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Research Paper

Food security among young adults with disabilities in the United States: Findings from the National Health Interview Survey

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Abstract

Background: Prior research has suggested that young adults with disabilities face economic, health and social disadvantage. Food security, an area of disadvantage that can influence overall health, has not been fully explored for this population.

Objective/hypothesis: To examine levels of food security between young adults with and without disabilities, controlling for individual characteristics.

Methods: Logistic regression analysis of a nationally representative sample of young adults (age 18–25) (n = 32,795) with and without disabilities, using pooled data form the 2011–2013 National Health Interview Survey.

Results: Young adults with disabilities have significantly higher odds (OR: 2.58, $p < 0.001$) of living in a household that is food insecure than young adults without disabilities, even when controlling for individual characteristics. Odds of living in a household that is food insecure are particularly high (OR: 5.35, $p < 0.001$) among young adults with high levels of psychological distress, controlling for other factors.

Conclusions: Young adults with disabilities have increased odds of living in a household that is food insecure. This study has important policy and community program implications.

Keywords: Disability; Food security; Psychological distress

While most Americans have consistent access to adequate food to ensure a healthy, active life, certain populations are less likely to be food secure. Households which include a person with a disability, for example, are significantly more likely to be food insecure.[1] The population of persons with disabilities is heterogeneous, however, and it is likely that different sub-populations of persons with disabilities experience different levels of food insecurity. On the national disability policy stage, young adults with disabilities are a sub-population of particular interest. While a variety of national, state and local efforts are underway to ease the transition of youth with disabilities into adulthood, issues of food security are rarely discussed. Targeted research is needed to understand the risk of food insecurity for this population. The research conducted here fills this gap in the literature, using national household survey data to estimate the odds of living in a household that is food insecure for three different populations of young adults with disabilities: young adults with any limitation, young adults with high levels of psychological distress, and young adults receiving Social Security Disability Insurance (SSDI) or Supplement Security Income (SSI).

In the U.S., an estimated 40 million people, or 13 percent of the population, have an ambulatory, cognitive or sensory disability.[2] Despite legal protections and the provision of a substantial amount of government income, in-kind, and service support, persons with disabilities continue to experience disadvantage across a broad array of economic, health and social outcomes, including food security.[1,3–11] Young adults with disabilities confront a unique set of challenges which may further exacerbate levels of disadvantage. For young adults with disabilities, the usual pressures of entering the adult world are coupled with the added challenge of navigating the movement from a relatively comprehensive system of services designed to support children with disabilities to a more fragmented adult system. Youth who have special health care needs, for example, may face difficulties in transitioning from pediatric to adult health care systems.[12] Youth who are

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eligible to receive monthly Supplemental Security Income (SSI) support under a definition of disability that is tailored to children must be re-determined for benefits using an adult definition of disability.[13,14] For young adults who are interested in pursuing post-secondary education, moving from the comparatively comprehensive systems of supports available within the secondary education system to the disparate levels of offerings available at the post-secondary level can be daunting.[15] Young adults with disabilities are less likely to be employed than young adults without disabilities and those who do enter the workforce earn significantly lower wages than their counterparts.[16] Furthermore, young adults with disabilities are less likely to have either their own checking account or their own credit card, suggesting additional limits on the ability to be financially independent.[17] This combination of factors can decrease the likelihood of independent living among young adults with disabilities. Food security, an important component of independent living, has not yet been specifically examined for this population.

Among the general population, research has found that households in poverty, single-headed households that include children, and black- and Hispanic-headed households experience significantly lower levels of food security than other households.[18] Food security has been tied to broad economic and health outcomes for the general population and for certain sub-populations such as children and older adults.[19–24] Existing research on food security among persons with disabilities has primarily focused on adults with disabilities. In addition to finding evidence of greater levels of food insecurity among adults with disabilities, some research has identified the extra costs of living with a disability as a key factor influencing food security.[25,26] Other research has focused more on factors that can improve food security for particular sub-groups of persons with disabilities, including those with intellectual disabilities.[27] None of these studies have focused particularly on the experiences of young adults with disabilities, however.

Persons who are food insecure may seek to participate in publicly funded nutrition assistance programs, such as the Supplemental Nutrition Assistance Program (SNAP). SNAP is available to households that meet certain income, resource, and work participation requirements as set by federal and state governments. SNAP participation has been found to alleviate food insecurity.[28–31] Average monthly benefits provided to households through SNAP are low, however, with the average SNAP recipient receiving approximately $125 per month in 2014.[32] Given the higher levels of food insecurity noted earlier, it is not surprising that increased rates of participation in SNAP have been found for different sub-groups of persons with disabilities. Child SSI recipients,[33,34] working-age persons with disabilities,[35] households that include at least one adult with a disability,[1] and Social Security Disability Insurance (SSDI) and SSI beneficiaries[36] all participate in SNAP at higher levels than comparison groups.

As young adults with disabilities attempt to transition into more independent adult roles, issues of food security must be addressed. The research conducted here is designed to further our understanding of these issues for young adults with disabilities, providing information that can be used within the disability policy and nutrition assistance policy fields to improve food security for young Americans who have disabilities.

Methods

Data

Pooled cross-sectional data from the National Health Interview Survey (NHIS), years 2011–2013, was used. The NHIS is a nationally representative annual household survey conducted by the U.S. Center for Disease Control and Prevention (CDC). Using a complex sampling process, the NHIS routinely collects data on health behaviors, health conditions, health care utilization and health care coverage for the U.S. Additional modules to the survey collect complementary data. The Food and Nutrition Service of the U.S. Department of Agriculture began funding the collection of a 30-day adult food security module as part of the NHIS in 2011. This module was the source of the food security information analyzed here. The NHIS also includes information about disability, capturing not only a common set of six questions used by other federal surveys to identify persons with disabilities, but also more detailed questions about disabilities, other health conditions, and receipt of public disability benefits. The three year sample was restricted to adults age 18–25 (unweighted $N = 32{,}795$). Data was weighted using guidance from the CDC to achieve annualized results.[37]

Measures

Food security

Food security was measured at the family level as access to enough food for active, healthy lives. Since 2011, ten questions have been included in the NHIS to assess adult 30-day food security. The questions measure different facets of food security: being worried that food would not last, food not lasting until there was money to buy more, not eating balanced meals, eating less than one should, being hungry but not eating, losing weight because there was not enough food, cutting or skipping a meal, not eating for a whole day, the number of days that a meal was skipped, and the number of days that a person did not eat for a whole day. Following NHIS guidance, a raw food security score was created to represent the number of affirmative responses (0–10) to the food security questions. Answers of "often true," "sometimes true," and "yes" were considered affirmative. Responses to questions that ask about the frequency of occurrence in the past 30 days were considered affirmative if the respondent's answer was greater than

or equal to three days. For the analyses conducted here, food insecurity was measured in a binary fashion.[37] A value of one was given for 'food insecure' and a value of zero was given for 'food secure.'

Disability

For this study, disability was measured in three different ways. Disability was first defined in a general sense, to provide population level estimates that are useful in shaping the national discussion around food security and disability. First, disability was measured using the six limitation questions commonly included in federal household surveys. A series of six questions designed to measure disability — first developed for the American Community Survey (ACS) — has recently been incorporated into other federal surveys, including the Current Population Survey (CPS) and the NHIS. The six questions capture self-reported functional (ambulatory, cognitive), sensory (hearing, vision), and activity (independent living and self-care) limitations and are the disability measures commonly used in U.S. Department of Labor reports about the employment status of persons with disabilities. Persons having any of the stated limitations were categorized as having a disability. While the 6QS are helpful in standardizing the measurement of disability across surveys, the questions do not provide much detail about either specific types of disabilities or the severity of disabilities. In addition, the 6QS does not capture important sub-groups of persons with disabilities, including significant portions of those that participate in public disability income support programs such as SSDI and SSI.[38,39] Given the limitations of the 6QS, disability was also measured in two alternative ways.

Disability was next measured using information from the Kessler index of psychological distress (Cronbach's alpha = 0.89).[40] The NHIS includes the six questions used to comprise the index. The questions ask a respondent if, over the past 30 days, he has felt 1) so sad that nothing could cheer you up, 2) nervous, 3) restless or fidgety, 4) hopeless, 5) that everything was an effort, or 6) worthless. Responses are measured on a five point Likert scale (none, a little of the time, some of the time, most of the time, all of the time). These values are recoded from zero to four for each question and then summed to provide the index score. Prior research developed four categories of psychological distress, based on these summed scores: none (score of zero), low (score of 1–5), moderate (score of 6–10), and high (score of 11–24).[41] Among their sample, fifty percent reported no psychological distress, 35 percent report low, ten percent report moderate and five percent reported high levels of psychological distress. The Kessler index can also be used as a binary indicator, having two levels with a cut-off value of 12. Prior research has suggested that a score of 13 or higher is a strong indicator of diagnosable mental illness with considerable disability.[42] To assess the association between disability and food security, the binary measure will be used in this study. Persons having high levels of psychological distress, as evidenced of scores of 13 or higher on the Kessler index, will be included in this population. The results presented here thus have implications for the federal, state, and local systems that provide services to the population of young adults with disabilities who have mental disorders.

Third, disability was defined along programmatic lines, considering persons who were receiving Social Security Administration disability benefits as the sub-population of interest. Understanding the risks of food insecurity for this population is important as disability benefit related policy and program innovations occur. Persons that received SSI and/or SSDI are included in this population. SSI provides monthly income support to low-income persons with disabilities. SSDI is a social insurance program that provides monthly income support to disabled workers. Disability benefit receipt questions are included in the person-level NHIS file (e.g. "Received Social Security or Railroad Retirement income as a disability benefit" and "Received SSI due to disability").

Control variables. Control variables included age as well as those mentioned in the literature as possibly influencing economic and food security for persons with disabilities. Variables were dichotomized to assign a value of one to indicators associated with higher levels of economic and food security (white, non-Hispanic, male, income greater than 150% of poverty, citizen, high school education or higher, employment in the past week, living independently (i.e. not with parents)). SNAP is included as a control variable as well. Given that food security is measured on a 30-day basis and SNAP participation is measured as 'any participation over the past year,' a variable was created to indicate full year participation in SNAP. The NHIS collects information about how many months a family participated in SNAP during the past year. Families that reported continual use of SNAP over the past 12 months were therefore assumed to have participated in SNAP during the past 30 days. A value of one was assigned to persons living in households that met this condition.

Analytical plan

Using descriptive and multivariate analysis, including logistic regression, the following hypothesis was tested: Do levels of 30-day food security differ between young adults with and without disabilities, controlling for individual characteristics and SNAP participation?

Models generally followed the specification below:

F indicates the food security outcome of interest of individual *i* who lives in location *j*. F_{ij} is a function of his or her underlying disability (H_{ij}), personal characteristics (X_{ij}), SNAP participation (Z_{ij}), and unobservable factors (e_{ij}) as follows:

$$F_{ij} = f\left(H_{ij}, X_{ij}, Z_{ij}\ e_{ij}\right)$$

For the analysis proposed here, X contains gender, age, race, Hispanic ethnicity, employment, educational attainment, poverty status, and living arrangements. Z contains SNAP participation. Differences in disability, H, were controlled for by the presence or absence of each of the three disability definitions used here.

Univariate statistics were first used to examine the focal variables of interest for young adults with disabilities, comparing them to those for young adults without disabilities. Next, a series of multivariate regressions were estimated to test the hypothesis listed above regarding the relationship between disability and food security, controlling for individual characteristics and SNAP receipt.[a] To test the hypothesis, the first and last multivariate models were estimated on the sample of young adults (Unweighted N = 32,795). The second model was estimated on the sample that responded to the psychological distress questions (Unweighted N = 11,567). All analyses were conducted using Stata, using sample weights and design variables to adjust for the complex sample design.[43]

Results

Table 1 describes the demographic composition of the sample, providing weighted and unweighted estimates. The young adult sample was evenly split between males and females. The sample was predominantly white (76 percent) and Non-Hispanic (80 percent). Most sample members were U.S. citizens (92 percent). Nearly half (47 percent) of the young adults were living with their parents. Eighteen percent had less than a high school education. Fifty-seven percent worked during the past week. Twenty-nine percent were living in families that had incomes less than 150% of poverty.

Table 2 depicts the prevalence of disability in the sample of young adults. Three percent of the sample had a 6QS disability. Nearly two percent reported a cognitive limitation. Hearing, vision, ambulatory, and self-care limitations were noted by less than one percent. Approximately one percent reported an independent living limitation. The psychological distress questions were only asked of approximately 35 percent of the sample (n = 11,567). In terms of psychological distress, 41 percent of those questioned had no reported distress. Forty-three percent had low and eleven percent had moderate levels of psychological distress. Nearly five percent had high psychological distress, with Kessler scores of eleven or higher. Using an alternative way of measuring psychological distress that includes a binary cut-off of twelve, more than two percent of the sample had high levels of psychological distress. Nearly two percent of the sample received SSI and less than one percent of the sample received SSDI. Only a small portion (0.36 percent) received both SSDI and SSI.

Table 1
Demographics, youth age 18–25

	Weighted	Unweighted
	34,489,528	32,795
Total	% (s.e.)	%
Gender		
Male	50.39	50.55
	0.31	
Female	49.61	49.45
	0.31	
Race		
White	76.03	71.49
	0.43	
Black	14.85	16.55
	0.39	
Asian	5.05	6.99
	0.19	
Multiple	2.75	3.17
	0.13	
American Indian	1.09	1.49
	0.13	
Race not released	0.00	0.30
	0.03	
Ethnicity		
Non-Hispanic	79.42	71.52
	0.47	
Hispanic	20.58	28.48
	0.47	
Citizen		
Yes	91.48	88.75
	0.27	
Living arrangements		
Does not live with parents	53.26	54.15
	0.01	
Lives with parents	46.74	45.85
	0.01	
Educational attainment		
Less than HS	18.19	19.89
	0.38	
HS	26.12	27.08
	0.39	
Some college	42.86	41.51
	0.58	
Bachelor's	11.60	10.36
	0.32	
Master's or more	1.23	1.17
	0.09	
Employment status		
Worked past week	57.26	56.27
	0.45	
Not	42.74	43.73
	0.45	
Poverty		
Less than 150%	28.65	30.99
	0.01	
Not	71.35	69.01
	0.01	

Civilian, non-institutionalized, aged 18–25.
Source: Author's analysis of 2011–2013 NHIS data.

[a] While multivariate, these regressions will be descriptive in nature and are not meant to establish causality. Such limitations are discussed later in the paper.

Table 2
Types of disability among young adults (age 18–25), NHIS 2011–2013

	%	s.e.	Unweighted *n*	Sample
Disability (any of 6SQ)[a]				
Disability	3.00	0.12	977	32,795
No disability	97.00	0.12	31,818	32,795
Sensory limitation[a]				
Hearing	0.45	0.04	153	32,795
Vision	0.61	0.06	210	32,795
Functional limitation[a]				
Ambulatory	0.58	0.04	202	32,795
Cognitive	1.92	0.08	608	32,795
Activity limitation[a]				
Independent Living	0.95	0.06	315	32,795
Self-care	0.31	0.03	104	32,795
Psychological distress[b]				
None	41.22	0.68	4865	11,567
Low	43.10	0.68	4862	11,567
Moderate	11.11	0.39	1309	11,567
High	4.57	0.23	531	11,567
High distress[b]				
Yes	2.43	0.17	295	11,567
No	97.57	0.17	11,272	11,567
Disability benefit receipt[a]				
SSI	1.64	0.09	534	32,795
SSDI	0.84	0.06	282	32,795
Both	0.36	0.04	116	32,795

Civilian, non-institutionalized, aged 18–25.
[a] Denotes sample size of 32,795.
[b] Denotes sample size of 11,567.
Source: Author's analysis of 2011–2013 NHIS data.

Comparisons of food insecurity and SNAP receipt by disability status are shown in Table 3. Significant differences from Chi square tests are noted. Compared to young adults without disabilities, significantly larger proportions of young adults with disabilities were living in households that had 30-day food insecurity, regardless of disability definition. Participation in SNAP, at any point during the year and consistently throughout the past year, was significantly higher for young adults with disabilities.

Tables 4–6 show the results from the logistic regressions.[b] In Table 4, the focal variable is 6QS. Young adults with one of the six limitations had significantly higher odds of (OR: 2.48, $p < 0.001$) living in a household that was food insecure than other young adults. Age, gender, citizen and employment status were not significant. Whites, non-Hispanics, persons with at least a high school education, persons not living with their parents, and persons with income greater than 150% of the poverty line had significantly lower odds of living in households that experienced

[b] Regression models were run with and without a variable to indicate proxy response. As disability may influence the ability to respond to survey questions, responses may be given by a proxy, a family member who is knowledgeable about the respondent. For the sample constructed here, the need for a proxy was confirmed for only 1.25% of all the cases (4.82% for the cases with 6QS). For all of the models that include proxy as a variable, proxy was not a significant predictor and the overall results did not change appreciably. The models that did not include a proxy are therefore discussed here.

Table 3
Disability status, food insecurity and SNAP receipt among young adults (age 18–25), NHIS 2011–2013

	Food insecure		Any SNAP		All year SNAP	
	%		%		%	
	(s.e.)	Sig.	(s.e.)	Sig.	(s.e.)	Sig.
6QS	34.70	***	38.20	***	24.10	***
	1.90		2.03		1.87	
No 6QS	14.20		17.80		11.10	
	0.29		0.40		0.31	
High psychological distress	50.30	***	41.40	***	25.80	***
	3.59		3.34		2.96	
No high psychological distress	13.00		17.50		10.40	
	0.45		0.63		0.46	
SSDI	32.50	***	45.10	***	35.60	***
	3.16		3.72		3.54	
No SSDI	14.60		18.20		11.30	
	0.30		0.41		0.31	
SSI	32.30	***	45.80	***	37.90	***
	2.34		2.64		2.57	
No SSI	14.50		18.00		11.00	
	0.30		0.40		2.99	
SSDI & SSI	33.10	***	57.40	***	48.90	***
	5.16		5.42		5.37	
No SSDI & SSI	14.70		18.30		11.30	
	0.30		4.06		0.31	

Civilian, non-institutionalized, aged 18–25.
***$p < 0.001$.
Source: Author's analysis of 2011–2013 NHIS data.

food insecurity in the past 30 days. Persons who were living in households that had received SNAP consistently over the past year had significantly higher odds (OR: 2.21,

Table 4
Association of disability status and food insecurity among young adults, NHIS 2011–2013

	OR	s.e.	Sig.	95% CI, LL	95% CI, UL
6QS disability	2.48	0.24	***	2.05	3.00
Male	1.06	0.04	NS	0.99	1.14
Age	1.01	0.01	NS	0.99	1.03
White	0.70	0.03	***	0.64	0.77
Non-Hispanic	0.67	0.04	***	0.60	0.74
Citizen	1.11	0.08	NS	0.95	1.28
Work	0.94	0.04	NS	0.87	1.01
HS	0.55	0.03	***	0.50	0.60
Not living with parents	0.70	0.04	***	0.63	0.78
Not <150% poverty	0.37	0.02	***	0.33	0.41
All year SNAP	2.12	0.14	***	1.87	2.41
Constant	0.66	0.14	NS	0.43	1.00
Obs = 32,595					
$F(11,290) = 134.89$, $p < 0.001$					

Civilian, non-institutionalized, aged 18–25.
***$p < 0.001$.
NS = not significant.
Source: Author's analysis of 2011–2013 NHIS data.

Table 5
Association of psychological distress and food insecurity among young adults, NHIS 2011–2013

	OR	s.e.	Sig.	95% CI, LL	95% CI, UL
Psychological distress	5.21	0.83	***	3.80	7.14
Male	1.03	0.07	NS	0.91	1.18
Age	1.02	0.02	NS	0.98	1.05
White	0.68	0.05	***	0.59	0.78
Non-Hispanic	0.67	0.05	***	0.57	0.78
Citizen	1.26	0.14	*	1.01	1.58
Work	1.02	0.06	NS	0.90	1.16
HS	0.47	0.04	***	0.40	0.55
Not living with parents	0.61	0.05	***	0.52	0.71
Not <150% poverty	0.39	0.03	***	0.34	0.45
All year SNAP	1.84	0.16	***	1.54	2.19
Constant	0.62	0.23	NS	0.29	1.29
Obs = 11,567					
$F(11,290) = 71.42$, $p < 0.001$					

Civilian, non-institutionalized, aged 18–25.
*$p < 0.05$; ***$p < 0.001$.
NS = not significant.
Source: Author's analysis of 2011–2013 NHIS data.

$p < 0.001$) of living in a household that was food insecure during the past 30 days.

In Table 5, the focal variable is psychological distress. Young adults with psychological distress had significantly higher odds (OR: 5.21, $p < 0.001$) of living in a household that was food insecure than other young adults. Age, gender, and employment status were not significant. Whites, non-Hispanics, persons with at least a high school education, persons living independently, and persons with incomes above 150% of the poverty line had significantly lower odds of living in food insecure households. Citizens and persons who had lived in a household that had received SNAP for the past 12 months had significantly higher odds of living in a household that was food insecure.

Table 6
Association of public disability benefit receipt and food insecurity among young adults, NHIS 2011–2013

	OR	s.e.	Sig.	95% CI, LL	95% CI, UL
SSDI	1.79	0.41	*	1.14	2.80
SSI	1.55	0.20	**	1.21	2.00
SSDI&SSI	0.56	0.20	NS	0.27	1.15
No SSA disability benefits					
Male	1.06	0.04	NS	0.99	1.14
Age	1.01	0.01	NS	0.99	1.03
White	0.71	0.03	***	0.65	0.78
Non-Hispanic	0.68	0.04	***	0.61	0.75
Citizen	1.11	0.08	NS	0.96	1.29
Work	0.93	0.03	*	0.86	1.00
HS	0.55	0.03	***	0.50	0.60
Not living with parents	0.70	0.04	***	0.64	0.78
Not <150% poverty	0.36	0.02	***	0.33	0.40
All year SNAP	2.13	0.14	***	1.87	2.42
Constant	0.65	0.14	*	0.43	0.98
Obs = 32,595					
$F(13,288) = 117.22$, $p < 0.001$					

Civilian, non-institutionalized, aged 18–25.
*$p < 0.05$; **$p < 0.01$; ***$p < 0.001$.
NS = not significant.
Source: Author's analysis of 2011–2013 NHIS data.

In Table 6, the focal variables are receipt of SSA disability benefits (SSDI, SSI, or concurrent receipt of SSDI and SSI). Persons receiving either SSDI or SSI had significantly higher odds of living in a household that was food insecure. Concurrent receipt of SSDI and SSI benefits did not significantly influence the odds of living in a food insecure household. Age, gender, and citizen were not significant as well. Persons who were white, non-Hispanic, working, had at least a high school education, were living independently and had incomes higher than 150% of poverty had significantly lower odds of living in a household that was food insecure. Young adults who lived in households that had received SNAP throughout the year had significantly higher odds (OR: 2.13, $p < 0.001$) of living in a household that experienced 30-day food insecurity.

Discussion

The results presented here confirm that young adults with disabilities have significantly higher odds of living in a household that has experienced food insecurity over the past 30 days than young adults without disabilities, even when controlling for individual characteristics and SNAP receipt. Some findings are particularly worth noting. First, 32 to 50 percent of young adults with disabilities lived in households that had experienced 30-day food insecurity. In contrast, only 13 to 15 percent of young adults without disabilities faced similar concerns. This large gap in levels of food security provides a starting point to understanding the disparities that exist in terms of food security. Even when controlling for the influence of other variables, young adults with disabilities experience higher odds of living in a household that is food insecure. Such information provides evidence that further research in this area is needed to inform the development of effective policy solutions.

Second, among the disability definitions used here, psychological distress appears to have the strongest association with food insecurity. The use of cross-sectional data for the analyses conducted here does not allow for a full exploration of the direction of this association. As prior research has suggested that concerns about food security can influence psychological distress,[7,44] future research which uses longitudinal data can explore this issue in more detail for young adults who have severe mental illness.

Third, young adults who receive either SSDI or SSI, important sources of income support, continue to struggle with food insecurity. In recent years, disability policy development on a national scale has become more focused on the needs of young adults and on ways to decrease participation in SSDI and SSI. The Workforce Investment and Opportunity Act of 2014 (Public Law 113-128), for

example, includes specific provisions to improve access to employment services and supports, particularly for youth with disabilities. Transitioning youth with disabilities from the supports available under federal educational legislation and in the childhood SSI program into independent living is the focus of a current federal demonstration project, the Promoting Readiness among Minors on Supplemental Security Income (PROMISE) demonstration. PROMISE, a joint initiative of the U.S. Department of Education, the U.S. Social Security Administration, the U.S. Department of Health and Human Services and the U.S. Department of Labor, is testing new ways of providing and coordinating services for youth who are SSI recipients to facilitate a successful transition to the adult work force and independent living.[45] Yet, given all of this focus, concerns about food security are rarely, if ever, discussed within these policy initiatives. Initiatives designed to foster independence among young adults with disabilities must begin to incorporate food security as a key content area.

Fourth, SNAP receipt was associated with food insecurity, confirming that families who are experiencing food insecurity are participating in available public nutrition assistance programs. The cross-sectional nature of the NHIS data cannot be used to assess the effectiveness of SNAP in reducing overall food insecurity. Without being able to gauge levels of food security before and after SNAP receipt, the research presented here only confirms that persons who living in food insecure households are indeed seeking assistance from public programs. Longitudinal data would allow for an examination of changes in food security with SNAP participation for this population. Further research can also focus on whether or not programs such as SNAP are meeting the needs of participants with disabilities. Given the high rates of participation in public programs among persons with disabilities, it is likely that young adults with disabilities who reside in SNAP-participating households are also participating in other public programs. The coordination of benefits among programs can be complex, however, so efforts must be made to ensure that young adults who do participate in other public programs understand how the availability of SNAP interplays with other program participation.

Fifth, across all models, young adults who were not living with their parents had significantly lower odds of living in a household that was food insecure. This may point to the fact that such young adults who are living independently have other qualities that mitigate the risks of food insecurity. Future research that investigates the influence of household composition on food security for this young adult population can help to uncover possible important factors.

Lastly, employment did not have a significant association with food insecurity in two of the multivariate models. As employment was only measured in a simple fashion here, research which incorporates information about hours worked or wages earned could shed light on the exact nature of any association that might exist. Research might identify, for example, a threshold above which employment begins to matter in terms of food security.

Several limitations of the research presented here deserve attention. The NHIS, a household survey, omits certain populations including persons living in institutions, homeless persons, and persons in the armed forces. The use of cross-sectional data prevents any establishment of causality. Future research can attempt to address these issues by using other data sources.

Conclusion

Despite the limitations noted above, the results presented here are useful in elucidating the important association between disability and food security for young adults with disabilities. As disability policymakers continue to focus their efforts on assisting this population in transitioning to adult roles, food security must remain on the policy radar so that young adults with disabilities have access to the food necessary to have healthy, active lives.

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