

# Changing circumstances: Experiences of child SSI recipients before and after their age-18 redetermination for adult benefits

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**Abstract.** This paper provides an analysis of the dynamics of the transition of child Supplemental Security Income (SSI) recipients into adulthood using linked 2001–2002 National Survey of SSI Children and Families (NSCF) survey and Social Security Administration (SSA) administrative data. We examine the interaction of impairment status, reported health needs, and other self-reported indicators of human capital on SSI program and employment outcomes after age 18. Our primary objective is to examine the differences in pre-age-18 individual characteristics across subgroups of recipients by impairment status and determine whether these differences influence post-age-18 SSI participation and employment outcomes. We find that after controlling for measures of disability severity, duration, and human capital, youth with behavioral disorders and mental disorders other than mental retardation are much less likely to receive SSI at age 19. The findings also suggest that non-health factors, particularly education, employment, and social indicators, play an important role in the probability of a child SSI recipient being on adult SSI after age 18. Our findings indicate that, while some youth appear to be making a successful transition from child SSI benefits to adult benefits or other activities (off of SSI), others appear to have limited prospects for long-term self-sufficiency. A major concern is that some youth no longer on SSI after age 18, particularly those with behavioral disorders and mental disorders other than mental retardation, may not have been sufficiently prepared for life without SSI.

**Keywords:** Supplemental Security Income, SSI, transition, youth, disabilities, social security, SSA, age 18 redetermination, National Survey of SSI Children and Families (NSCF)

## 1. Introduction

The child Supplemental Security Income (SSI) program, a means-tested cash benefit for children with severe disabilities, provides an important source of income for youth under the age of 18. As mandated in the Personal Responsibility and Work Opportunity Reconciliation Act (PRWORA) of 1996, child SSI recipients must have their eligibility for SSI redetermined

under the adult eligibility criteria once they reach age 18. Approximately one-third lose eligibility during this redetermination because they do not meet the adult SSI disability criteria or leave the program for other reasons [19].

The age-18 redetermination is a significant event in the lives of child SSI recipients and their families, and is a source of controversy among advocates, members of the research community, practitioners, and public officials. Central to the debate is whether it is appropriate for youth to be redetermined under the adult criteria at age 18. Some argue that Congress should extend the redetermination past age 18 to allow youth to obtain enough skills to find jobs that would enable them to live independently, as well as to be consistent with

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other federal policies for youth with disabilities. This argument is based on the premise that under the Individuals with Disabilities Education Act children are entitled to receive special education services through age 21 – recognizing the need for important educational and other supports leading to post-school success. However, extending the age of the redetermination process would reverse the intent of the PRWORA legislation that emphasized the importance of distinguishing between child and adult disability status to address concerns regarding rapid program growth. Additionally, the effect that extending the age of redetermination may have on child recipients' accumulation of human capital (e.g., education, training, and early work experience) is unclear. Some might be more likely and others less likely to accumulate such capital.

The debate over the age-18 redetermination has been hampered because of limited data on the characteristics and transition outcomes of child SSI recipients after redetermination. Some studies have shown substantial variation in the demographic, family, and social characteristics within the child SSI population, particularly across those who are on versus off of adult SSI benefits after age 18 [10,13,25]. However, the information is more limited regarding how individual characteristics of child SSI recipients prior to age 18 – especially impairment and pre-redetermination activities (e.g., schooling or employment) – influence program and employment outcomes in adulthood.

This paper provides a more comprehensive analysis of the dynamics of the transition process of child SSI recipients by examining the interaction of impairment status, reported health needs, and other self-reported indicators of human capital on SSI program and employment outcomes after age 18. Our primary objective is to examine the differences in pre-age-18 individual characteristics across impairment subgroups of recipients and determine whether these differences influence post-age-18 SSI participation and employment outcomes. We examine these dynamics using linked data from the 2001–2002 National Survey of SSI Children and Families (NSCF) and Social Security Administration (SSA) administrative records. While the paper does not address whether a redetermination at age 18 is appropriate, it does provide insights about which recipients are more likely to remain on or no longer receive SSI after the redetermination, how child recipients have fared after redetermination, and differences in experiences across subgroups.

### 1.1. Key findings in brief

Our results indicate that the SSI program and employment outcomes following the age-18 redetermination vary across impairment categories, although we find that the probability of no longer receiving SSI after age 18 correlates with several other pre-age-18 individual and human capital characteristics. Consistent with published statistics, child SSI recipients with mental and behavioral impairments other than mental retardation are least likely to remain on SSI at age 19, relative to those with other impairments. Additionally, the probability of remaining on SSI inversely correlates with functioning and pre-age-18 education, social, and employment characteristics. Of particular concern is that many youth who are off SSI at age 19 report a high arrest history prior to age 18, which could indicate that some youth are “falling through the cracks” of the system and left with no income support and poor employment prospects. While some youth appear to be successfully transitioning from child SSI benefits to adult benefits or other activities, some consideration might be given to extending supports for those who appear to have limited prospects for long-term self-sufficiency, particularly those with mental impairments.

## 2. Background

The child SSI program, administered by SSA, provides an important source of cash benefits to low-income families. In 2009, the maximum federal SSI payment for a child was \$674 per month (approximately 75 percent of the poverty line for an individual), and many states provided a separate supplement to the federal payment, ranging from a few dollars to approximately \$150 per month. That year, there were 1.1 million SSI recipients under the age of 18 [20]. There is no guarantee that a child's benefits will continue after age 18, however, because eligibility rules for children and adults differ. For youth with disabilities, the transition from childhood to adulthood can be complicated further by disparate support systems and confusing incentives and disincentives for developing human capital during the transition period.

### 2.1. SSI eligibility criteria differ for children and adults and, at age 18, all child recipients must be redetermined for SSI under the adult criteria

To qualify for SSI, children and their families must meet strict income, asset, and disability eligibility cri-

teria (see Davies et al. [4] for a more detailed description). The income and asset criteria are based on a complex set of rules that require the parent's (or guardian's) and child's income and assets to fall below a certain threshold. To meet the disability criteria, a child must have "a medically determinable physical or mental impairment which results in marked and severe functional limitations, and which can be expected to result in death or which has lasted or can be expected to last for a continuous period of not less than 12 months" [22]. Once on the rolls, recipients must continue to satisfy the strict income, asset, and disability eligibility criteria to continue receiving benefits. SSA is mandated to conduct Continuing Disability Reviews (CDRs) at least once every three years to assess the child's eligibility, unless there is a determination that the child's health condition is not expected to improve.

Upon reaching age 18, child SSI recipients must undergo a redetermination of eligibility, using the adult definition of disability, to continue receiving SSI benefits. Since 1996, SSA has been required to conduct redeterminations within one year of a child's 18th birthday (PRWORA, or Public Law 104–193), although this regulation was relaxed in 2006 by Public Law 105–133 to allow for longer periods if necessary. Unlike the child criteria, the adult disability criteria are based on a person's ability to perform work at a substantial gainful activity level (SGA), defined in 2009 as \$980 per month. If the decision is unfavorable, SSI eligibility ends the last day of the second month following the month of the decision, and individuals are notified and made aware of their right to appeal. Between 1996 and 2004, more than 400,000 recipients had age-18 redeterminations [19] and after appeals, approximately one-third of the redeterminations resulted in a cessation of benefits.<sup>1</sup> Rogowski et al. [13] found eligibility differences across subgroups; children who had a diagnosis of mental retardation were much more likely to be found eligible as adults, relative to those with other diagnoses.

<sup>1</sup>Recipients facing the age-18 redetermination may leave the program of their own volition. Rogowski et al. [13] estimate that only 7 percent of individuals truly unaffected by the age-18 redetermination (because of their specific disability type) would have left SSI on their own. This was estimated as part of an analysis of the effect of PRWORA, and it is not clear what the true normal exit rate is for cohorts unaffected by the change in program rules. As a baseline comparison for pre-age-18 redetermination exit rates, however, we find from NSCF data that only 9 percent of individuals on SSI at age 15 are off of SSI at age 17, and 15 percent of individuals age 14 in the NSCF are off of SSI at age 16.

## 2.2. *The age-18 redetermination process has important implications for a youth's human capital decisions*

The uncertainty of the age-18 redetermination might influence a youth's decision to seek education, training, and work skills prior to age 18, as well as family decisions regarding work and investment in human capital [1,26]. Recipients who believe they are likely to lose benefits at redetermination might be more likely to accumulate human capital (e.g., work experience or schooling), while those who think that they will remain on SSI after age 18 might be less likely to do so for fear of jeopardizing future benefits. The choice to return to work might be especially difficult for many child SSI recipients who have unmet health needs and fear losing future access to health benefits through Medicaid [5].

Parents of child SSI recipients face difficult choices for their own employment and might be worried about their child returning to work, particularly if this work effort jeopardizes their child's benefit level. Further, as noted in Rupp and Ressler [15], many families, particularly single parent families, already must make difficult employment and care giving decisions that are tied to the health needs of the youth.

In part because of these concerns, the Social Security Advisory Board [19] recommended that SSA take an active role in informing educators, parents, and caregivers about the implications of the age-18 redetermination, and in broadening the opportunities for further human capital development. Specifically, they recommended that SSA begin a process of notifying SSI youth and their parents or caregivers about the age-18 redetermination as early as age 14. They also recommended expanding the use of work incentives (e.g., the student earned income exclusion and Section 301 of the Social Security Disability Amendments of 1980 protections that allow youth to continue to receive SSI after age-18 even if they are found ineligible at the age-18 redetermination as long as they continue to participate in training and vocational rehabilitation activities) to promote early development of human capital.

## 2.3. *The transition to adulthood, particularly for those receiving SSI, can be complicated further by disparate support systems*

While they are in school, students with disabilities, including many SSI recipients, receive services from one provider – the school system – and those services typically are provided in a relatively organized manner.

However, as students with disabilities exit the school system, they face an array of service providers that operate with different eligibility requirements and usually are not located under one roof. While publicly supported education services are an entitlement for youth with disabilities until they receive a diploma or turn age 22 (or older, at state option), most other state services cease upon attainment of one of those milestones, and these youth must then enter the adult support system.

The transition to adulthood can be problematic because access to many adult services regarded as essential for successful transition are not entitlements, including vocational rehabilitation (VR), and mental health services. Long waiting lists for these services are common [21]. In addition, eligibility determination processes vary by state so the initiation of adult services for youth in transition may be timely in one state and significantly delayed in another.

### 3. Data description

Our use of linked survey and administrative data from the NSCF and SSA administrative records allows us to examine how the interaction of individual impairment, demographic, and family characteristics influence longitudinal program and employment outcomes. The NSCF survey data include detailed information on the youth's family characteristics (e.g., income or family structure), school activities, and participation in other activities (e.g., VR) that might influence these experiences. The SSA administrative data include lifetime program information that can be used to track basic recipient characteristics and program outcomes. Below, we provide a more detailed description of these data and discuss their advantages for our analysis.

#### 3.1. *Linked NSCF-SSA administrative files*

The NSCF is the first nationally representative survey of current and former SSI recipients and applicants conducted since 1978. It includes detailed information on the program, work, and education experiences of current and former child SSI recipients unavailable from any other source [8]. SSA contracted with Mathematica Policy Research, Inc. (MPR) to conduct the NSCF, which was fielded between August 2001 and July 2002. The NSCF target population includes two cohorts of children (ages 0 to 17) and young adults (ages 18 to 23) in the SSI applicant and recipient administrative program files who were eligible or had applied

for SSI either as of December 1996 or December 2000. See Rupp and Davies [3] for more information on the NSCF sample and Rupp et al. [14] for a profile of all children included in the NSCF.

SSA linked the NSCF data to three SSA administrative data sources that can be used to track longitudinal program participation, earnings, and death outcomes of recipients: the Supplemental Security Record (SSR), the Master Earnings File (MEF), and the Numident file. The SSR contains the program characteristics, monthly SSI eligibility, and payment history of individuals since the SSI program paid benefits in 1974. The MEF contains yearly Social Security-covered earnings from the Internal Revenue Service's W-2 tax records. Because not all earnings are covered by Social Security, our estimates of employment and earnings are for the covered sector only. The most recent year for which earnings data were available at the time of writing was 2004, which provided up to three years of earnings information following the NSCF interview. Finally, the Numident file stores the Death Master File of the U.S. government and provides the most accurate date of death available for individuals.

#### 3.2. *Sample selection and weighting*

Our analysis sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) *and* (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records.<sup>2</sup> These selection criteria identify a sample of beneficiaries just before their age-18 redetermination.

We use the sample weights included in the NSCF file to ensure that the sample is representative of the SSI populations in the two NSCF-targeted cohorts and present sample errors for the estimates (see Gillcrisp and Edson [7] for a more detailed description of the NSCF's weighting scheme). We use balanced repeated replicate weights created for the files and estimate the standard errors using Stata's complex survey estimation procedures. Unless otherwise noted, any differences described below in our descriptive comparisons are statistically significant at the 95 percent confidence level or above 5 percent level.

<sup>2</sup>This sample includes beneficiaries age 17 to 18 who were interviewed in the 2000 calendar year (who were eligible for SSI in January 1999 and January 2000, respectively) and beneficiaries age 17 to 18 who were interviewed in the 2001 calendar year (who were eligible for SSI in January 2000 and January 2001).

#### 4. Methods

We use the linked data to examine the characteristics of impairment subgroups of SSI recipients prior to age 18 and their adult SSI and employment outcomes after their age-18 redetermination. In Appendix Table A1, we provide a complete listing and definitions of the variables included in our analyses.

We begin by comparing the characteristics of child SSI recipients prior to age 18 across four SSA impairment subgroups, based on the primary impairment code that SSA used to award the original child SSI benefit. One limitation of these codes is that the primary impairment that qualifies someone for benefits might not reflect their principal disabling condition or any secondary conditions that affect their ability to function. The code may also reflect the primary disabling condition at the time of initial eligibility, which may have evolved over time. Nonetheless, these codes provide some important information on medical conditions of the youth, and are used by SSA to characterize and classify recipients. A major advantage of this approach is that our findings can be used to inform policy options for subgroups that can be identified readily using administrative data. This feature is especially important, given such recent SSA initiatives as the Mental Health Treatment Study, which target return to work services for adult SSA disability recipients with specific SSA impairment codes.

We create the following four subgroups: (1) mental retardation, (2) other mental and behavioral disorders, (3) systems and sensory diseases, and (4) other disabilities. The mental retardation category is the largest administrative impairment subgroup within the child SSI population, followed by the other mental and behavioral disorders category. The final two categories include youth whose impairments are more physical (see Appendix Table A1 for a full description of primary impairments in each category). Rogowski et al. [13] showed that differences exist across these impairment groups with respect to program outcomes, and findings from the special education literature indicate that differences likely will exist across these impairment groups with respect to employment and social outcomes.

To examine differences in program outcomes after age 18, we compare the characteristics of recipients who remained on SSI at age 19 (on-SSI) to those who were off at age 19 (off-SSI). The on-SSI group included sample members who were receiving SSI benefits in January of the year they turned 19, while the off-SSI group included sample members who were not on

SSI because they were not eligible for the adult program (because they did not meet the disability and/or income and asset criteria) or left the program for some other reason. We chose this age because most age-18 redeterminations presumably should be completed by this birthday.<sup>3</sup> Our findings after age 18 provide some indication of the immediate relationship between the post-age-18 program and employment outcomes and pre-age-18 characteristics that we use to characterize the transition process for different impairment groups. Based on the findings from Rogowski et al. [13], we anticipate that some substantial differences might exist in program and employment outcomes across our four impairment subgroups, especially for those with physical and mental impairments. Approximately one-third of our total sample (248 of the 730 cases) had benefits ceased during the redetermination process, many of whom were determined ineligible for non-disability reasons (see Appendix Table A2).

We further examine the relationship between the pre-age-18 characteristics of child SSI recipients and their SSI participation after age 18 using logistic regressions. This analysis will help policymakers better understand the complex underlying relationships between the various personal characteristics affecting post-age-18 program participation. We estimate several models in which we sequentially add various sets of control variables to examine how the probabilities of post-age-18 SSI participation changed for the four impairment subgroups identified in our descriptive analyses. If impairment is a robust predictor of outcomes, we would expect the coefficients for the impairment subgroups to remain unchanged across model specifications.

We estimate the following logistic model:

$$\ln \frac{P(Y_i = 1)}{1 - P(Y_i = 1)} = \alpha + \sum_{j=1}^J \beta_j \text{Impairment}_{ij} + \sum_{k=1}^K \gamma_k \text{Age of Program Entry}_{ik} + \sum_{l=1}^L \delta_l \text{Self Reported Health}_{il}$$

<sup>3</sup>To be considered “timely,” age-18 redeterminations should be started within one year of an individual’s eighteenth birthday, so it is possible that some redeterminations may not be completed until the youth reach age 19. SSA has found that almost all redeterminations are conducted in a timely manner [16]. We analyzed SSI status at ages 20 and 21 and obtained similar results to the analysis at age 19. However, after age 19, the sample size drops because individuals die or not enough time has elapsed for our sample to reach these ages. As a result, we present results of the analysis at age 19 only.

$$\begin{aligned}
& + \sum_{m=1}^M \eta_m \text{Human Capital Characteristics}_{im} \\
& + \sum_{n=1}^N \lambda_n \text{Demographic and Family} \\
& \text{Characteristics}_{in} + \varepsilon_i.
\end{aligned}$$

Where:

- $Y_i$  is an indicator for whether the child  $i$  is receiving SSI benefits at age 19.
- $\text{Impairment}_{ij}$  is a set of dichotomous variables for a child  $i$ 's impairment status based on SSA program records in 2000, at the time the child was selected for inclusion in the NSCF. The categories are mental retardation, other mental and behavioral disorders, and other disabilities. (The systems and sensory diseases category, including impairments of the nervous system and sense organs, is the excluded category).
- $\text{Age of Program Entry}_{ik}$  is a set of dichotomous variables for a child  $i$ 's age at first SSI receipt. The categories include ages 10–13 and 14–17 (less than 10 years old is the excluded category).
- $\text{Demographic and Family Characteristics}_{in}$  is a set of dichotomous variables that represent the demographic and family characteristics of child  $i$  at the time of the NSCF interview. The variables include: (1) living in a two-parent family, (2) male, (3) white, and (4) age 18 at the time of the survey.
- $\text{Self-Reported Health}_{il}$  is a set of dichotomous variables that represents the self-reported health status of child  $i$  based on NSCF questions. The eight selected variables include: (1) needing or using more services than others the same age; (2) needing or using medicine prescribed by a doctor; (3) limited in ability to do the things others do at the same age; (4) needing or getting special therapy; (5) needing or getting mental health treatment or counseling; (6) using special medical equipment; (7) needing help with personal care; and (8) needing help with handling routine needs.
- $\text{Human Capital Characteristics}_{im}$  is a set of dichotomous variables that represents the human capital characteristics of child  $i$  prior to age 18, based on survey responses and administrative data. The variables include: (1) employment at ages 16 or 17; (2) ever being arrested; (3) ever being suspended or expelled from school; (4) currently enrolled in school; (5) ever in special education; (6) ever received vocational training; (7) ever participated in VR (as measured by having an Indi-

vidual Written Rehabilitation Plan [IWRP]); and (8) ever earned more than \$2,000 at ages 16 or 17.

We present the findings as the odds ratios of logistic regression results, rather than as coefficients. The odds ratio is the odds of an event occurring when the corresponding variable increases by one unit, divided by the odds of the event occurring had the corresponding variable not increased by one unit.

We conclude with an analysis of the employment and earnings experience after age 18 to determine whether former child SSI recipients are entering the labor market and, for those no longer on SSI, replacing their child SSI benefits with earnings. Presumably, youth no longer on SSI should have higher employment and earnings relative to those on SSI after age 18, given that the off-SSI group needs an alternative source of income to replace SSI benefits.

#### 4.1. Characteristics of the research sample

The research sample of child SSI recipients shows impairment, demographic, and family characteristics similar to those found in previous studies (Table 1). The sample included 730 NSCF respondents representing a weighted total of 97,106 child SSI recipients who were age 17 in the 1999–2003 SSI cohorts. At the time of the NSCF interview, 44 percent of our sample was age 17. Consistent with Wittenburg and Loprest [25] and Rogowski et al. [13], mental disorder was the primary impairment for more than 75 percent of child recipients in our sample; 50 percent had a primary diagnosis of mental retardation, and 26 percent had a primary diagnosis of another mental or behavioral disorder, including affective, anxiety, schizophrenia, and other mental and behavioral disorders. Approximately two-thirds (63 percent) of our sample were male, less than half were white, and more than half lived in single-parent families. Most child SSI recipients (84 percent) started benefit receipt prior to age 13, and the majority of those were receiving benefits before age 10. Consequently, most of the research sample had been receiving benefits for at least four years prior to their NSCF interview, and the majority had more than seven years of SSI participation.

### 5. Characteristics of child SSI recipients prior to age 18 by impairment status

Potential barriers for child SSI recipients facing the transition to adulthood include challenges associated

Table 1  
Demographic and family characteristics of child SSI recipients (age 17 to 18)

	Percent	Standard error (SE)
Gender		
Male	62.9	1.0
Age at Time of NSCF Interview		
17	43.9	1.1
Race		
White	46.7	1.9
Education		
In school (6th – 12th grade, special education)	58.6	1.4
Graduated high school	11.0	0.6
Dropped out/out of school/other	30.4	1.4
Living Arrangements		
Two-parent family	23.4	1.2
Single-parent family	55.1	1.3
Other	21.5	0.9
SSA Primary Impairment at Age 17		
Mental retardation (MR)	49.6	1.1
Mental and behavioral disorders (other than MR)	25.8	0.9
Systems disorders	14.8	0.9
Other disabilities	9.8	0.8
Age at Program Entry		
Under 10	57.1	1.2
10–13	27.0	1.0
14–17	15.9	1.1
Sample Size		730
Weighted Sample Size		97,106

Source: Authors' tabulations using linked 2001–2002 NSCF and SSA data files.

Notes: The sum of individual categories may not equal the total because of individual rounding. Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) *and* (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Impairment and age at program entry are based on SSA administrative records. All other characteristics are based on the recipients' responses to the NSCF interview. See Appendix Table 1 for a full description of all variables. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF.

with their impairment (e.g., needed medications), social issues, access to a coordinated set of services and supports, and difficult choices regarding human capital decisions, especially work, that could jeopardize their long-term SSI eligibility. These barriers could result in choices that compromise their ability to complete successful transitions, including an under-investment in human capital and poor social development. Their transition outcomes may have serious long-term implications, limiting youth with severe disabilities to long-term dependence on SSA disability benefits.

The barriers faced by youth vary substantially by impairment category. Below, we examine differences in demographic and family characteristics, functioning and disability characteristics and indicators of human capital development across SSI impairment subgroups that might influence short- and long-term outcomes. These findings provide some context for the discussion of transition and post-age-18 outcomes discussed in later sections.

### 5.1. Demographic and family characteristics

There were large differences in the gender, racial, and family characteristics across the four impairment groups that potentially could influence post-age-18 program outcomes (Table 2). Relative to the child SSI population as a whole, the systems and sensory diseases subgroup had fewer males (50 percent vs. 63 percent) and were more likely to be white (56 percent vs. 47 percent); the mental retardation subgroup was less likely to be white (41 percent vs. 47 percent); and the other mental and behavioral disorders group was less likely to be living in a two-parent family (18 vs. 23 percent).

### 5.2. Health needs and disability onset characteristics

To capture differences in health needs that might influence the use of transition services, we analyze a set of screening questions included in the NSCF to identify children with special health care needs. These ques-

Table 2  
Demographic and family characteristics of child SSI recipients (age 17 to 18), by SSA impairment status

	Total		Mental retardation		Other mental disorders		Systems and sensory diseases		Other disabilities	
	%	SE	%	SE	%	SE	%	SE	%	SE
Total										
Percent of Population (weighted)	100	–	49.6	1.10	25.8	0.89	14.9	0.92	9.8	0.78
Gender										
Male	62.9	0.95	62.9	1.60	68.1	2.16	50.3	3.71	68.2	3.45
Race										
White	46.7	1.91	40.9	2.46	50.8	2.91	55.7	4.30	51.3	4.22
Living Arrangements										
Two-parent family	23.4	1.23	25.3	1.71	17.7	1.42	23.5	2.94	28.4	3.51
Single-parent family	55.1	1.27	52.5	1.77	55.1	2.36	62.6	3.32	57.1	3.42
Other	21.5	0.88	22.2	1.08	27.3	2.22	13.9	1.61	14.5	3.02
Sample Size	730		372		205		90		63	
Weighted Sample Size	97,106		48,133		25,072		14,419		9,483	

Source: Authors' tabulations using linked 2001–2002 NSCF and SSA data files.

Notes: The sum of individual categories may not equal the total because of individual rounding. Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) and (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Characteristics are based on the recipients' responses to the NSCF interview. See Appendix Table 1 for a full description of all variables. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF.

tions were developed by the Foundation for Accountability (FACCT), and identify children who satisfy any one of five conditions where the condition is expected to last, or has lasted, 12 months or longer and is due to a medical, behavioral, or other health condition. The conditions are (1) need or use more services than others of the same age; (2) need or use medicine prescribed by a doctor; (3) are limited in their ability to do the things that others of the same age do; (4) need or get special therapy; or (5) need or get mental health treatment or counseling. We also analyze survey questions on the use of special medical equipment, and the need for help with personal care or handling routine needs because of a health condition.

Most child SSI recipients reported a special health need according to the FACCT screener (87 percent), which is consistent with the SSI program's stringent disability definitions (Table 3). More than two-thirds needed or used more services than others the same age, and almost as many felt limited in their ability to perform age-appropriate tasks (62 percent). If the FACCT screener is a reasonable proxy for health severity, then the 13 percent of child SSI recipients who did not report any special health needs should be more likely to be off of SSI after age 18 than other groups. In addition, many child SSI recipients reported the need for other health supports not covered in the FACCT screener. Most needed help in handling a routine need (72 percent) and a minority reported more intensive needs for personal care (23 percent) or special medical equipment (11 percent).

There was variation in the types of specific health care needs within the impairment subgroups, although a large portion of all groups reported a need for mental health treatment. Youth with other mental and behavioral disorders were most likely to report a need for mental health treatment, while those with physical disabilities (systems and sensory diseases or other disabilities) were more likely to use special medical equipment and personal care. At least 40 percent of each impairment subgroup reported a need for mental health treatment/counseling, indicating that the need for mental health services extends beyond the mental retardation and other mental and behavioral disorders categories.

The age at which individuals entered SSI also could influence post-age-18 program outcomes if recipients who enter the program earlier differ from those who enter at later ages. Presumably, youth who enter SSI as young children have more easily identifiable impairments at early ages that make them program eligible and so are more likely to remain eligible after age 18 relative to groups identified at older ages. Alternatively, there may have been changes in family income which could have resulted in the child becoming financially eligible later in childhood. Additionally, younger child SSI recipients also will have passed more CDRs than older children, possibly indicating more severe levels of impairment relative to those who enter the program at older ages.

Our findings indicate that those SSI recipients who had more readily identifiable physical disorders – men-

Table 3  
Health characteristics and program entry date of child SSI recipients (age 17 to 18), by SSA impairment status

	Total		Mental retardation		Other mental disorders		Systems and sensory diseases		Other disabilities	
	%	SE	%	SE	%	SE	%	SE	%	SE
Special Health Care Needs (FACCT Screener)										
Any need	86.8	1.1	83.7	1.3	88.4	1.3	87.8	4.5	97.1	0.8
Needs/uses more services than others same age	67.0	1.4	61.8	2.1	65.2	2.7	74.7	4.3	87.0	2.6
Needs/uses medicine prescribed by a doctor	51.4	1.3	39.5	1.7	63.3	2.1	60.7	4.0	66.6	4.4
Limited in ability to do things others of same age do	62.2	1.5	56.5	1.9	55.2	2.4	77.2	4.7	86.8	2.2
Needs/gets special therapy	33.6	1.3	26.9	1.4	30.5	2.4	49.8	4.2	51.6	4.4
Needs/gets mental health treatment/counseling	53.1	1.1	46.1	1.4	76.3	1.8	39.9	3.5	47.8	4.0
Other Health Supports										
Uses special medical equipment	10.9	0.7	3.7	0.5	2.0	0.4	38.6	3.5	28.4	3.3
Needs help with personal care	22.6	1.0	18.4	1.1	16.4	1.7	47.0	4.2	23.5	3.2
Needs help with handling routine needs	72.3	1.2	74.2	1.4	71.1	1.8	71.1	4.5	67.4	4.4
Age at SSI program entry										
Under 10	57.1	1.2	61.4	1.6	39.1	2.3	72.1	4.4	59.9	4.2
10–13	27.0	1.0	28.5	1.6	34.1	2.2	8.9	1.5	28.2	4.2
14–18	15.9	1.1	10.1	1.1	26.8	2.4	18.9	4.3	11.9	2.1
Sample Size	730		372		205		90		63	
Weighted Sample Size	97,106		48,133		25,072		14,419		9,483	

Source: Authors' tabulations using linked 2001–2002 NSCF and SSA data files.

Notes: The sum of individual categories may not equal the total because of individual rounding. Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) and (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Impairment and age at program entry are based on SSA administrative records. All other characteristics are based on the recipients' responses to the NSCF interview. See Appendix Table 1 for a full description of all variables. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF.

tal retardation, systems and sensory diseases, and other disabilities – had much earlier ages of first SSI receipt relative to the other mental disorders group (Table 3). Only 39 percent of child SSI recipients with other mental and behavioral disorders qualified prior to age 10, compared to at least 60 percent of child SSI recipients in the other disability categories. The later entry into the SSI system indicates that child SSI recipients with other mental and behavioral disorders have a briefer history of SSI participation, which could affect their employment, educational, and program participation decisions after age 18.

### 5.3. Human capital investment characteristics

Youths' participation prior to age 18 in human capital activities, including employment, education and training, likely plays a role in their decisions to pursue adult SSI benefits after age 18. Presumably, youth who are more heavily invested in human capital activities will have a greater likelihood of no longer receiving benefits after age 18. The importance of a progression of work-based experiences in preparing for independence, as well as the correlation of employment training and work experience with post-school employment success, is well documented for youth in special edu-

cation [11,24]. However, as noted above, the structure, quality, and availability of education and training services can vary across states and localities so that not all individuals have equal access to services and supports to develop their human capital. Negative social experiences prior to age 18, including dropping out of school, school problems, and arrests, also are likely to play a role in post-age-18 SSI employment and program decisions.

Employment rates of child SSI recipients are substantially lower than those of other youth with and without disabilities, which indicates that many might not be developing sufficient human capital. We find that 41 percent of child recipients facing the age-18 redetermination had some earnings between the ages of 16 and 17 (Table 4). Comparatively, the National Research Council and Institute of Medicine [2] found that approximately 80 percent of all youth are employed at some point during their high school years, and Wagner et al. [24] found that almost 60 percent of all youth in special education programs (ages 13 to 16) are employed during a one-year period. The relatively low rates of employment among child SSI recipients may reflect their unique characteristics (e.g., youth with especially severe impairments), a reluctance to work based on fear of benefit reduction or loss of Medicaid, and/or

Table 4  
Human capital characteristics of child SSI recipients (age 17 to 18), by SSA impairment status

	Total		Mental retardation		Other mental disorders		Systems and sensory diseases		Other disabilities	
	%	SE	%	SE	%	SE	%	SE	%	SE
<b>Employment</b>										
Percent ever employed age 16–17	40.7	1.3	37.7	1.7	48.9	2.5	31.2	4.3	48.8	4.9
Percent ever earned over \$2,000 at age 16 or 17	11.2	0.8	8.6	0.8	10.0	1.2	17.1	4.5	18.0	4.2
<b>Training</b>										
Ever received vocational training	35.8	1.1	36.9	1.4	36.2	2.3	34.8	4.3	30.6	3.6
Ever had a work plan	13.2	1.1	9.8	1.1	14.3	2.5	22.7	4.1	13.2	2.2
<b>Education</b>										
In school (6th–12th grade, special education)	58.6	1.4	63.8	1.3	46.9	2.7	73.6	3.0	40.0	3.5
Graduated high school	11.0	0.6	9.6	0.6	8.6	0.9	9.2	1.2	26.9	4.2
Dropped out/out of school/other	30.4	1.4	26.6	1.4	44.5	2.6	17.1	2.6	33.1	4.8
Special education	81.5	0.8	82.1	1.2	85.7	1.5	81.2	2.5	67.6	4.2
<b>Social Problems</b>										
Ever suspended or expelled from school	42.7	1.4	44.7	2.0	51.7	2.6	26.8	4.6	32.6	4.9
Ever arrested	16.4	0.7	13.3	1.0	28.4	1.9	5.5	1.5	16.5	2.8
Sample Size	730		372		205		90		63	
Weighted Sample Size	97,106		48,133		25,072		14,419		9,483	

Source: Authors' tabulations using linked 2001–2002 NSCF and SSA data files.

Notes: The sum of individual categories may not equal the total because of individual rounding. Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) and (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Impairment, earnings, and employment are based on SSA administrative records. All other characteristics are based on the recipients' responses to the NSCF interview. See Appendix Table 1 for a full description of all variables. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF. Ever having a work plan is identified in the NSCF by having an individualized work rehabilitation plan, now known as an individualized plan for employment.

lack of effective support systems for the transition to adulthood.

The number of recipients employed, and their levels of earnings, varied substantially across impairment groups, which indicates possible differences in human capital development within recipient subgroups. Employment rates were lowest for the systems and sensory diseases group (31 percent) and higher for those with other mental and behavioral disorders and other disabilities (49 percent each). Despite the overall employment differences, those with systems and sensory diseases had a relatively high concentration of youth earning more than \$2,000 per year at ages 16 or 17 (17 percent). By comparison, the other mental and behavioral disorders group only had 10 percent who earned over \$2,000 at these ages. This finding suggests that, while youth with other mental and behavioral disorders have higher employment rates compared to other groups, they tend to be in jobs that pay less, have fewer hours, or have shorter durations.

A substantial minority of child SSI recipients received vocational training (36 percent), which has been associated with positive employment outcomes after age 18 in the special education literature, although few SSI recipients access this training through VR programs. The use of vocational training services was comparable across subgroups of recipients, although

usage of VR services was substantially higher for those with systems and sensory diseases. The similarities in the use of vocational training services could reflect the high rate of participation across all groups in special education services (82 percent). The higher reports of work plans among the systems and sensory diseases group might reflect the greater need for physical accommodations that can be obtained through the VR system or it might be that individuals with less severe functional limitations are more likely to be served through the VR system.

While most child SSI recipients are in school prior to age 18, the high reported school dropout rates and social problems of child SSI recipients pose major concerns (Table 4). Most child SSI recipients had received special education services at some point during their school years (82 percent). However, at the time of the survey, 30 percent of all child SSI recipients had dropped out of school. By comparison, the dropout rate among all youth ages 16 to 24 in the general population is 10 percent [9]. A substantial share of child SSI recipients also reported a problem in school that resulted in suspension or expulsion (43 percent) or being arrested at some point prior to the survey (16 percent). These findings are consistent with Wagner et al. [24], who reported that special education students are more likely to experience social difficulties relative to other youth.

The reported problems were especially high among child SSI recipients with other mental and behavioral disorders. Of these recipients, 45 percent had dropped out of school at the time of the survey, 52 percent reported being expelled or suspended from school and 28 percent reported a prior arrest. By comparison, youth with systems and sensory diseases had a much lower prevalence of reported problems in each of these categories.

The findings on human capital investment characteristics suggest that, while some child SSI recipients appear to be preparing for a transition to independent living after age 18 through work, schooling, and training, a substantial minority face several risk factors that could limit their potential for long-term self-sufficiency. Of particular concern are the high reported dropout and arrest rates, especially within the other mental and behavioral disorders subgroup.

## 6. Post age-18 SSI program outcomes

In Table 5, we summarize the rates of remaining on and no longer receiving SSI at age 19 by individual and human capital characteristics to assess the extent that these experiences vary. The findings above illustrate that the pre-age-18 characteristics, barriers, and experiences of child SSI recipients vary substantially across SSI impairment subgroups in ways that might influence their age-18 redetermination, particularly for the other mental and behavioral disorders population. As in the prior tables, each of the characteristics was measured at the time of the NSCF interview (when the recipient was age 17 or 18), but the columns represent their adult SSI participation status at age 19. Hence, the row values provide some indication of the correlation between pre-age-18 characteristics and age 19 program outcomes. Our comparisons in this table show the proportion of each subgroup that remained on or no longer received SSI at age 19 (i.e., the row values sum to 100 percent).

Consistent with previous studies on the outcomes of the age-18 redetermination, we find almost two-thirds (64 percent) of the study sample remained on SSI at age 19 (Table 5).<sup>4</sup> Also consistent with prior studies, we find those with other mental and behavioral disorders

prior to age 18 were least likely (47 percent) and those with systems and sensory diseases were most likely to be on SSI at age 19 (83 percent), relative to youth in other SSI impairment groups.

We find some large differences in program outcomes at age 19 across several program, health, and human capital characteristics of the youth at the time of the survey, and relatively small differences in program outcomes across demographic and family characteristics. Child SSI recipients who entered the program between ages 10 and 13 were substantially less likely to be on SSI (53 percent vs. 64 percent for the total), particularly relative to groups that come on prior to age 10 (71 percent vs. 64 percent for the total). In addition, youth with certain health care needs, especially those needing or using medicine prescribed by a doctor, and those needing help with personal care, were more likely to be on SSI at age 19. The SSI participation rates at age 19 were especially high for youth who reported needing help with routine needs (91 percent), needing/using medicine (88 percent), and needing special therapy (72 percent). Finally, we find relationships between human capital and social measures – such as employment, school dropout rates, and arrest rates – and receipt of SSI at age 19. Interestingly, youth with negative social experiences prior to age 18 (e.g., arrests and high school dropouts) were less likely to be on SSI at age 19 compared to the total, as were youth who had more employment experiences prior to age 18. It is possible that the former group might lack the necessary social connections after age 18 to continue pursuing SSI benefits, or they might have other outcomes, such as institutionalization, which preclude them from receiving benefits. Conversely, as expected, those with more employment experiences were less likely to report being on SSI than the average child recipient (51 vs. 64 percent of the total).

These descriptive comparisons indicate that the probabilities of remaining on SSI after age 18 vary substantially by disability subgroup. Additionally, other factors, such as social behaviors (e.g., arrests), also are strongly correlated with programmatic outcomes.

<sup>4</sup>Those no longer receiving SSI at age 19 consist of those who did not meet the adult disability criteria at redetermination or the income or resource eligibility criteria, did not complete the redetermination process (including those who failed to cooperate), or left the program on their own. We cannot reliably distinguish among these reasons in the data. However, among a group of child SSI recipients who were

redetermined at age 18, Rogowski et al. [13] found that 70 percent of those who did not continue to receive SSI benefits after age 18 failed to meet the adult disability criteria. Appendix Table A2 presents data on the actual outcome of the age-18 redetermination from SSA's 832 administrative data file. The sample for our analysis of post-age-18 redetermination outcomes is slightly smaller than for our analysis of pre-age-18 characteristics because some sample members either did not reach age 19 within the follow-up period or died before reaching age 19.

Table 5  
Former child SSI recipients on and off of SSI at age 19, by selected impairment, demographic, family, employment, and human capital characteristics

	On SSI at age 19		Off SSI at age 19	
	%	SE	%	SE
Total	64.1	1.1	35.9	1.1
SSA Primary Impairment at Age 17				
Mental retardation (MR)	67.5	1.5	32.5	1.5
Mental and behavioral disorders (other than MR)	46.8	2.3	53.2	2.3
Systems disorders	82.8	2.4	17.2	2.4
Other disabilities	64.9	3.2	35.1	3.2
Age at SSI Program Entry				
Under 10	71.0	1.4	29.0	1.4
10–13	52.5	2.0	47.5	2.0
14–18	59.5	4.0	40.5	4.0
Demographic and Family Characteristics				
Male	65.5	1.4	34.5	1.4
White	67.3	1.4	32.7	1.4
Two-parent family	69.7	2.0	30.3	2.0
Health Characteristics				
Special Health Care Needs				
Any Need	66.7	1.1	33.3	1.1
Needs/uses more services than others same age	70.2	1.2	29.8	1.2
Needs/uses medicine prescribed by a doctor	87.9	1.4	12.1	1.4
Limited in ability to do things others of same age do	66.7	1.6	33.3	1.6
Needs/gets special therapy	71.8	1.4	28.2	1.4
Needs/gets mental health treatment/counseling	70.5	1.3	29.5	1.3
Other Health Supports				
Uses special medical equipment	78.7	1.8	21.3	1.8
Needs help with personal care	63.5	1.6	36.5	1.6
Needs help with handling routine needs	90.8	1.6	9.2	1.6
Employment, Education, and Social Characteristics				
In school/graduated	69.5	1.3	30.5	1.3
In special education	65.3	1.4	34.7	1.4
In vocational training	66.5	1.8	33.5	1.8
Ever had a work plan	63.6	4.3	36.4	4.3
Percent ever employed ages 16–17	50.9	2.0	49.1	2.0
Ever earned over \$2,000 at age 16 or 17	42.7	5.3	57.3	5.3
Ever suspended or expelled from school	57.2	1.9	42.9	1.9
Ever arrested	49.2	2.7	50.8	2.7
Sample Size	462		263	
Weighted Sample Size	61,891		34,628	

Source: Authors' tabulations using linked 2001–2002 NSCF and SSA data files.

Notes: The sum of individual categories may not equal the total because of individual rounding. Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) and (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Impairment, earnings, employment, and age at program entry are based on SSA administrative records. All other characteristics are based on the recipients' responses to the NSCF interview. The sample size for this table is smaller in comparison to Tables 1 through 4 because five sample members died before age 19. SSI status at age 19 is based on positive payments in January of the year they turned 19. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF. Ever having a work plan is identified in the NSCF by having an individualized work rehabilitation plan, now known as an individualized plan for employment.

While it is difficult to assess whether characteristics, such as prior work history, directly affect the outcomes of the redetermination, the findings do further illustrate the diversity of needs and outcomes across a child SSI population at the time of redetermination. Whether these bivariate relationships remain after controlling for other factors is the focus of the next section.

## 7. Multivariate analysis of factors that influence probability of being on SSI at age 19

To further assess differences in program outcomes across child SSI subgroups, we present our findings from a multivariate analysis that includes many of the subgroup indicators in Tables 2 through 5. We take an

iterative approach, where we first assess the probability of no longer receiving SSI by impairment subgroup, and then sequentially add information on the youth's demographic, health, and, finally, human capital characteristics. We have chosen this ordering because we want to assess whether the probability of no longer receiving SSI changes for any of these impairment subgroups when more information about the recipient's characteristics is added. We start with administrative characteristics because these can be readily identified using SSA data; we add the respondents' characteristics at age 17 to examine whether the probabilities for any of these impairment groups change. If the probabilities do not change, we conclude that our estimates for these probabilities are robust. We are particularly interested in the roles that education, employment, and other social indicators play in influencing program outcome probabilities. While these characteristics are not considered formally in SSA's redetermination process, they may play important roles in youths' decisions to pursue SSI benefits further.

Column 1 of Table 6 presents findings from a logistic regression of SSI program participation on the impairment groups that were introduced earlier. It presents the odds-ratios for program participation for youth with mental retardation, other mental and behavioral disorders, and other disabilities, relative to youth with systems and sensory diseases (the excluded category).<sup>5</sup> While the odds of each group being on SSI are less than those with systems and sensory diseases, those with other mental and behavioral disorders have the lowest odds of remaining on SSI. The odds of those with other mental and behavioral disorders remaining on the program are 72 percent lower than those with systems and sensory diseases. This confirms previous results from Rogowski et al. [13] indicating that recipients with mental disorders (including mental retarda-

tion) are more likely to be terminated from SSI as a result of the age-18 redetermination.

In column 2, we add the age of entry into the program, where the excluded category is under age 10. The odds of remaining on SSI at age 19 for children who entered SSI between ages 10 and 13 are almost half those of children who entered SSI at younger ages. Children with entry ages of 14 to 18 are indistinguishable from children with younger entries at the 5 percent level. The findings with respect to age at first program entry could indicate that program duration plays an important role in the transition process. The younger the recipients when they first receive SSI payments, the more likely they may be to have more severe disabilities, especially relative to those who came on between ages 10 and 13.

There are two potential explanations for why youth who first receive payments between ages 10 and 13 are at greater risk of program exit than those in other age groups. First, the nature of their disabilities is different from both the youngest and oldest group. Young children who come onto SSI are more likely to have conditions that can be identified at early ages, such as congenital anomalies [18]. These conditions tend to have similar definitions for children and adults, and are likely to last a lifetime. Second, children who enter SSI at young ages are likely to have gone through several CDRs by age 18, which "weed out" those with less severe or diminished impairments; these individuals' disabilities are less likely to meet the adult requirements. In fact, previous research has shown that those who have received at least one CDR before their age-18 redetermination are more likely to continue in the program [17]. It is unclear why these same conditions do not lead to a significant difference in program continuation between the youngest and oldest age groups. One explanation may be that children who are first determined to be eligible at older ages may have impairments that are more likely to meet the adult eligibility criteria compared to those who enter during their pre- and early-teen years.

Our odds ratio estimates for the SSI impairment groups are relatively unchanged from the first column, indicating that age of entry does not have a disproportionate effect on program continuation for any subgroup. This is not surprising, given our assumption that any youth who enter the program at earlier ages – regardless of their impairment – likely have a more readily diagnosable condition that was identified in early childhood.

Adding personal demographic characteristics from the NSCF to the model does little to change the above

<sup>5</sup>These are obtained by exponentiating the estimated coefficients ( $\beta_j$ ). If  $X_1$  increases by 1, the odds increase by the odds ratio –  $\exp(\beta_1)$ . Unlike ordinary least squares regressions, the break between a positive and negative effect is not at 0, but 1. If the odds ratio is greater than one, then the odds of the event are greater when that variable is increased by one unit. To compute how much more likely an event is, subtract 1 from the odds ratio. For example, if the coefficient on the Female variable is 0.5596, the odds ratio is 1.75 and the odds of SSI participation are 75 percent greater when Female equals 1 than when it equals 0 (Male). Similarly, if the odds ratio is less than one, the event is less likely to occur when the variable increases by one unit. If the odds ratio were 0.75, then the odds of the event are lower for females. In this example, the odds of SSI participation are 25 percent lower for females.

Table 6  
Odds ratios from multivariate models predicting the SSI participation of being on adult SSI at age 19 for child SSI recipients who were receiving benefits at age 17

	(1)	(2)	(3)	(4)	(5)
<i>Administrative variables</i>					
<i>SSA Primary Impairment at Age 17</i>					
Mental retardation (MR)	0.43*** (0.08)	0.47*** (0.09)	0.47*** (0.10)	0.70 (0.20)	0.58* (0.18)
Mental and behavioral disorders (other than MR)	0.18*** (0.04)	0.21*** (0.05)	0.20*** (0.05)	0.29*** (0.09)	0.26*** (0.09)
Other disabilities	0.38*** (0.08)	0.42*** (0.09)	0.39*** (0.09)	0.37*** (0.11)	0.35*** (0.12)
<i>Age at Program Entry</i>					
Age 10–13		0.54*** (0.06)	0.54*** (0.06)	0.67*** (0.09)	0.72** (0.10)
Age 14–18		0.73* (0.12)	0.75* (0.12)	1.05 (0.18)	1.11 (0.21)
<i>Survey Variables</i>					
<i>Demographic and Family Characteristics</i>					
Male			1.34** (0.16)	1.47*** (0.20)	1.66*** (0.23)
White			1.33*** (0.12)	1.04 (0.10)	0.99 (0.11)
Age 18 at the time of the NSCF Interview			1.07 (0.08)	1.10 (0.09)	1.09 (0.11)
Two-parent family			1.25* (0.15)	1.34** (0.17)	1.25 (0.18)
<i>Health Characteristics and Supports</i>					
Needs/uses more services than others same age				1.61*** (0.21)	1.72*** (0.22)
Limited in ability to do the things others of same age do				0.95 (0.11)	0.90 (0.10)
Needs/gets special therapy				1.31* (0.19)	1.30* (0.19)
Uses special medical equipment				1.59*** (0.23)	1.48** (0.23)
Needs help with personal care				0.83 (0.11)	0.92 (0.11)
Needs help with handling routine needs				2.24*** (0.55)	2.02*** (0.54)
Needs/uses medicine prescribed by a doctor				2.96*** (0.58)	2.45*** (0.48)
Needs/gets mental health treatment/counseling				1.71*** (0.19)	1.65*** (0.20)
<i>Employment, Education, and School Characteristics</i>					
In school					1.19* (0.12)
In special education					0.85 (0.11)
Ever had vocational training					1.34*** (0.14)
Ever had a work plan					0.86 (0.15)
Ever earned over \$2,000 at age 16 or 17					0.64* (0.14)
Ever employed at age 16 or 17					0.58*** (0.06)
Ever arrested					0.59*** (0.07)
Ever suspended or expelled from school					0.88 (0.10)
Sample Size			96,519		
Weighted Sample Size			725		

Table 6, continued

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Source: Authors' tabulations using linked 2001–2002 NSCF and SSA data files.

Notes: Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) and (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Impairment, earnings, employment, and age at program entry are based on SSA administrative records. All other characteristics are based on the recipients' responses to the NSCF interview. The sample size for this table is smaller in comparison to tables 1 through 4 because five sample members died before age 19. SSI status at age 19 is based on positive payments in January of the year they turned 19. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF. Ever having a work plan is identified in the NSCF by having an individualized work rehabilitation plan, now known as an individualized plan for employment.

\*Statistically significant at 10% level.

\*\*Statistically significant at 5% level.

\*\*\*Statistically significant at 1% level.

findings (column 3). Even with the addition of a wide range of personal characteristics, the odds-ratios for the impairment groups change relatively little. Unlike previous studies (e.g. [10,17]), we find males are more likely to remain on SSI after controlling for these other characteristics though we believe this finding might be related to our sampling construction.<sup>6</sup> Whites also were more likely to remain on SSI at age 19.

In column 4, we add health need indicators from the NSCF to the analysis of SSI participation. As Loprest and Wittenburg [10] found, most of these have highly significant effects on SSI participation at age 19. Individuals needing or using more services than others of the same age are much more likely to be on SSI at age

19 than those who do not. Those using special equipment, needing help with personal care or handling routine needs, and needing mental health treatment also have much higher odds of SSI participation at age 19. Many of these indicators suggest a direct connection with the medical system, including service providers, that might be able to help the youth during their age-18 redetermination. The odds of the mental retardation group remaining on SSI are no longer significantly different from the odds for those with systems and sensory diseases, suggesting some overlap in what these variables measure. The probabilities for the youth in the "other disabilities" impairment group remain relatively unchanged with the inclusion of these variables, which could suggest that the NSCF health and functioning questions do not fully capture the types of health difficulties facing SSI youth in this group. There are no differences across race; however, coming from a two-parent home is significantly associated with remaining on SSI. While the odds of males remaining on SSI increase relative to females when health characteristics are added to the model, the effect of entering SSI between ages 10 and 13 lessens a bit. These findings suggest that demographic characteristics play a more modest role in SSI decisions after age 18.

In column 5, we add indicators of human capital development and social problems. We find that the probability of remaining on SSI is substantially lower for those who were employed prior to age 18 and those who had earnings in excess of \$2,000. The odds of being on SSI at age 19 for child SSI recipients who had worked are 42 percent lower than for recipients without employment experience. We also find those who had been arrested have 41 percent lower odds than those who had not been arrested to be on SSI at age 19. Interestingly, youth with vocational training have 34 percent higher odds of SSI participation at age 19. It is possible that a connection to a vocational training program suggests a broader connection to a system

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<sup>6</sup>When we rerun our estimates using other cohorts of 17 year olds (i.e., those who were ages 14–16 at the time of the survey but who were on SSI at age 17 according to SSA administrative data), we find males were less likely to remain on SSI (the estimates are available upon request). The general directions of the remaining coefficients are the same as those reported in Table 6, though the magnitude of the coefficients vary. We do not have an explanation for the difference in our findings reported above for gender and those in the alternative model and in the Loprest and Wittenburg and SSA studies other than that sample selection and our definition of outcomes ("on SSI" at age 19) could be driving these differences. For example, the Loprest and Wittenburg [10] sample included former child SSI recipients age 19 and 23 in 2000 who received child SSI benefits in 1996. These young people were between the ages of 14 and 18 in 1996. It is possible that the outcomes of the larger age cohort differs from the smaller cohort of 17 year olds in our sample. Additionally, Loprest and Wittenburg did not include impairment status in their equations because the linked data were not available for their analysis. The SSA [17] findings are based on a sample of beneficiaries at age 17, though they use a different outcome (age-18 redetermination decision) than our study (on SSI at age 19). One possible explanation is that our estimates of being on-SSI are influenced by other administrative factors, such as the continuation of payments that former child SSI recipients can receive under Section 301 provisions of the Social Security Disability Amendments of 1980 (e.g., participating in vocational rehabilitation) or while appealing their initial cessation under the so-called Goldberg-Kelly due process provisions of the SSI program.

of supports that youth can use to maintain their SSI benefits after age 18. Indeed, youth still in school, with access to the accompanying support system, have 19 percent higher odds of remaining on SSI at age 19, although this is significant only at the 10 percent level.

The probabilities for the SSI impairment subgroups change minimally with the addition of these covariates, suggesting that the effects of human capital development and social problems on program outcomes are relatively similar across the impairment groups. Additionally, there are only minor changes in the relationship between the health characteristics and supports and remaining on SSI. Coming from a two-parent family is no longer significant, however, and the relationship between age at program entry and remaining on SSI is lessened further. Males are even more likely to remain on SSI when human capital characteristics are included in the model.

These results confirm the previous analyses regarding the importance of the impairment category on post-age-18 SSI participation [13]. Even after controlling for measures of disability severity, duration, and human capital, youth with other mental and behavioral disorders are much less likely to receive SSI at age 19. Combined with previous evidence on the prevalence of school-related and social problems among this group, these youth appear to have a particularly difficult time adjusting to adulthood [23].

The findings also suggest that non-health factors, particularly education, employment, and social indicators, play an important role in the probability of a child SSI recipient being on adult SSI after age 18. The employment findings indicate that child SSI recipients with early employment experiences are less reliant on adult SSI benefits. In part, these findings might be related to the work-based definition of disability used in the adult definition. However, they also might provide some indication that early employment experiences, especially for those who had earnings above \$2,000, lead to more adult employment, and thereby reduce the odds of being on SSI after age 18. Somewhat surprisingly, we also find that several negative social indicators reduce the probability of remaining on adult SSI benefits after age 18. It is possible that these indicators, especially arrests, capture those youth with limited social connections, which reduce their prospects of following up or providing the appropriate information during their age-18 redetermination. Finally, across all model specifications, we find that the probability of being on SSI at age 19 is substantially lower for recipients in the other mental disorder and other disabilities groups, and

for those who entered the program at ages 10 to 13. The relatively large differences in the probabilities of transition to adult SSI benefits at age 18 indicate that policymakers might want to research options that would prepare these groups for eventual non-participation, or to provide supports other than SSI, given that a substantial share of these recipients do not receive benefits after age 18.

## **8. Post age-18 employment and earnings**

We conclude with an analysis of post age-18 employment and earnings to determine how many youth were working and whether they earned amounts sufficient to offset the loss of their child SSI benefits. These data provide limited evidence of whether some youth are succeeding in the workforce following their age-18 redetermination.

Young adults who no longer receive SSI benefits must find alternative sources of income to maintain their standard of living. To fully replace their SSI benefits, they need to earn approximately \$5,500 per year on average, assuming that the income of other family members remained the same before and after the adult redetermination process. This calculation is likely a lower bound on the amount of income needed to replace SSI because it does not factor in the potential loss of Medicaid.

Across our sample, 41 percent were employed at age 19 and 14 percent were earning more than the annual SSI payments they received in the calendar year in which they turned age 17 (Table 7). The relatively low employment rates across the entire population are not surprising, given that approximately 64 percent remain on adult SSI benefits. Among those no longer receiving SSI at age 19, 61 percent were employed, in comparison to 29 percent who were on SSI. Additionally, average earnings among those employed were substantially higher for the off-SSI group, in comparison to the on-SSI group (\$5,428 vs. \$3,236).

A concern is that only 61 percent of those no longer receiving SSI were working and only 25 percent earned enough to replace their childhood SSI benefits. This finding indicates that most youth no longer receiving SSI are not earning enough money at age 19 to offset their childhood SSI benefits and so must find another source of income to maintain their economic well being.

In Table 8, we more closely examine the pre-age-18 characteristics of those no longer receiving SSI at age

Table 7  
Employment experiences at age 19 of child SSI recipients who were receiving benefits at age 17

	Total		On SSI at age 19		Off SSI at age 19	
	%	SE	%	SE	%	SE
Percent employed at age 19	40.8	1.3	29.3	1.7	61.2	1.7
Percent employed at age 19 and earning at least the equivalent of their actual SSI payments in the year that they were 17 as of January	13.6	1.2	7.3	1.4	25.0	2.2
Average earnings among those employed	\$4,421	\$232	\$3,236	\$358	\$5,428	\$312
Sample Size	713		454		259	
Weighted Sample Size	93,963		60,140		33,823	

Source: Authors' tabulations using linked 2001–2002 NSCF and SSA data files.

Notes: The sum of individual categories may not equal the total because of individual rounding. Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) and (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Earnings and employment are based on SSA administrative records. Characteristics are based on the recipients' responses to the NSCF interview. The sample size for this table is smaller in comparison to earlier tables because five sample members died before age 19 and 12 sample members had missing administrative data on earnings. SSI status at age 19 is based on positive payments in January of the year they turned 19. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF.

Table 8  
Employment and earnings at age 19 of child SSI recipients who were receiving benefits at age 17 and who are off of SSI at age 19

	Off SSI at age 19					
	Not employed		Employed and earning less than age 17 SSI benefits		Employed and earning at least the equivalent of age 17 SSI benefits	
	%	SE	%	SE	%	SE
Employment						
Ever employed at age 16 or 17	35.1	2.7	71.2	2.8	66.4	5.0
Ever earned over \$2,000 at age 16 or 17	6.7	1.2	12.6	1.5	40.1	4.8
Training						
Ever received vocational training	25.8	2.7	33.7	2.5	47.0	5.1
Ever had a work plan	14.5	1.9	7.7	1.1	16.1	6.1
Education						
Dropped out/out of school/other	46.9	2.5	39.8	2.6	22.9	3.6
Social Problems						
Ever suspended or expelled from school	50.3	3.5	60.6	2.8	40.5	4.3
Ever arrested	26.1	2.6	24.6	2.7	18.8	3.0
Total (Row Percentages)	38.8	1.6	36.3	1.9	25.0	2.2
Sample Size	100		99		60	
Weighted Sample Size	13,107		12,277		8,439	

Source: Authors' tabulations' using linked 2001–2002 NSCF and SSA data files.

Notes: The sum of individual categories may not equal the total because of individual rounding. Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) and (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Earnings and employment are based on SSA administrative records. All other characteristics are based on the recipients' responses to the NSCF interview. SSI status at age 19 is based on positive payments in January of the year they turned 19. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF. Ever having a work plan is identified in the NSCF by having an individualized work rehabilitation plan, now known as an individualized plan for employment.

19 to identify whether there are correlations between these characteristics and age 19 program-earnings outcomes. We stratify the table into youth who did not have any employment earnings, youth who had earnings less than their age 17 (calendar year) SSI payments, and youth who had earnings greater than these payments. Presumably, youth in the third category were

successfully making a transition into employment to offset their SSI benefits. Youth in the other categories were not earning enough to offset their SSI benefits, although it is possible they were involved in other activities aimed at developing their human capital (e.g., education, training, or work for pay that is not reported to SSA or the Internal Revenue Service). While we do

not observe human capital activities after age 19, the pre-age-18 human capital activity characteristics provide a reasonable proxy for the types of activities in which these youth might have engaged after age 18. For example, correlations between poor human capital indicators before age 18, such as dropping out of high school and no subsequent earnings, suggest that some youth might not successfully transition to self-supporting employment. However, if youth who did not have any earnings were disproportionately likely to be in school prior to age 18, we could infer that they might have continued their schooling or training after age 18.

Our findings indicate that a substantial portion of those no longer receiving SSI who were not employed or earned less than their child SSI payments at age 19 had relatively limited human capital investments relative to those earning more. Based on their pre-age-18 activities, a major concern is that many youth who are no longer receiving SSI at age 19 and not working may not be pursuing any human capital activity after age 19. Forty-seven percent of these youth dropped out of school, 26 percent had arrest records, and more than half had been suspended or expelled from school. Low-earning recipients had similar dropout and arrest rates and higher rates of suspension or expulsion. In comparison, the rates of dropout, arrest, and suspension or expulsion were lower among those who were earning above their child SSI payments (23, 19, and 41 percent, respectively). It is possible that some of those not earning enough to offset their previous SSI benefits were engaged in other behaviors in lieu of developing their human capital, such as criminal activity or parenting, or were incarcerated.<sup>7</sup>

Early work experience also appears to correlate with post-age-18 employment outcomes. High earners at age 19 were most likely to have had high earnings pre-age 18, and those not employed were least likely to have high pre-age-18 earnings. While 71 percent of low-earning 19 year olds not receiving SSI worked at ages 16 or 17, only 13 percent were earning more than

\$2,000 dollars at the time. Comparatively, only 66 percent of high-earning 19 year olds not receiving SSI worked at ages 16 or 17, but 40 percent earned more than \$2,000.

These findings suggest that, while some youth who were no longer receiving SSI at age 19 appear to have made a successful transition into adult life, a large majority of them were not earning enough to offset their child SSI benefits and appear to have few prospects for long-term independent living. This seems evident prior to the age-18 redetermination, as those with high earnings post-redetermination also had high earnings pre-redetermination.

## 9. Conclusion

Approximately one-third of child SSI recipients facing the age-18 redetermination will need to search for alternative sources of support after that critical point. However, the probability of remaining on or no longer receiving SSI after this point varies across child recipients with different primary impairments and human capital characteristics. Those with mental and behavioral disorders (other than mental retardation) are least likely to be on SSI at age 19, relative to recipients with other impairments. In addition, those with early employment experience and those with a history of problem behaviors (arrest, suspension or expulsion from school, dropped out of school) are less likely to be on SSI at age 19, relative to others. Of particular interest are the relatively poor outcomes of child SSI recipients with other mental and behavioral disorders who, relative to others, have both higher rates of problem behaviors prior to age 18 and lower rates of adult SSI participation after age 18. While we cannot assess the efficacy of the age-18 redetermination in influencing outcomes, our findings do indicate that many child SSI recipients do not develop their human capital sufficiently to make a successful transition to adulthood. Few of those no longer receiving SSI at age 19 had enough earnings to offset their pre-redetermination SSI benefit.

The findings suggest that additional research is needed to determine whether effective intervention options can be developed to better prepare and support those who do not continue receiving benefits after the age-18 redetermination. A substantial share of child beneficiaries will not qualify for adult benefits. Many of these youth have limited employment prospects and high rates of reported social problems.

<sup>7</sup>Some of these individuals may have only been working part of the year because they were awaiting their redetermination. Thus we would expect to see those with early birthdays reporting higher earnings than those with later birthdays. However, only 3 percent of high earners not on SSI were born in the first 3 months of the year, compared with 9 percent of those not on SSI with no earnings and 8 percent of those not on SSI with low earnings. Those appealing their decision may also not be working, which would bias the results downward. They would be more likely to report lower earnings. However, this hypothesis is un-testable with the current data.

In considering additional supports to smooth the transition to adulthood, policymakers may wish to look at the characteristics and needs of child recipients with other mental and behavioral disorders in particular, and specifically target interventions toward this vulnerable group. SSA currently is implementing the Mental Health Treatment Study, which provides employment support and mental health treatments for SSA disability beneficiaries with mental disorders. Policymakers may wish to consider developing a similar initiative for SSI recipients nearing or just completing the age-18 redetermination.

In addition, policymakers may want to review the important role the SSI program plays in influencing the human capital decisions of child SSI recipients. Specifically, they may want to consider expanding opportunities to promote work, such as outreach to increase knowledge of current SSI work incentives, since early employment experiences have important implications for later outcomes. Currently, SSA is implementing extensions to Section 301, which will allow SSI recipients to continue receiving benefits after age 18 if they stay in school or vocational rehabilitation activities. Additional initiatives could be considered for targeting segments of the SSI population that need social and other employment supports (such as those being implemented in the Youth Transition Demonstration described by Fraker and Rangarajan [6] and Luecking and Wittenburg [12]) to ensure that they do not fall through the cracks of the system as adults, although these alternative supports may extend beyond the purview of the SSI program.

Finally, additional research on longer-term outcomes would be useful in further describing the transition process from childhood to adulthood for child SSI recipients and informing future intervention efforts. Linking additional years of SSA administrative data to the NSCF data, for instance, could provide insight on the extent to which those who no longer are receiving SSI after the age-18 redetermination return to the program and those who no longer are receiving SSI but are employed maintain employment and increase their earnings. Research also could provide insight into whether concerns about the lower socioeconomic prospects of child recipients with other mental and behavioral disorders are borne out, and could explore potential service strategies for child recipients who become disconnected from financial, human capital development, and other support systems.

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Table A1  
Summary of linked NSCF-SSA variables included in descriptive and multivariate analyses

NSCF self reported variables	Description
Gender	Male/female.
Race	Categories include white, black and other.
Education	Categories include in school (6th – 12th grade, special education), graduated high school, and dropped out/out of school/other.
Living Arrangements	Categories include two-parent family, single-parent family, and other.
Has Special Health Care Need	Categories include needs/uses more services than others same age, needs/uses medicine prescribed by a doctor, limited in ability to do the things others of same age do, needs/gets special therapy, and needs/gets mental health treatment/counseling.
Other Health Needs	Categories include uses special medical equipment, needs help with personal care, and needs help with handling routine needs.
Training	Categories include ever received vocational training and ever had a work plan.
Social Problems	Categories include ever suspended or expelled from school and ever arrested.
SSA Administrative Variables	
SSA Primary Impairment at Age 17	Categories include mental retardation (MR), mental and behavioral disorders (other than MR), systems and sensory diseases, and other disorders. SSA impairment is based on SSA program records in 2000, when recipients were selected for inclusion in the survey. Impairments for sample members whose SSI status was uncertain at the time of selection were updated based on more recent administrative data. The other mental disorders category includes affective, anxiety, schizophrenia, and other mental disorders. The systems and sensory diseases category includes diseases of the nervous system and sensory organs, and systemic disorders (i.e., diseases of the circulatory, digestive, genitourinary, musculoskeletal, and respiratory systems). The other disabilities category includes recipients with infectious and parasitic diseases; neoplasms; endocrine, nutritional, and metabolic diseases; diseases of the blood and blood-forming organs; diseases of the skin and subcutaneous tissue; congenital anomalies; perinatal diseases; injuries; and non-codable diseases.
Age at Program Entry	Categories include under age 10, age 10–13, and age 14–17.
Employment	Percent with any earnings, from the SSA summary earnings files (SER).
Earnings above \$2,000	Percent with any earnings above \$2000 within a calendar year, from the SSA SER.
On/Off SSI at 19	SSI status at age 19 is based on positive SSI payments in January of the year they turn age 19.

Table A2  
Outcome of age-18 redetermination among age 17 child SSI recipients, as recorded in SSA administrative data

	Number	Percentage	Standard error
Continuances and Reasons			
Meets listing	36,244	37.3	1.24
Functionally equals listing	1,408	1.4	0.24
Residual functioning/vocational factors	7,413	7.6	0.65
Unknown	2,044	2.1	0.37
Total	47,109	48.5	1.32
Cessations and Reasons			
Non-disability	29,780	30.7	1.09
Able to engage in SGA	802	0.8	0.20
Failure to cooperate	2,496	2.6	0.32
Total	33,078	34.1	1.04
Missing Data	16,918	17.4	1.21
Sample Size	97,106	100.0	–

Source: Authors' tabulations using linked 2001–2002 NSCF and SSA data files.

Notes: The sum of individual categories may not equal the total because of individual rounding. Sample includes all respondents in NSCF who were: (1) age 17 or 18 at the time of the survey (2001 or 2002) and (2) receiving SSI payments in the January during which they were age 17 according to SSA administrative records. Age-18 redetermination results are based on SSA's 832 file, which records all continuing disability review outcomes. Standard errors for all estimates are based on balanced repeated replicate weights included with the NSCF. Weighted counts do not sum to total sample size due to rounding.