (1992) National Substudy of National Longitudinal Transition Study (NLTS)	n= 1,941 All disabilities; when categories were separated, the MR group included all levels and degrees of retardation. Analyzed together and separately.	Youth age 13-21 in special education in the 1985-86 school year. Data were collected in 1987 (3 months-2 years out) and again in 1990 (3-5 years out.) Subjects out 3 months-2 years were analyzed as 1 group as were subjects out 3-5 years.	12,833 were selected in original NLTS sample. For this substudy the original N was 8,392. 1,941 is 23% of 8,392. Separate analysis of non-respondents showed lower SES as a group. Weights were adjusted to account for higher SES of respondents. Missing subjects are addressed in appendix. Attrition rate is not addressed.	Informants for the NLTS were parents or subject. Issues of mixed informants were not discussed. Data for the nondisabled cohort were self-reported.	Comparisons were made with a nondisabled cohort from the National Longitudinal Survey of Youth (NLSY). Issues: Different data collection procedures and protocol were used. Data were reported by subjects, and were collected in 1979-82, 5-8 years before the NLTS data. Data were collected at different times of the year. Subjects attended different school districts.	Employment status, engagement in productive activities outside home, social adjustment, test scores, school program & grades, leisure & recreation, marital & parenting status.	Interview 1: n= 1,216 Male n= 725 Female Interview 2: n= 1,125 Male n= 690 Female All comparisons made by gender. Overall finding is that women with disabilities fare worse than males with disabilities, and have poorer outcomes than the female peers without disabilities. 3-5 years out, 41% disabled females were mothers vs 28% nondisabled females.	EMPLOYED: out < 2 years- all Female-32% all Male- 52% FemLD-44% MaleLD-64% FemMR-20% MaleMR-29% out 3-5 years- all Female-40% all Male- 64% FemLD-52% MaleLD-77% FemMR-30% MaleMR-42% Full-time at 3-5 years out: all Females-22% all Males- 52%	Explores issue of gender distribution in special education. Concerned about long-term prospects of financial independence and satisfaction for women with disabilities. Discusses 3 factors related to outcomes: 1)females in special ed. are more impaired; 2)occupational training is gender biased; 3)issues of parenting, & related health & poverty issues . Suggestions are made in these areas.

CHAPTER 3: METHOD

The data set used in this study is part of a larger project entitled *The First Decade After School.* The Decade Project is in its third year of a federally funded five-year longitudinal follow-up of two cohorts of special and regular education high school graduates. In the following, I pose the primary and subsidiary questions, define all terms, describe the sample, procedures and protocol used to collect the data, and outline the proposed analytic strategies.

Primary Research Question

Are there differences in postschool outcomes among males and females with mild mental retardation, learning disabilities, and no disabilities who graduated in 1985 and 1990 from three school districts in Washington state at four discrete points in time since graduation (1 year and 2 years for 1990 graduates, 6 years and 7 years for 1985 graduates)?

Subsidiary questions

The subsidiary questions are stated as null hypotheses in Fisherian tradition.

1. There are no differences between male and female graduates with mild mental retardation on the outcome variables.
2. There are no differences between male and female graduates with learning disabilities on the outcome variables.
3. There are no differences between male and female graduates with no disabilities on the outcome variables.

Outcome variables:

a. employed vs. not employed
b. enrolled vs. not enrolled in postsecondary school or training
c. ever graduated vs. never graduated from postsecondary school or training
d. degree attained: AA, BS/BA, graduate degree, certificate, diploma, or license
e. engaged vs. not engaged in employment or education or both

f. independent vs. dependent residence
g. married vs. not married
h. a parent vs. not a parent

4. Among male graduates, there are no differences related to disability categories for each outcome variable.

5. Among female graduates, there are no differences related to disability categories for each outcome variable.

6. There are no differences between male and female graduates with mild mental retardation, learning disabilities, and no disabilities for each of the two cohorts on their parents' social status (as measured by the Hollingshead scale) at the time of the subject's graduation.

7. There are no differences between male and female graduates for each outcome variable by disability category for the 3 school districts.

8. There are no differences for each outcome variable among the 4 interview points (1 year, 2 years, 6 years, 7 years) by gender and disability.

Definitions of Terms

Disability categories

This study consists of a subsample from the Decade Project comprising all subjects who are categorized into three groups: mild mental retardation (MMR), learning disabilities (LD), and no disabilities (ND). According to the Washington Administrative Code (WAC, 1992, pp. 21-23) the categories are defined as follows:

Students with **mild mental retardation (MMR)** are those who demonstrate significantly subaverage general intellectual functioning existing concurrently with deficits in adaptive behavior and manifested during the developmental period, which adversely affects a child's educational performance. In Washington state this translates

to a criteria of having an IQ between 51 and 75 with academic and adaptive behavior being 3/4 or less of the chronological age.

Specific learning disability (LD) is a disorder in one or more of the basic psychological processes involved in understanding or in using spoken or written language which may manifest itself in an imperfect ability to listen, think, speak, read, write, spell, or to do mathematical calculations. The term includes such conditions as perceptual handicaps, brain injury, minimal brain dysfunction, dyslexia, and developmental aphasia. The term does not include children who have learning problems which are primarily the result of visual, hearing, or motor handicaps, of mental retardation, of behavioral disability, or of environmental, cultural, or economic factors. In Washington state this includes a criteria of an IQ of above 75 with a severe discrepancy between intellectual ability and academic achievement in oral expression, listening and reading comprehension, written expression, basic reading skill, or mathematics calculations and reasoning not related to other disabilities.

No disability (ND) means that the subject was not categorized as eligible for special education at the time of graduation. These graduates were randomly selected from the entire regular education graduation class, and we attempted to match the numbers of special education males and females interviewed in each cohort.

Time frame

There are four outcome data points relative to the two graduation years (1985, and 1990) collected over 2 interviews which took place January through June 1991 and 1992. Interview 2 includes only subjects who were also included in interview 1.

Point 1= 6 to 12 months after graduation for 1990 graduates (interview 1).
Point 2= 18 to 24 months after graduation for 1990 graduates (interview 2).
Point 3= 66 to 72 months after graduation for 1985 graduates (interview 1).
Point 4= 78 to 84 months after graduation for 1985 graduates (interview 2).

Outcome variables

Demographic information was obtained from the school districts and included each student's gender, primary disability, birthdate, and parents' names, addresses, and phone numbers.

The information requested in the interview focused primarily on the postschool experiences of the graduates. In particular, we solicited information about the graduates' current and previous employment status, including job title, salary, working hours, and benefits offered; postsecondary education, training, and graduation credentials; and residential status. We asked questions regarding the graduates' marital status, number of children, and current satisfaction with overall life situation.

Employment is defined as working at least 1 hour per week in a capacity which pays a wage. Included is all competitive employment, supported employment, and sheltered workshop. Parenting will be included for additional analyses on engagement but is not considered "employment."

Postsecondary education comprises attendance in some form of postsecondary school or training. These include community college, university, business, vocational or trade school, or Job Corps.

Postsecondary graduation status is considered if a degree or diploma is received including specialized certifications or licenses.

Engagement is defined as employment, attending postsecondary education, or both. Conversely, unengaged means doing neither--not working AND not in school. Additional analyses will account for graduates who are reported as being parents.

Dependent/independent living is defined by the graduates' residence, which is the home in which the subject spends the majority of his or her time. Residence is coded as **dependent:** living in parent's home, with other relatives or in a foster home, in a group home, tenant support, or incarcerated in prison; or **independent:** in a house or apartment alone, or with friends, roommates, a spouse or partner, in a dormitory or barracks, or employer-provided [e.g. on a fishing boat], or traveling.

Marital status is defined as currently married, or not married.

Parenting status is defined as having children living in the graduate's household and dependent on the graduate for their care.

Parents' social status is determined using the Hollingshead Scale of Social Status (1975). A score is calculated by summing the level of education and an employment status level based on occupational prestige. This was obtained only for the parent or parents with whom the graduate lived at the time of graduation, even if the interview was obtained from a parent or parent substitute (e.g., stepparent, relative) who was not living in the household at the time of graduation.

The Decade Project-Gender Substudy

Sample

The Decade Project sample comprises two cohorts of subjects who graduated from three school districts (one urban and two suburban) in Washington state. The special education sample included all students in the three districts who had individualized education plans (IEPs) at the time of graduation and were labeled one of the ten disability categories defined in the WAC. For this Gender substudy, graduates from special education identified at the time of graduation as having mild mental retardation (MMR) or learning disabilities (LD) were included. We attempted to conduct interviews for all graduates with mild mental retardation or learning disabilities from both cohorts from each of the three school districts. The graduates with no disabilities (ND) were randomly selected from the regular education graduation lists from the same school districts for the same graduation years. The sample consists of the following: Cohort 1 comprises 28 youth with MMR, 172 youth with LD and 349 youth with ND who graduated in June, 1985. Cohort 2 comprises 20 youth with MMR, 117 youth with LD, and 261 youth with ND who graduated in June, 1990.

Location

The three school districts are located in one county of Washington state with a population of 1.5 million people. District 1 is an urban setting with a population of 500,000 and a median income of $19,100. Districts 2 and 3 are both suburban settings with populations of 120,000 and 90,000, respectively. The median incomes for these districts are $19,000 for District 2 and $38,000 for District 3. Unemployment rates for Washington state, King County, and each of the school district areas are shown in Table 2.

TABLE 2. 1990 Census and employment data for Washington State, King County, and the 3 school districts

	Population	% in labor force	Civilian labor force	Overall unemploy-ment rate	Females with children under age 6	% in workforce
Washington	3,730,985	66.7%	2,433,177	5.7	302,837	57%
King County	1,199,620	71.4%	853,717	4.1	88,098	60.1%
District 1	439,363	68.4%	298,819	4.9	24,620	64.5%
District 2	14,088	66.6%	9,347	4.2	911	56.5%
District 3	70,757	72.8%	51,442	3.0	4,077	53.6%

Source: U.S. Bureau of the Census, (1992). *1990 census of population and housing- Summary social, economic, and housing characteristics: Washington.* U.S. Department of Commerce, Economics and Statistics Administration, (May).

Instrumentation: Computer-assisted interviews

Interview scripts (found in Appendix C) were modified for this study from questionnaires used in previous studies (Neel, Meadows, Levine & Edgar, 1988; Affleck, Edgar, Levine & Kortering, 1990). We incorporated the scripts into a computer program by using the data entry module of SPSS-PC+. This application enabled the computer programmer to develop a screen form based on the questionnaire scripts by naming the variables, labeling the items, and providing a context for placing data. A "skip and fill" branch (based on logic statements) was used to enter commands which, during data entry, generated conditional or unconditional display of messages, skipping to nonsequential items and assigning values when necessary. Two types of messages were displayed. First, the actual questions to be asked by the interviewer were customized to be responsive to previous questions and answers. Second, instructions to the interviewers, which were dependent on previous responses, were used for direction only. We further customized the entire system by using another branch of data entry allowing the screens to be personalized with each student's name, gender, school district, and sequence number. Project staff field-tested the questionnaire using a paper and pencil format with seven subjects before programming the scripts into the computer. The process was tested and refined to be sensitive to as many potential situations as possible.

In addition to being an efficient data collection and entry mechanism, the computer also functioned as a record-keeping system, provided data downloads and references, and contained files that displayed the contact results for each subject (for example, the names of those who asked to be called back and the exact time of day they wanted to be called).

Procedure

The special education directors in the three school districts provided master lists of the graduates. We mailed letters of consent to the parents of every graduate. For those subjects from whom a response was not received, we requested consent at the time of the interview. Two interviews (year 1 and year 2) were conducted approximately 12 to 16 months apart from each other.

Training of the interviewers

Five interviewers, recruited through the University of Washington student employment office and the Special Education Area of the College of Education, were responsible for the majority of the interviews in year 1. One interviewer from year 1, and 2 new interviewers were responsible for the interviews in year 2.

Each interviewer received 8-12 hours of training that included instruction in the survey instrument and practice in interview techniques such as specific probing styles, responses to inquiries, and methods of handling difficult or unique situations. Training continued on a tutorial basis between staff and interviewers. We conducted simulated interviews by using the telephone headpieces. All interviewers were assessed during a minimum of three mock interviews created to simulate potentially difficult situations. The supervisor observed several real interviews, noting the interviewers' accuracy, competence (in both computer and script handling), and phone interview manner and then provided suggestions and feedback.

Reliability

We obtained a minimum of four reliability checks (using taped interviews) for each interviewer for each cohort. There was a total of 23 interviews for cohort 1, resulting in 98% agreement, and a total of 26 interviews for cohort 2, resulting in 99% agreement .

Year 1 interviews

Interviews were conducted between January and June, 1991, approximately 5-1/2 to 6 years postgraduation for Cohort 1, and 6 to 12 months postgraduation for Cohort 2. First, we attempted to interview the contact person for every subject except those who had indicated (by letter or telephone) that they did not wish to participate. The "contact" was the person who was considered to be most familiar with the graduate's current situation as well as his or her situation at the time of graduation. In most cases this person was the graduate's parent. If the parent was unavailable or inappropriate (e.g., a stepparent who was not in contact with the graduate) a "parent substitute" was interviewed. These included guardians, other relatives (grandparent, aunt, uncle), foster parents, and group-home directors. In cases where a parent or parent substitute was unavailable, we attempted to contact and interview the graduate. We kept detailed notes for all interview attempts, including time and date, result (e.g., a wrong number, a specific time to call back, a referral to a more appropriate contact person), and possible leads for another phone number or contact person. When an attempt resulted in a wrong or disconnected phone number, the data collectors consulted telephone books, Directory Assistance, the Cole directory (1986), and the Polk directory (1985). The data collectors pursued all possible phone numbers. As a last resort to contact the special education subjects, two data collectors visited the address provided by the school district, spoke to neighbors, and telephoned other graduates or friends of the subject who might know the subject's whereabouts. We made multiple attempts for each subject and parent until we exhausted all reasonable possibilities. For the regular education subjects, an additional 42 graduates in cohort 1, and 36 graduates in cohort 2 were randomly selected in order to match by gender and year of graduation the special education subjects interviewed.

Year 2 interviews

Approximately one year after the first interviews were conducted (January to March, 1992) attempts were made to contact and interview all (and only) the subjects who had been successfully interviewed in year 1.

Analysis Strategy

Descriptive statistics

For the types of variables being examined in this substudy, descriptive analytic methods are appropriate. For example, for each variable (e.g. employment) across each group (e.g. Cohort 1, males and females with learning disabilities), frequencies, percentages, crosstabulations, chi-squares and (where applicable) one-way analyses of variance were conducted. Percentages are expressed relative to the specific group under study.

The chi square test of independence

The bulk of the variables I am examining are categorical, and can be characterized as dichotomous and independent of each other. For this reason the chi-square is an appropriate and useful statistic. According to Borg & Gall (1989):

> The chi-square is a nonparametric statistical test that is used when the research data are in the form of frequency counts. These frequency counts can be placed into two or more categories [and used to]...determine the statistical significance of the difference between the observed frequencies...with the frequencies that would be expected. (p. 562)

It is used to test whether two variables of a crosstabulation are independent of each other and is "calculated by summing over all the cells the squared residuals divided by the expected frequencies" (Nousis, 1986, p. B98).

Certain assumptions must be met for a chi square test to be valid. Subjects must each fall exclusively into a single cell, and the expected values for each cell must not be too small; that is, no more than 20% of the cells should have expected values of less than 5, and none should have expected values of less than 1. "[W]hen the expected frequency in any cell is less than five, a correction needs to be applied to the regular chi-square test" (Borg et al., 1989, p. 564). This correction is a Yates' correction or a Fisher exact test. Because the incidence of graduates with mild mental retardation is relatively small, and for analysis by district, the Fisher exact test was used when the total sample size was less than 20 and the expected values were 5 or less.

Analysis of variance

"The t distribution...is used to determine the level of significance of an observed difference between sample means" (Borg et al., 1989, p. 351), and was used to test hypotheses about the equality of two means for parents' Hollingshead social status scores. The t value is the mean difference divided by the standard error of the difference. When the observed significance level was small enough (less than .05 or .01) the null hypothesis was rejected. In addition, the one-way analysis of variance was used to test the mean Hollingshead scores between families of the three disability groups. For cases of significance, the posthoc Tukey statistic was used to test which pairs of scores differed.

Overall, I present the findings by three major categories: disability, gender, and cohort (year of graduation). In addition, I report results by the three school districts, and by months since graduation (four data collection points, two for each cohort).

CHAPTER 4: RESULTS

Contact Results

Informant

All interview data were obtained by telephone interviews with key informants who knew the status of the graduates' current life situation. The majority of the informants were mothers (67% of 1985 graduates, 71% of 1990 graduates), but also included fathers, other relatives, and in a few instances, the graduates themselves. A detailed description of the informant types is provided in Appendix D.

Informant agreement

In an earlier study (Levine & Edgar, in press), we determined that there is a high degree of agreement (as measured by Cohen Kappa statistic[1]) between graduate report and the report of other informants on the following variables: For the 1985 graduates, with and without disabilities respectively: employment (.67, .71), attendance in school (.75, .76), residence (.75, .74), marital status (.92, .88), and parenting status (.95, .82); for the 1990 graduates, with and without disabilities respectively: employment (.79, .77), attendance in school (.88, .86), residence (.80, .86), marital status (NA, NA[2]), and parenting status (.94, .80). However, for both cohorts and all disability categories, low agreement was found for number of hours worked (range of .53 to .76), medical benefits (range of .36 to .55), and salary (range of .12 to .43). A large percentage of parents and other informants do not know this information. As a result, I have decided not to include the variables of number of working hours, salary, and benefits in my analyses. A more detailed analysis of informant agreement is provided in Appendix A.

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1 The key for judging kappas is as follows: .40-.60 = fair; .61-.75= good; .76 and over= excellent (Fleiss, 1981; Bakeman & Gottman, 1986).

2 NA- not applicable. There was 100% agreement between graduates and other informants for these two groups on marital status; when an agreement percentage is equal to 100%, a kappa is inappropriate (Bakeman & Gottman, 1986).

Contact rates

All the data included in the following analyses are for subjects who were available at both data collection points (one and two years after graduation for the 1990 cohort, and six and seven years after graduation for the 1985 cohort.) The contact rates are reported in Table 3 for the second (final) interview conducted for each subgroup.

TABLE 3. Final Contact Rates for Subjects by Disability & Gender

		Cohort 2: 1990 Graduates			Cohort 1: 1985 Graduates		
		Final Contact Rate			Final Contact Rate		
Disability	Gender	Total Possible N	Total Contact n	%	Total Possible N	Total Contact n	%
Mild Mental		20	13	65%	28	19	68%
Retardation	male	7	5	71%	16	10	63%
	female	13	8	62%	12	9	75%
Learning		117	86	74%	172	89	52%
Disability	male	86	67	78%	125	62	50%
	female	31	19	61%	47	27	57%
No		261	169	65%	349	169	48%
Disability	male	162	104	64%	209	107	52%
	female	99	65	66%	140	62	44%

Cohort 1--1985 graduates. The contact rates for subjects included in both interviews (at six and seven years post graduation) by disability and gender are reported in Table 3. The final contact rates for the three disability categories by gender range from 44% for the females with no disabilities to 75% for the females with mild mental retardation. Chi square analyses revealed no significant differences among the contact rates for the three disability groups.

Cohort 2--1990 graduates. The final contact rates for this cohort ranged from 61% for females with learning disabilities to 78% for males with learning disabilities. A chi square analysis revealed no significant differences among the contact rates for the three disability groups.

Missing subjects

A troubling aspect of this study (and indeed most follow-up studies) is missing data. In this study there were two sources of missing data. First, and most troubling, was our inability to contact a higher number of the total possible graduates. As shown in Table 4, for the first interview (including subjects interviewed once only) we were able to contact 71% of the 1985 graduates with mild mental retardation, 56% with learning disabilities, and 52% with no disabilities. These are low contact rates, yet we exhausted all possible avenues to locate subjects. Our first interview contact rates were higher for the 1990, cohort increasing to 75%, 78%, and 69% for graduates with mild mental retardation, learning disabilities and no disabilities respectively. While there were no differences between the cohorts for graduates with mild mental retardation, chi square analyses did show significant differences between cohorts for graduates with learning disabilities ($p<.0001$) and for graduates with no disabilities ($p<.0001$). The higher contact rates for these subjects in the 1990 Cohort are probably due to the provision of more accurate addresses and phone numbers by the school districts, and because these were recent graduates and thus easier to locate. Overall, these low contact rates call into question the generalization of the findings to the larger population.

TABLE 4. Missing Subjects for the First Interview by Disability & Gender

		Cohort 2: 1990 Graduates				Cohort 1: 1985 Graduates			
Disability	Gender	Total Possible N	Total Contact n	%	Missing Subjects	Total Possible N	Total Contact n	%	Missing Subjects
Mild		20	15	75%	5	28	20	71%	8
Mental	male	7	6	86%	1	16	11	69%	5
Retardation	female	13	9	69%	4	12	9	75%	3
Learning		117	91	78%	26	172	96	56%	76
Disability	male	86	71	83%	15	125	69	55%	56
	female	31	20	65%	11	47	27	57%	20
No		261	181	69%	80	349	180	52%	169
Disability	male	162	112	69%	50	209	114	55%	95
	female	99	69	70%	30	140	66	47%	74

Missing subjects for interview 1

We have conducted a missing data analysis between the subjects we were not able to locate and those for whom at least one respondent was contacted (Table 4) as to disability category, gender, ethnicity, and school district.

Cohort 1--1985 graduates. For the 1985 cohort, chi square analyses revealed no significant differences among the three disability groups, none between the three disabilities and gender, the three disabilities and ethnicity, and the three disabilities and the three school districts. When analysis was conducted between pairs of disability groups, the only significant difference found ($p<.05$) was between the contact rates for graduates with mild mental retardation (71%) and graduates with no disabilities (52%). The reason for the lower contact rate for the cohort with no disabilities is due to a tactical decision during the initial data collection phase. In this case, there were only 28 graduates with mild mental retardation, so we intensified our attempts at contacting these families. On the other hand, because there was a large pool of graduates with no disabilities to choose from, we did not pursue difficult-to-reach subjects, and randomly added additional subjects. This resulted in unequal contact rates, with the graduates with no disabilities representing individuals *easier* to contact than the graduates with mild mental retardation.

Cohort 2--1990 graduates. For the 1990 cohort, chi square analysis revealed significant differences in two comparisons. For graduates with learning disabilities, a larger proportion ($p<.05$) of males was contacted (83%) than females (65%). When gender was examined among disability groups, a significant difference was found in the contact rates among males ($p<.05$) with mental retardation (86%), learning disabilities (83%), and no disabilities (69%). As was the case for the 1985 cohort, this difference probably reflects the addition of graduates with no disabilities to the original sample.

TABLE 5. Subject Attrition Between Interviews 1 and 2 by Disability & Gender

		Cohort 2: 1990 Graduates				Cohort 1: 1985 Graduates			
			Interview: 1	2			Interview: 1:	2	
Disability	Gender	N	n	n	Attrition	N	n	n	Attrition
Mild		20	15	13	2	28	20	19	1
Mental	male	7	6	5	1	16	11	10	1
Retardation	female	13	9	8	1	12	9	9	0
Learning		117	91	86	5	172	96	89	7
Disability	male	86	71	67	4	125	69	62	7
	female	31	20	19	1	47	27	27	0
No		261	181	169	12	349	180	169	11
Disability	male	162	112	104	8	209	114	107	7
	female	99	69	65	4	140	66	62	4

Subject attrition

The second source of missing data was related to the loss of subjects between the first and second interviews (Table 5). An analysis of this attrition was conducted between subjects with one interview and subjects with two interviews for four outcome variables, plus gender, and school district. For the 1985 graduates, there were no significant differences between the subjects in employment, postsecondary school attendance, engagement, and residence; or for gender and school district for all three groups. No differences were found for the 1990 graduates with learning disabilities and mild mental retardation; however, for the graduates with no disabilities, significant differences were found for three variables. Of the 12 subjects with only one interview, 92% were employed compared to 59% of the subjects with two interviews ($p<.05$). Conversely, more subjects with two interviews were attending school (76%) compared to subjects with one interview only (33%, $p<.001$). This may influence both the current and long-term employment rates of the graduates with no disabilities in this cohort, since we retained a larger percentage of subjects attending school. Further, differences were found among the districts, with half the lost subjects coming from each of two districts, and none from the third ($p<.05$). This too may influence the data, if graduate outcomes are related to their school district. See Appendix B for details.

Research Findings

Question 1:
Are there differences in postschool status between males and females within disability groups?

Employment

The data for employment rates are found in Tables 6 (1990 graduates) and 7 (1985 graduates). For the 1990 graduates, the only significant differences are noted in favor of the females with no disabilities at both interview points. For the 1985 graduates, significantly more males than females with learning disabilities were employed at the first interview (6 years postgraduation); however, though males continued to be employed at a greater rate in year 7, it was not statistically significant.

Attendance in postsecondary school

As shown in Table 6, among the 1990 graduates more males than females were attending postsecondary education programs in all but one instance; however, none of the differences were statistically significant. Among the 1985 graduates (Table 7), the only significant difference occurred in year 6, in favor of males with learning disabilities.

Unengagement

The percentage of graduates who were not working and not attending school (unengaged) are found in Tables 6 and 7. There were no significant differences for the 1990 graduates. For the 1985 graduates, a significantly larger percentage of females with learning disabilities were unengaged at both years 6 and 7. Likewise, significantly more females with no disabilities were unengaged in year 7.

Independent residence

As shown in Tables 6 (1990 cohort) and 7 (1985 cohort), there were no significant differences between males and females living independently for all disability categories, at all interview points, for both cohorts. It should be noted that for the 1985 graduates, more females were reported living independently at all interview times.

TABLE 6. Percentages of Graduates who were Employed, Attending School, or Neither (Unengaged), and Residing Independently by Gender and Disability for 1990 Graduates

1990 GRADUATES		YEARS SINCE GRADUATION											
		1 Year						2 Years					
Disability	Gender	N	n	%	x^2	df	p	N	n	%	x^2	df	p
EMPLOYED													
Mild Mental Retardation	Male	5	2	40%				5	3	60%			
	Female	8	2	25%				8	2	25%			
Learning Disability	Male	67	40	60%				67	48	72%			
	Female	19	12	63%				19	12	63%			
No Disability	Male	104	54	52%	4.938	1	p<.05	104	58	56%	8.995	1	p<.01
	Female	65	45	69%				65	51	79%			
ATTENDING POSTSECONDARY SCHOOL													
Mild Mental Retardation	Male	5	0	--				5	1	20%			
	Female	8	2	25%				8	0	--			
Learning Disability	Male	67	25	37%				67	19	28%			
	Female	19	5	26%				19	2	11%			
No Disability	Male	103	81	79%				103	80	78%			
	Female	65	46	71%				65	45	69%			
UNENGAGED													
Mild Mental Retardation	Male	5	3	60%				5	2	40%			
	Female	8	4	50%				8	6	75%			
Learning Disability	Male	67	11	16%				67	10	15%			
	Female	19	4	21%				19	6	32%			
No Disability	Male	104	2	2%				104	9	9%			
	Female	65	1	2%				65	1	2%			
RESIDING INDEPENDENTLY													
Mild Mental Retardation	Male	5	1	20%				5	1	20%			
	Female	8	2	25%				8	2	25%			
Learning Disability	Male	67	20	30%				67	25	38%			
	Female	19	2	11%				19	6	32%			
No Disability	Male	104	60	58%				104	61	59%			
	Female	65	29	45%				65	36	55%			

TABLE 7. Percentages of Graduates who were Employed, Attending School, or Neither (Unengaged), and Residing Independently by Gender and Disability for 1985 Graduates

1985 GRADUATES		YEARS SINCE GRADUATION											
		6 Years						7 Years					
Disability	Gender	N	n	%	x^2	df	p	N	n	%	x^2	df	p
EMPLOYED													
Mild Mental Retardation	Male	10	6	60%				10	6	60%			
	Female	9	5	56%				9	4	44%			
Learning Disability	Male	58	53	91%	10.23	1	p<.001	58	51	88%			
	Female	27	17	63%				27	20	74%			
No Disability	Male	105	85	81%				105	91	87%			
	Female	61	49	80%				61	50	82%			
ATTENDING POSTSECONDARY SCHOOL													
Mild Mental Retardation	Male	10	0	--				10	0	--			
	Female	9	1	11%				9	1	11%			
Learning Disability	Male	61	12	20%	6.15	1	p<.01	61	9	15%			
	Female	27	0	--				27	2	7%			
No Disability	Male	107	39	36%				107	29	27%			
	Female	61	20	33%				61	17	28%			
UNENGAGED													
Mild Mental Retardation	Male	10	4	40%				10	4	40%			
	Female	9	3	33%				9	4	44%			
Learning Disability	Male	62	5	8%	11.26	1	p<.001	62	5	9%	5.144	1	p<.05
	Female	27	10	37%				27	7	26%			
No Disability	Male	107	9	8%				107	3	3%	5.078	1	p<.05
	Female	62	4	7%				62	7	11%			
RESIDING INDEPENDENTLY													
Mild Mental Retardation	Male	10	3	30%				10	3	30%			
	Female	9	5	56%				9	4	44%			
Learning Disability	Male	62	36	57%				62	37	60%			
	Female	27	19	70%				27	21	78%			
No Disability	Male	107	70	65%				107	73	68%			
	Female	62	41	66%				62	45	73%			

Graduation from postsecondary school

Tables 8 (1990 graduates) and 9 (1985 graduates) show the percentages of graduates who ever graduated from a postsecondary education program. The only significant difference was found in favor of the females with no disabilities in the 1985 cohort at interview 1.

Postsecondary graduation and credentials

Tables 8 (1990 graduates) and 9 (1985 graduates) show the percentage of graduates who earned various types of postsecondary credentials, including diplomas, certificates, licenses, Associate degrees, and Bachelor degrees, by the second interview. No significant differences were found for the 1990 and 1985 graduates.

TABLE 8. Percentages of Graduates who Ever Graduated from Postsecondary School and Types of Credentials Earned by Gender and Disability for 1990 Graduates

1990 GRADUATES		YEARS SINCE GRADUATION											
		1 Year						2 Years					
Disability	Gender	N	n	%	x^2	df	p	N	n	%	x^2	df	p
Mild Mental Retardation	Male	5	0	--				5	0	--			
	Female	8	0	--				8	1	13%			
Learning Disability	Male	67	1	1%				67	4	6%			
	Female	19	1	5%				19	2	11%			
No Disability	Male	104	1	1%				104	4	4%			
	Female	65	0	--				65	5	8%			

		TYPES OF CREDENTIALS											
		License or Certificate[1]				Associate Degree				Bachelor Degree			
Disability	Gender	N	n	%	x^2	N	n	%	x^2	N	n	%	x^2
Mild Mental Retardation	Male	5	0			5	0			5	0		
	Female	8	0			8	0			8	0		
Learning Disability	Male	67	2	3%		67	0			67	0		
	Female	19	1	5%		19	0			19	0		
No Disability	Male	104	2	2%		104	0			104	0		
	Female	65	4	6%		65	0			65	0		

TABLE 9. Percentages of Graduates who Ever Graduated from Postsecondary School and Types of Credentials Earned by Gender and Disability for 1985 Graduates

1985 GRADUATES		YEARS SINCE GRADUATION											
		6 Years						7 Years					
Disability	Gender	N	n	%	x^2	df	p	N	n	%	x^2	df	p
Mild Mental Retardation	Male	10	1	10%				10	1	10%			
	Female	9	2	22%				9	2	22%			
Learning Disability	Male	62	19	31%				62	24	39%			
	Female	27	8	30%				27	8	30%			
No Disability	Male	107	48	45%	4.24	1	p<.05	107	58	54%			
	Female	62	38	61%				62	43	69%			

		TYPES OF CREDENTIALS											
		License or Certificate[1]				Associate Degree				Bachelor Degree			
Disability	Gender	N	n	%	x^2	N	n	%	x^2	N	n	%	x^2
Mild Mental Retardation	Male	10	1	10%		10	0			10	0		
	Female	9	1	11%		9	0			9	0		
Learning Disability	Male	62	17	27%		62	4	7%		62	1	2%	
	Female	27	5	19%		27	3	11%		27	0		
No Disability	Male	107	16	15%		107	11	10%		107	28	26%	
	Female	62	11	18%		62	5	8%		62	24	39%	

Notes: 1 This category would include any type of diploma, certificate or license received by the graduate other than an Associate or Bachelor degree, such as a certificate from a beautician school, or massage therapy license for example.

Marital status

As shown in Table 10, few 1990 graduates were married at either interview point . For the 1985 cohort, significantly more females were married at both interview years among the graduates with learning disabilities and no disabilities.

Parenting status

The only significant difference for the 1990 cohort (Table 10) was for graduates with learning disabilities at year 1, with more females parenting. For the 1985 graduates (Table 10), significantly more females reported parenting at both years 6 and 7 for all three groups.

TABLE 10. Percentages of Graduates who were Married or Parenting by Gender and Disability for 1990 and 1985 Cohorts

1990 GRADUATES		YEARS SINCE GRADUATION											
		1 Year						2 Years					
Disability	Gender	N	n	%	x^2	df	p	N	n	%	x^2	df	p
MARRIED													
Mild Mental Retardation	Male	5	0	--				5	0	--			
	Female	8	0	--				8	0	--			
Learning Disability	Male	67	1	2%				67	1	2%			
	Female	19	0	--				19	1	5%			
No Disability	Male	104	0	--				104	0	--			
	Female	65	1	2%				65	3	5%			
A PARENT													
Mild Mental Retardation	Male	5	0	--				5	0	--			
	Female	8	1	13%				8	2	25%			
Learning Disability	Male	67	2	3%	4.431	1	p<.05	67	7	10%			
	Female	19	3	16%				19	4	21%			
No Disability	Male	104	1	1%				104	1	1%			
	Female	65	1	2%				65	1	2%			

1985 GRADUATES		YEARS SINCE GRADUATION											
		6 Years						7 Years					
Disability	Gender	N	n	%	x^2	df	p	N	n	%	x^2	df	p
MARRIED													
Mild Mental Retardation	Male	10	0	--				10	0	--			
	Female	9	2	22%				9	2	22%			
Learning Disability	Male	62	8	13%	13.87	1	p<.001	62	10	16%	6.909	1	p<.01
	Female	26	13	50%				26	11	42%			
No Disability	Male	107	9	8%	9.423	1	p<.01	107	13	12%	7.469	1	p<.01
	Female	62	16	26%				62	18	29%			
A PARENT													
Mild Mental Retardation	Male	10	0	--	3.958	1	p<.05	10	0	--	3.958	1	p<.05
	Female	9	3	33%				9	3	33%			
Learning Disability	Male	62	4	7%	27.01	1	p<.001	62	7	11%	19.8	1	p<.001
	Female	27	15	56%				27	15	56%			
No Disability	Male	107	4	4%	4.998	1	p<.05	107	6	6%	6.388	1	p<.01
	Female	62	8	13%				62	11	18%			

Question 2:

Are there differences among disability groups for males and females on postschool status?

Tables 11 through 18 show the comparisons for males and females among the three disability groups.

Employment

Table 11.

Females-- For females in the 1990 cohort, significant differences were found at both interviews between the graduates with mild mental retardation and graduates with no disabilities. For the 1985 graduates, significant differences were found between females with mild mental retardation and no disabilities at year 7.

Males-- The only significant difference for the males in the 1990 cohort was between graduates with learning disabilities and no disabilities in year 2. For the 1985 graduates, significant differences were found between males with mild mental retardation and learning disabilities at both years 6 and 7, and between males with mild mental retardation and no disabilities at year 7.

TABLE 11. Comparison of Employment Rates Among Disability Groups for Males and Females for 1990 and 1985 Cohorts.

1990 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 1												
Female							6.0772	1	<.05			
MMR	8	2	25%									
LD	19	12	63%									
ND	65	45	69%									
Male												
MMR	5	2	40%									
LD	67	40	60%									
ND	104	54	52%									
Year 2												
Female							10.235	1	<.01			
MMR	8	2	25%									
LD	19	12	63%									
ND	65	51	79%									
Male										4.3569	2	<.05
MMR	5	3	60%									
LD	67	48	72%									
ND	104	58	56%									

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female												
MMR	9	5	56%									
LD	27	17	63%									
ND	61	49	80%									
Male				6.14	1	<.05						
MMR	10	6	60%									
LD	58	53	91%									
ND	105	85	81%									
Year 7												
Female							6.4373	1	<.05			
MMR	9	4	44%									
LD	27	20	74%									
ND	61	50	82%									
Male				4.4216	1	<.05	4.5385	1	<.05			
MMR	10	6	60%									
LD	58	51	88%									
ND	105	91	87%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.

Attendance in postsecondary school

Table 12.

Females-- There were significant differences between females in the 1990 cohort at both interview points between the graduates with learning disabilities and no disabilities, and between the graduates with mild mental retardation and no disabilities. For the 1985 cohort, there were significant differences between females with learning disabilities and no disabilities at both years 6 and 7.

Males-- There were significant differences between males in the 1990 cohort between the graduates with no disabilities and learning disabilities, and between graduates with no disabilities and mild mental retardation at both interview points. For the males in the 1985 cohort, there were differences between graduates with no disabilities and mild mental retardation at both interview points, and between graduates with no disabilities and learning disabilities at year 6.

TABLE 12. Comparison of Postsecondary School Attendance Among Disability Groups for Males and Females for 1990 and 1985 Cohorts.

1990 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 1												
Female							6.6266	1	<.05	12.18	1	<.001
MMR	8	2	25%									
LD	19	5	26%									
ND	65	46	71%									
Male							15.915	1	<.001	30.013	1	<.0001
MMR	5	0	--									
LD	67	25	37%									
ND	103	81	79%									
Year 2												
Female							14.439	1	<.001	20.558	1	<.0001
MMR	8	0	--									
LD	19	2	11%									
ND	65	45	69%									
Male							8.4582	1	<.05	40.585	1	<.0001
MMR	5	1	20%									
LD	67	19	28%									
ND	103	80	78%									

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female										11.234	1	<.001
MMR	9	1	11%									
LD	27	0	--									
ND	61	20	33%									
Male							5.4672	1	<.05	5.1721	1	<.05
MMR	10	0	--									
LD	61	12	20%									
ND	107	39	36%									
Year 7												
Female										4.6285	1	<.05
MMR	9	1	11%									
LD	27	2	7%									
ND	61	17	28%									
Male							3.6034	1	<.05			
MMR	10	0	--									
LD	61	9	15%									
ND	107	29	27%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.

Unengagement

Table 13.

Females-- Significant differences were found between 1990 and 1985 female graduates with no disabilities and graduates with mild mental retardation at both interview points. In addition, for the 1990 cohort, the females with learning disabilities were significantly different from graduates with mild mental retardation at year 2, and from graduates with no disabilities at years 1 and 2. Additional differences were found for the 1985 cohort between female graduates with learning disabilities and no disabilities at year 6.

Males-- Significant differences were found between male graduates with no disabilities and mild mental retardation at year 1 for the 1990 graduates, and at both interview points for the 1985 graduates. For the 1990 cohort, significant differences were also found between the graduates with learning disabilities and mild mental retardation, and between graduates with learning disabilities and no disabilities at year 1. Further, for the 1985 cohort, differences were found between male graduates with learning disabilities and mild mental retardation at both interview points.

TABLE 13. Comparison of Unengagement Status Among Disability Groups for Males and Females for 1990 and 1985 Cohorts.

1990 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 1												
Female							26.22	1	<.001	10.001	1	<.01
MMR	8	4	50%									
LD	19	4	21%									
ND	65	1	2%									
Male				5.642	1	<.05	36.764	1	<.001	12.187	1	<.001
MMR	5	3	60%									
LD	67	11	16%									
ND	104	2	2%									
Year 2												
Female				4.2986	1	<.05	44.34	1	<.0001	17.368	1	<.0001
MMR	8	6	75%									
LD	19	6	32%									
ND	65	1	2%									
Male												
MMR	5	2	40%									
LD	67	10	15%									
ND	104	9	9%									

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female							6.3904	1	<.05	13.273	1	<.001
MMR	9	3	33%									
LD	27	10	37%									
ND	62	4	7%									
Male				8.0294	1	<.05	9.2397	1	<.05			
MMR	10	4	40%									
LD	62	5	8%									
ND	107	9	8%									
Year 7												
Female							6.5981	1	<.05			
MMR	9	4	44%									
LD	27	7	26%									
ND	62	7	11%									
Male				8.0294	1	<.05	22.494	1	<.001			
MMR	10	4	40%									
LD	62	5	9%									
ND	107	3	3%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.

Independent residence

Table 14.

Females-- For females in the 1990 cohort, significant differences were found between the graduates with no disabilities and learning disabilities at year 1. No significant differences were found among the disability groups for the 1985 female graduates.

Males-- Significant differences were found between males with no disabilities and learning disabilities in the 1990 cohort for both years 1 and 2. For the 1985 cohort, differences were found at both interview points, between males with no disabilities and mild mental retardation.

TABLE 14. Comparison of Independent Residence Among Disability Groups for Males and Females for 1990 and 1985 Cohorts.

1990 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 1												
Female										7.3373	1	<.01
MMR	8	2	25%									
LD	19	2	11%									
ND	65	29	45%									
Male										12.687	1	<.001
MMR	5	1	20%									
LD	67	20	30%									
ND	104	60	58%									
Year 2												
Female												
MMR	8	2	25%									
LD	19	6	32%									
ND	65	36	55%									
Male										7.4232	1	<.01
MMR	5	1	20%									
LD	67	25	38%									
ND	104	61	59%									

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female												
MMR	9	5	56%									
LD	27	19	70%									
ND	62	41	66%									
Male							4.8899	1	<.05			
MMR	10	3	30%									
LD	62	36	57%									
ND	107	70	65%									
Year 7												
Female												
MMR	9	4	44%									
LD	27	21	78%									
ND	62	45	73%									
Male							5.8901	1	<.05			
MMR	10	3	30%									
LD	62	37	60%									
ND	107	73	68%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.

Graduation from postsecondary school

Table 15.

Females--There were no significant differences for females in the 1990 Cohort. For the 1985 Cohort, there were significant differences between females with no disabilities and learning disabilities, and between females with no disabilities and mild mental retardation at both years 6 and 7.

Males--There were no significant differences for males in the 1990 Cohort. There were significant differences for the 1985 Cohort between male graduates with no disabilities and mild mental retardation at years 6 and 7. In addition at year 7, there were differences between male graduates with no disabilities and learning disabilities.

TABLE 15. Comparison of Postsecondary Graduation Rates Among Disability Groups for Males and Females for 1990 and 1985 Cohorts.

1990 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 1												
Female												
MMR	8	0	--									
LD	19	1	5%									
ND	65	0	--									
Male												
MMR	5	0	--									
LD	67	1	1%									
ND	104	1	1%									
Year 2												
Female												
MMR	8	1	13%									
LD	19	2	11%									
ND	65	5	8%									
Male												
MMR	5	0	--									
LD	67	4	6%									
ND	104	4	4%									

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female							4.8765	1	<.05	7.5502	1	<.01
MMR	9	2	22%									
LD	27	8	30%									
ND	62	38	61%									
Male							4.5657	1	<.05			
MMR	10	1	10%									
LD	62	19	31%									
ND	107	48	45%									
Year 7												
Female							6.9099	1	<.01	11.097	1	<.001
MMR	9	2	22%									
LD	27	8	30%									
ND	62	43	69%									
Male							6.561	1	<.01	4.4859	1	<.05
MMR	10	1	10%									
LD	62	24	69%									
ND	107	58	54%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.

Postsecondary school graduation credentials

Table 16.

Females--There were no significant differences for females in the 1990 Cohort. For females in the 1985 Cohort, significant differences were found for those obtaining Bachelor degrees between graduates with no disabilities and learning disabilities, and graduates with no disabilities and mild mental retardation.

Males--There were no significant differences for males in the 1990 Cohort. Significant differences were found for the 1985 Cohort between males with no disabilities and learning disabilities obtaining certificates or licenses, and obtaining Bachelor degrees.

TABLE 16. Comparison of Postsecondary Credentials Among Disability Groups for Males and Females for the 1985 Cohort.

1985 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Female												
Certificate*												
MMR	9	1	11%									
LD	27	5	19%									
ND	62	11	18%									
Associate Degree												
MMR	9	0	--									
LD	27	3	11%									
ND	62	5	8%									
Bachelor Degree							5.2628	1	<.05	14.31	1	<.001
MMR	9	0	--									
LD	27	0	--									
ND	62	24	39%									
Male												
Certificate*										3.8821	1	<.05
MMR	10	1	10%									
LD	62	17	27%									
ND	107	16	15%									
Associate Degree												
MMR	10	0	--									
LD	62	4	7%									
ND	107	11	10%									
Bachelor Degree										16.65	1	<.0001
MMR	10	0	--									
LD	62	1	2%									
ND	107	28	26%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.
*This category would include any type of diploma, certificate or license received by the graduate other than an Associate or Bachelor degree, such as a certificate from a beautician school, or massage therapy license for example.

Marital status

Table 17.

Females--The only significant difference for the 1985 cohort was found between females with no disabilities and learning disabilities at year 6.

Males--There were no significant differences among males for any of the three disability groups.

TABLE 17. Comparison of Marital Status Among Disability Groups for Males and Females for 1990 and 1985 Cohorts.

1990 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 1												
Female												
MMR	8	0	--									
LD	19	0	--									
ND	65	1	2%									
Male												
MMR	5	0	--									
LD	67	1	2%									
ND	104	0	--									
Year 2												
Female												
MMR	8	0	--									
LD	19	1	5%									
ND	65	3	5%									
Male												
MMR	5	0	--									
LD	67	1	2%									
ND	104	0	--									

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female										4.2739	1	<.05
MMR	9	2	22%									
LD	26	13	50%									
ND	62	16	26%									
Male												
MMR	10	0	--									
LD	62	8	13%									
ND	107	9	8%									
Year 7												
Female												
MMR	9	2	22%									
LD	26	11	42%									
ND	62	18	29%									
Male												
MMR	10	0	--									
LD	62	10	16%									
ND	107	13	12%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.

Parenting status

Table 18.

Females-- There were significant differences between females with no disabilities and learning disabilities for both cohorts at all interview points. In addition, significant differences were found between female 1990 graduates with no disabilities and mild mental retardation at year 2.

Males--The only significant difference found for the males was between 1990 graduates with no disabilities and learning disabilities at year 2.

TABLE 18. Comparison of Parenting Status Among Disability Groups for Males and Females for 1990 and 1985 Cohorts

1990 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 1												
Female										6.5839	1	<.05
MMR	8	1	13%									
LD	19	3	16%									
ND	65	1	2%									
Male												
MMR	5	0	--									
LD	67	2	3%									
ND	104	1	1%									
Year 2												
Female							9.9499	1	<.05	10.001	1	<.01
MMR	8	2	25%									
LD	19	4	21%									
ND	65	1	2%									
Male										8.2226	1	<.01
MMR	5	0	--									
LD	67	7	10%									
ND	104	1	1%									

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female										17.854	1	<.0001
MMR	9	3	33%									
LD	27	15	56%									
ND	62	8	13%									
Male												
MMR	10	0	--									
LD	62	4	7%									
ND	107	4	4%									
Year 7												
Female										13.005	1	<.001
MMR	9	3	33%									
LD	27	15	56%									
ND	62	11	18%									
Male												
MMR	10	0	--									
LD	62	7	11%									
ND	107	6	6%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.

Parenting status with and without marriage for females

Tables 19 and 20.

Parenting without marriage (Table 19)--For the 1990 Cohort, there were significant differences between females with no disabilities and learning disabilities in years 1 and 2, and between females with no disabilities and mild mental retardation at year 2. There were no significant differences for the 1985 Cohort.

Parenting with marriage (Table 20)--There were no females in the 1990 Cohort who were married and parenting. For the 1985 Cohort, significant differences were found between females with no disabilities and learning disabilities in both years 6 and 7.

TABLE 19. Comparison of Females who were Parenting but Not Married Among Disability Groups for the 1990 and 1985 Cohorts.

1990 GRADUATES				Disability Group Pairs								
				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 1												
Female										6.5839	1	p<.05
MMR	8	1	13%									
LD	19	3	16%									
ND	65	1	2%									
Year 2												
Female							9.9799	1	p<.05	10.001	1	p<.01
MMR	8	2	25%									
LD	19	4	21%									
ND	65	1	2%									

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female												
MMR	9	1	11%									
LD	27	5	19%									
ND	62	6	10%									
Year 7												
Female												
MMR	9	1	11%									
LD	27	7	26%									
ND	62	7	11%									

TABLE 20. Comparison of Females who were Parenting And Married Among Disability Groups for the 1985 Cohort.

1985 GRADUATES				MMR - LD			MMR - ND			LD - ND		
	N	n	%	x^2	df	p	x^2	df	p	x^2	df	p
Year 6												
Female										18.432	1	<.0001
MMR	9	2	22%									
LD	27	10	37%									
ND	62	2	3%									
Year 7												
Female										8.6621	1	<.01
MMR	9	2	22%									
LD	27	8	30%									
ND	62	4	7%									

Notes: MMR- mild mental retardation; LD- learning disability; ND- no disability.
There were no females parenting and married in the 1990 Cohort in years 1 and 2.

Question 3:

Are there differences between genders and among disability groups on family household social status (as measured by the Hollingshead scale of occupation and education) at the time of graduation?

Between males and females within each disability group

As shown in Table 21, there were no significant differences between the mean family household Hollingshead scores for males and females in any disability group for the 1990 graduates. For the 1985 graduates the only significantly higher score occurred in favor of the males with mild mental retardation.

TABLE 21. Comparisons of Household Hollingshead Social Status by Gender and Disability for 1990 and 1985 Cohorts

Disability	Gender	N	Mean	SD	Range	df	F	p
1990 Graduates								
Mild Mental Retardation	Male	5	30.6	10.12	17 - 42	1	.6435	
	Female	8	36.75	15.02	20 - 63			
Learning Disability	Male	62	36.68	11.44	14 - 61	1	.0535	
	Female	19	37.39	12.52	11 - 59			
No Disability	Male	98	41.30	11.59	16.5 - 66	1	3.20	
	Female	62	37.88	12.14	8 - 63.5			
1985 Graduates								
Mild Mental Retardation	Male	5	43.7	7.23	37.5 - 55.5	1	7.02	<. 05
	Female	4	29.5	8.89	19.5 - 37			
Learning Disability	Male	51	38.94	11.39	17 - 61	1	1.64	
	Female	21	35.21	10.77	20 - 61			
No Disability	Male	91	43.15	11.56	17 - 66	1	.009	
	Female	55	43.34	10.64	21 - 66			

Between disability groups within gender

Table 22.

Males--For the 1990 male graduates, significant differences were found between the graduates with no disabilities and learning disabilities, with higher scores for families of males with no disabilities. There were no differences for the 1985 male graduates.

Females--There were no differences for the 1990 female graduates. For the 1985 female graduates, significant differences were found between the families of graduates with no disabilities and learning disabilities, and between the families of graduates with no disabilities and mild mental retardation, with higher scores for families of graduates with no disabilities in both cases.

TABLE 22. Comparisons of Household Hollingshead Social Status Among Disability Groups for Males and Females for 1990 and 1985 Cohorts

Gender	Disability	N	Mean	SD	Range	df	F	p	Tukey pairs*	
1990 Graduates										
Female	Mild MR	8	36.75	15.02	20 - 63	2	.0351			
	Learning Disab	19	37.39	12.52	11 - 59.5					
	No Disability	62	37.88	12.14	8 - 63.5					
Male	Mild MR	5	30.6	10.12	17 - 42	2	4.525	< .01		
	Learning Disab	62	36.69	11.44	14 - 61				*	
	No Disability	98	41.31	11.59	16.5 - 66				*	
1985 Graduates										
Female	Mild MR	4	29.5	8.89	19.5 - 37	2	6.716	< .01	*	
	Learning Disab	21	35.21	10.64	20 - 56					*
	No Disability	55	43.34	10.77	21 - 61				*	*
Male	Mild MR	5	43.7	7.23	37.5 - 55.5	2	2.308			
	Learning Disab	51	38.94	11.39	17 - 61					
	No Disability	91	43.15	11.56	17 - 66					

Question 4:
Are there differences between genders among the disability groups for the three school districts?

1990 Graduates

Table 23.

Year 1--For the comparisons made between males and females for each disability for the four primary variables (employment, school attendance, unengagement, and independent residence), only 3 occurrences of significance were found for individual school districts. Like the single significant difference for the total group, more females with no disabilites than males were employed in District 1. Also in District 1, more males with no disabilities were residing independently. In District 2, significantly more males with no disabilities were attending school.

Year 2-- There was only 1 significant difference, with more females with no disabilities employed in District 3 matching the difference found for the total group.

1985 Graduates

Table 23.

Year 6-- Like the findings for the total group, significant differences were found in District 1 between males and females with learning disabilities, in favor of males for employment, school attendance, and unengagement. For District 3 significantly more females than males with no disabilities were residing independently.

Year 7-- In District 1, significantly more females than males with learning disabilities were residing independently, and for District 3 significantly more females than males without disabilities were residing independently.

TABLE 23. Gender Comparisons by Disability for Four Primary Variables by School District and Total Sample.

1990 GRADUATES: Year 1

		Total			District 1			District 2			District 3		
Disability	**Gender**	**N**	**%**	**p**	**N**	**%**	**p**	**N**	**%**	**p**	**N**	**%**	**p**
EMPLOYED													
Mild MR	Male:	5	40%		1	0		4	50%		0		
	Female:	8	25%		5	20%		1	100%		2	0	
Learning	Male:	67	60%		25	44%		21	76%		21	62%	
Disability	Female:	19	63%		12	67%		4	75%		3	33%	
No	Male:	104	52%	p< .05	47	53%	p< .01	28	68%		29	35%	
Disability	Female:	65	69%		25	84%		15	87%		25	44%	
ATTENDING POSTSECONDARY SCHOOL													
Mild MR	Male:	5	0		1	0		4	0		0		
	Female:	8	25%		5	40%		1	0		2	0	
Learning	Male:	67	37%		25	52%		21	14%		21	43%	
Disability	Female:	19	26%		12	25%		4	0		3	67%	
No	Male:	103	79%		47	66%		28	89%	p< .05	29	90%	
Disability	Female:	65	71%		25	60%		15	53%		25	92%	
UNENGAGED													
Mild MR	Male:	5	60%		1	100%		4	50%		0		
	Female:	8	50%		5	40%		1	0		2	100%	
Learning	Male:	67	16%		25	20%		21	24%		21	5%	
Disability	Female:	19	21%		12	17%		4	25%		3	33%	
No	Male:	104	2%		47	2%		28	0		29	3%	
Disability	Female:	65	2%		25	0		15	7%		25	0	
RESIDING INDEPENDENTLY													
Mild MR	Male:	5	20%		1	0		4	25%		0		
	Female:	8	25%		5	20%		1	0		2	50%	
Learning	Male:	67	30%		25	20%		21	24%		21	48%	
Disability	Female:	19	11%		12	0		4	50%		3	0	
No	Male:	104	58%		47	60%	p< .05	28	39%		29	72%	
Disability	Female:	65	45%		25	32%		15	40%		25	60%	

TABLE 23 continued.

1990 GRADUATES: Year 2

		Total			District 1			District 2			District 3		
Disability	**Gender**	**N**	**%**	**p**	**N**	**%**	**p**	**N**	**%**	**p**	**N**	**%**	**p**
EMPLOYED													
Mild MR	Male:	5	60%		1	0		4	75%		0		
	Female:	8	25%		5	40%		1	0		2	0	
Learning	Male:	67	72%		25	60%		21	81%		21	76%	
Disability	Female:	19	63%		12	58%		4	75%		3	67%	
No	Male:	104	56%	p< .01	47	55%		28	71%		29	41%	p< .05
Disability	Female:	65	79%		25	76%		15	93%		25	72%	
ATTENDING POSTSECONDARY SCHOOL													
Mild MR	Male:	5	20%		1	0		4	25%		0		
	Female:	8	0		5	0		1	0		2	0	
Learning	Male:	67	28%		25	28%		21	19%		21	38%	
Disability	Female:	19	11%		12	8%		4	0		3	33%	
No	Male:	103	78%		47	68%		28	70%		29	93%	
Disability	Female:	65	69%		25	56%		15	60%		25	88%	
UNENGAGED													
Mild MR	Male:	5	40%		1	100%		4	25%		0		
	Female:	8	75%		5	60%		1	100%		2	100%	
Learning	Male:	67	15%		25	28%		21	5%		21	10%	
Disability	Female:	19	32%		12	42%		4	25%		3	0	
No	Male:	104	9%		47	11%		28	7%		29	0	
Disability	Female:	65	2%		25	4%		15	0		25	7%	
RESIDING INDEPENDENTLY													
Mild MR	Male:	5	20%		1	0		4	25%		0		
	Female:	8	25%		5	20%		1	0		2	50%	
Learning	Male:	67	38%		25	20%		21	38%		21	57%	
Disability	Female:	19	32%		12	17%		4	75%		3	33%	
No	Male:	104	59%		47	51%		28	57%		29	72%	
Disability	Female:	65	55%		25	40%		15	40%		25	80%	

TABLE 23 continued.

1985 GRADUATES: Year 6

		Total			District 1			District 2			District 3		
Disability	**Gender**	**N**	**%**	**p**	**N**	**%**	**p**	**N**	**%**	**p**	**N**	**%**	**p**
EMPLOYED													
Mild MR	Male:	10	60%		5	20%		3	100%		2	100%	
	Female:	9	56%		3	67%		4	75%		2	0	
Learning	Male:	58	91%	p<.01	28	89%	p<.05	15	93%		16	88%	
Disability	Female:	27	63%		19	58%		4	75%		4	75%	
No	Male:	105	81%		54	85%		23	83%		28	71%	
Disability	Female:	61	80%		29	72%		14	86%		18	89%	
ATTENDING POSTSECONDARY SCHOOL													
Mild MR	Male:	10	0		5	0		3	0		2	0	
	Female:	9	11%		3	33%		4	0		2	0	
Learning	Male:	61	20%		30	20%	p<.05	15	13%		16	25%	
Disability	Female:	27	0	p<.01	19	0		4	0		4	0	
No	Male:	107	36%		55	36%		23	30%		29	41%	
Disability	Female:	61	33%		29	38%		15	20%		18	33%	
UNENGAGED													
Mild MR	Male:	10	40%		5	80%		3	0		2	0	
	Female:	9	33%		3	0		4	25%		2	100%	
Learning	Male:	62	8%		31	10%		15	7%		16	6%	
Disability	Female:	27	37%	p<.001	19	42%	p<.01	4	25%		4	25%	
No	Male:	107	8%		58	7%		23	13%		29	7%	
Disability	Female:	62	7%		29	7%		15	13%		18	0	
RESIDING INDEPENDENTLY													
Mild MR	Male:	10	30%		5	20%		3	67%		2	0	
	Female:	9	56%		3	33%		4	75%		2	50%	
Learning	Male:	62	57%		31	48%		15	73%		16	63%	
Disability	Female:	27	70%		19	68%		4	75%		4	75%	
No	Male:	107	65%		55	66%		23	61%		29	69%	
Disability	Female:	62	66%		29	55%		15	53%		18	94%	p<.05

TABLE 23 continued.

1985 GRADUATES: Year 7

		Total			District 1			District 2			District 3		
Disability	**Gender**	**N**	**%**	**p**	**N**	**%**	**p**	**N**	**%**	**p**	**N**	**%**	**p**
EMPLOYED													
Mild MR	Male:	10	60%		5	40%		3	67%		2	100%	
	Female:	9	44%		3	67%		4	25%		2	50%	
Learning	Male:	58	88%		28	83%		15	93%		16	88%	
Disability	Female:	27	74%		19	74%		4	50%		4	100%	
No	Male:	105	87%		54	87%		23	91%		28	79%	
Disability	Female:	61	82%		29	90%		14	80%		18	72%	
ATTENDING POSTSECONDARY SCHOOL													
Mild MR	Male:	10	0		5	0		3	0		2	0	
	Female:	9	11%		3	33%		4	0		2	0	
Learning	Male:	61	15%		30	13%		15	13%		16	19%	
Disability	Female:	27	7%		19	5%		4	0		4	25%	
No	Male:	107	27%		55	27%		23	17%		29	31%	
Disability	Female:	61	28%		28	32%		15	7%		18	39%	
UNENGAGED													
Mild MR	Male:	10	40%		5	60%		3	33%		2	0	
	Female:	9	44%		3	0		4	75%		2	50%	
Learning	Male:	62	9%		31	13%		15	7%		16	0	
Disability	Female:	27	26%	p<.05	19	26%		4	50%		4	0	
No	Male:	107	3%		58	2%		23	4%		29	3%	
Disability	Female:	62	11%	p<.05	29	7%		15	20%		18	11%	
RESIDING INDEPENDENTLY													
Mild MR	Male:	10	30%		5	40%		3	33%		2	0	
	Female:	9	44%		3	33%		4	75%		2	0	
Learning	Male:	62	60%		31	52%	p<.05	15	60%		16	75%	
Disability	Female:	27	78%		19	84%		4	75%		4	50%	
No	Male:	107	68%		55	62%		23	78%		29	72%	p<.05
Disability	Female:	62	73%		29	62%		15	60%		18	100%	

Question 5:
Are there differences between the different points in time by gender and disability?

1990 Graduates

The only significant difference between year 1 and 2 for the primary variables was found for males with no disabilities, with a larger percentage unengaged in year 2.

1985 Graduates

There were no significant differences between year 6 and 7 for any of the primary variables.

Differences between Year 1 and Year 7

Table 24 shows the differences between year 1 (1990 graduates) and year 7 (1985 graduates) for four primary variables.

Females--There were no significant differences between years 1 and 7 for females with mild mental retardation. For females with learning disabilities there was a significantly higher proportion of graduates residing in independent settings at year 7. There were significant findings for three of the four variables for females with no disabilities. Significantly more females without disabilities were attending school in year 1 than in year 7, more were residing in independent settings in year 7 than in year 1, and they were unengaged at a higher rate in year 7.

Males--There were no significant differences between years 1 and 7 for males with mild mental retardation. In year 7 males with learning disabilities were employed and residing in independent settings at significantly higher rates, and attending school at a significantly lower rate than year 1. Similar significant differences were found for the rates of employment (higher in year 7) and school attendance (lower in year 7) for males with no disabilities.

TABLE 24. Percentages of Graduates who were Employed, Attending School, or Neither (Unengaged), and Residing Independently in Years 1 and 7 by Gender and Disability.

Year 1-1990 Cohort / Year 7-1985 Cohort		GENDER											
		MALE						FEMALE					
Disability	YEAR	N	n	%	x^2	df	p	N	n	%	x^2	df	p
EMPLOYED													
Mild Mental Retardation	1	5	2	40%				8	2	25%			
	7	10	6	60%				9	4	44%			
Learning Disability	1	67	40	60%	11.88	1	p<.001	19	12	63%			
	7	61	53	87%				27	20	74%			
No Disability	1	104	54	52%	28.69	1	p<.001	65	45	69%			
	7	107	92	86%				61	51	82%			
ATTENDING POSTSECONDARY SCHOOL													
Mild Mental Retardation	1	5	0	--				8	2	25%			
	7	10	0	--				9	1	11%			
Learning Disability	1	67	25	37%	8.33	1	p<.01	19	5	26%			
	7	61	9	15%				27	2	7%			
No Disability	1	104	82	79%	58.65	1	p<.001	65	46	71%	23.17	1	p<.001
	7	107	28	26%				61	17	28%			
UNENGAGED													
Mild Mental Retardation	1	5	3	60%				8	4	50%			
	7	10	4	40%				9	4	44%			
Learning Disability	1	67	11	16%				19	4	21%			
	7	61	5	8%				27	7	26%			
No Disability	1	104	2	2%				65	1	2%	5.112	1	p<.05
	7	107	3	3%				61	7	11%			
RESIDING INDEPENDENTLY													
Mild Mental Retardation	1	5	1	20%				8	2	25%			
	7	10	3	30%				9	4	44%			
Learning Disability	1	67	20	30%	15.55	1	p<.001	19	2	11%	20.17	1	p<.001
	7	61	40	65%				27	21	78%			
No Disability	1	104	61	59%				65	29	45%	10.21	1	p<.001
	7	107	74	69%				61	45	73%			

CHAPTER 5: DISCUSSION

Are There Gender Differences in Postschool Outcomes of Youth With Similar Disabilities?

The primary purpose of this study was to determine if males and females with and without disabilities have significantly different postschool experiences in the years following high school. Contrary to the bulk of reports in the literature, the data from this study revealed few significant differences between males and females. For graduates in the class of 1990 the only significant differences found between males and females were for graduates with no disabilities, in favor of the females who had higher employment rates at both years 1 and 2.

For the 1985 graduates, significant differences were found between males and females with learning disabilities in favor of the males 6 years after graduation for employment, school attendance, and unengagement, and for unengagement at 7 years post graduation. Significantly more females than males with no disabilities from this cohort were also unengaged at year 7; however, a significantly higher proportion graduated from postsecondary school programs.

The only consistently significant difference found between males and females in all three disability groups was for parenting status. Particularly at years 6 and 7, significantly more females than males were parenting, with the largest discrepancy between males and females with learning disabilities. This provides a partial explanation for the differences found for males and females with learning disabilities in

the 1985 Cohort. Put into the context of unengagement, 37% (n=10) of the 1985 female graduates with learning disabilities were unengaged 6 years after high school, but 9 out of the 10 (90%) "unengaged" women were parenting children. Thus, only 1 of the "unengaged" females was actually not engaged in "work" or school as the definition implies. If I include parenting in our definition of "engaged," the percentage of unengaged females with learning disabilities at year 6 would drop from 37% to 4%. However, further inspection of the data reveals that half the females with learning disabilities in this cohort who were unengaged and parenting (5 of the 9) were not married. For the females without disabilities in the 1985 Cohort only 4 (6%) were unengaged in year 6; of these, 2 were parenting and not married. The implications from these data are that young women with learning disabilities are at risk for becoming mothers at an early age without benefit of a supportive partner.

These data raise serious questions as to how to report women who are parenting and neither working nor attending school. These individuals are actively and appropriately engaged, yet, among them there are those who are single parents without adequate sources of income and living on welfare (19% of the 27 females with learning disabilities; 3% of the 62 females with no disabilities in year 6) in this study. How these latter youth should be evaluated seems less clear.

Comparisons to Other Follow-Up Studies

The findings from this study are contrary to other studies which have consistently reported that, overall, males outperform females in postschool outcomes, and that males with disabilities far outperform females with similar disabilities (Hasazi et al., 1985a, 1985b; Hasazi et al., 1989; Haring & Lovett, 1990; Nisbet & Lichtenstein, 1992; Scuccimarra & Speece, 1990; Sitlington & Frank, 1990). Generally, these studies' analyses mix subjects who have varying disabilities and who were out of school for different amounts of time. In addition, a number of investigators have reported percentage differences, but have not actually tested for significance. Finally, the majority of studies have included measures of salary and hours--data which may be of questionable validity depending on how the data were obtained.

Employment

In most of the studies reviewed earlier, investigators conclude that there are major differences in employment outcomes between males and females with disabilities. Perhaps the most widely cited research concerning this issue is the work of Hasazi and associates in Vermont. In the two studies published in 1985 (Hasazi et al., 1985a, Hasazi et al., 1985b), the authors report significant differences (using chi-square) between employment rates of males and females with disabilities. However, in both cases subjects were analyzed as a group regardless of the number of years since graduation or specific disability. In their first study (1985a), the authors also report significant differences between subjects who were served in three different types of special education programs (indicative of their level of functioning), and in their second study (1985b) they report significant differences between subjects labeled educable mentally retarded and trainable mentally retarded. In both studies, because they did not analyze gender separately for these subgroups, it is difficult to know whether the gender differences were simply a reflection of disproportionate ratios of males to females within the disability levels.

In the third study (Hasazi et al., 1989) the authors report a gap between employment percentages of males and females with disabilities one year after exiting high school, but they do not find significant differences until a second interview conducted the following year. Again, subjects with varying disabilities were combined, distorting our ability to interpret the findings. For example, 37% of their sample (n=25) were identified as youth with learning disabilities, but only 3 of those subjects were female. Thus, their data will be skewed when analyzed by gender, because youth with learning disabilities (primarily male in their study) generally have higher employment rates than youth with mental retardation. Nevertheless, the authors claim that:

> Gender is significantly related to later employment for both handicapped and nonhandicapped students [chosen from the same schools as the subjects with disabilities], with males consistently more likely to be employed than females, although the degree of difference was greater for handicapped students. (p.253)

In fact, they did not find significant differences between male and female students with no disabilities. In addition, the authors did not report data on females engaged in parenting. The data of the present Decade study are at odds with the findings of Hasazi and colleagues.

Claims of gender differences for employment rates are made by follow-up researchers Nisbet and Lichtenstein (1992), Haring and Lovett (1990), Scuccimarra and Speece (1990), and Sitlington and Frank (1990). Nisbet and Lichtenstein report employment rates for graduates with learning disabilities as full-time (16% female, 38% male) and part-time (40% female, 18% male). While this is an important distinction (and one which needs further attention), data in this study regarding the number of hours graduates are working may be of questionable validity because the investigators used mixed informants. In fact, refiguring the employment rates combining part- and full-time resulted in identical percentages (56%) for both males and females. In the other three studies, the employment percentages of the males and females with disabilities are reported respectively as: Haring and Lovett (1990) 75% vs. 48%; Scuccimarra and Speece (1990) 91% vs. 52%; and Sitlington and Frank (1990) 81% vs. 66%. Though these percentages appear different, none of the investigators included a statistical analysis to test for significance. In addition, Haring and Lovett as well as Scuccimarra and Speece combine disability groups and time since exiting high school in their analyses.

In the study conducted by Kranstover et al. (1989) the rates of paid employment for males and females were almost identical, but women worked, on average, fewer number of hours per week: 36 vs. 41 for the males (again, these data may be suspect depending on how they were obtained). However, the only significant difference was that more females were also reported as homemakers. The authors did not indicate whether the women who were homemakers were also caring for children. In this study, too, disability groups and subjects who had been out of school from 1 to 8 years were analyzed together.

Wagner (1992) reports gender differences for employment rates of subjects in the NLTS at two time periods (less than 2 years postschool, and 3 to 5 years postschool). Significant differences were reported at both points, but only when all disability groups (including subjects with sensory and health impairments, behavior disorders and all levels of retardation) were analyzed together. When gender analysis was conducted for subjects with learning disabilities and mental retardation separately, no significant differences were found between males and females for employment at either interview. However, in discussion, Wagner (1992) claims the "NLTS findings

demonstrate that the experiences of young women with disabilities differ significantly from those of their male counterparts during secondary school and in the early years afterward" (p. 2). The author continues with emphasis saying, "NLTS findings demonstrate that young women with disabilities exhibited a markedly different pattern of experiences after leaving school than did their male counterparts with disabilities" (p. 3). These statements may be applicable for students served by special education as a whole, but because of the diversity inherent in the disability categories, claims of gender differences for specific subgroups may be misleading.

In this study few gender differences were found for employment of youth with and without disabilities, and the differences which were found for youth with learning disabilities are partially explained by the larger percentage of females who were parenting. Because these data are presented separately by disability group, gender and time interval since graduation, they provide a more accurate gauge of the employment outcomes for individuals within these groups than the studies which mix these variables. In addition, differences were defined statistically, which makes the findings more conservative, and thus perhaps more cogent.

Postsecondary education

Though the majority of these studies claimed gender differences in employment rates, none reported significantly differential attendance rates between males and females in postsecondary education. In the present study, males and females with learning disabilities and mild mental retardation in both cohorts were missing postsecondary educational opportunities at similar rates, except that, in year 6, more males with learning disabilities attended school (20%) compared to none of their female peers. In their analysis of the NLTS data, Fairweather & Shaver (1991) also found low rates of attendance in postsecondary education for all their subjects with disabilities, and state that "males and females do not differ significantly in their participation rates" (p. 268) (14% for the males and 18% for the females). Likewise, Nisbet & Lichtenstein report postsecondary participation rates for males and females with disabilities as 8% and 14%, respectively. Interestingly, the present study did find differences in favor of females with no disabilities in the 1990 Cohort attending school in the first 2 years following graduation. How this will impact long-term success remains to be seen.

Postsecondary graduation and credentials

While participation in postsecondary programs is important, only one other study mentions graduation rates or credentials--two factors with potentially greater influence on postschool success than participation alone. In their analysis of the NLTS data, Wagner et al. (1991) claim that their subjects were not out of high school long enough to earn baccalaureate degrees and they therefore could not examine this variable. However, they did report that, despite similar participation rates of males and females in postsecondary vocational schools (and higher grades earned by the females), a larger percentage of males (57%) than females (26%) earned a vocational degree or license. These findings are difficult to interpret in isolation. Do the females take longer than the males to complete postsecondary vocational schools? Or do they continue their programs to prepare for higher degrees? Or, as indicated by the higher percentage of parenting by females in the NLTS (Wagner, 1992), do they drop out in order to bear children? The authors do not report completion rates by specific disability, so these percentages may be offset by the disproportionately high number of males with learning disabilities.

In the current study, graduation rates and types of credentials obtained were similar for males and females with learning disabilities, and mild mental retardation, in both cohorts. However, a significantly larger percentage of females than males with no disabilities in the 1985 Cohort graduated from postsecondary school, and 39% (vs. 26% of the males) earned Bachelor's degrees. These data indicate that young women without disabilities are doing as well, if not better than their male counterparts in regard to the long-term potential related to continued education.

Unengagement

As described earlier, it is clear that a discussion of unengagement, especially in regard to gender differences, must include a discussion of the role of parenting. Though Hasazi et al. (1985b) claimed no gender differences in employment rates by marital status, they did not report data on parenting related to employment. When Kranstover et al. (1989) compared males and females with disabilities on a number of engagement variables (in the military, unemployed but seeking employment, unemployed and not seeking employment, paid employment, and other employment), the only significant

finding was for homemakers (47% female vs. 14% male), though we do not know if this includes parenting. Consistent with the findings I am reporting, Wagner (1992) reported significant differences between males and females regarding parenting, especially for young women with learning disabilities.

Independent residence

Only one study reports gender differences in independent residence for subjects with disabilities. Hasazi et al. (1985b) found significantly more females with disabilities residing independently (18%) than males (6%), explained in part by the higher percentage of females who were married (12% vs. 2%). Like the Decade study, other investigators found no differences between the residences of males and females with disabilities.

Summary of gender findings

Though the bulk of the literature concludes that males and females with disabilities differ in their postschool outcomes, differential employment rates are the only finding consistently reported. No differences are reported for postsecondary attendance, or for independent residence; and only one study (Wagner, 1992) discusses unengagement as it relates to parenting status. The majority of the studies focus on salary and number of hours, though these data are of questionable validity. It appears that assertions of significant gender differences for these postschool outcomes may be dubious.

Are There Differences by Disability in the Postschool Outcomes for Youth?

Despite the reports of outcome differences between male and female youth with disabilities, it appears that the larger differences are rooted not in gender, but in disability classification. The data I have presented indicate clear differences in outcomes between graduates with mild mental retardation and learning disabilities, and between graduates with disabilities and their peers without disabilities. These differences, however, vary by specific outcome. For example, it appears that for both cohorts, male and female graduates with learning disabilities behave more like

graduates with no disabilities regarding their employment rates, but they behave more like their peers with mild mental retardation in their rates of attendance in postsecondary school, especially in the first 2 years following high school.

Overall, these data demonstrate that: 1) graduates with mild mental retardation do not attend postsecondary school, become employed, or reside in independent settings at rates comparable to youth with learning disabilities or youth with no disabilities; 2) graduates with learning disabilities fail to attend postsecondary school at rates comparable to youth without disabilities; and, 3) females with learning disabilities parent at higher rates than females with no disabilities.

For each variable, 8 comparisons were made between pairs of disability groups--4 points in time each for males and females (e.g., females with learning disabilities vs. females with mild mental retardation in year 1; females with learning disabilities vs. females with no disabilities in year 6, etc.).

Employment

Specifically, the rates of employment for youth with mild mental retardation in both cohorts ranged across the 4 points in time from 25% to 56% for females and from 40% to 60% for males, whereas for youth with learning disabilities these rates ranged from 63% to 74% for females and from 60% to 91% for males. Significant differences were found in 2 of the 8 comparisons, with 3 others approaching significance. The employment rates for youth with no disabilities ranged from 69% to 82% for females, and from 52% to 87% for males. Youth with no disabilities were significantly different from youth with mild mental retardation in half of the comparisons, but were different from youth with learning disabilities in only 1 comparison. It appears that the majority of youth with learning disabilities and no disabilities are securing employment at increasingly higher rates as they grow older. For youth with mild mental retardation though, this does not seem to be the case. These data raise serious concern regarding preparation for, transition to, and acquisition and retention of employment for these young men and women.

Similar discrepancies in employment performance have also been reported by other investigators. For example, Hasazi et al. (1985a) found a significantly higher

employment rate, 62%, for subjects who were served in resource rooms (primarily students with learning disabilities) compared to 36% of the subjects who had been served in self-contained special classrooms (primarily students with mild mental retardation). Wagner et al. (1991) have also reported higher competitive employment rates for graduates with learning disabilities, 58%, compared to 28% for graduates with mental retardation.

Postsecondary education

One of the major findings of this study is the discrepancy between youth who do and do not attend post high school education. For youth with no disabilities, the first several years after high school, referred to as the floundering period (Hamilton, 1986; Halpern, 1992), are often spent at a college or university. By the time graduation from a university occurs, these youth may not only be better prepared to confront the world of work in terms of skills and credentials, they will also be four to five years more mature. They will have gained experience living away from home (e.g., dormitories), and may have acquired work experience, as well as had opportunities to socialize in positive settings with peers. The data from the Decade study show that youth with disabilities are not acquiring these experiences. Specifically, over the 4 interviews the rates of postsecondary school attendance for youth with mild mental retardation in both cohorts ranged from 0% to 25% for females, and from 0% to 20% for males; and for youth with learning disabilities these rates ranged from 0% to 26% for females and from 15% to 37% for males. There were no significant differences for any of the 8 comparisons between youth with mild mental retardation and learning disabilities for this outcome. Conversely, the rates of attendance in postsecondary educational institutions for youth with no disabilities ranged from 28% to 71% for females and from 27% to 79% for males. Of the 16 comparisons between youth with no disabilities and youth with disabilities, significant differences were found in 7 comparisons with youth with learning disabilities, and in 6 comparisons with youth with mild mental retardation. These data clearly demonstrate a significant difference in attendance rates at postsecondary schools for youth with no disabilities and youth with mild mental retardation or learning disabilities.

Postsecondary graduation and credentials

Attendance in postsecondary institutions provides the experiences and knowledge which may well enhance ones quality of life, but credentials are the key to career advancement and choice. The data for the 1985 Cohort demonstrate that youth without disabilities graduate from postsecondary education programs significantly more than youth with learning disabilities in 3 of the 4 comparisons, and significantly more than youth with mild mental retardation in all 4 comparisons. Further, youth with no disabilities graduate with Bachelor's degrees at significantly higher rates than youth with mild mental retardation or learning disabilities. Youth with learning disabilities who do graduate from postsecondary schools are more likely to receive Associate degrees or certifications than Bachelor's degrees, and few youth with mild mental retardation receive any kind of credential at all. The long-term relationship between postsecondary credentials and job mobility, independence, and overall quality of life needs to be explored.

Unengagement

Differences were found in overall rates of engagement between disability groups as would be expected given the discrepancies found between disability groups for employment and school attendance. Specifically, the rates of unengagement for youth with mild mental retardation in both cohorts ranged from 33% to 75% for females and from 40% to 60% for males. For youth with learning disabilities, these rates ranged from 21% to 37% for females and from 8% to 16% for males. Significant differences were found in 4 of the 8 comparisons between these two groups. For youth with no disabilities, these rates ranged from 2% to 11% for females and from 2% to 9% for males. Significant differences were found in 4 of the 8 comparisons between youth with no disabilities and youth with learning disabilities. Three differences occurred for the 1990 Cohort because of the higher rates of attendance at postsecondary schools by youth with no disabilities. Though this was also true for the fourth comparison (more males with no disabilities attending school in year 2), significantly more males with learning disabilties were employed, causing their unengagement rates to be similar.

Though significantly more males with no disabilities in the 1985 Cohort were attending school in year 6, this was not the case in year 7, when males with learning disabilities were employed at higher rates than their peers with no disabilities.

Therefore, their unengagement rates were similar. The only significant difference in engagement for the 1985 graduates occurred between females with learning disabilities and females with no disabilities in year 6, and is explained by the significantly lower rates of school attendence, lower employment rates, and higher rates of parenting exhibited by females with learning disabilites compared to their peers with no disabilities.

When youth with no disabilities were compared to youth with mild mental retardation on rates of unengagement, significant differences were found in 7 of the 8 comparisons. These data poignantly illustrate the huge gap in postschool outcomes between youth with mild mental retardation and youth with no disabilities.

Independent residence

Though there were no differences between males and females residing in independent settings, there were significant differences between disability groups for this variable. For the 1990 Cohort the percentages of youth with learning disabilities who resided independently were significantly lower than for youth without disabilities in 3 of the 4 comparisons. For the 1985 Cohort there were no such differences between these two groups. A closer look at specific settings, however, reveals that these rates are influenced by the higher rate of 1990 graduates without disabilities who were attending school and living in dormitories, defined as an independent residence. In fact, when I delete the subjects who were living in dormitories, the rates of independent residence between graduates in all three groups at years 1 and 2 are similar (20% MMR, 29% LD, and 26% ND for year 1; 25% MMR, 32% LD, and 34% ND for year 2). (See Table 50 in Appendix E.)

At year 7, the rates of residential independence were similar for the 1985 graduates with learning disabilities and no disabilities (60% and 78% for males and females with learning disabilities, and 68% and 73% for males and females with no disabilities), but this was not the case for youth with mild mental retardation, who were residing independently at the low rates of 30% for males and 44% for females. It appears from these data that youth with learning disabilities and no disabilities are more likely to reside in independent settings as the years progress, while youth with mild mental retardation tend to remain stagnant residing primarily in their parents' homes.

This will certainly have an enduring impact on the quality of life for individuals with mild mental retardation and their families.

Parenting

Of the NLTS, Wagner (1992) states:

> Although young women with disabilities were no more likely to be married than women in the general population, they were significantly more likely to be mothers....[In fact,] one in 5 single women with disabilities were mothers, a significantly higher incidence of single-parenthood than among young women in the general population. (p. 35)

In the Decade study, this phenomenon also held true for the 1990 female graduates. Though there were low marital rates for all subjects in years 1 and 2, females with learning disabilities were parenting at a significantly higher rate than females with no disabilities in both years 1 and 2 (16% LD vs. 2% ND for year 1, $p<.05$, and 21% LD vs. 2% ND for year 2, $p<.01$). In addition, by year 2, females with mild mental retardation were parenting at a significantly higher rate than females with no disabilities (25% vs. 2%, $p<.05$). Since none of the females in the 1990 Cohort was both married and parenting in the first 2 years following high school, these findings also pertain to the 1990 female graduates who were parenting while *not* married.

For the 1985 Cohort, females with learning disabilities were also parenting at significantly higher rates than females with no disabilities in both years 6 and 7. But though the young women with learning disabilities were parenting without marriage at higher rates than their peers with no disabilities (19% LD vs. 10% ND for year 6, and 26% LD vs. 11% ND for year 7) the comparisons were not significant. In contrast to the marital rates for the 1990 Cohort, and to Wagner's (1992) findings, it appears that female graduates with learning disabilities were married at a significantly higher rate than female gradutes without disabilities in year 6 (50% LD vs. 26% ND, $p<.05$). In fact, the rates of female 1985 graduates with learning disabilities who were married and parenting were significantly higher than for their peers with no disabilities at both years 6 and 7 (37% LD vs. 3% ND for year 1, $p<.0001$, and 30% LD vs. 7% ND for year 2, $p<.01$).

It appears from these data that, compared to female graduates with no disabilities, young women with learning disabilities are more likely to be parenting without a spouse in the first few years following high school, but are more likely to be parenting *with* a spouse at 6 and 7 years postgraduation. These data raise complex questions. Do young women with learning disabilities who parent without marriage in the first few years after high school eventually marry, explaining, in part, the high rate of marriage and parenting found in years 6 and 7? Why do the young women without disabilities in this study marry and parent at relatively low rates, even at 6 and 7 years postschool? Are the goals and directives in the school curriculum different for these two groups of females, and are there differential expectations on the part of the school, the family and the community? Are females with learning disabilities encouraged to embrace the traditional American role of wife and mother, and if so, is this a result of socialization or choice? Or, do young women with learning disabilities face a lack of attractive, peer-acceptable alternatives? Our data demonstrate that females with no disabilities attend postsecondary schools and graduate with Bachelor's degrees at significantly higher rates than their peers with learning disabilites. Perhaps, these young women postpone marriage and parenthood to pursue further education and careers, while young women with learning disabilities become wives and mothers at a younger age. These types of questions need to be explored if we are to understand the postschool lives of young women with and without disabilities, and the relationship of goal-setting in high school with outcomes. These findings cause me to challenge the uniformity of goals and school curricular interventions for youth, and for young females in particular.

Summary of disability findings

The data from this study clearly demonstrate that postschool outcomes vary significantly for graduates identified with mild mental retardation, learning disabilities and no disabilities. The largest discrepancy occurs in the participation rates in postsecondary education, but differences also vary for rates of employment, independent residence, parenting, and overall engagement. These findings support the need to develop and design school and transition programs which address the varied postschool experiences of graduates with different disabilities. They also confirm the need for follow-up researchers to separate subjects by disability groups for analyses.

Differences in Family Social Status by Disability and Gender

There were no definitive patterns for the mean Hollingshead social status scores by gender or disability. A significantly lower score for families of females vs. males with mild mental retardation in the 1985 Cohort suggests that females in this category may be from lower income families. This finding was not consistent for the 1990 graduates. Comparing disability groups, families of female 1985 graduates with no disabilities had significantly higher social status scores than the families of females in the other two disability groups. For the 1990 Cohort, a significantly higher score was found for families of males with no disabilities compared to families of males with learning disabilities. The gender differences found for families of graduates with mild mental retardation may be distorted because of the low number of subjects. Comparing disability groups, differences were inconsistent between males and females but always in favor of the families of graduates with no disabilities. There may be an underlying economic issue which needs to be pursued.

Differences in Postschool Outcomes by School District

When gender differences were analyzed by school district, patterns emerged both similar and in contrast to the analyses by total sample. Combining data for different school districts becomes an important issue in the same way as does combining data for disability, gender, or number of years since graduation. "Social ecology"--that is, the nature of a community, its demographic makeup, geography, socio-economic status, ethnic diversity, educational and occupational level of family members, employment opportunities, and so on--may have a greater influence on postschool success for youth than either gender or disability.

These data must be viewed with caution because of the small number of subjects in some categories, particularly for youth with mild mental retardation. Nevertheless, a cursory scan of the data seems to imply that youth with learning disabilities from District 3 consistently attend postsecondary schools at a higher rate than youth with learning disabilities from District 2, but that these rates vary sporadically for youth with learning disabilities in District 1. Conversely (except for the 4 females at year 7), the

employment rates for youth with learning disabilities in District 2 were somewhat higher than the rates for Districts 1 and 3, especially for the 1990 graduates. Generally speaking, District 3 is located in an upper-middle-class suburban neighborhood; District 2 is located in a primarily lower-middle-class suburban community; District 1 is located in an urban area with a more diverse population. It is possible that families in District 3 are more likely to send their children with learning disabilities to postsecondary schools while families in District 2 might encourage their children with learning disabilities to work. The inconsistent findings for District 1 could parallel the more diverse population in this district. These are speculations at best.

Many more questions arise as I ponder these data. How do the differences inherent in the community as well as in the school districts (regarding programs, curricula, teachers, finances, community support, and so forth) influence the long-term adjustment patterns of students who attend these schools and live in these neighborhoods? The data from this study cannot address this question, but they do indicate a need for further exploration.

Differences in Outcomes by the Number of Years Since Graduation

When comparisons were made between the 2 interviews for each cohort there was only one significant difference between years 1 and 2 for the 1990 Cohort (more males with no disabilities were unengaged in year 2 than in year 1), and no significant differences between years 6 and 7 for the 1985 Cohort. However, when data from interview 1 for the 1990 Cohort (year 1) were compared to data from interview 2 for the 1985 Cohort (year 7) there were differences in outcomes. These are only suppositions however, because the subjects in year 1 were different from those in year 7. Though I cannot make predictions based on these data, I can examine the patterns for possible trends.

Generally, I would expect youth to have different experiences in the first year or 2 after high school than 6 to 7 years later. I would expect more youth to be attending college in the first few years, and to be established in employment and family in the later years. These trends seem to occur for both male and female youth with learning disabilities and no disabilities. The high rates of unengagement for females with

learning disabilities and no disabilities in year 7 are due to high rates of parenting. Though youth are residing in independent settings more as they get older, I would have expected greater proportions of independence 7 years following high school than the results of this study reveal. These relatively low percentages may reflect current economic difficulties, with more young adults living with family or relatives.

It appears from these data that the experiences for youth (both males and females) with mild mental retardation are similar at both 1 year and 7 years after graduation. If these patterns hold true (as more data are collected), we will need to re-evaluate the goals of academic and vocational programs in the schools, as well as transition planning for this population. The data from the Decade study bears out the all-too-familiar picture of young people with mild mental retardation--that they are not adjusting well to adult life as we have defined it, and consequently remain dependent on family and society for the bulk of their needs.

Finally, these data confirm the need for researchers conducting follow-up studies to separate subjects by *years since graduation* for analyses.

Strengths of the Decade Study

This study has a number of advantages or strengths which make it unique.

1) The disability groups were kept separate for *all* analyses. There is no question that the outcomes for graduates of special education vary by disability classification. In order to understand and respond appropriately to the needs of youth who are served by special education, disability must be viewed as an indicator of possibilities, and investigators conducting follow-up studies must examine postschool outcomes as they apply to specific disability groups.

2) The cohorts of graduates were kept separate by number of years since graduation to the time of data collection. Expectations and life situations change as we age and postschool outcomes must be viewed in the context of time.

3) A cohort of graduates with no disabilities was included *who were comparable to the graduates with disabilities* in that they attended the same schools, graduated in the same years, and were interviewed at the same time. In order to best understand youth with disabilities, we must understand the universal expectations for youth in general; thus comparisons need to be made between graduates with disabilities and those with no disabilities. However, these comparisons only make sense if the groups are indeed comparable.

4) An agreement analysis was conducted between the responses of parent/student dyads, indicating strong agreement for the primary variables included in the study. The nature of follow-up research is confined by its reliance on the informant providing the data. In order to trust the data, it is necessary to question the source.

5) An analysis was conducted on the subjects who were unable to be contacted or chose not to participate in the study as well as on subjects lost to attrition from one interview to the next. Missing data will confound almost all follow-up studies, particularly longitudinal attempts. It is vital that investigators understand who the missing subjects are in order to avoid false generalizations or gross overstatements.

Though other follow-up investigators have addressed some of these issues, none has attended to them all. Each of these issues, as they impact the fidelity of follow-up research, impacts our ability to interpret and, ultimately, to trust the data.

Limitations of the Decade Study

There are a number of limitations to this study:

1) Even though I have presented data from four points in time, I cannot claim predictability from one cohort to the other because they consist of different subjects. Data from the 1985 Cohort can, at best, illustrate possible trends for the 1990 Cohort.

2) Because of the low agreement findings between informants for data on salary, number of working hours, and job-related benefits, I chose not to report these data. Because these are valuable indicators of postschool adjustment and long-term quality of life, their absence limits the scope of this study.

3) The data from this study are limited to a particular geographic region and cannot be generalized to rural areas or other parts of the country which are demographically and geographically different.

4) Finally, the issue of missing subjects is of serious concern to all follow-up studies. This study, too, is plagued by missing data, and thus I am limited in my ability to generalize the findings. Overall, the subjects who were interviewed represent families who were easier to find. These families are generally more stable; they do not move or have their phones disconnected (as often as the families which are difficult to contact), and they tend to be more cooperative and willing to be interviewed. It is possible that the graduates of these families are different--perhaps more successful--than graduates of families who can't be found or are unwilling to participate. In addition, because of a tactical decision in the initial stage of data collection, we added graduates with no disabilities to the sample pool instead of pursuing the difficult-to-reach families (as was the case for graduates with learning disabilities and mild mental retardation). Thus, the graduates with no disabilities come from families who were the easiest to locate.

In the analysis of subject attrition, 1990 graduates with no disabilities who were interviewed only once (and hence not included in this report) were employed at significantly higher rates, and were attending postsecondary school at significantly lower rates than those who had been interviewed twice. As a result, the percentage of graduates in the 1990 Cohort with no disabilities who were reported as attending school may be skewed. These findings may have influenced the outcomes, because significant differences were found between graduates with no disabilities and graduates with learning disabilities and mild mental retardation on rates of attendance in postsecondary school.

Finally, the small number of subjects with mild mental retardation preclude generalization to this population as well.

Implications and Conclusions

Recommendations for practice

The data from this study are valuable if they can provide meaningful information to families, educators and social service practitioners struggling to help youth with disabilities adjust to adulthood and gain an independent lifestyle. In this respect, recommendations for practice emerge in three realms: 1) participation in postsecondary educational institutions; 2) preparation for, transition to, and continued support in employment; and 3) education programs in sexuality and parenting with emphasis on pregnancy prevention. While recommendations in the three areas are for all youth with disabilities, the third area is especially necessary for young women with learning disabilities. Finally, these data strongly indicate that youth with mild mental retardation have unique needs that are distinct from youth with learning disabilities and need to be attended to by practitioners.

Postsecondary education

Education has traditionally been viewed as the means to advancement and opportunity in American society (Boorstin, 1974), particularly in current times when a large portion of available jobs require technologically advanced skills and knowledge. Berliner (1992) explains that the American school system and curriculum (as opposed to the Japanese system, for example) is designed with the supposition that a large portion of youth will continue their schooling after high school. This does not occur for youth with mild mental retardation or learning disabilities. Further, the data on postsecondary graduation and credentials may be indicators not of current status or activity, but of future potential. In American society, it is more likely that individuals with degrees from four-year colleges and universities will obtain higher paying jobs which provide opportunities for upward socio-economic mobility. It appears that these types of opportunities are not readily available to youth with learning disabilities, and certainly not to youth with mild mental retardation, hindering their career and employment options, and assuring continued placement in low-status, low-paying jobs.

The data from this study underscore the challenges confronting practitioners who understand the enduring value of education and are trying to develop secondary

and postsecondary opportunities that are appropriate for youth with learning disabilities and mild mental retardation. The following recommendations address this challenge.

1) Develop college preparation programs within the high schools. We need to develop strong, academically oriented college preparation programs in high school for students (especially those with learning disabilities) *who have potential* to attend regular colleges and universities. Such programs would focus on the academic and social proficiencies necessary for college attendance. In conjunction with such programs, there needs to be a supportive and systematic transition mechanism from high school to college, including assessments while in high school and ongoing support services while in college.

2) Alter existing college and vocational programs to be more accommodating. We need to collaborate with personnel in a variety of postsecondary institutions, including vocational settings and 2- and 4-year colleges to develop or alter programs appropriate for youth with learning disabilities as well as for youth with mild mental retardation who are high functioning. The underlying commitment would be to the maintainance of academic standards, but with increased and ongoing support as needed through the provision of academic tutors and mentors, and "dormitory partners" who would acclimate the students to the residential, recreational, and social aspects of college life.

3) Develop creative alternatives to traditional schooling to accommodate lower functioning youth with disabilities. We need to expand current options and generate creative alternatives to traditional schooling that will provide postsecondary opportunities to those lower functioning youth with learning disabilities and mild mental retardation for whom conventional college is inappropriate. These would include on-the-job training and apprenticeship programs that provide continued exposure to and experiences in vocational choices, as well as ongoing support towards gaining residential and community independence. In addition, we must continue to think innovatively about alternatives to current postsecondary practices in order to increase the repertoire of youth with learning disabilities and mild mental retardation and thus increase their quality of life.

Employment

Though arguments abound regarding the need to include other factors which enhance our quality of life (Edgar, 1990; Halpern, 1992), survival in a cash-based capitalistic society requires acquisition of money to meet our basic needs (food, shelter, clothing, and health care). The most acceptable way to acquire money in this society is to work for it. Regardless of other differences in opinion among researchers, educators, and parents, there seems to be an underlying agreement that employment is a desirable and necessary outcome for all youth. Access to employment opportunities, however, is inequitable.

A number of reasons are put forward by investigators to explain employment inequity for females with disabilities. These include gender bias in the curriculum (especially in vocational education programs); gender stereotyping in regard to job choices and experiences (Hasazi et al., 1989; Williamson-Ige & McKitric, 1985; Gillespie & Fink, 1974; Haring & Lovett, 1990; Nisbet & Lichtenstein, 1992; Wagner, 1992); disproportionate ratio of males to females in special education and the tendency for females who are referred to have lower IQ scores (Miles, 1986; Schlosser & Algozzine, 1980; Wagner, 1992); and overall discrimination against women in the workplace (Hasazi et al., 1989; Nisbet & Lichtenstein, 1992; Haring & Lovett, 1990). These kinds of issues cannot be addressed in this study; however, the data strongly suggest that employment inequity applies more to disability classification than to gender. Because of this, the employment recommendations of this study focus on the needs of both males and females with learning disabilities and mild mental retardation.

1) **Promote collaboration between the high school Vocational Education and Special Education programs.** Vocational and special education programming should be a cooperative process providing a wide variety of exposure to gender-neutral jobs, hands-on exploration, internships and paid experiences. In addition, this collaborative program should provide practice in job-related social skills, opportunities to develop relationships with the community, and opportunities to learn how to communicate and function in diverse settings.

2) **Provide programs that do not function in isolated segments but on a meaningful continuum.** Vocational programming often teaches skills or behaviors without linking these to actual job performance. We need to provide vocational and

occupational programs which--in addition to assessment and specific training--include a natural progression (based on the training and evaluation) to internships and experiences while still in school, leading directly to transition at graduation into employment (with continued support if necessary).

3) **Develop Youth Apprenticeship programs especially for youth planning to enter the workforce after high school.** As a combined school- and work-based system, youth apprenticeships promote cooperative partnerships between the community and the school, engaging businesses, educators, parents and students in the educational process. As a system that functions as a school-to-work process, it serves to prepare youth for jobs and careers that reflect actual labor market conditions, and creates working environments which are more accommodating to the needs of both the employer and the students.

<u>Sexuality education and pregnancy prevention</u>

Much of what we read, both in the popular literature and professional journals, would lead us to believe that men and women fare very differently in our society, and that women with disabilities fare the worse (Fine & Asch, 1988; Saxton & Howe, 1987; Rousso, 1988; Perry, 1992; Sivard, 1985). Perhaps in our zeal to help youth with disabilities (especially young women) cope with the realities of adult life, we assume that the differences between the sexes are a result of biased socialization. I do believe that there are differences (positive, healthy ones) between males and females. The problem arises when these differences are not respected. Rampant occurrences of sexual harassment and discrimination by males in the workplace have become a focus in the media, and these are troubling issues. But sexism in the schools is of less concern to me as a special educator than is the importance of teaching young females with disabilities to understand and cope with the realities of being a female in American society.

In this study, gender differences appear to be a factor when we see that young females with learning disabilities are raising children at a younger age and in greater proportions than their male peers or other young females with no disabilities, and often without the advantages of a supportive partner. It is in this arena that we need to place our energies. Wagner (1992), too, regards the tendency of young women with learning

disabilities to mother at a young age and often alone as a severe impediment to long-term independence, stressing:

> The challenges of disability and single-parenting may put future economic independence out of reach for many young mothers with disabilities. Low maternal education, poverty, and single-parent families all are risk factors that do not bode well for the futures of the children born to young women with disabilities. (p. 36)

Though follow-up studies focus primarily on employment as the desirable outcome for youth exiting school, marriage and parenting are socially acceptable goals for all young adults with and without disabilities. However, research demonstrates the detriments of teenage parenting, and suggests that single-parenting immediately after high school inhibits further education, employment opportunities, and prospects for independence (Coyle-Williams, 1989; Children's Defense Fund, 1987; Sivard, 1985; NICHCY, 1992). As shown in this study, females with learning disabilities and mild mental retardation are more likely to parent alone immediately following high school and are less likely to continue their education; thus, early single-parenting can pose enormous barriers for young women in this population.

In an editorial on preventing teenage pregnancies (for all young women) Representative Sommers (1993) claimed that though parenting classes and child care for teenage mothers who want to finish high school are valuable, these well-intentioned services may actually encourage teenage births. "We have chased after the social problems with programs and services," says Sommers, "but have done virtually nothing about prevention....We must invest in prevention instead of just spending on the problem" (p. E-1). In this regard, we need to explore the reasons, as they relate to school programming, why so many young women with learning disabilities have babies at an earlier age and in greater proportions than their female peers without disabilities.

1) Vocational training and job orientation for young women with learning disabilities and mild mental retardation must be presented as attractive and peer-acceptable alternatives to child-bearing. Changes in vocational orientation for females with learning disabilities and mild mental retardation in high school must include changes in related attitudes and expectations. It is possible that gender role-related stereotyping manifests itself in the perception, among young women with

learning disabilities and mild mental retardation, that motherhood is a preferable and more pleasant alternative to the types of job opportunities available. Whether this is so or not, we need to teach these young women to raise their own expectations regarding their futures; to recognize that they are responsible for and can contribute to their own level of independence. Exposure to female role models and positive public images of women with learning disabilities and mild mental retardation who are successful need to be an integral part of the program. In addition, young women must be presented with opportunities to explore and practice gender-neutral alternative avocations.

2) There must intensive courses in sexuality, parenting, and child care, with emphasis on pregnancy prevention. There is evidence that teenage parenting is related to low self-esteem; lack of alternatives or the understanding that alternatives exist; entrenched expectations; and a lack of awareness about or an unrealistic grasp of the responsibilities associated with parenting (Fisher & Harnisch 1989; NICHCY, 1990; 1992). These are issues which should be addressed seriously in school programs, as early as the elementary years. Intensive programs must be in place which teach pregnancy prevention and sexuality from a realistic point of view, including anatomy, sexually transmitted diseases, making choices and decisions, and perceiving the long-term consequences of choices. These programs must be developed to accommodate the learning styles and needs of youth with learning disabilities and mild mental retardation in particular.

In their special edition on gender differences, Nisbet & Lichtenstein (1992) tell a story of a guidance counselor for a young woman with a learning disability:

> [He] advised her to enroll in child care classes when he thought she might be at risk of getting pregnant. [The authors claim] the degree to which these concerns illustrate the influence of gender role stereotyping held by key people in the transition process has not been adequately addressed and represents a significant barrier to equity in education, training, and employment. (p. 3)

In contrast, I believe the counselor was right on target. This was not sexism or stereotyping--it was a reflection of reality, and an appropriate placement. Classes in child care and parenting should not be restricted to females, nor should females with learning disabilities be sequestered in such programs; There needs to be a wide selection of opportunities, with child care, parenting, and pregnancy-prevention-related subjects as part of a larger curriculum.

Special issues for youth with mild mental retardation

Regarding youth with mild mental retardation, Hasazi et al., (1989) report that "there is some evidence that the parents of females with mental retardation may be less likely to expect and encourage community self-sufficiency than the parents of males with mental retardation" (p. 253). The data I am presenting would suggest that, if expectations are to blame, then these low expectations are not for females alone, but for the majority of youth with mental retardation. These data justify claims made by others (e.g., Siegel et al., 1992) that youth with mild mental retardation need intensive curricular intervention while in school, as well as continued long-term support after graduation. Based on these data, I would strongly suggest that the entire spectrum of education programs and opportunities for children and youth with mild mental retardation needs radical change if they are to have any chance at experiencing an independent quality of life as adults. This is an enormous claim, and an enormous task indeed.

Recommendations for research

This study inspires more questions than answers. More follow-up research is needed to address numerous issues. They are as follows:

1) We need information on the **long-term effects of postsecondary schooling and credentials on postschool adjustment.** If resources (time, energy, money) are going to be spent on pursuing appropriate postsecondary opportunities for youth with learning disabilities and mild mental retardation, it will be necessary to acquire data which either supports or refutes the assumption that these opportunities enhance the long-term quality of life for these youth.

2) Employment rates are useful in that they provide a perspective on current activity for a group of youth. The **specific employment data** regarding salary levels, number of working hours, types of benefits provided and by whom, types of jobs obtained initially and over time, promotion opportunities, and level of satisfaction, etc., give a much richer picture of postschool outcomes. These types of data are much **better measures of one's potential for independence.** However, they are difficult data to obtain. Investigators need to **explore ways to obtain these data,** perhaps through the use of third-party informants such as employers.

3) Clearly there is more to life than employment. We need to **explore the effects of other factors which impact our quality of life** such as social interaction, opportunities to join groups or participate in community activities, recreation and leisure, friendships, contentment, etc., (Edgar, 1990; Halpern, 1992). In addition, the characteristics of the school and the district, its programs, staff, funding, physical surroundings, and attitudes will influence the postschool outcomes of the students who attend it. Further, we need to **examine the impact of the multiple components of family and community on long-term adjustment.** Again, these are difficult data to obtain through the telephone-interview process. We may need to utilize more in-depth qualitative procedures in order to pursue these questions.

4) In the NLTS, Wagner et al. (1991) report that socioeconomic status was a strong predictor of postschool outcomes and that "for virtually all outcomes examined, young people who were economically disadvantaged were less likely to be doing well, independent of their disability characteristics or level of service" (p. S-13). The Hollingshead scale was chosen for this study because of its popular use among researchers; however, **a more in-depth analysis of the influence of family socio-economic status on postschool adjustment** should include, in addition to Hollingshead scores, more detailed income data, family size and dynamics, and other indicators of economic well-being. The relationship between poverty and disability, especially as it impacts adult adjustment, is an issue worth exploring in future research.

5) Studies which focus on isolated factors such as employment at a single point in time do not provide an adequate picture of a graduate's situation. In order to understand adjustment patterns and prognosis for success for individuals, we need to **develop composite measures to examine multiple components as they interact.**

6) As mentioned above, **ethnographic studies employing qualitative analytic techniques would provide a much-needed look at in-depth factors affecting long-term adjustment** and a picture of postschool life which is currently unavailable, given the constraints of quantitative research methods. In addition, we need to investigate other techniques of analyses such as event (survival) analysis (Singer, 1992; Singer & Willett, 1990) which would allow us to view that data in relation to time.

Conclusion

The data from this study imply that gender differences in long-term outcomes for youth with mild mental retardation, learning disabilities and no disabilities (as measured by rates of engagement in employment, school and independent residence) may be more mythical than real, and that a greater source of influence may be disability category. However, both the results and the intricacies of this study illustrate the complexities of the issue and the urgent need to continue asking questions. Ultimately, we must never accept the status quo or become complacent regarding the present and future quality of life of all of our children and youth.

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APPENDIX A

Informant Agreement Substudy of the Decade Project

The agreement between parents' and their graduate children's responses on the postschool status of the graduates was analyzed. The first study consisted of 114 parent/graduate dyads representing special education and 142 dyads representing regular education. The second study was a systematic replication of the first study with 109 dyads in special education and 138 in regular education. Both studies produced similar results. High agreement percentages and strong Cohen Kappas were obtained for the variables of attending post-secondary school, employment status, type of residence, marital status, and number of children. Low agreement rates and weak Kappas were obtained for the variables of salary level, hours worked and medical benefits received. An analysis of the reasons for disagreement revealed that the parents reported they did not know the salary levels, hours worked, and benefit information (rather than reporting information different from their children). The results from this study open the issue of believability of the data sets currently used to make policy decisions.

Results are found in tables 25-34.

TABLE 25. Contacts and Dyads--Special Education and Regular Education by School District for the 1990 Cohort.

1990 Cohort	District	Total Possible	Total Contact year 1	% of Total Possible	Total Contact Year 2	% of Contact Year 1	Total Dyad	% 0f Contact Year 2	% of Total Possible
Special Education	1	101	78	77%	73	94%	57	78%	56%
	2	53	42	79%	42	100%	28	67%	53%
	3	51	43	84%	40	93%	24	60%	47%
	Total	**205**	**163**	**80%**	**155**	**95%**	**109**	**70%**	**53%**
Regular Education	1	126	78	62%	72	92%	56	78%	44%
	2	69	49	71%	43	88%	37	86%	54%
	3	66	54	82%	54	100%	45	83%	68%
	Total	**261**	**181**	**69%**	**169**	**93%**	**138**	**82%**	**53%**

TABLE 26. Contacts and Dyads--Special Education and Regular Education by School District for the 1985 Cohort.

1985 Cohort	District	Total Possible	Total Contact	% of Total Possible	Total Dyad	% of Total Contact	% of Total Possible
Special Education	1	150	88	59%	57	65%	38%
	2	67	38	57%	28	74%	42%
	3	66	46	70%	29	63%	44%
	Total	**283**	**172**	**61%**	**114**	**66%**	**40%**
Regular Education	1	181	93	51%	67	72%	37%
	2	85	39	46%	34	87%	40%
	3	83	48	58%	43	90%	52%
	Total	**349**	**180**	**52%**	**142**	**79%**	**41%**

TABLE 27. Contacts and Dyads by Specific Disability Category for the 1990 Cohort.

Disability Category	Total Possible	Total Contact	% of Total Possible	Total Dyad	% of Total Contact	% of Total Possible
Multiple Disabilities	11	8	73%	2	25%	18%
Sev Mental Retardation	2	2	100%	0	0%	0%
Mod Mental Retardation	16	16	100%	6	38%	38%
Orthopedic Disability	8	5	63%	3	60%	38%
Health Impairment	9	6	67%	4	67%	44%
Hearing Impairment	7	5	71%	3	60%	43%
Vision Impairment	0	0	0	0	0	0
Mild Mental Retardation	20	13	65%	11	85%	55%
Behavior Disorder	15	14	93%	12	86%	80%
Learning Disability	117	86	74%	68	79%	58%
Total Special Education	205	155	76%	109	70%	53%
Total Regular Education	261	169	65%	138	82%	53%

TABLE 28. Contacts and Dyads by Specific Disability Category for the 1985 Cohort.

Disability Category	Total Possible	Total Contact	% of Total Possible	Total Dyad	% of Total Contact	% of Total Possible
Multiple Disabilities	15	11	73%	2	18%	13%
Sev Mental Retardation	10	7	70%	2	29%	20%
Mod Mental Retardation	23	16	70%	5	31%	22%
Orthopedic Disability	3	2	67%	2	100%	67%
Health Impairment	8	5	63%	4	80%	50%
Hearing Impairment	10	6	60%	2	33%	20%
Vision Impairment	1	1	100%	1	100%	100%
Mild Mental Retardation	28	20	71%	13	65%	46%
Behavior Disorder	13	7	54%	5	71%	38%
Learning Disability	172	97	56%	78	80%	45%
Total Special Education	283	172	61%	114	66%	40%
Total Regular Education	349	180	52%	142	79%	41%

TABLE 29. Agreement Percentages, Cohen Kappas, and Reasons for Disagreement for Three Primary Variables for Special Education and Regular Education for both Cohorts.

1985 Cohort Variables	N	Total # Agree	% Agree	Cohen Kappa	Total # disagree	# wrong info	# don't know	# date	# coding change
SPECIAL EDUCATION									
Currently in School	114	104	91%	.67	10	4	1	5	0
Currently Employed	114	103	90%	.75	11	4	2	5	0
Current Residence	114	93	82%	.75	21	7	0	3	11
REGULAR EDUCATION									
Currently in School	142	127	89%	.76	15	6	1	8	0
Currently Employed	142	128	90%	.71	14	4	2	8	0
Current Residence	142	114	80%	.74	28	7	0	6	15

1990 Cohort Variables	N	Total # Agree	% Agree	Cohen Kappa	Total # disagree	# wrong info	# don't know	# date	# coding change
SPECIAL EDUCATION									
Currently in School	109	104	95%	.88	5	2	0	1	2
Currently Employed	109	98	90%	.79	11	5	0	6	0
Current Residence	109	99	91%	.80	10	5	0	2	3
REGULAR EDUCATION									
Currently in School	138	132	96%	.86	6	2	1	3	0
Currently Employed	138	124	90%	.77	14	6	0	8	0
Current Residence	138	125	91%	.86	13	6	0	3	4

KAPPA KEY:
.40 - .60 -- fair
.61 - .75 -- good
.76 and over -- excellent.

TABLE 30. Agreement Percentages and Cohen Kappas for Three Primary Variables After Correction for Dates and Residence Codes for the 1990 Cohort.

	Special Education					Regular Education				
Variables	N	# Don't know	# Agree	Agree %	Cohen Kappa	N	# Don't know	# Agree	Agree %	Cohen Kappa
Currently in School	109	0	105	96%	.91	138	1	135	98%	.93
Currently Employed	109	0	104	95%	.95	138	0	132	96%	.90
Current Residence	109	0	104	95%	.89	138	0	136	99%	.97

KAPPA KEY:
.40 - .60 -- fair
.61 - .75 -- good
.76 and over -- excellent.

TABLE 31. Agreement Percentages and Cohen Kappas for Three Primary Variables After Correction for Dates and Residence Codes for the 1985 Cohort.

	Special Education					Regular Education				
Variables	N	# Don't know	# Agree	Agree %	Cohen Kappa	N	# Don't know	# Agree	Agree %	Cohen Kappa
Currently in School	114	1	109	96%	.86	142	1	135	96%	.90
Currently Employed	114	2	108	96%	.90	142	2	136	97%	.91
Current Residence	114	0	107	95%	.90	142	0	136	96%	.91

KAPPA KEY:
.40 - .60 -- fair
.61 - .75 -- good
.76 and over -- excellent.

TABLE 32. Agreement Percentages and Cohen Kappas for Other Variables for Special Education and Regular Education for both Cohorts.

1985 Cohort	Special Education					Regular Education				
Variables	N	# Don't know	# Agree	Agree %	Cohen Kappa	N	# Don't know	# Agree	Agree %	Cohen Kappa
Number of children	114	0	112	98%	.95	142	0	139	98%	.82
Marital Status	114	0	111	97%	.92	142	0	138	97%	.88
Hours:Part or Full time	81	3	68	84%	.59	105	5	94	90%	.76
Medical Benefits	81	10	62	77%	.50	105	11	83	79%	.55
Salary: < or > $180 per week	81	31	43	56%	.18	105	42	56	53%	.12

1990 Cohort	Special Education					Regular Education				
Variables	N	# Don't know	# Agree	Agree %	Cohen Kappa	N	# Don't know	# Agree	Agree %	Cohen Kappa
Number of children	109	0	108	99%	.94	138	0	137	99%	.80
Marital Status	109	0	109	100%	--	138	0	138	100%	---
Hours:Part or Full time	58	4	45	78%	.53	83	4	72	87%	.67
Medical Benefits	58	10	42	72%	.36	83	3	71	86%	.51
Salary: < or > $180 per week	58	22	32	55%	.20	83	23	54	65%	.43

KAPPA KEY:
.40 - .60 -- fair
.61 - .75 -- good
.76 and over -- excellent.

TABLE 33. Agreement Percentages and Cohen Kappas for Three Primary Variables by Disability Category for the 1985 Cohort.

1985 Cohort Variable	Diability	N	# Don't know	# Agree	Agree %	Cohen Kappa
Currently in School	Orthopedic Disab	2	0	2	100%	1.00
	Health Impairment	4	0	4	100%	1.00
	Mild MR	13	0	13	100%	1.00
	Moderate MR	5	0	5	100%	1.00
	Severe MR	2	0	2	100%	1.00
	Multiple Disab	2	0	1	50%	NA
	Hear Impairment	2	0	2	100%	1.00
	Visual Impairment	1	0	1	100%	1.00
	Behavior Disorder	5	0	4	80%	NA
	Learning Disability	77	1	70	91%	.69
	Total Special Educ	**113**	**1**	**104**	**92%**	**.70**
	Regular Educ	**141**	**1**	**127**	**90%**	**.78**
Currently Employed	Orthopedic Disab	2	0	2	100%	1.00
	Health Impairment	4	0	4	100%	1.00
	Mild MR	13	0	11	85%	.68
	Moderate MR	5	0	5	100%	1.00
	Severe MR	2	0	2	100%	1.00
	Multiple Disab	2	0	2	100%	1.00
	Hear Impairment	2	0	2	100%	1.00
	Visual Impairment	1	0	0	0%	0
	Behavior Disorder	5	0	5	100%	1.00
	Learning Disability	76	2	70	92%	.74
	Total Special Educ	**112**	**2**	**103**	**92%**	**.78**
	Regular Educ	**140**	**2**	**128**	**91%**	**.74**
Current Residence	Orthopedic Disab	2	0	2	100%	1.00
	Health Impairment	4	0	4	100%	1.00
	Mild MR	13	0	9	69%	.49
	Moderate MR	5	0	5	100%	1.00
	Severe MR	2	0	2	100%	1.00
	Multiple Disab	2	0	1	50%	NA
	Hear Impairment	2	0	2	100%	1.00
	Visual Impairment	1	0	0	0%	0
	Behavior Disorder	5	0	5	100%	1.00
	Learning Disability	78	0	62	79%	.73
	Total Special Educ	**112**	**0**	**93**	**82%**	**.75**
	Regular Educ	**142**	**0**	**114**	**80%**	**.74**

TABLE 34. Agreement Percentages and Cohen Kappas for Three Primary Variables by School District for the 1985 Cohort.

1985 Cohort		Special Education N=114					Regular Education N=142				
Variables	School District	N	# Don't know	# Agree	Agree %	Cohen Kappa	N	# Don't know	# Agree	Agree %	Cohen Kappa
Currently in School	**Total**	**113**	**1**	**104**	**92%**	**.70**	**141**	**1**	**127**	**90%**	**.78**
	Urban	56	1	53	95%	.77	65	0	58	89%	.77
	Suburban 1	28	0	26	93%	.78	33	1	31	94%	.84
	Suburban 2	29	0	25	86%	.52	43	0	38	88%	.74
Currently Employed	**Total**	**112**	**2**	**103**	**92%**	**.78**	**140**	**2**	**128**	**91%**	**.74**
	Urban	55	2	52	95%	.87	65	0	60	92%	.80
	Suburban 1	28	0	25	89%	.70	33	1	30	91%	.62
	Suburban 2	29	0	26	90%	.51	42	1	38	90%	.69
Current Residence	**Total**	**114**	**0**	**93**	**82%**	**.75**	**142**	**0**	**114**	**80%**	**.74**
	Urban	57	0	49	86%	.80	65	0	50	77%	.69
	Suburban 1	28	0	19	68%	.60	34	0	28	82%	.76
	Suburban 2	29	0	25	86%	.80	43	0	36	84%	.77

APPENDIX B

Missing Subjects Analysis Substudy of the Decade Project

A subanalysis of the First Decade project was conducted comparing the demographic data of subjects in two cohorts (1985 and 1990 graduates) who were and were not interviewed. In addition, the outcome data of subjects who were interviewed twice, that is, in years 1 and 2 of the study, were compared to the outcome data of subjects who were interviewed in year 1 only.

Sample. The sample comprised two cohorts of subjects who graduated from three school districts (one urban and two suburban) in Washington State. Cohort 1 comprised 283 special education and 349 regular education former students who graduated in June, 1985. Cohort 2 comprised 205 special education and 261 regular education former students who graduated in June, 1990. The special education sample included all students in the three districts who had IEPs at the time of graduation and were labeled one of the following: orthopedically impaired, health impaired, mildly mentally retarded, moderately mentally retarded, severely/profoundly mentally retarded, multiply disabled, hearing impaired, visually impaired, behavior disordered, and learning disabled.

Data analysis strategy. First, we compared the subjects for whom interviews were conducted with subjects for whom interviews were not conducted for the demographic variables available for both groups. Cross tabulations and chi-square statistics were obtained for the groups on gender, year of graduation, specific disability, school district, school program (special or regular education) ethnic membership, and contact result (successful interview, refusal, or unable to be contacted or interviewed). To answer our primary questions, multiple permutations of these variables were tested using the chi-square statistic to determine if the expected frequencies were significantly different from the frequencies we obtained.

Second, in addition to the demographic variables, we compared outcome data (employment, school attendance, and residence) for subjects who were interviewed in the first year of data collection but not in the second year, with subjects who were interviewed in both years.

Results are found in Tables 35-45.

TABLE 35. Chi-square comparisons for demographic variables between subjects who were interviewed and those who were not interviewed for the 1990 Cohort.

N = 466

n	Variables	# and % Interviewed		x^2	df	p
205	Special Education	163	80%	6.1369	1	**.0132**
261	Regular Education	181	69%			
68	Female- Special Educ.	49	72%	3.4699	1	.0625
137	Male- Special Educ.	114	83%			
99	Female- Regular Educ.	69	70%	.0091	1	.924
162	Male- Regular Educ.	112	69%			
101	District 1- Special Educ.	78	77%	1.0476	2	.592
53	District 2- Special Educ.	42	79%			
51	District 3- Special Educ.	43	84%			
126	District 1- Regular Educ.	78	62%	8.2025	2	**.0165**
69	District 2- Regular Educ.	49	71%			
66	District 3- Regular Educ.	54	82%			
68	Female- Special Educ.	49	72%	.10846	1	.7419
99	Female- Regular Educ.	69	70%			
137	Male- Special Educ.	114	83%	7.9694	1	**.0047**
162	Male- Regular Educ.	112	69%			
101	District 1- Special Educ.	78	77%	6.1237	1	**.0133**
126	District 1- Regular Educ.	78	62%			
53	District 2- Special Educ.	42	79%	1.07143	1	.3006
69	District 2- Regular Educ.	49	71%			
51	District 3- Special Educ.	43	84%	.12642	1	.7222
66	District 3- Regular Educ.	54	82%			
	Disability:					
15	Sensory/orthopedic impair	10	67%	5.4584	5	.3625
9	Health impairment	6	67%			
29	Moderate/Severe MR	27	93%			
20	Mild mental retardation	15	75%			
15	Behavior disorder	14	93%			
117	Learning disability	91	78%			

TABLE 36. Chi-square comparisons for demographic variables between subjects who were interviewed and those who were not interviewed for the 1985 Cohort.

N = 632

n	Variables	# and % Interviewed		x^2	df	p
283	Special Education	171	60%	4.955	1	**.026**
349	Regular Education	180	52%			
97	Female- Special Educ.	62	64%	.7532	1	.385
186	Male- Special Educ.	109	59%			
140	Female- Regular Educ.	66	47%	1.839	1	.175
209	Male- Regular Educ.	114	55%			
150	District 1- Special Educ.	88	59%	2.239	2	.326
67	District 2- Special Educ.	38	57%			
66	District 3- Special Educ.	45	68%			
181	District 1- Regular Educ.	93	51%	2.406	2	.3002
85	District 2- Regular Educ.	39	46%			
83	District 3- Regular Educ.	48	58%			
97	Female- Special Educ.	62	64%	6.491	1	**.0108**
140	Female- Regular Educ.	66	47%			
186	Male- Special Educ.	109	59%	.6588	1	.4169
209	Male- Regular Educ.	114	55%			
150	District 1- Special Educ.	88	59%	1.7568	1	.185
181	District 1- Regular Educ.	93	51%			
67	District 2- Special Educ.	38	57%	1.759	1	.1847
85	District 2- Regular Educ.	39	46%			
66	District 3- Special Educ.	45	68%	1.679	1	.1951
83	District 3- Regular Educ.	48	58%			
	Disability:					
14	Sensory/orthopedic impair	9	64%	5.4584	5	.3625
8	Health impairment	5	63%			
48	Moderate/Severe MR	34	71%			
28	Mild mental retardation	20	71%			
13	Behavior disorder	7	54%			
172	Learning disability	96	56%			

TABLE 37. Chi-square comparisons between special and regular education subjects who were interviewed and those who were not interviewed by year of graduation (both cohorts.)

n	Variables	# and % Interviewed		x^2	df	p
283	1985-- Special Education	171	60%	20.054	1	.00001
205	1990-- Special Education	163	80%			
349	1985-- Regular Education	180	52%	19.525	1	.00001
261	1990-- Regular Education	181	69%			

TABLE 38. Chi-square comparisons between special education subjects who were interviewed and those who were not interviewed by year of graduation (both cohorts) and specific disability.

n	Variables	# and % Interviewed		x^2	df	p
172	1985-- Learning Disability	96	56%	14.7091	1	**.0001**
117	1990-- Learning Disability	91	78%			
13	1985-- Behavior Disorder	7	54%	5.79145	1	**.0161**
15	1990-- Behavior Disorder	14	93%			
28	1985-- Mild MR	20	71%	.07535	1	.7837
20	1990-- Mild MR	15	75%			
14	1985-- Sensory/orthopedic	9	64%	.01817	1	.8927
15	1990-- Sensory/orthopedic	10	67%			
8	1985-- Health impairment	5	63%	.03220	1	.8576
9	1990-- Health impairment	6	67%			
48	1985-- Mod/severe MR	34	71%	5.44659	1	**.0196**
29	1990-- Mod/severe MR	27	93%			

TABLE 39. Chi-square comparisons for ethnicity of special education graduates between subjects who were interviewed and those who were not interviewed for each cohort.

n	Variables	# and % Interviewed		x^2	df	p
Cohort 1:						
1985- Special Education N = 283						
56	African Amercian	25	45%	7.48996	4	.1121
19	Asian American	12	63%			
196	Caucasian	127	65%			
7	Latino American	4	57%			
5	Native American	3	60%			
Cohort 2:						
1990- Special Education N = 205						
50	African Amercian	37	74%	4.25172	5	.5137
13	Asian American	11	85%			
102	Caucasian	84	82%			
5	Latino American	5	100%			
5	Native American	3	60%			
30	Missing	23	77%			

Note: * For 1985 Cohort, 4 of 10 cells (40%) had expected frequencies of less than 5; for 1990 Cohort, 5 of 12 cells (42%) had expected frequencies of less than 5. Both of these conditions violate the Chi-square assumption of no more than 25% of cells with expected frequency of less than 5. Despite this violation, and the disproportionate incidence of ethnic groups, I chose to include this table as an illustration of the proportions contacted for each ethnic group .

TABLE 40. Chi-square comparisons of contact results by gender and school program for Cohorts 1 and 2.

n	Variables	Contact result	# and %	x^2	df	p
Cohort 1: 1985 graduates						
237	Female	Interviewed	128 54%	.53695	2	.7645
		Refused interview	31 13%			
		No contact/interview	78 33%			
395	Male	Interviewed	223 56%			
		Refused interview	45 11%			
		No contact/interview	127 32%			
283	Special Educ.	Interviewed	171 60%	8.8329	2	**.0121**
		Refused interview	23 8%			
		No contact/interview	89 31%			
349	Regular Educ.	Interviewed	180 52%			
		Refused interview	53 15%			
		No contact/interview	116 33%			
Cohort 2: 1990 graduates						
167	Female	Interviewed	118 71%	1.38043	2	.5015
		Refused interview	22 13%			
		No contact/interview	27 16%			
299	Male	Interviewed	226 76%			
		Refused interview	34 11%			
		No contact/interview	39 13%			
205	Special Educ.	Interviewed	163 79%	6.35598	2	**.0417**
		Refused interview	18 9%			
		No contact/interview	24 12%			
261	Regular Educ.	Interviewed	181 69%			
		Refused interview	38 15%			
		No contact/interview	42 16%			

TABLE 41. Chi-square comparisons of contact results by specific disability category for the 1985 Cohort.

n	Disability	Contact result	# and %		x^2	df	p
Cohort 1: 1985 graduates							
14	Sensory/ortho	Interviewed	9	64%	8.93513	10	.5383
		Refused interview	0	--			
		No contact/interview	5	36%			
8	Health Imp	Interviewed	5	63%			
		Refused interview	0	--			
		No contact/interview	3	37%			
48	Mod/Sev MR	Interviewed	34	71%			
		Refused interview	2	4%			
		No contact/interview	12	25%			
28	Mild MR	Interviewed	20	71%			
		Refused interview	1	4%			
		No contact/interview	7	9%			
13	Behavior Dis	Interviewed	7	54%			
		Refused interview	1	8%			
		No contact/interview	5	34%			
172	Learning Dis	Interviewed	96	56%			
		Refused interview	19	11%			
		No contact/interview	57	33%			

Note: * For 1985 Cohort, 9 of 18 cells (50%) had expected frequencies of less than 5 and the minimum expected frequency was .65. Both of these conditions violate the Chi-square assumptions of no more than 25% of cells with expected frequency of less than 5 and no cell with a minimum expectant frequency of less than 1.

TABLE 42. Chi-square comparisons of contact results by specific disability category for the 1990 Cohort.

n	Disability	Contact result	# and %		x^2	df	p
Cohort 2: 1990 graduates							
15	Sensory/ortho	Interviewed	10	67%	11.7394	10	.3029
		Refused interview	2	13%			
		No contact/interview	3	20%			
9	Health Imp	Interviewed	6	67%			
		Refused interview	2	22%			
		No contact/interview	1	11%			
29	Mod/Sev MR	Interviewed	27	93%			
		Refused interview	0	--			
		No contact/interview	2	7%			
20	Mild MR	Interviewed	15	75%			
		Refused interview	1	5%			
		No contact/interview	4	20%			
15	Behavior Dis	Interviewed	14	93%			
		Refused interview	0	--			
		No contact/interview	1	7%			
117	Learning Dis	Interviewed	91	78%			
		Refused interview	13	11%			
		No contact/interview	13	11%			

Note: * For 1990 Cohort, 10 of 18 cells (56%) had expected frequencies of less than 5 and the minimum expected frequency was .79. Both of these conditions violate the Chi-square assumptions of no more than 25% of cells with expected frequency of less than 5 and no cell with a minimum expectant frequency of less than 1.

TABLE 43. Chi-square comparisons of Year 1 outcomes and demographic variables between subjects interviewed in year 1 only, and subjects interviewed in both years for the 1985 Cohort.

Cohort 1 1985	Special Education N=171							Regular Education N=180						
Outcome Variable	Year 1 only n=10		Years 1 & 2 n=161					Year 1 only n=11		Years 1 & 2 n=169				
	#	%	#	%	x^2	df	p[c]	#	%	#	%	x^2	df	p[c]
Employed	5	50%	108	67%	1.6525	2	.438^~	8	73%	134	79%	2.5468	2	.279^~
Not empl	5	50%	50	31%				2	18%	32	19%			
Unknown	0	--	3	2%				1	9%	3	2%			
In school	2	20%	23	14%	.35687	2	.837^~	2	18%	59	35%	1.2901	1	.256
No school	8	80%	136	85%				9	82%	110	65%			
Unknown	0	--	2	1%				0	--	0	--			
Engaged[a]	7	70%	119	74%	.0743	1	.785	9	82%	156	92%	1.4876	1	.223~
Unengage	3	30%	42	26%				2	18%	13	8%			
Residence[b]														
dependent	5	50%	63	39%	1.5934	2	.451^	3	27%	58	34%	.22891	1	.632
independ	5	50%	77	48%				8	73%	111	66%			
supervised	0	--	21	13%				0	--	0	--			
Demographic Variable														
Female	1	10%	62	39%	3.2887	1	.069	5	45%	62	37%	.33979	1	.559
Male	9	90%	99	61%				6	55%	107	63%			
District 1	7	70%	81	50%	3.1243	2	.209^	9	82%	84	50%	4.2739	2	.118^
District 2	0	--	38	24%				1	9%	38	22%			
District 3	3	30%	42	26%				1	9%	47	28%			
Orth/sens	0	--	9	6%	3.7238	5	.589^~							
Health	1	10%	4	2%										
Mod/Sev	1	10%	33	20%										
Mild MR	1	10%	19	12%										
BD	0	--	7	4%										
LD	7	70%	89	55%										

Notes:

a. Engaged implies that the subject is attending a school program, is employed, or both; unengaged implies that the subject is doing neither.

b. Dependent residence includes living in parent's or other relative's house; independent includes living on one's own, with a spouse or partner, with a group of friends or roommates, in a dormatory, barracks, or worksite, or traveling; supervised includes living in a group home, institution, adult foster home, or in an apartment with tenant support.

c. The marks next to the level of significance indicate as follows:

^ -- The number of cells with expected frequencies < 5 was greater than 25%.

~ -- The minimum expected frequency was < 1.

TABLE 44 Chi-square comparisons of Year 1 outcomes and demographic variables between subjects interviewed in year 1 only, and subjects interviewed in both years for the 1990 Cohort.

Cohort 2 1990	Special Education N=163							Regular Education N=181						
Outcome Variable	Year 1 only n=8		Years 1 & 2 n=155					Year 1 only n=12		Years 1 & 2 n=169				
	#	%	#	%	x^2	df	p[c]	#	%	#	%	x^2	df	p[c]
Employed	5	63%	81	52%	.32017	1	572.^	11	92%	99	59%	5.1452	1	.023
Not empl	3	37%	74	48%				1	8%	70	41%			
In school	1	12%	57	37%	1.9556	1	.162	4	33%	128	76%	10.205	1	.001
No school	7	88%	98	63%				8	67%	41	24%			
Engaged[a]	6	75%	117	75%	.00096	1	.975	12	100%	166	98%	.21661	1	.641^~
Unengage	2	25%	38	25%				0	--	3	2%			
Residence[b]														
dependent	5	63%	111	72%	4.5892	2	.101^	8	67%	79	47%	1.7813	1	.182
independ	0	--	24	15%				4	33%	90	53%			
supervised	3	37%	20	13%				0	--	0	--			
Demographic Variable														
Female	1	12%	47	30%	1.163	1	.281	3	25%	65	38%	.86566	1	.352
Male	7	88%	108	70%				9	75%	104	62%			
District 1	5	62%	73	47%	2.9392	2	.230^	6	50%	72	43%	6.4822	2	.039^
District 2	0	--	42	27%				6	50%	43	25%			
District 3	3	38%	40	26%				0	--	54	32%			
Orth/sens	0	--	10	7%	3.9809	5	.552^~							
Health	0	--	6	4%										
Mod/Sev	1	12%	26	17%										
Mild MR	2	25%	13	8%										
BD	0	--	14	9%										
LD	5	63%	86	55%										

Notes:

a. Engaged implies that the subject is attending a school program, is employed, or both; unengaged implies that the subject is doing neither.

b. Dependent residence includes living in parent's or other relative's house; independent includes living on one's own, with a spouse or partner, with a group of friends or roommates, in a dormatory, barracks, or worksite, or traveling; supervised includes living in a group home, institution, adult foster home, or in an apartment with tenant support.

c. The marks next to the level of significance indicate as follows:

^ -- The number of cells with expected frequencies < 5 was greater than 25%.

~ -- The minimum expected frequency was < 1.

TABLE 45. Comparisons of contact results and percentages for original regular education sample and the added subjects.

District	Original n	# and % Interviewed	# Reg. Ed. Added	# and % Interviewed	Total Sample	# and % Interviewed
Cohort 1: 1985- Regular Education N = 349						
1	169	81 48%	12 (7%)	12 100%	181	93 51%
2	68	26 38%	17 (25%)	13 76%	85	39 46%
3	70	37 53%	13 (19%)	11 85%	83	48 58%
Total	307	144 47%	42 (14%)	36 86%	349	180 52%
Cohort 2: 1990- Regular Education N = 205						
1	107	66 62%	19 (18%)	12 63%	126	78 62%
2	60	44 73%	9 (15%)	5 56%	69	49 71%
3	58	48 83%	8 (14%)	6 75%	66	54 82%
Total	225	158 70%	36 (23%)	23 64%	261	181 69%

APPENDIX C

Protocol: Scripts of interviews.

1. **1985 Cohort -- Parent Form**
2. **1990 Cohort -- Parent Form**
3. **1985 Cohort -- Graduate Form**
4. **1990 Cohort -- Graduate Form**
5. **1985 Cohort -- Interview 2 Form**
6. **1990 Cohort -- Interview 2 Form**

FOLLOW-UP TELEPHONE QUESTIONNAIRE
PARENT FORM: 1985 GRADUATE

STUDENT NAME_____ **STUDENT ID#**_____
DISTRICT/SCHOOL_____ **DATE OF INTERVIEW**_____
INTERVIEWER_____ **YEAR OF GRADUATION** _____

Hello. This is _____May I please speak with _____ I am calling for the_____ School District. The district is conducting a project to follow-up its graduates. We are interested in finding out how _____has been doing since he/she graduated from school . I'd like to ask you a few questions that will help us evaluate our program and make necessary changes.
First, I need to be sure that I **am talking with the parent or guardian who is most familiar** with ___'s current life situation. Would that be you? Yes___ No___
If no: Who is the person I should speak with? Name:_____
What is his/her relationship to ___? _____
Where does (this person) live? _____ Phone Number? _____
If I am unable to reach (this person) or if he/she is not willing to be interviewed, may I recontact you? Yes__ No__

Continue with: **a) if consent form received & marked "yes";**
b) if consent form not received

a) We recently **received your consent form** to conduct this interview. It should take about 10 minutes to complete. **All** information in this interview is **completely confidential,** and you need not answer any questions you don't want to.

b) We **recently sent out letters** containing information about this project and a consent form. Even though we haven't received your consent form, we are hoping to interview as many families in the district as possible.. **All** information in this interview is **completely confidential,** and you need not answer any questions you don't want to. The interview should take about 10 minutes to complete. May I go ahead and ask you the questions?____

A. POST-SCHOOL EDUCATION:

1. Is _____**currently** in any type of **school** or training? **Yes No**
   a. ***If Yes,* where?**_____

1 = community college
2 = university or 4 year
3= business, vocational, or trade school
4= graduate equivalence degree (GED)
9= don't know, refused
other: _____

b. Has _____ attended any **other school or training programs since graduating** high school? **Yes No**

	School 1	School 2	School 3
c. ***If YES,* where?**			
did __graduate?			
If graduated, what type of degree or diploma did he/she **receive?**			

1= GED
2= diploma
3= Associates degree
4= Bachelor's degree
5= Master's degree
6= Ph.D/ Ed.D.
7= certificate
8= licence
9= Other: specify
0= don't know, refused

B. EMPLOYMENT:

2. Does _____**currently** have a job? **Yes** **No**
(If no, skip to #3 ; If yes,continue)

a. What is the **current job** title or position?

_____

b. How many **hours per week** does____work?_____
If a range is given ask: About how many hours would it be in an average week? _____

c. How much money does ____ make per hour from his/her job? **hourly wage?** $_____
if you can't get an hourly wage ask: Can you tell me how much he/she earns per week or month then?
weekly salary? $_____ Monthly? $_____ Annual? $_____ **Tips?** $_____
If given a weekly, monthly or annual salary, ask: Is that gross pay before taxes____ or take home pay?____

d. Does _____'s employer provide **medical benefits** in connection with his job?_____
Paid Vacation? _____ Paid Sick Leave?_____ Retirement? _____

3. Does _____**receive money** regularly from Social Security, Public Assistance, Veteran's Benefits, or some other agency or resource like that? _____***If YES,*** From what programs or agencies does ____ receive money? *(can be up to 3 sources)* 1-_____ 2-_____ 3-_____

1= SSI
2= Veteran's Benefits
3= Social Security-SSA
4= Public Assistance/welfare
5= Student financial aid-not a loan
6= Student loan
7= Aid to Dependant Children
8= Labor and Industry
9= Unemployment Insurance
10= Developmental Disabilities-DDD
11= Alimony or Child Support
12= Other -specify
13= unknown, refused

C. RESIDENCE:

4. Does_____**currently live in your household?** Yes____ No_____
a) **If yes:** We will also be contacting ____ in the near future. Does he/she have the same phone number as you? yes___ no___ If no: what is ____'s phone number? _____ (read back to verify)
What would be a good time for us to call him/her? _____

b) **If no: With whom does ____ currently live?** _____

1= parent's home
2= other relatives
3= foster home
4= alone-in house or apt
5= with friends or roommates
6= with spouse or partner
7= dormitory/barracks
8= supervised: group home, institution, adult foster home, nursing home, ICF
9= tenant support
10= incarcerated: prison, detention home, halfway house
11= street. shelter
12= other: specify
13= unknown, refused

We are planning to interview the graduates as well as the parents, so I will need _____'s address in order to send him/her a letter, and his/her phone number so I can contact him/her.

address _____
_____
_____

phone number _____ (Read back to verify)
What would be a good time for us to call him/her? _____

D. SOCIAL/RECREATIONAL:

5. Is _____**now** or has he/she **ever** been **married?**
   1= never married 3= previously married
   2= now married 4= don't know, refused

6. Does___have any **children?** Yes__No__ ***if yes, ask:*** **how many?** _____
   If no mark a "0"

7. How **satisfied** are you with _____**'s overall life situation** *(employment, school, residence, social life)* **now?**
   1= Very Satisfied **3= Not Very Satisfied**
   2= Somewhat Satisfied **4= Not at all Satisfied**
   9= don't know, refused

E. PARENT/ FAMILY DEMOGRAPHICS:

Skip this section if you are speaking to a person in a group home or other institutional setting.

The last few questions pertain to **you and your family.** I am going to ask you some questions regarding your **current situation,** and some that refer to **1985** when ____ graduated.
Was _____ living with you in 1985 when he/she graduated? ____.

9. a. How many **people are living in your household today including yourself?** *(currently)*_____
   b. Is this the **same number** of people who were **living in your household in 1985** when _____graduated?
   Yes___No___ *(If no),* **how many were living with you then?** ____

10. a. How many **years of school** have **you** completed? _____
    (12 being high school grad; 13 being 1 year college etc...01=GED)
    b. Did any of your **schooling occur in the past 5 years?** **Yes____No_____**
    (if yes) **How many years of education had you completed in 1985, at the time of ____'s graduation? ____**

11. a. Are **you currently employed?** **Yes___ No____**
    b. Were you **employed in 1985** when ____ graduated from school? **Yes____ No___**

12. a. What would you say has been your **main occupation** for the last 5 years?
    _____

    b. What would you say was your **main occupation** during ___'s high school years?
    _____

13. Do you have a wife/husband or partner with whom you are living now? **Yes___ No___**
(if yes, ask the following for the spouse or partner; If no, skip to #17)

14. How many **years of school** has he/she completed? _____
(12 being high school grad; 13 being 1 year college etc...)

15. Is he/she **employed?** **Yes____ No_____**

16. What would you say has been his/her **main occupation** for the last 5 years?
_____

17 I'm going to read some income ranges; Please stop me when I get to the one that you would say includes **your total household income before taxes** last year?

a) less than $8,500
b) $ 8,500 to $10,500
c) $10,500 to $13,000
d) $13,000 to $15,000
e) $15,000 to $17,000
f) $17,000 to $20,000
g) $20,000 to $25,000
h) $25,000 to $30,000
i) $30,000 or more

18. a. Was your **current partner living with you in 1985** when ___ graduated? **Yes_____No_____**
(if yes, continue b & c, then skip to #20; if no skip to #19)

b. Was he/she **employed** then? **Yes_____ No_____**
c. What would you say was his/her **main occupation** while ___ was **in high school?**
_____

19. a. Did you have a **partner with whom you were living in 1985** when ____ graduated? **Yes____No____**
(if yes, continue; if no, skip to #20)

b. Was he/she **employed** then? **Yes____ No_____**
c. What would you say was his/her **main occupation** while ___ was **in high school?**
_____

20 We're almost done. I'm going to read off the income ranges I read before; As well as you can remember, would you please stop me when I get to the one that you would say **included your total household income before taxes** in 1985?

a) less than $8,500
b) $ 8,500 to $10,500
c) $10,500 to $13,000
d) $13,000 to $15,000
e) $15,000 to $17,000
f) $17,000 to $20,000
g) $20,000 to $25,000
h) $25,000 to $30,000
i) $30,000 or more

Thank-you very much. I appreciate the time and information you shared with me during this interview. We will be contacting you again next year to update some of this information. May I verify that we have your correct mailing address now? The address we have...(read the address from contact sheet. Write new address in if respondent indicates that a change or correction is needed. May I repeat that back to make sure that I got it correctly?) (verify)

Thank-you. Just in case you do move or change your phone during the next year, would you give me the name and phone number of someone who will always know how to get in touch with you? (Ask respondent for spelling of contact person's name, if needed, and repeat phone number back to verify it.)

Thanks again for your time. I look forward to talking with you again next year.

FOLLOW-UP TELEPHONE QUESTIONNAIRE
PARENT FORM: 1990 GRADUATE

STUDENT NAME_____**STUDENT ID#**_____
DISTRICT/SCHOOL_____**DATE OF INTERVIEW**_____
INTERVIEWER_____ **YEAR OF GRADUATION** _____

Hello. This is _____May I please speak with _____ I am calling for the_____ School District. The district is conducting a project to follow-up its graduates. We are interested in finding out how _____has been doing since he/she graduated from school . I'd like to ask you a few questions that will help us evaluate our program and make necessary changes.
First, I need to be sure that I **am talking with the parent or guardian who is most familiar** with ___'s current life situation. Would that be you? Yes___ No___
If no: Who is the person I should speak with? Name:_____
What is his/her relationship to ___? _____
Where does (this person) live? _____ Phone Number? _____
If I am unable to reach (this person) or if he/she is not willing to be interviewed, may I recontact you? Yes__ No__

Continue with: **a) if consent form received & marked "yes";**
b) if consent form not received

a) We recently **received your consent form** to conduct this interview. It should take about 10 minutes to complete. **All** information in this interview is **completely confidential,** and you need not answer any questions you don't want to.

b) **We recently sent out letters** containing information about this project and a consent form. Even though we haven't received your consent form, we are hoping to interview as many families in the district as possible.. **All** information in this interview is **completely confidential,** and you need not answer any questions you don't want to. The interview should take about 10 minutes to complete. May I go ahead and ask you the questions?____

A. POST-SCHOOL EDUCATION:

1. Is _____**currently** in any type of **school** or training? **Yes No**
   a. ***If Yes,* where?**_____

   1 = community college
   2 = university or 4 year
   3= business, vocational, or trade school
   4= graduate equivalence degree (GED)
   9= don't know, refused
   Other: _____

   b. Has_____ **attended any other school or training programs since graduating** high school? **Yes No**

	School 1	School 2	School 3
c. ***If YES,* where?**			
did __graduate?			
If graduated, what type of degree or diploma did he/she **receive?**			

1= GED
2= diploma
3= Associates degree
4= Bachelor's degree
5= Master's degree
6= Ph.D/ Ed.D.
7= certificate
8= licence
9= Other: specify
0= don't know, refused

B. EMPLOYMENT:

2. Does _____**currently** have a job? **Yes** **No**
(If no, skip to #3 ; if yes,continue)

a. What is the **current job** title or position?

_____

b. How many **hours per week** does_____work?_____
If a range is given ask: About how many hours would it be in an average week? _____

c. How much money does ____ make per hour from his/her job? **hourly wage?** $_____
if you can't get an hourly wage ask: Can you tell me how much he/she earns per week or month then?
weekly salary? $_____ Monthly? $_____ Annual? $_____ **Tips?** $_____
If given a weekly, monthly or annual salary, ask: Is that gross pay before taxes____ or take home pay?____

d. Does _____'s employer provide **medical benefits** in connection with his job?_____
Paid Vacation? _____ Paid Sick Leave?_____ Retirement? _____

3. Does _____**receive money** regularly from Social Security, Public Assistance, Veteran's Benefits, or some other agency or resource like that? _____***If YES,*** From what programs or agencies does ____ receive money? *(can be up to 3 sources)* 1-_____ 2-_____ 3-_____

1= SSI
2= Veteran's Benefits
3= Social Security-SSA
4= Public Assistance/welfare
5= Student financial aid-not a loan
6= Student loan
7= Aid to Dependant Children
8= Labor and Industry
9= Unemployment Insurance
10= Developmental Disabilities-DDD
11= Alimony or Child Support
12= Other -specify
13= unknown, refused

C. RESIDENCE:

4. Does_____**currently live in your household?** Yes ____ No _____
a) **If yes:** We will also be contacting ____ in the near future. Does he/she have the same phone number as you? yes___ no___ If no: what is ____'s phone number? _____ (read back to verify)
What would be a good time for us to call him/her? _____

b) **If no: With whom does ____ currently live?** _____

1= parent's home
2= other relatives
3= foster home
4= alone-in house or apt
5= with friends or roommates
6= with spouse or partner
7= dormitory/barracks
8= supervised: group home, institution, adult foster home, nursing home, ICF
9= tenant support
10= incarcerated: prison, detention home, halfway house
11= street. shelter
12= other: specify
13= unknown, refused

We are planning to interview the graduates as well as the parents, so I will need _____'s address in order to send him/her a letter, and his/her phone number so I can contact him/her.

address _____
_____
_____

phone number _____ (Read back to verify)
What would be a good time for us to call him/her? _____

D. SOCIAL/RECREATIONAL:

5. Is _____**now** or has he/she **ever** been **married?**
   1= never married 3= previously married
   2= now married 4= don't know, refused

6. Does____have any **children?** Yes___No___ ***if yes, ask:*** **how many?** _____
   If no mark a "0"

7. How **satisfied** are you with _____'s **overall life situation** *(employment, school, residence, social life)* **now?**
   1= Very Satisfied **3= Not Very Satisfied**
   2= Somewhat Satisfied **4= Not at all Satisfied**
   9= don't know, refused

F. PARENT/ FAMILY DEMOGRAPHICS:

The last few questions pertain to you (the parent).

8. How many **people are living in your household including yourself?** *(currently)*_____
   Is this the same number as were living in your household last June when ___graduated? ____
   (If no, ask:) How many were living there then?_____

9. How many **years of school** have **you** completed? _____
   (12 being high school grad; 13 being 1 year college etc...)

10. **Are you employed?** **Yes** **No**

11. What would you say has been your **main occupation** for the last 5 years?
    _____

12. Do you have a wife/husband or partner with whom you are living now? **Yes** **No**

    If no, ask: Did you have a wife/husband or partner last June when ___ graduated? ____
    (If yes, con't #13-16; if no ,skip to #16.)

    If yes, ask: Was she/he living with you last June when ___ graduated?
    (If yes, con't #13-16; if no, skip to #16)

13. How many **years of school** has he/she completed? _____
    (12 being high school grad; 13 being 1 year college etc...)

14. **Is he/she employed?** **Yes** **No**

15. What would you say has been his/her **main occupation** for the last 5 years?
    _____

16. I'm going to read off some income ranges; Please stop me when I get to the one that you would say **includes your total household income before taxes** last year?

a) **less than $8,500**
b) **$ 8,500 to $10,500**
c) **$10,500 to $13,000**
d) **$13,000 to $15,000**
e) **$15,000 to $17,000**
f) **$17,000 to $20,000**
g) **$20,000 to $25,000**
h) **$25,000 to $30,000**
i) **$30,000 or more**

Thank-you very much. I appreciate the time and information you shared with me during this interview. We will be contacting you again next year to update some of this information. Could I verify that we have your correct mailing address now? The address we have...(read the address from contact sheet. Write new address in if respondent indicates that a change or correction is needed.)

Thank-you. Just in case you do move or change your phone during the next year, would you give me the name and phone number of someone who will always know how to get in touch with you? (Ask respondent for spelling of contact person's name, if needed, and repeat phone number back to verify it.)

Thanks again.

FOLLOW-UP TELEPHONE QUESTIONNAIRE
STUDENT FORM: 1985 GRADUATE

STUDENT NAME_____ **STUDENT ID#**_____
DISTRICT/SCHOOL_____ **DATE OF INTERVIEW**_____
INTERVIEWER_____ **YEAR OF GRADUATION** _____

Hello. This is _____May I please speak with _____ I am calling for the_____ School District. We are interested in finding out how you are doing since you left school . We spoke to your parents and now would like to interview you. I'd like to ask you a few questions that will help us evaluate our program and make changes in the schools. All information is **strictly confidential.** This should only take about 10 minutes. If there are any questions you do not wish to answer, that is fine. May I go ahead and ask the questions?_____ (***If yes, initialize ___ and proceed with the questions.***)

A. POST-SCHOOL EDUCATION:

1. Are you **currently** in any type of **school** or training? **Yes**___ **No**___
   a. ***If Yes,*** **where?**_____ Did you start the program in the last 6 months? ____ If yes,Date: _____
      1 = community college 3= business, vocational, or trade school 9= don't know, refused
      2 = university or 4 year 4= graduate equivalence degree (GED) Other: _____

   b. Have you attended any **other school or training programs since graduating** high school? **Yes**___ **No**___

	Most recent School 1	School 2	School 3
c. ***If YES,*** **where?**			
did you graduate?			
If graduated, what type of degree or diploma did you **receive?**			
When did you finish?			

1= GED 4= Bachelor's degree 7= certificate 0= don't know, refused
2= diploma 5= Master's degree 8= licence
3= Associates degree 6= Ph.D/ Ed.D. 9= Other: specify

B. EMPLOYMENT:

2. a. Do you **currently** have a job? **Yes**____**No**____ If yes, did it start in the last 6 months? If yes, Date: _____
   if yes, ask: **What is your current job?** _____ **Multiple jobs?** _____
   then continue b-d, then skip to #4; if no, skip to #3:
   b. How many **hours per week** do you work?_____
   If a range is given ask: About how many hours would it be in an average week? _____

   c. How much money do you make per hour from your job? **hourly wage?** $_____
   if you can't get an hourly wage ask: Can you tell me how much you earn per week or month then?
   weekly salary? $_____ Monthly? $_____ Annual? $_____
   If given a weekly, monthly or annual salary, ask: Is that gross pay before taxes____ or take home pay?____
   Tips? _____
   d. Does your employer provide **medical benefits** in connection with your job?_____
   Paid Vacation? _____ Paid Sick Leave?_____ Retirement? _____

3. **For students who are NOT currently employed ask::**

   Have you had **any jobs since graduating high school? Yes**____**No**____
   If yes, What was your most recent job? _____ **and when did it end?** _____

4. Do you **receive money** regularly from Social Security, Public Assistance, Veteran's Benefits, or some other agency or resource like that? _____ ***If YES,*** From what programs or agencies do you receive money? *(can be up to 3 sources)* 1-_____ 2-_____ 3-_____

1= SSI	5= Student financial aid-not a loan	9= Unemployment Insurance
2= Veteran's Benefits	6= Student loan	10= Developmental Disabilities-DDD
3= Social Security-SSA	7= Aid to Dependant Children	11= Alimony or Child Support
4= Public Assistance/welfare	8= Labor and Industry	12= Other -specify
		13= unknown, refused

C. RESIDENCE:

5. With whom do you **currently live?** _____
Did this arrangement begin in the last 6 months? f yes,Date:_____

1= parent's home	5= with friends or roommates	9= tenant support
2= other relatives	6= with spouse or partner	10= incarcerated: prison, detention home, halfway house
3= foster home	7= dormitory/barracks	
4= alone-in house or apt	8= supervised: group home, institution, adult foster home, nursing home, ICF	11= street. shelter
		12= other: specify
		13= unknown, refused

I'd like to verify that the address we have is correct. What is your **address ?** :

_____
_____
_____

D. SOCIAL/RECREATIONAL:

6. Are you **now** or have you **ever been married?**
1= never married 3= previously married
2= now married 4= don't know, refused
Has your name changed? _____ if yes, to what? _____
If married: Do you share income?___ If yes: Partner's job title: _____
What is your projected household income before taxes?
a) less than $8,500
b) $ 8,500 to $10,500
c) $10,500 to $13,000
d) $13,000 to $15,000
e) $15,000 to $17,000
f) $17,000 to $20,000
g) $20,000 to $25,000
h) $25,000 to $30,000
i) $30,000 or more

7. Do you have any **children?** Yes___No___ ***if yes, ask:*** **how many?** _____ Are all your children living with you? #_____ ***If no mark a "0"***

8. How **satisfied** are you with your **overall life situation** *(employment, school, residence, social life)* now?

1= Very Satisfied 3= Not Very Satisfied

2= Somewhat Satisfied 4= Not at all Satisfied

9= don't know, refused

Thank-you very much. I appreciate the time and information you shared with me during this interview. We may be contacting you again next year to update some of this information. Just in case you move or change your phone number during the next year, would you give me the name and phone number of someone who will always know how to get in touch with your?Name_____

Phone number _____

read back to verify

Thanks again.

FOLLOW-UP TELEPHONE QUESTIONNAIRE
STUDENT FORM: 1990 GRADUATE

STUDENT NAME_____**STUDENT ID#**_____
DISTRICT/SCHOOL_____ **DATE OF INTERVIEW**_____
INTERVIEWER_____ **YEAR OF GRADUATION** _____

Hello. May I please speak with _____.This is _____. I am calling for the_____ School District. The district is conducting a project to follow up its graduates. We are interested in finding out how you are doing since you left high school. I'd like to ask you a few questions that will help us evaluate our program and make changes in the schools. All information is **strictly confidential.** This should only take about 5 minutes. If there are any questions you do not wish to answer, that is fine. May I go ahead and ask the questions?_____ (***If yes, initialize ____ and proceed with the questions.***)

A. POST-SCHOOL EDUCATION:

1. Are you **currently** in any type of **school** or training? **Yes**___ **No**___
   a. ***If Yes,*** **where?**_____ Did you start the program in the last 2 months? ____ If yes,Date: _____
      1 = community college 3= business, vocational, or trade school 5= other_____
      2 = university or 4 year 4= graduate equivalence degree (GED) 9=don't know, refused
   b. Have you **completed** any other school or training programs since graduating high school? **Yes**___ **No**___

	Most recent **School 1**	**School 2**	**School 3**
c. ***If YES,*** **where?**	_____	_____	_____
What type of degree or diploma did you receive?	_____	_____	_____
When did you finish?	_____	_____	_____

1= GED 4= Bachelor's degree 7= certificate 0= don't know, refused
2= diploma 5= Master's degree 8= licence
3= Associates degree 6= Ph.D/ Ed.D. 9= Other: specify_____

B. EMPLOYMENT:

2. Do you **currently** work for pay at a job or in your own business?
   (If no, or DK, skip to #3) If yes, continue:
   a. Are you self-employed or do you work for someone else as an employee?
      Self-employed Employed Refused No
      If self employed: What kind of business (work) do you have (do)?_____
      Do you run the business alone, with partner(s) or do you have employees? Alone Partner(s) Employees
      If employed: What kind of work do you do?_____
      Type of company or business _____
   b. How many **hours per week** do you work?_____
      If a range is given ask: About how many hours would it be,in an average week? _____
   c. How much money do you make per hour from your job? **hourly wage?** $_____
      if you can't get an hourly wage ask: Can you tell me how much you earn per week or month then?
      weekly salary? $_____ Monthly? $_____ Annual? $_____
      If given a weekly, monthly or annual salary, ask: Is that gross pay before taxes_____ or take home pay?____
      Do you earn tips? _____ per week
   d. **Are you covered by medical insurance?**_____**If yes, is it related to your job?**_____**If yes, ask:**
      Does your employer pay the medical premium in connection with your job?_____
      Paid Vacation? _____ Paid Sick Leave?_____ Retirement? _____
   e. **Did you start the job in the last 2 months?** _____ **If yes**,Date: _____

3. **For students who are NOT currently employed ask:**

   Have you had **any jobs since graduating high school? Yes___ No___**
   if yes, What was your most recent job? _____ and when did it end? _____

4. Do you **receive money** regularly from Social Security, Public Assistance, Veteran's Benefits, or some other agency or resource like that? _____ ***If YES,*** From what programs or agencies do you receive money? *(can be up to 3 sources)* 1-_____ 2-_____ 3-_____

1= SSI	5= Student financial aid-not a loan	9= Unemployment Insurance
2= Veteran's Benefits	6= Student loan	10= Developmental Disabilities-DDD
3= Social Security-SSA	7= Aid to Dependant Children	11= Alimony or Child Support
4= Public Assistance/welfare	8= Labor and Industry	12= Other -specify
		13= unknown, refused

C. RESIDENCE:

5. Where do you **currently live?** _____
   Did this arrangement begin in the last 2 months? If, yes, Date:_____

1= parent's home	7= dormitory/barracks	10= incarcerated: prison, detention
2= other relatives	8= supervised: group home, institution,	home,halfway house
3= foster home	adult foster home, nursing home, ICF	11= street. shelter
4= in house or apt	9= tenant support	12= other: specify
		13= unknown, refused

I'd like to verify that the address we have is correct. What is your **address ?** :

_____
_____

D. SOCIAL/RECREATIONAL:

6. Are you **now** or have you **ever** been **married?**
   1= never married 3= previously married
   2= now married 4= don't know, refused
   Has your name changed? ____ if yes, to what? _____
   a. **If now married, are you living with your spouse: yes_____ no_____**
   (If no, go to #7; If yes, continued):
   b. **Is your spouse employed? yes_____ no_____**
   Is he/she self-employed or work for someone else as an employee?
   Self-employed Employed Refused
   If self employed: What kind of business (work) does he/she have (do)?_____
   Does he/she run the business alone, with partner(s) or have employees? Alone Partner(s) Employees
   c. **If employed, what kind of work does he/she do?_____**
   Type of company or business _____
   d. **How many years of school has she/he completed?_____**

7. **Do you have any children?** Yes___No___ ***if yes, ask:*** **how many?** _____
Are all your children living with you? #_____ ***If no mark a "0"***

8. How **satisfied** are you with your **overall life situation** *(employment, school, residence, social life)* **now?**

1= Very Satisfied **3= Not Very Satisfied**

2= Somewhat Satisfied **4= Not at all Satisfied**

9= don't know, refused

Thank-you very much. I appreciate the time and information you shared with me during this interview. We may be contacting you again next year to update some of this information. Just in case you move or change your phone number during the next year, would you give me the name and phone number of someone who will always know how to get in touch with you?Name_____

Phone number _____

read back to verify

Thanks again.

FOLLOW-UP TELEPHONE QUESTIONNAIRE
PARENT FORM: 1985 GRADUATE - YEAR 2

STUDENT NAME_____**STUDENT ID#**_____
DISTRICT/SCHOOL_____**DATE OF INTERVIEW**_____
INTERVIEWER_____**YEAR OF GRADUATION** _____

Hello. I'd like to speak with _____. My name is _____. I am calling for the _____School District. This is the 2nd year of a five-year study the district is conducting to follow its graduates. We are interested in finding out how _____ is doing since we last spoke with you. All information is strictly confidential. This should only take about 5 minutes. May I talk with you now? (If yes, initial ____and proceed. If no, find out when to call back.)

A. POST-SCHOOL EDUCATION (DO NOT INCLUDE "ON-THE-JOB TRAINING" OR SHELTERED WORKSHOP IN THIS SECTION--THEY ARE PAID EMPLOYMENT)

1. Is _____**currently** in any type of **school** or training?_____
   a. ***If Yes,* where?**_____

0=social skills	3=business/vocational/trade school	7=Job Corps
1=community college	4=grad equiv (GED)	8=other_____
2=university or 4 year	5=job skills(for persons with handicaps,e.g.DDD prog)	9=dont know/refused

Same program as last year?_____ **Finished previous school program?**____
   b. **Has ____completed any other school program since last interview? Yes____No____**

	School 1	School 2
c. ***If YES*, where?**	_____	_____
What degree or diploma did he/she receive?	_____	_____

1 = GED	4 = Bachelor's degree	7 = certificate	0 = don't know/refused
2 = diploma	5 = Master's degree	8 = license	
3 = Associates degree	6 = Ph.D./Ed.D./MD	9 = Other: specify _____	

B. EMPLOYMENT:

2. Does _____**currently work for pay** at a job or in his/her own business?
   (If no, or DK, skip to #3 ; if yes,continue)
   a. **Is he /she self employed or does he/she work for someone else as an employee?**
      Self employed Employed DK No
      If self employed: What kind of business (work) does _____have (do)?_____
      Does _____run the business alone or does he/she have partners or employees?
      Alone Employees Partners DK
      If employed: What kind of work does _____ do? _____
      What kind of company/business does he/she work for? _____

   b. How many **hours per week** does_____work?_____
      If a range is given ask: About how many hours would it be in an average week? _____

   c. How much **money** does ____ make **per hour** from his/her job? **Hourly wage?** $_____
      If you can't get an hourly wage ask: Can you tell me how much he/she earns:
      Weekly $_____ Monthly? $_____ Annual? $_____ **Tips?** _____
      If a weekly, monthly or annual salary, ask: Is that gross pay before taxes___or take home pay?___

   d. Is ____**covered by medical insurance?**_____**If no,** does___**receive medical coupons?**
      If yes, Is it related to **his/her job?**_____**If yes:**
      Does _____'s **employer** pay the **medical premium** in connection with the job?_____
      If not related to job, who pays: **Self**_____ **Parents/Guardians**_____ **Public**_____
      Paid Vacation? _____ **Paid Sick Leave?**_____ **Retirement?** _____
      (Now go to Question 4 after benefits questions have been completed)

3. **If not currently employed, is____covered by any kind of medical insurance including medical coupons?_____**

   If Yes, by whom:
   Self_____ Parents/Guardians_____ Public_____

4. Does_____**receive money** regularly from Social Security, Public Assistance, Veteran's Benefits, or some other agency or resource like that? _____***If YES,*** From what programs or agencies does ____ receive money? (*can be up to 3 sources)* 1-_____ 2-_____ 3-_____

1=SSI	6=Student loan	11=Alimony or Child Support
2=Veteran's Benefits	7=Aid to Dependant Children	12=Military Reserves,GI Bill
3=Social Security-SSA	8=Labor and Industry	13=Div Voc Rehab (DVR)
4=Public Assistance/welfare	9=Unemployment Insurance	17=Other:_____
5=Scholarships-**not a loan**	10=Developmental Disabilities	18=unknown/refused

C. RESIDENCE:

5. Does_____**currently live in your household?** Yes ____ No _____

   a) **If yes and it is a parent, go to #6**
   (If yes, but not a parent, code as appropriate:_____)

   b) **If no: Where does ____ currently live?**_____
   (Please note: If no, but does lives with other parent, code "1")

1=parent's home	7=dormitory/barracks	10=incarcerated: prison, detention home, halfway house
2=other relatives/ host family	8=supervised: group home, institution,adult foster home, nursing home, ICF	11=street shelter
3=foster home	9=tenant support	12=employer-provided: eg ship
4=in house or apt		13=traveling
		18=other:_____
		19=unknown/refused

D.SOCIAL/RECREATIONAL:

6. Is _____**now** or has he/she **ever** been **married?**

1= never married	3= previously married
2= now married	4= don't know, refused

   a. **If now married, is he/she living with spouse: yes ____ no____**
   (If no, go to #7; if yes, continue):

   b. Does **he/she currently work for pay** at a job or in his/her own business?
   (If no, or DK, skip to #7 ; if yes,continue)
   Is he /she **self** employed or does he/she work for someone else as an employee?
   Self employ Employed DK No
   If self employed: What kind of business (work) does _____have(do)?_____
   Does she/he run the business alone or does he/she have partners or employees?
   Alone Employees Partners DK
   If employed: What kind of work does _____do?_____
   What kind of company/business does he/she work for? _____

   c. **How many years of school has he/she completed?**_____

7. Does____have any **children?** Yes___No___ ***if yes, ask:*** **how many?** ____***If no mark a*** "0"
   If yes, ask: How many children live with her/him? _____

8. How **satisfied** are you with _____'s **current overall life situation?** *employment, school, residence, social life*

1= Very Satisfied **3= Not Very Satisfied**

2= Somewhat Satisfied **4= Not at all Satisfied**

9= don't know, refused

Thank you very much. I appreciate the time and information you shared with me during this interview. We will be contacting you again next year to update some of this information. May I verify that we have your correct mailing address now? The address we have...(read the address from contact sheet. Write new address in if respondent indicates that a change or correction is needed. May I repeat that back to make sure that I got it correctly?) (verify)

Thank you. Just in case you move or change your phone during the next year, would you give me the name and phone number of someone who will always know how to get in touch with you? (Ask respondent for spelling of contact person's name, if needed, and repeat phone number back to verify it.)

Thanks again for your time. I look forward to talking with you again next year.

FOLLOW-UP TELEPHONE QUESTIONNAIRE
PARENT FORM: 1990 GRADUATE - YEAR 2

STUDENT NAME_____ **STUDENT ID#**_____
DISTRICT/SCHOOL_____ **DATE OF INTERVIEW**_____
INTERVIEWER_____ **YEAR OF GRADUATION** _____

Hello. I'd like to speak with _____. My name is _____. I am calling for the _____School District. This is the 2nd year of a five-year study the district is conducting to follow its graduates. We are interested in finding out how _____ is doing since we last spoke with you. All information is strictly confidential. This should only take about 5 minutes. May I talk with you now? (If yes, initial ____and proceed. If no, find out when to call back.)

A. POST-SCHOOL EDUCATION (DO NOT INCLUDE "ON-THE-JOB TRAINING" OR SHELTERED WORKSHOP IN THIS SECTION--THEY ARE PAID EMPLOYMENT)

1. Is _____**currently** in any type of **school** or training?_____
   a. ***If Yes,* where?**_____

0=social skills	3=business/vocational/trade school	7=Job Corps
1=community college	4=grad equiv (GED)	8=other_____
2=university or 4 year	5=job skills(for persons with handicaps,e.g.DDD prog)	9=dont know/refused

Same program as last year?_____ **Finished previous school program?**____
b. **Has ____completed any other school program since last interview? Yes____No____**

	School 1	School 2	
c. ***If YES*, where?**	_____	_____	
What degree or diploma did he/she receive?	_____	_____	
1 = GED	4 = Bachelor's degree	7 = certificate	0 = don't know/refused
2 = diploma	5 = Master's degree	8 = license	
3 = Associates degree	6 = Ph.D./Ed.D./MD	9 = Other: specify _____	

B. EMPLOYMENT:

2. Does _____**currently work for pay** at a job or in his/her own business?
   (If no, or DK, skip to #3 ; if yes,continue)
   a. **Is he /she self employed or does he/she work for someone else as an employee?**
      Self employed Employed DK No
      If self employed: What kind of business (work) does _____have (do)?_____
      Does _____run the business alone or does he/she have partners or employees?
      Alone Employees Partners DK
      If employed: What kind of work does _____ do? _____
      What kind of company/business does he/she work for? _____

   b. How many **hours per week** does_____work?_____
      If a range is given ask: About how many hours would it be in an average week? _____

   c. How much **money** does ____ make **per hour** from his/her job? **Hourly wage?** $_____
      If you can't get an hourly wage ask: Can you tell me how much he/she earns:
      Weekly $_____ Monthly? $_____ Annual? $_____ **Tips?** _____
      If a weekly, monthly or annual salary, ask: Is that gross pay before taxes___or take home pay?___

   d. Is ____**covered by medical insurance?**____**If no,** does ___**receive medical coupons?**
      If yes, Is it related to **his/her job?**_____**If yes:**
      Does _____'s **employer** pay the **medical premium** in connection with the job?_____
      If **not related to job,** who pays: **Self**_____ **Parents/Guardians**_____ **Public**_____
      Paid Vacation?_____ **Paid Sick Leave?**_____ **Retirement?**_____
      (Now go to Question 4 after benefits questions have been completed)

3. **If not currently employed, is____covered by any kind of medical insurance including medical coupons?_____**

   If Yes, by whom:
   Self_____ Parents/Guardians_____ Public_____

4. Does_____**receive money** regularly from Social Security, Public Assistance, Veteran's Benefits, or some other agency or resource like that? _____***If YES,*** From what programs or agencies does ____ receive money? (*can be up to 3 sources)* 1-_____ 2-_____ 3-_____

1=SSI	6=Student loan	11=Alimony or Child Support
2=Veteran's Benefits	7=Aid to Dependant Children	12=Military Reserves,GI Bill
3=Social Security-SSA	8=Labor and Industry	13=Div Voc Rehab (DVR)
4=Public Assistance/welfare	9=Unemployment Insurance	17=Other:_____
5=Scholarships-**not a loan**	10=Developmental Disabilities	18=unknown/refused

C. RESIDENCE:

5. Does_____**currently live in your household?** Yes ____ No _____

   a) **If yes and it is a parent, go to #6**
   (If yes, but not a parent, code as appropriate:_____)

   b) **If no: Where does ____ currently live?**_____
   (Please note: If no, but does lives with other parent, code "1")

1=parent's home	7=dormitory/barracks	10=incarcerated: prison, detention home, halfway house
2=other relatives/ host family	8=supervised: group home, institution,adult foster home, nursing home, ICF	11=street shelter
3=foster home	9=tenant support	12=employer-provided: eg ship
4=in house or apt		13=traveling
		18=other:_____
		19=unknown/refused

D.SOCIAL/RECREATIONAL:

6. Is _____**now** or has he/she **ever** been **married?**

1= never married	3= previously married
2= now married	4= don't know, refused

   a. **If now married, is he/she living with spouse: yes ____ no____**
   (If no, go to #7; if yes, continue):

   b. Does **he/she currently work for pay** at a job or in his/her own business?
   (If no, or DK, skip to #7 ; if yes,continue)
   Is **he /she self** employed or does he/she work for someone else as an employee?
   Self employ Employed DK No
   If self employed: What kind of business (work) does _____have(do)?_____
   Does she/he run the business alone or does he/she have partners or employees?
   Alone Employees Partners DK
   If employed: What kind of work does _____do?_____
   What kind of company/business does he/she work for? _____

   c. **How many years of school has he/she completed?**_____

7. Does____have any **children**? Yes___No___ *if yes, ask:* **how many?** ____*If no mark a* "0"
   If yes, ask: How many children live with her/him? _____

8. How **satisfied** are you with _____'s **current overall life situation?** *employment, school, residence, social life*

1= Very Satisfied **3= Not Very Satisfied**

2= Somewhat Satisfied **4= Not at all Satisfied**

9= don't know, refused

Thank you very much. I appreciate the time and information you shared with me during this interview. We will be contacting you again next year to update some of this information. May I verify that we have your correct mailing address now? The address we have...(read the address from contact sheet. Write new address in if respondent indicates that a change or correction is needed. May I repeat that back to make sure that I got it correctly?) (verify)

Thank you. Just in case you move or change your phone during the next year, would you give me the name and phone number of someone who will always know how to get in touch with you? (Ask respondent for spelling of contact person's name, if needed, and repeat phone number back to verify it.)

Thanks again for your time. I look forward to talking with you again next year.

APPENDIX D

Informants: Who Were Interviewed And The Reasons For Nonparticipating Families.

Tables 46-49 show a list of respondents and the reasons for our inability to contact the remaining families or for their nonparticipation in the study by Cohort, disability and gender for interviews 1 and 2.

TABLE 46. Informants for Interviews 1 and 2 for the 1990 Cohort by Gender and Disability.

1990 COHORT Interview 1		N	Mother n	Mother %	Father n	Father %	Mother Substitute n	Mother Substitute %	Father Substitute n	Father Substitute %	Graduate n	Graduate %	Other n	Other %
MMR	Total	15	11	73%	1	7%	2	13%					1	7%
	Male	6	5	83%	1	17%								
	Female	9	6	67%			2	22%					1	11%
LD	Total	91	61	67%	17	19%	7	8%	5	5%	1	1%		
	Male	71	49	69%	15	21%	4	6%	3	4%				
	Female	20	12	60%	2	10%	3	15%	2	10%	1	5%		
ND	Total	181	132	73%	34	19%	9	5%	3	2%			3	2%
	Male	112	79	71%	25	22%	5	5%	1	1%			2	1%
	Female	69	53	77%	9	13%	4	6%	2	3%			1	1%
Interview 2														
MMR	Total	13	10	77%	1	8%	2	15%						
	Male	5	4	80%	1	20%								
	Female	8	6	75%			2	25%						
LD	Total	86	57	67%	15	17%	6	7%	3	3%	5	6%		
	Male	67	45	67%	13	19%	4	6%	2	3%	3	4%		
	Female	19	12	63%	2	11%	2	11%	1	5%	2	11%		
ND	Total	169	122	72%	26	15%	5	3%	4	2%	7	4%	5	3%
	Male	104	75	72%	20	19%	2	2%	1	1%	3	3%	3	3%
	Female	65	47	72%	6	9%	3	5%	3	5%	4	6%	2	3%

Notes: MMR- mild mental retardation; LD- learning disabilities; ND- no disabilities
Mother Substitute includes grandmother, aunt, stepmother, foster mother, and sister.
Father Substitute includes grandfather, uncle, stepfather, foster father, and brother.
Other includes guardian, neighbor, and friend.

TABLE 47 Informants for Interviews 1 and 2 for the 1985 Cohort by Gender and Disability.

1985 COHORT Interview 1		N	Mother n	Mother %	Father n	Father %	Mother Substitute n	Mother Substitute %	Father Substitute n	Father Substitute %	Graduate n	Graduate %	Other n	Other %
MMR	**Total**	**20**	11	55%	4	20%	1	5%	2	10%	2	10%		
	Male	**11**	9	82%	1	9%			1	9%				
	Female	**9**	2	22%	3	33%	1	11%	1	11%	2	22%		
LD	**Total**	**96**	69	72%	19	20%	4	4%			4	4%		
	Male	**68**	46	68%	15	22%	3	4%			4	6%		
	Female	**28**	23	82%	4	14%	1	4%						
ND	**Total**	**180**	117	65%	42	23%	7	4%	3	2%	10	5%	1	1%
	Male	**114**	76	66%	24	22%	5	4%	1	1%	7	6%	1	1%
	Female	**66**	41	63%	18	27%	2	3%	2	3%	3	4%		
Interview 2														
MMR	**Total**	**19**	10	53%	3	16%	1	5%	2	11%	2	11%	1	5%
	Male	**10**	8	80%	1	10%			1	10%				
	Female	**9**	2	22%	2	22%	1	11%	1	11%	2	22%	1	11%
LD	**Total**	**89**	63	71%	17	19%	3	3%	1	1%	3	3%	2	2%
	Male	**62**	41	66%	15	24%	2	3%			3	5%	1	2%
	Female	**27**	22	81%	2	7%	1	4%	1	4%			1	4%
ND	**Total**	**169**	113	67%	37	22%	6	4%	3	2%	9	5%	1	1%
	Male	**107**	72	67%	23	21%	4	4%	1	1%	6	6%	1	1%
	Female	**62**	41	66%	14	23%	2	3%	2	3%	3	5%		

Notes: MMR- mild mental retardation; LD- learning disabilities; ND- no disabilities
Mother Substitute includes grandmother, aunt, stepmother, foster mother, and sister.
Father Substitute includes grandfather, uncle, stepfather, foster father, and brother.
Other includes guardian, neighbor, and friend.

TABLE 48. Reasons for Inability to Contact or Nonparticipation in the Study for the 1990 Cohort.

1990 COHORT		Total Poss	Total Contact		Refused		Dis-connected /no phone		Wrong number		Where-abouts unknown		Graduate Deceased		Moved; multiple no answers	
Interview 1		N	n	%	n	%	n	%	n	%	n	%	n	%	n	%
MMR	Total	20	15	75%	1	5%	1	5%	3	15%						
	Male	7	6	86%			1	14%								
	Female	13	9	69%	1	8%			3	23%						
LD	Total	117	91	78%	13	11%	3	2%	10	9%						
	Male	86	71	83%	7	8%	3	3%	5	6%						
	Female	31	20	65%	6	19%			5	16%						
ND	Total	261	181	69%	38	15%	10	4%	26	10%					6	2%
	Male	162	112	69%	24	15%	5	3%	17	10%					4	2%
	Female	99	69	70%	14	14%	5	5%	9	9%					2	2%
Interview 2																
MMR	Total	15	13	87%			1	7%					1	7%		
	Male	6	5	83%			1	17%								
	Female	9	8	89%									1	11%		
LD	Total	91	86	95%	1	1%	3	3%	1	1%						
	Male	71	67	95%	1	1%	2	3%	1	1%						
	Female	20	19	95%			1	5%								
ND	Total	181	169	93%	2	1%	8	4%	1	1%					1	1%
	Male	112	104	93%	2	2%	4	3%	1	1%					1	1%
	Female	69	65	94%			4	6%								

Notes: MMR- mild mental retardation; LD- learning disabilities; ND- no disabilities

TABLE 49. Reasons for Inability to Contact or Nonparticipation in the Study for the 1985 Cohort.

1985 COHORT		Total Poss	Total Contact		Refused		Dis-connected /no phone		Wrong number		Where-abouts unknown		Graduate Deceased		Moved; multiple no answers	
Interview 1		N	n	%	n	%	n	%	n	%	n	%	n	%	n	%
MMR	Total	28	20	71%	1	4%			6	21%			1	4%		
	Male	16	11	69%					4	25%			1	6%		
	Female	12	9	75%	1	8%			2	17%						
LD	Total	172	96	56%	19	11%	7	4%	48	28%	2	1%				
	Male	125	68	54%	14	11%	4	3%	38	30%	1	1%				
	Female	47	28	60%	5	11%	3	6%	10	21%	1	2%				
ND	Total	349	180	52%	53	15%	21	6%	82	23%			2	1%	11	3%
	Male	209	114	55%	29	14%	13	6%	45	21%			1	1%	7	3%
	Female	140	66	47%	24	17%	8	6%	37	26%			1	1%	4	3%
Interview 2																
MMR	Total	20	19	95%			1	5%								
	Male	11	10	91%			1	9%								
	Female	9	9	100%												
LD	Total	96	89	93%	2	2%	1	1%	1	1%	1	1%			2	2%
	Male	68	62	91%	1	1%	1	1%	1	1%	1	1%			2	3%
	Female	28	27	96%	1	4%										
ND	Total	180	168	93%	9	5%	1	1%	1	1%					1	1%
	Male	114	107	94%	5	4%	1	1%	1	1%						
	Female	66	61	92%	4	6%									1	2%

Notes: MMR- mild mental retardation; LD- learning disabilities; ND- no disabilities

APPENDIX E

Independent Residence Without Dormitories.

TABLE 50. Independent Residence with and without Dormitories by Gender and Disability for the 1990 Graduates.

1990 COHORT			YEAR 1			YEAR 2		
	Disab	N	% total independ residence	% living in dorms	% independ residence no dorms	% total independ residence	% living in dorms	% independ residence no dorms
Male	MMR	5	20%	0	20%	20%	0	20%
	LD	67	30%	11%	19%	38%	9%	29%
	ND	104	58%	37%	21%	59%	33%	26%
Female	MMR	8	25%	0	25%	25%	0	25%
	LD	19	11%	0	11%	32%	0	32%
	ND	65	45%	31%	14%	55%	21%	34%

Note: MMR- mild mental retardation; LD- learning disability; ND- no disability

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EDUCATION

University of Washington Seattle, Washington	**Ph.D. -- 1993** Summa Cum Laude	Special Education
University of Washington Seattle, Washington	**M.Ed. -- 1982** Summa Cum Laude	Special Education
West Chester University West Chester, Pennsylvania	**B.S. -- 1978** Summa Cum Laude	Special Education/ Elementary Education

PROFESSIONAL EXPERIENCE

PROJECT DIRECTOR 1983--1993
Experimental Education Unit, University of Washington, Seattle, WA.

Coordinated and conducted a variety of federal- and state-funded research projects including:

Statewide Follow-up Study of Secondary Special Education Students in Transition
Three-year statewide follow along study of special education and regular education graduates from ten school districts in Washington state.

Statewide Inservice Training Survey
A statewide Delphi study of the inservice needs of special and regular education teachers and service providers.

Individualized Transition Plans
Statewide evaluation of outcomes of individualized transition planning for youth in special education. This project was conducted in conjunction with the Office of the Superintendent of Public Instruction, Division of Special Services.

Pave Project
Third party evaluation of Washington PAVE (parent advocacy organization) *Parent to Parent Project.*

Tracking and Intervention Model for Students at Risk of Dropping Out of Special Education.
Four-year follow-along study and intervention project for special education students at risk for dropping out of school in two suburban school districts in Washington state.

Childhaven Project
Three-year study of the outcomes of children who attended a therapeutic child care model for abused and neglected children.

First Decade After School
Five-year follow-up study of youth with and without disabilities who graduated in 1985 and 1990 from three school districts in Washington.

In addition to the day-to-day direction of these projects, tasks and activities included survey and interview script development, study design, data collection, data analyses management and interpretation, staff hiring, training and supervision, report writing and presentations, grant writing, and budget management.

INSTRUCTOR 1984--1985
Experimental College, University of Washington, Seattle, WA
Co-designed and -taught course entitled, *Traveling in the Peoples Republic of China On Your Own* .

RESEARCH ASSISTANT 1981--1982
Special Education Department, University of Washington, Seattle, WA.
Assisted with various research projects.

SPECIAL EDUCATION TEACHER 1978--1980
Wilmington High School, New Castle County School District, Wilmington, DE.
Taught Math, Social Studies, History, and Reading to 9th-12th graders with mild to moderate mental retardation, learning disabilities, and behavior disorders.

PROGRAM COORDINATOR & INSTRUCTOR 1978--1979
Delaware Association for Retarded Citizens, Wilmington, DE.
Coordinated and operated a social and recreation program for adolescents with moderate to severe mental retardation.

CHILD CARE WORKER 1974; 1975-1976
Kibbutz Ein Harod, Ihud, Israel.
Taught and worked with children aged 3-5 in a kibbutz kindergarten.

HONORS

Graduate Fellowship and Research Assistantship- 1981-1982
Graduate Fellowship: Research Careers- 1991-1993
Summa Cum Laude- graduate and undergraduate degrees
Phi Beta Kappa- 1978

FEDERAL GRANT AWARDS CO-AUTHORED

Models for the Coordination of Postschool Training for Special Education Graduates.
1984-1987
Statewide Follow-up Study of Secondary Special Education Students in Transition.
1985-1988
Polymorphic Tracking and Intervention Model for Students who Drop Out or are at Risk of Dropping Out of Special Education Programs in Suburban Washington State.
1988-1992
First Decade After Graduation: Qualitative Analysis of Postschool Outcomes for 1985 and 1990 Graduates, and the Implications for Secondary Special Education Program Improvement.
1990-1995

PROFESSIONAL AFFILIATIONS AND COMMITTEE MEMBERSHIPS

Council for Exceptional Children (CEC)
American Education Research Association (AERA)
Parent Advisory Board: Northwest Child Development Center-1989-1990
Washington State Interagency Transition Plan: Postschool Options Committee-1987
Seattle-Chongqing Sistercity Association Delegate to China- July-September, 1983

MAJOR PRESENTATIONS

West Coast Conference on Employment of Persons with Disabilities. Palm Springs, CA, January 21-22, 1993. *Gender and Disability: Are there Differences in the Long-term Postschool Adjustment Between Males and Females who Graduated from Special and Regular Education?*

Research and Inquiry Presentations-University of Washington. Seattle, WA, May 3, 1991. *Outcomes of a Therapeutic Day Care Model for Abused and Neglected Children: Relationships of Mother Characteristics to Custody and Safety of the Child.*

Research and Inquiry Presentations-University of Washington. *Seattle, WA, May 14, 1992. Parent and Student Respondents: Do They Agree? An Analysis of Respondent Agreement in Follow-up Studies of Graduates of Special and Regular Education Programs.*

National Conference on Alternatives in Jewish Education (CAJE). Seattle, WA, August 13-17, 1989. *From School to Life: Postschool Status and Quality of Life Indicators for Youth with Disabilities.*

Individualizing Supports for Successful Transitions. Dover, DE, May 5, 1989, *From School to Life: Transition Efforts for Young Adults with Disability.*

Council for Exceptional Children (CEC) National Conference. New Orleans, LA, March 31-April 4, 1986. *Washington State Follow-up Studies of Secondary Special Education Students in Transition.*

OSPI Major Transitional Activities in Washington. Olympia, WA, February 11, 1986. *Postsecondary Model for the Coordination of Postschool Training for Graduates of Special Education.*

OSPI Occupational Preparation of Handicapped Students Statewide Workshop. Everett, WA, August 12, 1986. *Follow-up Placement Data.*

Washington Association for Vocational and Special Needs Personnel (WAVSNP) Conference. Seattle, WA, October, 1986. *Preliminary Findings from the Statewide Follow-up Study of Special Education Students in Transition.*

Governor's Committee on the Employment of the Handicapped- Series of Conferences. Various locations in Washington state, January-June, 1985. *Follow-up Data: 1976-1985.*

PUBLICATIONS

Levine, P. & Edgar, E. (in press). An analysis of respondent agreement in follow-up studies of graduates of special and regular education programs. *Exceptional Children.*

Levine, P. (in review). Do males and females with mild disabilities have different postschool experiences? Implications for special education teachers. *Issues in Teacher Education.*

Levine, P. (in review). Outcomes of a therapeutic day care model for abused and neglected children: Relationships of mother characteristics to custody and safety of the child. *Child Welfare.*

Levine, P. (1992). *The case of the missing subject: Missing subjects and response rates in follow-up studies of special and regular education graduates.* Experimental Education Unit. Seattle: University of Washington.

Affleck, J.Q., Edgar, E., Levine, P., & Kortering, L. (1990). Postschool status of students classified as mildly mentally retarded, learning disabled, or nonhandicapped: Does it get better with time? *Education and Training in Mental Retardation,* 25(4), 315-324.

Jackson, C., Edgar, E., Levine, P., & Dubey, M. (1989). *Evaluating Outcomes of Transition Planning- Final Report.* Olympia: Office of the Superintendent of Public Instruction, Division of Special Services.

Neel, R.S., Meadows, M., Levine, P., & Edgar, E. (1988). What happens after special education: A Statewide follow-up study of secondary students who have behavior disorders. *Behavioral Disorders,* 13, 209-216.

Levine, P., Dubey, P., Page, J., & Levine, R. (1988). *Washington PAVE parent to parent training project: A third party evaluation.* Experimental Education Unit. Seattle: University of Washington.

Edgar, E., & Levine, P. (1987). *A longitudinal follow-along study of graduates of special education.* Experimental Education Unit. Seattle: University of Washington.

Edgar, E., & Levine, P. (1987). *Special education students in transition: Washington state data 1976-1986.* Monograph. Experimental Education Unit. Seattle: University of Washington.

Levine, P., Edgar, E., Dubey, P., & Levine, R. (1987). *Special education students in transition: methodological guidelines.* Monograph. Experimental Education Unit. Seattle: University of Washington.

Levine, P., Allen, L., & Wysocki, K. (1986). *The follow-up study: An annotated bibliography.* Experimental Education Unit. Seattle: University of Washington.

Edgar, E., & Levine, P. (1986). *Statewide Follow-up Studies of Postsecondary Special Education Students in Transition.* Experimental Education Unit. Seattle: University of Washington.