Is there More to Food Insecurity among Children than Poverty?

The Importance of Measurement

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Abstract

This paper examines the association between poverty and food insecurity among children using the official measure of poverty and a more inclusive measure of family resources, needs, and expenses. Our objective is to study whether the association between food insecurity and poverty improves with a more comprehensive measure of income. We find a strong and statistically significant association between income-to-needs ratio based on the official poverty metric and very low food security among children. When the categories of food insecurity are refined and children in households reporting any food hardship are removed from the reference group, this association becomes stronger. Finally, the analysis suggests that a more inclusive measure of income-to-needs-ratio, based on the supplementary poverty measure, strengthens the association between income-to-needs ratio and low food security and very low food security in families with children.

Introduction

The U.S. government has set a goal of eliminating very low food security among children by 2015. To achieve this goal, it is important to understand the causes of food insecurity, and the role that policy can play in reducing it. While prior research has examined the causes and consequences of food insecurity, for the most part it has not focused specifically on food insecurity among children. The purpose of this paper is to study the determinants of food insecurity among children, with a specific focus on the role of income and poverty.

The prevalence and severity of food insecurity in the United States is tracked in the Current Population Survey Food Security Supplement (CPS-FSS), which is administered in December. As of December 2010, approximately 10 percent of the 39.4 million households with children experienced food insecurity among children, defined as the lack of consistent access to adequate food, which was a sharp rise after remaining between 8 and 9.5 % for nearly a decade (Coleman-Jensen, Nord, Andrews, & Carlson, 2010). Very low food security among children is the most severe type of food insecurity and refers to households in which children suffer disrupted meal patterns and food intake that is less than the amount their caregivers consider adequate (Nord, 2009). This condition characterized one percent of all households with children in 2010 (Coleman-Jensen, Nord, Andrews, & Carlson, 2010).

Clearly, one of the largest contributors to food insecurity is low income. When income is constrained or limited, households may be forced to make difficult decisions that can result in a less than adequate supply of food. This is perhaps best illustrated in Edin and Lein's (1997) *Making Ends Meet,* in which the authors highlight how some of the poor urban mothers in their study chose to go without food rather than forgo other essentials such as medical care.

Most nationally representative datasets depict the income and food insecurity link. In 2010, 24 percent of households with income below the official poverty threshold reported food insecurity among children compared with only seven percent nonpoor households. Nearly three percent of poor households with children reported very low food security among children versus less than one percent of non-poor households (Coleman-Jensen, Nord, Andrews, & Carlson, 2011). A similar link has been reported in data from the 1988–1994 Third National Health and Nutrition Examination Survey (NHANES III), the Child Development Survey of the PSID, as well as in the 1992 Survey of Income and Program Participation (SIPP), and the 1989–1991 Continuing Survey of Food Intake by Individuals (CSFII) (Alaimo, Briefel, Frongillo, & Olson, 1998; Connell, Yadrick, Hinton, & Su, 2001; Dunifon & Kowaleski-Jones, 2003; Rose, Gundersen, & Oliveira, 1998).

However, despite research indicating that hunger and food insecurity are correlated with low income, various national surveys, (e.g. SIPP, CPS-FSS, CSFII) also show that close to half of all families reporting food insecurity have incomes above the poverty line (Rose, 1999). One of the limitations of prior studies in this area is their reliance often on inadequate measures of household income and poverty. In particular, the official measure of poverty has been criticized for missing key components of both income and expenses.

Family income, on which the official poverty index is based, is not an all-inclusive measure of the resources that households command. The official measure of income does not, for instance, include all the cash and non-cash benefits a household might receive. These benefits often constitute a non-trivial component of the incomes of families in poverty. Importantly for this paper, the official poverty measure does not adjust for assistance under the SNAP/Food Stamps Program or other food and nutrition assistance programs (such as school breakfasts,

school lunches, and WIC). It may be that families in poverty that receive benefits under SNAP (or other food and nutrition assistance programs) are less food insecure than non-poor families, with incomes marginally above the poverty line, that are not eligible for SNAP (and other programs).

The official poverty index also does not take into account work-related expenses, out-of-pocket medical care costs, and geographic differences in living expenses including housing. Nor does it differentiate between types of housing, which affect available family resources (Citro & Michael, 1995). For instance, families with subsidized housing but incomes below the official poverty index are likely to be better placed in terms of resources available to spend on food than families marginally above the poverty line but without subsidized housing. Similarly, families in poor health may be spending more on medical care, and are likely to be left with fewer resources to allocate on food.

Using data from the CPS-FSS and the CPS Annual Social and Economic Supplement (ASEC), this paper examines the association between poverty and food insecurity among children using the official measure of poverty and a more inclusive measure that captures a wider range of resources and expenses. Our objective is to study whether the association between food insecurity, and very low food security, among children and income-to-needs ratio improves with a more inclusive measure of income and needs. Specifically, this paper addresses the following questions: 1) How strongly is poverty associated with food insecurity among children; and 2) To what extent does this relationship change with an improved supplemental measure of poverty?

Previous Research

A growing body of research demonstrates the negative consequences of food insecurity on children's health and developmental outcomes including cognitive development and school achievement (Alaimo, Olson, & Frongillo, 2001; Hernandez & Jacknowitz, 2009; Jyoti, Frongillo, & Jones, 2005; Reid, 2000; Rose-Jacobs et al., 2008; Winicki & Jemison, 2003), socio-emotional development (Alaimo, et al., 2001; Alaimo, Olson, & Frongillo, 2002; Casey et al., 2005; Dunifon & Kowaleski-Jones, 2003; Jyoti, et al., 2005; Kleinman et al., 1998; Reid, 2000; Weinreb et al., 2002; Whitaker, Phillips, & Orzol, 2006), and overall health (Alaimo, et al., 2001; Casey, et al., 2005; Cook et al., 2004; Hernandez & Jacknowitz, 2009). In addition, research suggests that the presence of food insecurity among children exacerbates the risks to children that are posed by overall household food insecurity (Cook et al., 2006).

Examining the determinants of food insecurity among children—particularly how income and poverty are associated with this material hardship—is an important step in identifying practical policy solutions for reducing this condition and its negative consequences for children's overall well-being. While prior research has examined the links between poverty and food insecurity, research suggests that the current official measure of income and poverty may misrepresent the population of people who are poor. People with low levels of income, but who are not living in poverty, still experience high levels of material hardship, such as food- and housing-related hardships, and many of the people experiencing hardships have incomes that are above the official poverty line (Boushey et al. 2001; Fremsted 2010). At the same time, some individuals and families whose incomes are below the official poverty line may have other resources (not counted in the official measure) that would help buffer them from food insecurity. However, very few studies have examined the question of whether a more comprehensive

measure of income and poverty is more strongly correlated with material hardship, in general, and food insecurity among children, more specifically.

Using two surveys of Chicago residents, Mayer and Jencks (1988) found that family income explained only about 14 percent of the variation in the number of material hardships reported and that using broader measures of economic resources, such as noncash benefits, home ownership, and access to credit, explained only a little more. Redefining family income is only one part of the equation. Work by Meyers, Garfinkel, Huang, and Weissman (2000) suggests that improving the poverty threshold is also important for understanding the relationship between poverty and hardship. Using data from the New York Social Indicator Survey (NYSIS), which is a repeated cross-sectional survey of a random sample of families in New York City, Meyers et al. (2000) found that only when they applied both a more comprehensive measure of resources and equivalence scales as well as an updated poverty threshold did the association between poverty and hardship become stronger.

Research Methods

Data

This analysis uses data from the 2001–2009 CPS-FSS, fielded in December, to examine the determinants of food insecurity and very low food security among children with a focus on the role of income and poverty. We restrict our analysis to these years because the month the food security module was fielded varied before 2001. The sample based on the December CPS-FSS (N=243,113) is restricted to children less than 18 and excludes children who are emancipated minors (i.e., the household reference person living alone, with others, or married to the household reference person) and children whose household food security status is unknown

because the reference person did not give a valid response to any of the questions in the food security scale. Observations with no income data were dropped from the analysis (about 9 percent). In work not reported here we compare samples with and without those missing on income and the samples appear to be relatively similar.)

Measures of food insecurity among children are based on a set of 18 questions fielded in the Food Security Supplement of the Current Population Survey. (See Appendix Table A.1 for a complete list of the 18 questions.) Using the USDA's guidelines, households are defined as food insecure if they respond affirmatively to at least three of the 18 questions. Children's food security status in the household is based on responses to questions 11 through 18, which ask the main respondent in the household to report on the food security of children. Using the USDA's guidelines, households reporting between two and four indicators of food insecurity are classified as having *low food security among children*, and households responding affirmatively on five or more questions are classified as having *very low food security among children*. The classification *food insecurity among children* includes both categories.

We study two outcomes relating to food security. The first is a dichotomous measure contrasting children in households with very low food security among children (coded 1) with all others (coded 0). The second is a multinomial outcome in which children are assigned to one of five mutually exclusive categories based on the householder's response to the 18 questions. *No Food Insecurity* includes children in households reporting no food insecure conditions. *Marginal Food Security among Adults, No Child Food Insecurity* includes children in households reporting at least one food insecure condition among adults, but none among children. *Marginal Food Security among Children* includes children in households reporting one food insecure condition among children. *Low Food Security among Children* includes children in households reporting

between two and four food insecure conditions among children. *Very Low Food Security among Children* includes children in households reporting five or more food insecure conditions among children.

Because family income in the December CPS-FSS is only available in categories, we impute a continuous measure of income into the December CPS using a regression based method that estimates income separately by year and family income band in the 2002–2010 CPS Annual Social and Economic (ASEC) Supplement (March CPS). We control for a wide range of child, parental, and household characteristics that are common to the two datasets and apply the coefficients from these regression models to predict a value of income for each respondent in the December CPS-FSS by year and family income band. These controls include race/ethnicity, number of people in the household, presence of a child less than age 6, presence of an elderly person, child's nativity and citizenship status, parental nativity, marital status, parents' education, parents' employment status, parental disability, housing status, mother's age, food stamp receipt, state of residence.

Data from the 2002–2010 March CPS are used to construct the two measures of poverty, official and supplemental, for each year. We first use the official Census Bureau poverty thresholds to construct an income-to-needs ratio, which enables us to categorize children in the December CPS-FSS as: poor (less than 100 percent of the poverty threshold); near poor (100%–199% of the poverty threshold); at 200%–299% of the poverty threshold; or at 300% or more of the poverty threshold (omitted category in regressions).[1]

[1] We also used the midpoint of each income category in the March CPS and assigned this value to respondents in the December FSS to create a measure of income from which to create income-to-needs ratio categories. The results from preliminary logistic regressions, available upon

The second measure of poverty is what is commonly referred to as the supplemental poverty measure (SPM) based on the recommendations of the Interagency Technical Working Group on Developing a Supplemental Poverty Measure, established by the Office of Management and Budget's Chief Statistician. It is a somewhat modified version of the improved poverty measure recommended by the 1995 Panel of the National Academy of Sciences (see Hutto, Waldfogel, Kaushal, and Garfinkel 2011 for details). Using data from the Consumer Expenditure Survey, the measure uses a new set of poverty thresholds based on expenditures on a basic bundle (comprising of food, shelter, clothing, and utilities) by two child families within the 30-36th expenditure percentile. Our SPM measure also uses data from March CPS, the Survey of Income and Program Participation (SIPP), and the Medical Expenditure Survey (MEPS), which is used to create a new measure of income, called SPM income, that includes earnings, cash transfers, near-cash benefits, tax credits, and tax payments minus child care, work, and out-of-pocket medical expenses. The SPM income measure adjusts for variation in the regional cost of living. The new measure of income was created for all respondents in the 2002–2010 March CPS.[2] Like official income, we use the same regression method for imputing continuous SPM income into the December CPS-FSS.

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request, indicate that the relationship between income and food insecurity among children is very similar when comparing the two specification of income. Therefore, we use the more precise measure of income based on predicted values from which to create the income-to-needs ratio categories.

[2] The authors are especially grateful to Nathan Hutto for sharing SPM data with us. Further details on how SPM income and poverty are constructed are available in Hutto et al. (2011).

In addition, a new SPM threshold was applied to all respondents in the December CPS-FSS. The new threshold is benchmarked for a set of basic bundle expenditures (i.e., food, shelter, clothing, and utilities) that fall between the 30th and 36th percentile for all two-parent families. The threshold is adjusted to reflect different kinds of two-parent families, includes a multiplier to capture other necessary expenses, such as personal care. Using a set of equivalence scales, the thresholds are adjusted for families of different size and composition. (For a more detailed discussion of the benchmarked threshold, please see Hutto et al. 2011). Using both the predicted SPM income and new thresholds, we are able to assign respondents to a set of SPM income-to-needs ratio categories.

Our regression models include a set of covariates that are likely to be correlated with both income and food insecurity among children. We use four dichotomous variables to measure race/ethnicity of the child: non-Hispanic white (omitted category in regressions); non-Hispanic black; other, non-Hispanic; and Hispanic origin. *Number of people* is a continuous variable indicating the total number of people in the household. The *presence of a preschooler* is a dichotomous variable coded one if a child under age six is present in the household. The *presence of an elderly person* is a dichotomous variable coded one if a person aged 65 and older resided in the household. Parents' nativity is a dichotomous variable coded one if at least one of the child's parents were born in a foreign country (i.e., not born in the United States, Guam, Puerto Rico, U.S. Virgin Islands, or in a United States outlying area). All others were coded to zero. *Marital status* is a dichotomous variable coded one if the child's parent is single and zero if the child's parents are married. We use four dichotomous measures to indicate *parents' education*: no parent completed high school; at least one parent completed high school, no more; at least one parent completed some college, no B.A.; at least one parent has a Bachelor's degree

or more (omitted category in regressions). *Parents' employment* is captured in three dichotomous variables: at least one parent employed full time (35 or more hours per week) (omitted category in regressions); at least one parent is employed part time (less than 35 hours per week); no employed parents. *Parental disability* is a dichotomous variable coded one if the child has at least one disabled parent. Children who live in *housing* that is rented or occupied without payment are coded one; all others are coded zero. We use a series of nine dichotomous variables to capture *mother's age*: aged 15–19; aged 20–24; aged 25–29; aged 30–34; aged 35–39; aged 40–44; aged 45–49; aged 50–54 (omitted category in regressions); and aged 55 or older. *Year of survey* is captured in a set of eight dichotomous variables ranging from 2001–2009. Year 2001 is omitted category in regressions. *State fixed effects* are also included.

Analytic Strategy

We first estimate a logistic regression model contrasting children who live in households reporting very low food security among children with all others. Our baseline model is given by:

$$(1)\ Ch_{it} = \alpha_o + \alpha_I IP_{it} + \beta X_{it} + u_{it}$$

where Ch_{it} is an indicator for whether children in family i experienced very low food among children in year t, and is a function of IP_{it}, the income-to-needs ratio of family i in year t, and X_{it}, a vector of child and family characteristics, namely children's race and ethnicity, the number of people in the household, the presence of a young child less than age six, the presence of an elderly person aged 65 and older, parents' nativity, marital status, educational attainment, employment status, and disability, housing, mother's age, state of residence, and year of survey. In this first step, IP_{it} represents income-to-needs ratio categories that are based on the official

measure of poverty. In addition, while IP_{it} adjust for family size and family type, equation (1) further controls for a large number of family characteristics that allow us to study if certain family types (e.g. single parent families, immigrant families) are more vulnerable to food insecurity even after adjusting for their income-to-needs ratio.

In order to assess whether income poverty based on the supplemental poverty measure correlates more closely with food insecurity and very low food security among children than the official poverty index, our second step is to re-estimate the baseline model given by equation (1) using the SPM. Specifically, in these analyses, IP_{it} represents income-to-needs ratio categories based on the supplemental measure of poverty. This measure is a more inclusive measure of family resources and needs.

Next, we estimate a multinomial logistic regression model using detailed data on the level of food insecurity reported by families with children. We use the same baseline model, but here Ch_{it} is an indicator for whether children in family i experienced food insecurity (marginal food security among adults only; marginal food security among children; low food security among children; very low food security among children) in year t. Families reporting no food insecurity are the category of comparison. Like the logistic regression analysis described above, we first estimate the multinomial using income-to-needs ratio categories based on official poverty and we then re-estimate the multinomial using income-to-needs ratio categories that are based on the supplemental measure.

Finally, we exploit the longitudinal aspect of the CPS to estimate person fixed effects models to study the effect of a change in income between years t-1 and t on food insecurity reported by families. This allows us to control for unobserved personal characteristics that may be associated both with being poor and experiencing food insecurity. We treat the categorical

food security variable with five values as a continuous variable with higher values indicating more severe food insecurity conditions for children.

The fixed effects models are estimated on a sample of children who were present at both the December (t-1) and December (t) surveys. The CPS interviews persons living within the same housing unit for four consecutive months, drops them from the survey for the next eight months, and re-enters them into the survey for the following four months. Thus families with a December interview that falls in months 1-4 will have a second interview the following December in months 5-8. We use a number of CPS public-use identifiers known to facilitate matching individuals across successive interviews, such as household identification number, the household number, and the person's line number (see e.g. Madrian & Lefgren, 1999; Kaushal & Kaestner, 2010). Because the CPS sampling frame is residences and not people, we also use the respondent's sex, race/ethnicity, nativity, state of residence, and period of arrival in the U.S. to match individuals in the December CPS of year t with individuals in the following December CPS of year t+1. We are able to match about 60 percent of the respondents present in both waves across the two years. We also drop cases in which no income data were available. Our sample for the person-fixed effects analysis is comprised of 116,728 or 58,364 unique persons. We first estimate an OLS model for all children in the sample, and then estimate the same OLS model for the sample of children matched across December surveys. Finally, we estimate an OLS with person fixed effects on the matched sample.

Results

How Strongly is Poverty Associated with Food Insecurity among Children?

Table 1 panel A displays the percentage of children by food security status of the household across four income-to-needs ratio categories for both the official and the SPM measures of poverty. Panel B displays the distribution of children by food security status across four income-to-needs ratio categories for both the official and the SPM measures of poverty. The results in Table 1 underscore two main findings. First, there is a strong association between poverty and food insecurity among children regardless of how income is measured. Using the official measure of poverty, the rate of food insecurity among children is highest among children living in families with incomes below the poverty threshold and the risk of experiencing food insecurity decreases as income increases. For example, although 9.9 percent of all children live in a households reporting low food security among children (and 1.0 percent live in households reporting very low food security among children), nearly one-quarter of children in poor families (24.6 percent) live in a household with low food security among children and about three percent of poor children live in a household with very low food security among children. In addition, as displayed in Panel B, while overall about one in five children live in official poverty, 62.3 percent of children in households with very low food security among children are poor.

[Table 1 about here]

Second, the results in Table 1 show that a more comprehensive measure of poverty does a better job of identifying children in households with food hardship as poor. As shown in panel B, a larger share of children in households reporting very low food security among children are poor by the SPM measure than the official measure. We also find that about 9.3 percent of children in households with very low food security among children are in higher-income families (i.e., families with income greater than 200 percent of the poverty threshold) using the official measure compared to a much smaller share—3.3 percent—using the SPM measure. (Appendix

Table A.2 includes the full set of descriptive statistics on child, parental, and household characteristics.)

Table 2 shows that even after we control for a rich set of covariates such as parents' education and employment, which are both highly correlated with income, we still see a very strong relationship between poverty and food insecurity among children. The first column in Table 2 presents results from a logistic regression model of very low food security among children. (For results from a model that does not include covariates, see Appendix Table A.3). The odds of experiencing very low food security among children are about 12 times greater among children in officially poor families compared with children in families with income at 300 percent or more of the official poverty threshold. The table also shows that the risk of experiencing food insecurity among children decreases as income increases. As the ratio of income to needs based on the official measure increases, the odds of experiencing very low food security get smaller, but remain positive and statistically significant indicating that children in economically disadvantaged families are more likely to reside in households reporting very low food security among children compared with children in more economically secure families. (See Appendix Table A.3 for the full set of results.)[3] The results using the SPM measure of

[3] Research suggests that the equivalence scales, which are used to adjust the poverty thresholds for families of different size and composition, are inadequate as they do not take into consideration economies of scale nor do they adjust for differences in consumption patterns (Betson 1996). Thus, in results not shown, very low food security among children was regressed on family income in deciles. The results from this logistic regression are consistent with what is reported in the paper. Income is strongly associated with very low food security among children. Controlling for a rich set of covariates including the number of young children, number of

income are relatively the same with one exception: the effect of being at 200%-299% of poverty relative to being at 300% or more is no longer statistically significant.

[Table 2 about here]

While our findings from the logistic regression suggest there is a statistically significant association between income and very low food security among children, the results from the multinomial logistic regression show that when we refine the categories of food insecurity and remove children in households reporting any food hardship from the reference group, we find a stronger relationship between income and food insecurity among children. Columns 2–5 in Table 2 present results from a multinomial logistic regression contrasting children who live in households with some food insecurity with those who live in households with no reported food insecurity. Among all children, we find that the odds of experiencing any degree of food insecurity relative to experiencing no food security are greater for children in poor families than for children in families with income at 300% or more of the poverty threshold. In addition, when we refine the reference category and exclude children experiencing any form of food hardship, we find the odds of experiencing very low food security among children double to 26 times greater for children in officially poor families relative to children in officially nonpoor families and about 22 times for children in SPM poor families relative to children in SPM nonpoor families. (See Appendix Tables A.4 and A.5 for the full set of results.)

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children aged 6–18, the number of adults, and number of elderly, children with family income in the 1st decile are 12 times as likely as children with family income in the 10^{th} decile to be in a household with very low food security among children. The odds of experiencing very low food security decline as income increases.

Further Evidence that the Supplemental Poverty Measure Is More Closely Correlated with Food Insecurity among Children than the Official Measure

The results from the multinomial logistic regression also suggest the association between poverty and food insecurity among children improves when moving from the official to the more comprehensive measure of income. When we move to the SPM measure, the risk of experiencing food insecurity (even marginal food security) is more heavily concentrated among children in low-income and poor families. As shown in Table 2, the odds ratios for the lower-income and poor categories using the SPM definition generally are larger than the odds ratios for the official income-to-needs ratio categories. This is especially true for the risk of having low household food security among children. Further, the statistical significance we observe in the odds of experiencing very low food security among children in families with official income 200%-299% of the poverty threshold disappears when we use the SPM measure. This suggests that when we use the more comprehensive measure, children in these higher-income families experience the same risk of severe food hardship as children in families with SPM income at 300% or more of the poverty threshold.

In Table 3 we report results from our analysis using person fixed-effects. Even after controlling for unobserved characteristics that may be correlated with both low income and food insecurity, we find both the official and SPM measure of income-to-needs ratio is statistically significantly related to food insecurity. These results confirm that our findings are robust to time-invariant individual characteristics — as income-to-needs increases, the severity of food insecurity among children decreases. However, while we do not know with certainty in which direction the omitted variables might bias the results, we observe that the magnitude of the coefficients is reduced moving from the pooled OLS model to the fixed effects model,

suggesting that poverty may be correlated with some unobserved factors that are also associated with food insecurity and that by controlling for person fixed effects, the relationship is weakened.

[Table 3 about here]

Conclusion

This paper examines the association between poverty and food insecurity among children using the official measure of poverty and a more inclusive measure, the supplemental poverty measure, which captures a wide range of resources and expenses. The objective is to assess whether the association between food insecurity and poverty improves with a more comprehensive measure. Very little work has explored the relationship between improved measures of poverty and experiences with food hardship and what does exist is based on small, local-area samples that may not necessarily be representative of the larger national population. We also utilize the longitudinal aspect of the CPS data to control for unobservable characteristics that may be correlated with both poverty and food insecurity. The results suggest three main findings.

First, we find evidence of a strong and statistically significant association between poverty and very low food security among children. This finding is consistent across both the official and SPM poverty measure. The incidence of food insecurity increases as income-to-needs decreases. Further, the likelihood of being poor is significantly higher among those experiencing low and very low food security among children.

Second, regardless of how poverty is defined, when the categories of food insecurity are refined and children in households reporting any food hardship are removed from the reference group, the relationship between income and food insecurity among children is stronger. This is

an important finding that further clarifies the relationship between income and food hardship. Much of the literature examining the relationship between poverty and food insecurity does not remove from the reference group those experiencing marginal food hardship. Our results based on a finer measure of food insecurity show a stronger connection between poverty and food hardship compared with a variable specification that includes children with and without reports of food insecurity.

Finally, our results suggest that using a more inclusive measure of income reveals a stronger association between poverty and food insecurity among children than the official measure. This finding appears to be robust to unobservable personal characteristics that may influence both income and food insecurity, although in both instances the control for person fixed effects does weaken the association. Our results suggest that with SPM, the risk of experiencing food insecurity, particularly food insecurity among children, are strongly skewed toward children in lower-income families, which is what we would expect. We observe this in the bivariate analysis where a large majority of children in households reporting low and very low food security among children are officially poor and about 10 percent have family incomes at least 200 percent of poverty. However, when we move to the measure of SPM poverty, the share of children with high levels of family income in households reporting very low food security shrinks to three percent and the overwhelming majority (97 percent) is poor or low-income. The multivariate analyses reinforce this general finding.

There are limitations to the study. First, the December data from which food security is measured do not include a measure of continuous official income. We also lack continuous SPM income for December respondents. Thus, we rely on measures of predicted income for both specifications. We try to minimize the amount of error in our measure of income by controlling

for a wide range of child, parental, household, and geographic characteristics when calculating predictions.

Second, while CPS-FSS is a rich source of data on food security, it does not contain information on detailed family characteristics, such as parents' mental and physical health, parents' health related behaviors, i.e., smoking, alcohol consumption, and illicit drug use, or parenting styles. In future research, we will explore additional data sources, such as the Fragile Families and Child Wellbeing Study (FFCWS) and the Early Childhood Longitudinal Studies, to examine the association between income and food insecurity taking advantage of more detailed information on children and their families currently missing from the literature.

Finally, this research demonstrates the importance of poverty measurement for understanding children's experiences with food hardship. The official poverty measure, which is based solely on cash income, does not include the value of the major benefit programs that assist low-income families, such as the federal Earned Income Tax Credit, food stamps, Medicaid, and housing and child care assistance. The SPM measure allows one to examine how changes in benefit programs are related to food insecurity. Future work in this area should focus on how the components of SPM poverty contribute to defining more children who experience food insecurity as poor.

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Table 1. Children by Food Security Status, 2001-2009

Children (by food security status of household)	Total	No Food Insecurity	Marginal Food Security among Adults	Marginal Food Security among Children	Food Insecurity among Children: Low Food Security among Children	Food Insecurity among Children: Very Low Food Security among Children
Panel A: % of Children by Food Security Status						
All children	100.0	65.6	10.6	13.0	9.9	1.0
Official Predicted Income						
Family income <100 % poverty threshold	100.0	30.8	18.2	23.5	24.6	2.9
Family income 100%-199% poverty threshold	100.0	47.6	16.1	21.2	14.1	1.2
Family income 200%-299% poverty threshold	100.0	73.0	9.7	10.8	6.2	0.3
Family income 300% or more of poverty threshold	100.0	91.2	3.8	3.6	1.4	0.1
SPM Predicted Income						
Family income <100 % poverty threshold	100.0	33.9	18.0	22.7	22.7	2.7
Family income 100%-199% poverty threshold	100.0	60.3	12.7	16.0	10.2	0.8
Family income 200%-299% poverty threshold	100.0	84.8	6.1	6.2	2.8	0.1
Family income 300% or more of poverty threshold	100.0	95.4	1.9	2.1	0.6	0.1
Panel B: Distribution of Children						
Official Predicted Income	100.0	100.0	100.0	100.0	100.0	100.0
Family income <100 % poverty threshold	20.4	9.6	34.9	36.8	50.6	62.3
Family income 100%-199% poverty threshold	23.2	16.8	35.1	37.8	32.9	28.5
Family income 200%-299% poverty threshold	17.7	19.7	16.2	14.7	11.1	6.1
Family income 300% or more of poverty threshold	38.8	54.0	13.8	10.7	5.4	3.2
SPM Predicted Income	100.0	100.0	100.0	100.0	100.0	100.0
Family income <100 % poverty threshold	23.9	12.4	40.8	41.9	54.9	67.0
Family income 100%-199% poverty threshold	37.5	34.5	45.1	46.1	38.7	29.8
Family income 200%-299% poverty threshold	18.4	23.7	10.5	8.8	5.2	2.1
Family income 300% or more of poverty threshold	20.2	29.4	3.6	3.2	1.3	1.2
N	234,113	158,160	24,440	27,665	21,823	2,025

Note: "No Food Insecurity" includes children in households reporting no food insecure conditions; "Marginal Food Security among Adults, No Child Food Insecurity" includes children in households reporting at least one food insecure condition among adults, but none among children; "Marginal Food Security among Children" includes children in households reporting one food insecure condition among children; "Low Food Security among Children" includes children in households reporting between two and four food insecure conditions among children; "Very Low Food Security among Children" includes children in household reporting five or more food insecure conditions among

Source: Authors' calculations of the 2001-2009 Current Population Survey, Food Security Supplement.

Table 2. Unstandardized Coefficients and Odds Ratios from Logistic and Multinomial Logistic Regression of Food Security among Children, 2001-2009 (Using Official and SPM Predicted Income)

	Logistic Regression				Multinomial Logistic Regression											
	Very Low Food Security among Children vs All Others				Marginal Food Security among Adults vs. No Food Insecurity				Marginal Food Security among Children vs. No Food Insecurity				Low Food Security among Children vs. No Food Insecurity				Very Low Food Security among Children vs. No Food Insecurity			
	Est.	SE	OR		Est.	SE	RRR		Est.	SE	RRR		Est.	SE	RRR		Est.	SE	RRR	
Official Predicted Income																				
Family income <100 % poverty threshold	2.48	0.13	11.92	***	1.91	0.03	6.74	***	2.53	0.03	12.59	***	2.95	0.04	19.10	***	3.24	0.13	25.63	***
Family income 100%-199% poverty threshold	1.90	0.13	6.67	***	1.65	0.02	5.20	***	2.20	0.03	9.06	***	2.41	0.03	11.10	***	2.41	0.13	11.12	***
Family income 200%-299% poverty threshold	0.86	0.15	2.37	***	0.91	0.03	2.47	***	1.24	0.03	3.45	***	1.39	0.04	4.00	***	1.01	0.15	2.75	***
SPM Predicted Income																				
Family income <100 % poverty threshold	2.32	0.19	10.21	***	2.38	0.04	10.80	***	2.92	0.04	18.50	***	3.40	0.06	29.95	***	3.09	0.19	21.92	***
Family income 100%-199% poverty threshold	1.52	0.18	4.55	***	1.81	0.04	6.11	***	2.18	0.04	8.86	***	2.52	0.06	12.40	***	1.84	0.18	6.33	***
Family income 200%-299% poverty threshold	-0.03	0.23	0.97		0.96	0.04	2.62	***	0.97	0.04	2.65	***	1.17	0.07	3.22	***	-0.04	0.23	0.96	

Note: The estimates are based on model 2, which controls for race/ethnicity, number of people in the household, presence of a child less than age 6, presence of an adult aged 65 and older, parent is single, parental education, parental employment, parental disability, housing is rented, mother's age, state of residence, and year. See Appendix Tables A.3, A.4, and A.5 for the full set of results.

Table 3. Unstandardized coefficients from Multivariate Regression of Food Insecurity, 2001-2009

	Total Sample of Children				Children Matched in Dec. (t) and Dec. (t+1) Samples				Children Matched in Dec. (t) and Dec. (t+1) Samples Person Fixed Effects			
	Model 1		Model 2		Model 1		Model 2		Model 1		Model 2	
	Coef	SE	Coef	SE	Coef	SE	Coef	SE	Coef	SE	Coef	SE
Income-to-needs ratio (official income)	-0.07	0.00 ***			-0.07	0.00 ***			-0.02	0.00 ***		
Income-to-needs ratio (SPM income)			-0.12	0.00 ***			-0.11	0.00 ***			-0.03	0.00 ***
Black	0.16	0.01 ***	0.16	0.01 ***	0.15	0.01 ***	0.14	0.01 ***				
Other	0.06	0.01 ***	0.05	0.01 ***	0.05	0.01 ***	0.05	0.01 ***				
Hispanic	0.12	0.01 ***	0.12	0.01 ***	0.11	0.01 ***	0.11	0.01 ***				
Number of people	0.05	0.00 ***	0.07	0.00 ***	0.05	0.00 ***	0.07	0.00 ***	0.01	0.01	0.02	0.01
Child <6 present	-0.07	0.00 ***	-0.07	0.00 ***	-0.06	0.01 ***	-0.06	0.01 ***	0.00	0.02	0.00	0.02
Person aged 65+ present	-0.14	0.01 ***	-0.09	0.01 ***	-0.13	0.02 ***	-0.08	0.02 ***	-0.08	0.05	-0.07	0.05
At least one parent foreign born	0.03	0.01 ***	0.03	0.01 ***	0.05	0.01 ***	0.05	0.01 ***				
Single	0.24	0.01 ***	0.29	0.01 ***	0.26	0.01 ***	0.30	0.01 ***	0.13	0.03 ***	0.14	0.03 ***
Neither parent completed high school	0.32	0.01 ***	0.31	0.01 ***	0.33	0.02 ***	0.31	0.02 ***	-0.03	0.06	-0.03	0.06
At least one parent completed high school, no more	0.21	0.01 ***	0.20	0.01 ***	0.20	0.01 ***	0.20	0.01 ***	-0.01	0.03	-0.01	0.03
At least one parent has some college-no BA, no more	0.10	0.01 ***	0.10	0.01 ***	0.10	0.01 ***	0.10	0.01 ***	0.00	0.02	0.00	0.02
At least one parent employed PT (<35 hours), no FT	0.17	0.01 ***	0.17	0.01 ***	0.18	0.01 ***	0.18	0.01 ***	0.08	0.02 ***	0.08	0.02 ***
No employed parents	0.20	0.01 ***	0.19	0.01 ***	0.23	0.01 ***	0.22	0.01 ***	0.13	0.02 ***	0.13	0.02 ***
At least one parent is disabled	0.42	0.01 ***	0.42	0.01 ***	0.45	0.02 ***	0.45	0.02 ***	0.08	0.04 *	0.09	0.04 *
Housing is rented	0.33	0.00 ***	0.32	0.01 ***	0.33	0.01 ***	0.32	0.01 ***	0.08	0.02 **	0.07	0.02 **
Intercept	1.15	0.02 ***	1.08	0.02 ***	1.18	0.02 ***	1.12	0.02 ***	1.60	0.07 ***	1.58	0.06 ***
Mean of Food Security Status Categorical Variable	1.70				1.60				1.60			
Number of observations	234,113		234,113		116,728		116,728		116,728		116,728	

*p < .05 **p < .01 ***p < .001

Note: Family income 300% or more of poverty threshold, white, married, college (BA) degree or more, at least one parent employed FT (35+ hours), mother aged 50-54, and year 2001 are omitted categories. Coefficients for year and mother's age are not shown. Controls for state of residence are not included.

Table A.1. 18 Questions for Measuring Food Security in the Food Security Supplement of the Current Population Survey.

1 "We worried whether our food would run out before we got money to buy more." Was that often, sometimes, or never true for you in the last 12 months?
2 "The food that we bought just didn't last and we didn't have money to get more." Was that often, sometimes, or never true for you in the last 12 months?
3 "We couldn't afford to eat balanced meals." Was that often, sometimes, or never true for you in the last 12 months?
4 In the last 12 months, did you or other adults in the household ever cut the size of your meals or skip meals because there wasn't enough money for food? (Yes/No)
5 (If yes to Question 4) How often did this happen – almost every month, some months but not every month, or in only 1 or 2 months?
6 In the last 12 months, did you ever eat less than you felt you should because there wasn't enough money for food? (Yes/No)
7 In the last 12 months, were you ever hungry, but didn't eat, because there wasn't enough money for food? (Yes/No)
8 In the last 12 months, did you lose weight because there wasn't enough money for food? (Yes/No)
9 In the last 12 months did you or other adults in your household ever not eat for a whole day because there wasn't enough money for food? (Yes/No)
10 (If yes to Question 9) How often did this happen – almost every month, some months but not every month, or in only 1 or 2 months?
11 "We relied on only a few kinds of low-cost food to feed our children because we were running out of money to buy food." Was that often, sometimes, or never true for you in the last 12 months?
12 "We couldn't feed our children a balanced meal, because we couldn't afford that." Was that often, sometimes, or never true for you in the last 12 months?
13 "The children were not eating enough because we just couldn't afford enough food." Was that often, sometimes, or never true for you in the last 12 months?
14 In the last 12 months, did you ever cut the size of any of the children's meals because there wasn't enough money for food? (Yes/No)
15 In the last 12 months, were the children ever hungry but you just couldn't afford more food? (Yes/No)
16 In the last 12 months, did any of the children ever skip a meal because there wasn't enough money for food? (Yes/No)
17 (If yes to Question 16) How often did this happen – almost every month, some months but not every month, or in only 1 or 2 months?
18 In the last 12 months did any of the children ever not eat for a whole day because there wasn't enough money for food? (Yes/No)

Table A.2. Rate of Food Insecurity among Children and Percentage Distribution of Children in Households Reporting Food Insecurity by Food Inscurity Status, 2001-2009

	No Food Insecurity		Marginal Food Security among Adults		Marginal Food Security among Children		Low Food Security among Children		Very Low Food Security among Children	
Children (by food security status of household)	**%**	**Distrib.**	**%**	**Distrib.**	**%**	**Distrib.**	**%**	**Distrib.**	**%**	**Distrib.**
Sociodemographic Characteristics										
White	74.9	67.2	8.4	46.7	10.2	46.0	6.1	36.4	0.4	25.9
Black	47.4	10.4	15.0	20.4	18.9	21.0	16.6	24.1	2.0	30.0
Other	68.6	7.3	9.7	6.4	11.5	6.2	9.3	6.6	0.9	6.6
Hispanic	50.1	15.2	14.1	26.5	17.6	26.9	16.4	32.9	1.8	37.5
Two people in the household	53.0	3.6	15.0	6.2	16.6	5.7	13.9	6.2	1.5	6.8
Three people in the household	67.0	19.3	11.3	20.1	11.3	16.5	9.6	18.3	0.9	17.8
Four people in the household	71.8	38.4	9.4	31.0	10.7	29.0	7.4	26.4	0.6	23.7
Five or more people in the household	61.0	38.7	10.9	42.7	15.3	48.9	11.7	49.2	1.2	51.8
No children less than aged 6 present	65.8	66.5	9.6	59.9	13.2	67.3	10.3	69.2	1.1	76.8
Child less than aged 6 present	65.1	33.5	12.6	40.1	12.6	32.7	9.1	30.9	0.7	23.2
No person aged 65 or older present	65.6	96.3	10.6	96.0	13.0	96.1	9.9	96.0	1.0	96.2
Person aged 65 or older present	64.3	3.7	11.1	4.0	13.3	3.9	10.3	4.0	1.0	3.8
Parents born in the U.S.	67.3	79.5	10.4	75.8	12.7	75.6	8.9	69.3	0.8	63.7
At least one parent born outside the US	59.6	20.5	11.4	24.2	14.0	24.4	13.5	30.7	1.5	36.3
Single parent	46.2	20.3	15.1	41.2	19.2	42.7	17.5	51.0	1.9	58.4
Married parents	73.4	79.7	8.8	58.9	10.5	57.3	6.8	49.0	0.6	41.6
Neither parent completed high school	37.7	6.7	16.6	18.4	21.0	19.0	22.4	26.5	2.3	27.9
At least one parent completed high school, no more	52.3	19.7	14.5	33.7	18.0	34.3	13.8	34.3	1.4	35.9
At least one parent completed some college, no B.A.	68.1	39.8	10.3	37.3	12.4	36.6	8.3	32.2	0.8	32.5
At least one parent has Bachelor's degree or more	87.5	33.8	4.4	10.6	5.3	10.2	2.7	6.9	0.1	3.8
At least one parent employed FT (35+ hours)	71.6	88.4	9.1	69.4	11.2	70.0	7.5	61.1	0.6	51.9
At least one parent employed PT (<35 hours), no FT	46.2	4.4	16.1	9.5	19.5	9.4	16.1	10.2	2.1	13.6
No employed parents	36.9	7.2	17.4	21.1	20.9	20.6	22.2	28.7	2.6	34.6
No disabled parents	67.0	97.9	10.4	93.7	12.7	93.4	9.2	89.3	0.8	84.3
At least one parent is disabled	33.1	2.1	16.4	6.3	20.9	6.6	26.0	10.7	3.7	15.7
Housing is rented or occupied without payment	42.8	20.9	16.6	49.9	20.1	49.5	18.4	59.2	2.2	72.0
Housing is owned by household member	76.3	79.1	7.8	50.1	9.6	50.5	5.9	40.8	0.4	28.0
Mother aged 15-19	44.6	0.5	21.0	1.4	16.9	0.9	16.1	1.1	1.5	1.1
Mother aged 20-24	50.1	4.2	20.0	10.4	17.2	7.3	12.1	6.7	0.7	4.2
Mother age 25-29	54.0	10.6	15.7	19.2	17.3	17.2	12.0	15.6	1.0	13.3
Mother aged 30-34	61.8	19.0	11.4	21.6	14.7	22.7	11.3	22.9	0.9	19.4
Mother aged 35-39	67.2	23.8	9.4	20.6	12.9	23.1	9.5	22.4	1.0	24.5
Mother aged 40-44	73.7	21.9	7.5	13.7	10.2	15.3	7.8	15.4	0.9	18.1
Mother aged 45-49	75.3	12.8	7.2	7.6	8.7	7.5	8.0	9.0	0.9	10.4
Mother aged 50-54	73.2	4.8	7.6	3.1	10.1	3.4	8.0	3.5	1.1	5.0
Mother aged 55 or older	61.3	2.4	10.3	2.5	14.1	2.8	12.8	3.4	1.5	4.2
N	234,113	158,160	234,113	24,440	234,113	27,665	234,113	21,826	234,113	2,025

Note: Estimates of food insecurity are based on 1995-2009 CPS FSS and excludes cases with missing information on family income reported in the FSS. Sample sizes are unweighted; percentages are weighted using the appropriate supplement weight.

Table A.3. Unstandardized Coefficients and Odds Ratios from Logistic Regression of Very Low Food Security among Children, 2001-2009

	Official Predicted Income							SPM Predicted Income						
	Model 1				Model 2			Model 1				Model 2		
	Est.	SE	OR		Est.	SE	OR	Est.	SE	OR		Est.	SE	OR	
Intercept	-7.10	0.11		***	-8.42	0.22		***	-7.26	0.17		***	-8.86	0.25		***
Family income <100 % poverty threshold	3.57	0.12	35.64	***	2.48	0.13	11.92	***	3.61	0.18	36.79	***	2.32	0.19	10.21	***
Family income 100%-199% poverty threshold	2.59	0.12	13.32	***	1.90	0.13	6.67	***	2.32	0.18	10.18	***	1.52	0.18	4.55	***
Family income 200%-299% poverty threshold	1.23	0.15	3.43	***	0.86	0.15	2.37	***	0.39	0.23	1.47		-0.03	0.23	0.97	
Black					0.46	0.07	1.58	***					0.44	0.07	1.55	***
Other					0.13	0.11	1.14						0.15	0.11	1.16	
Hispanic					0.20	0.07	1.22	**					0.21	0.07	1.24	**
Number of people					0.10	0.01	1.10	***					0.16	0.01	1.17	***
Child <6 present					-0.39	0.06	0.68	***					-0.37	0.06	0.69	***
Person aged 65+ present					-0.24	0.12	0.79	*					0.02	0.12	1.02	
At least one parent foreign born					0.35	0.06	1.42	***					0.37	0.06	1.45	***
Single					0.65	0.06	1.91	***					0.90	0.06	2.47	***
Neither parent completed high school					0.83	0.13	2.29	***					0.88	0.13	2.41	***
At least one parent completed high school, no more					0.94	0.13	2.55	***					1.01	0.13	2.74	***
At least one parent has some college-no BA, no more					1.02	0.12	2.77	***					1.05	0.12	2.85	***
At least one parent employed PT (<35 hours), no FT					0.15	0.07	1.16						0.21	0.07	1.24	**
No employed parents					0.15	0.06	1.17	*					0.13	0.06	1.14	*
At least one parent is disabled					0.53	0.08	1.70	***					0.63	0.08	1.88	***
Housing is rented					0.65	0.06	1.92	***					0.67	0.06	1.95	***
N	234,113				234,113				234,113				234,113			

*p < .05 **p < .01 ***p < .001

Note: Family income 300% or more of poverty threshold, White, Married, College (BA) degree or more, At least one parent employed FT (35+ hours), Mother aged 50-54, NY state, and Year 2001 are omitted categories. Coefficients for mother's age, year, and state of residence in Model 2 are not shown.

Table A.4. Unstandardized Coefficients and Odds Ratios from Multinomial Logistic Regression of Very Low Food Security among Children, 2001-2009 (Using Official Predicted Income)

	Marginal Food Security among Adults vs. No Food Insecurity				Marginal Food Security among Children vs. No Food Insecurity				Low Food Security among Children vs. No Food Insecurity				Very Low Food Security among Children vs. No Food Insecurity			
	Est.	SE	RRR		Est.	SE	RRR		Est.	SE	RRR		Est.	SE	RRR	
Intercept	-3.78	0.07		***	-4.84	0.07		***	-5.70	0.08		***	-9.16	0.23		***
Family income <100 % poverty threshold	1.91	0.03	6.74	***	2.53	0.03	12.59	***	2.95	0.04	19.10	***	3.24	0.13	25.63	***
Family income 100%-199% poverty threshold	1.65	0.02	5.20	***	2.20	0.03	9.06	***	2.41	0.03	11.10	***	2.41	0.13	11.12	***
Family income 200%-299% poverty threshold	0.91	0.03	2.47	***	1.24	0.03	3.45	***	1.39	0.04	4.00	***	1.01	0.15	2.75	***
Black	0.24	0.03	1.27	***	0.26	0.02	1.30	***	0.36	0.03	1.44	***	0.65	0.07	1.91	***
Other	0.13	0.03	1.13	***	0.05	0.04	1.05		0.23	0.04	1.26	***	0.22	0.11	1.25	*
Hispanic	0.19	0.03	1.21	***	0.15	0.03	1.16	***	0.28	0.03	1.32	***	0.32	0.08	1.38	***
Number of people	-0.02	0.01	0.98	***	0.06	0.01	1.07	***	0.06	0.01	1.06	***	0.12	0.01	1.13	***
Child <6 present	0.00	0.02	1.00		-0.22	0.02	0.80	***	-0.24	0.02	0.78	***	-0.49	0.06	0.61	***
Person aged 65+ present	-0.06	0.04	0.95		-0.34	0.04	0.71	***	-0.36	0.04	0.70	***	-0.41	0.12	0.66	**
At least one parent foreign born	-0.13	0.02	0.87	***	-0.15	0.02	0.86	***	0.04	0.02	1.05		0.30	0.07	1.35	***
Single	0.21	0.02	1.23	***	0.36	0.02	1.43	***	0.54	0.02	1.71	***	0.88	0.06	2.42	***
Neither parent completed high school	0.53	0.03	1.70	***	0.50	0.03	1.65	***	0.80	0.04	2.23	***	1.11	0.13	3.04	***
At least one parent completed high school, no more	0.55	0.03	1.74	***	0.52	0.03	1.68	***	0.71	0.03	2.03	***	1.19	0.13	3.28	***
At least one parent has some college-no BA, no more	0.46	0.02	1.58	***	0.44	0.02	1.55	***	0.64	0.03	1.90	***	1.22	0.12	3.38	***
At least one parent employed PT (<35 hours), no FT	0.12	0.03	1.13	***	0.12	0.03	1.13	***	0.11	0.03	1.12	***	0.22	0.08	1.25	**
No employed parents	0.12	0.02	1.12	***	0.09	0.02	1.09	***	0.21	0.02	1.23	***	0.26	0.06	1.29	***
At least one parent is disabled	0.50	0.04	1.65	***	0.53	0.04	1.70	***	0.82	0.03	2.28	***	0.99	0.08	2.69	***
Housing is rented	0.42	0.02	1.53	***	0.43	0.02	1.54	***	0.57	0.02	1.76	***	0.93	0.06	2.54	***
N	234,113				234,113				234,113				234,113			

*p < .05 **p < .01 ***p < .001

Note: Estimates of very low food security among children are based on 1995-2009 CPS FSS. Family income 300% or more of poverty threshold, White, Married, College (BA) degree or more, At least one parent employed FT (35+ hours), Mother aged 50-54, NY state, and Year 2001 are omitted categories. Coefficients for year, mother's age, and state of residence fixed effects are not shown. "No Food Insecurity" includes children in households reporting no food insecure conditions; "Marginal Food Security among Adults, No Child Food Insecurity" includes children in households reporting at least one food insecure condition among adults, but none among children; "Marginal Food Security among Children" includes children in households reporting one food insecure condition among children; "Low Food Security among Children" includes children in households reporting between two and four food insecure conditions among children; "Very Low Food Security among Children" includes children in household reporting five or more food insecure conditions among children. Family income 300% or more of poverty threshold, White, Married, College (BA) degree or more, At least one parent employed FT (35+ hours), Mother aged 50-54, NY state, and Year 2001 are omitted categories. Coefficients for mother's age, year, and state of residence are not shown.

Table A.5. Unstandardized Coefficients and Odds Ratios from Multinomial Logistic Regression of Very Low Food Security among Children, 2001-2009 (Using SPM Predicted Income)

	Marginal Food Security among Adults vs. No Food Insecurity				Marginal Food Security among Children vs. No Food Insecurity				Low Food Security among Children vs. No Food Insecurity				Very Low Food Security among Children vs. No Food Insecurity			
	Est.	SE	RRR		Est.	SE	RRR		Est.	SE	RRR		Est.	SE	RRR	
Intercept	-4.75	0.07		***	-5.91	0.07		***	-6.98	0.09		***	-9.96	0.26		***
Family income <100 % poverty threshold	2.38	0.04	10.80	***	2.92	0.04	18.50	***	3.40	0.06	29.95	***	3.09	0.19	21.92	***
Family income 100%-199% poverty threshold	1.81	0.04	6.11	***	2.18	0.04	8.86	***	2.52	0.06	12.40	***	1.84	0.18	6.33	***
Family income 200%-299% poverty threshold	0.96	0.04	2.62	***	0.97	0.04	2.65	***	1.17	0.07	3.22	***	-0.04	0.23	0.96	
Black	0.22	0.02	1.24	***	0.24	0.02	1.27	***	0.34	0.03	1.40	***	0.61	0.07	1.83	***
Other	0.13	0.03	1.14	***	0.06	0.04	1.07		0.25	0.04	1.28	***	0.23	0.11	1.26	*
Hispanic	0.20	0.02	1.23	***	0.17	0.03	1.19	***	0.31	0.03	1.36	***	0.35	0.08	1.41	***
Number of people	0.06	0.01	1.06	***	0.16	0.00	1.18	***	0.17	0.01	1.18	***	0.25	0.01	1.28	***
Child <6 present	0.01	0.02	1.01		-0.21	0.02	0.81	***	-0.23	0.02	0.80	***	-0.47	0.06	0.63	***
Person aged 65+ present	0.25	0.04	1.28	***	0.08	0.04	1.08		0.08	0.05	1.08		0.06	0.12	1.07	
At least one parent foreign born	-0.11	0.02	0.89	***	-0.12	0.02	0.89	***	0.08	0.02	1.08	**	0.33	0.07	1.39	***
Single	0.46	0.02	1.59	***	0.69	0.02	2.00	***	0.91	0.02	2.48	***	1.33	0.06	3.77	***
Neither parent completed high school	0.49	0.03	1.64	***	0.49	0.03	1.63	***	0.82	0.04	2.27	***	1.14	0.13	3.14	***
At least one parent completed high school, no more	0.53	0.03	1.70	***	0.53	0.03	1.70	***	0.75	0.03	2.11	***	1.25	0.13	3.48	***
At least one parent has some college-no BA, no more	0.39	0.02	1.48	***	0.40	0.02	1.49	***	0.62	0.03	1.86	***	1.21	0.12	3.35	***
At least one parent employed PT (<35 hours), no FT	0.20	0.03	1.22	***	0.21	0.03	1.24	***	0.22	0.03	1.25	***	0.34	0.08	1.41	***
No employed parents	0.10	0.02	1.10	***	0.05	0.02	1.05		0.18	0.02	1.20	***	0.22	0.06	1.24	**
At least one parent is disabled	0.61	0.04	1.84	***	0.68	0.04	1.97	***	0.99	0.03	2.69	***	1.18	0.08	3.26	***
Housing is rented	0.44	0.02	1.55	***	0.44	0.02	1.56	***	0.59	0.02	1.80	***	0.94	0.06	2.57	***
N	234,113				234,113				234,113				234,113			

*p < .05 **p < .01 ***p < .001

Note: Estimates of very low food security among children are based on 1995-2009 CPS FSS. Family income 300% or more of poverty threshold, White, Married, College (BA) degree or more, At least one parent employed FT (35+ hours), Mother aged 50-54, NY state, and Year 2001 are omitted categories. Coefficients for year, mother's age, and state of residence fixed effects are not shown. "No Food Insecurity" includes children in households reporting no food insecure conditions; "Marginal Food Security among Adults, No Child Food Insecurity" includes children in households reporting at least one food insecure condition among adults, but none among children; "Marginal Food Security among Children" includes children in households reporting one food insecure condition among children; "Low Food Security among Children" includes children in households reporting between two and four food insecure conditions among children; "Very Low Food Security among Children" includes children in household reporting five or more food insecure conditions among children. Family income 300% or more of poverty threshold, White, Married, College (BA) degree or more, At least one parent employed FT (35+ hours), Mother aged 50-54, NY state, and Year 2001 are omitted categories. Coefficients for mother's age, year, and state of residence are not shown.