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The Food Stamp Program (FSP) remains one of the most widely used of all U.S. social "safety net" programs. While a substantial body of research has developed around the primary goals of the program—improving food access, nutrition, and health among low-income families—less attention has been paid to the broader goals of hardship and poverty reduction. Using 38 years of data from the Panel Study of Income Dynamics, we examine several immediate and longer-term economic outcomes of early adult FSP participation for a sample of 3,848 young mothers. While FSP participation is associated with some negative outcomes in the immediate future in areas including family income-to-needs and transfer income, such effects are substantially reduced or disappear over the long run. These results suggest that concerns about the adverse economic effects of assistance, based solely on short-term outcomes or outcomes measured at a single point in time, do not hold for the long run. We find no evidence that food stamp recipients in early motherhood are any more or less dependent on public assistance programs than other young mothers who have low income but do not use food stamps.

More than one in eight individuals in the U.S. currently receives benefits from the Food Stamp Program (FSP) [now the Supplemental Nutrition Assistance Program (SNAP)]. Since the emergence of the FSP as a pilot program in 1961, and as a nationwide program in 1974, it has pursued the goal of helping "low-income people and families buy the food they need for good health" [Food and Nutrition Service (FNS), United States Department of Agriculture (USDA), June 2010]. Although the program's targeted approach to meeting a basic human need has helped it to avoid the most virulent of attacks on the U.S. welfare system (Super, 2004), evidence of SNAP's success in meeting a broad range of objectives, particularly reductions in food insecurity and improvements in nutrition and health, is mixed (Gundersen, Jolliffe, & Tiehen, 2009).

The current economic downturn has brought with it substantial increases in both the number of recipients and the amount spent on FSP/SNAP. The USDA estimates that over 40.4 million people were enrolled in the program as of April 2010, an increase of almost 20 percent from only a year earlier. According to Congressional Budget Office (CBO) estimates, two-thirds of the 2008-2009 increase was generated by increased enrollment (CBO, 2009).

The expansion of benefits, even as enrollments have risen sharply, suggests that the desire to provide for low-income families and to employ them as agents of stimulus spending has, for now, trumped concerns about expense and program dependency. Moreover, as Douglas Besharov and Karen Baehler (1993) have noted, the expansion of federally-funded food stamp benefits relieves, to some degree, pressures on states to expand eligibility, access, and benefits to joint state- and federally-funded cash assistance programs. Still, given historically unprecedented high rates of participation, interest in tracking a variety of program participation outcomes —both consumption and health-related, as well as economic —will persist. Some, such as Robert Rector (2001), claim that the FSP seeks to maximize caseloads and dependence on the

program by allowing people to receive assistance without work requirements. Whether FSP participation does, in fact, "promote dependency" is an unsettled question; research evidence is mixed and is highly sensitive to method and to both the timeframe and outcome under consideration (Gundersen, Jolliffe, & Tiehen, 2009).

We argue that it is important to tease apart short-term from longer-term FSP-participation effects, as well as to differentiate between consumption and health-related outcomes (which FSP participation is manifestly intended to effect) and economic outcomes (which are often the focal point of dependency concerns). Using both standard regression and sister fixed-effects models and 38 years of data from the Panel Study of Income Dynamics (PSID), we examine several short and longer-term economic outcomes of FSP participation for a sample of 3,848 young mothers. We examine only women who have formed families before age 28, using the proportion of early motherhood spent receiving food stamp income to predict outcomes up to age 40 in the areas of family income-to-needs, time spent with low income, and amount of transfer income.

Such a study has implications for those who argue that policies intended to alleviate poverty instead intensify economic problems for the poor by making them less self-reliant (Herrnstein & Murray, 1994; Horn, 2002; Mead, 1986, 1998; Murray, 1984). Although this indictment is considerably less likely to be leveled against food stamp use than against the use of cash assistance, to the extent that the image raised by such a prominent critique of the cadre of U.S. poverty programs is one of sustained and prolonged dependency, we need models of program effects that capture not only those conditions that accompany or immediately follow an initial period of program participation, but also those that are experienced much later in an individual's life course. Further, isolating particular programs as major contributors to individuals' economic struggles requires careful attention to the ways in which program effects may be confounded by those individual and familial factors potentially associated with participation (Blank & Ruggles, 1996).

Background and Significance

A considerable body of research has examined associations between participation in the FSP and a range of health and nutrition outcomes, including food spending, nutrient availability, dietary quality, and food security, with notably mixed results (Breunig & Dasgupta, 2005; Burstein, Price, Rossi, & Fox, 2004; Currie, 2003; Gibson-Davis & Foster, 2006). More recent studies have extended the set of outcomes to include consumption stabilization (Blundell & Pistaferri, 2003; Gundersen & Ziliak, 2003), obesity (Baum, 2007; Ver Ploeg & Ralston, 2008), healthy food choices (Frazao, Andrews, Smallwood, & Prell, 2007), and other indicators of family and child well-being, such as children's math and reading test scores (Frongillo, Jyoti, & Jones, 2006).

Most of this research focuses on conditions and outcomes immediately associated with FSP participation. What happens to food stamp recipients after they leave the program or over the long run is largely unknown. Two studies have looked at factors associated with returns to participation after exits, tracking individuals up to 30 months after they exited the program (Blank & Ruggles, 1994; Gleason, Schochet, & Moffitt, 1998), but there is no research that has examined other or longer-term outcomes. Moreover, while substantial attention has been paid to the long-term consequences of receiving other forms of government assistance (Cancian & Meyer, 2004; Meyer & Cancian, 1998; Newman, Holupka, & Harkness, 2009; Vartanian & McNamera, 2004), there is no comparable literature on the economic consequences of early adult FSP participation, either alone or in conjunction with other government assistance programs. Several of these studies have found that government assistance has minimal, if any, detrimental long-term effects on economic outcomes (Newman et al., 2009; Vartanian & McNamara, 2004).

Although many of the existing studies on FSP-participation effects rely on comparisons between recipients and eligible non-recipients, there is widespread acknowledgement that this approach may be hampered by unmeasured differences between these groups, differences that, if associated with the outcome of interest, will bias results (Fraker, Martini, & Ohls,

1995; Gibson-Davis & Foster, 2006; Krueger, Rogers, Ridao-Cano, & Hummer, 2004). For example, in apparent conflict with the FSP's goal of improving nutrition and health among recipient families, the majority of existing studies suggest that food stamp income either increases or has no effect on food insecurity (Gundersen, Jolliffe, & Tiehen, 2009; Gundersen & Oliveira, 2001; Wilde & Nord, 2005). However, there is substantial evidence that the primary driver of this finding may be pre-existing differences between recipient and non-recipient households. Blank and Ruggles (1996) find that women who enroll in cash assistance programs, the FSP, or both, tend to have lower past, current, and future anticipated earnings than those who do not; they also tend to have more children, fewer years of education, and a higher incidence of disability than their eligible, non-recipient peers.

The line of reasoning suggested above asserts that it is not food stamp receipt per se that leads to particular participant outcomes but rather some, often unmeasured or unmeasurable, trait linked to both. Such traits are usually thought of as unfavorable (e.g., acute need, poor health) and as leading to unfavorable outcomes, but it is also possible that the opposite may be true (e.g., willingness to engage in help-seeking behavior could have long-term benefits). Several recent studies have found that correcting for selection bias using instrumental variables, propensity score matching, or switching probit models reveals relationships that are interpretable in ways favorable to the FSP: specifically, that receipt of food stamps reduces food insecurity (Mykerezi & Mills, 2008; Yen, Andrews, Chen, & Eastwood, 2008) or, at a minimum and to a limited extent, its severity (Gibson-Davis & Foster, 2006); and may lower mortality for participants relative to a condition of non-receipt (Krueger et al., 2004).

A relationship between FSP participation and future outcomes that is driven by unmeasured family differences is not a causal one, so it becomes important to account for these differences in trying to isolate a relationship between participation and economic conditions. For this reason, we examine both standard regression models and sister fixed-effects models to account for unmeasured family background differences. As we explain in greater detail below, it is also important to note that

we are examining exposure to the FSP, measured as a proportion of time in early motherhood with FSP participation, rather than strict categories of receipt versus eligible, non-receipt.

Setting aside for the moment pre-existing differences between groups, there are a number of reasons that the economic outcomes of FSP participants might differ from those of nonparticipants. Fraker and Moffitt (1988), Hoynes and Schanzenbach (2007), and Keane and Moffitt (1998) find that FSP participation may produce some reduction in labor supply, although as with other FSP-participation outcomes, their results are mixed. Because paid employment contributes to the development or maintenance of skills and abilities that increase the value of an individual to prospective employers, labor supply reductions suggest that food stamp receipt may lead to lower future earnings for individual families. Detrimental effects accrue with time spent in the program, both because individuals grow more dependent on government aid the longer they use it, and because labor market skills deteriorate the longer a person is out of the labor market.

Alternatively, and depending on how assistance is used, use of food assistance could contribute to human capital gains and greater earning ability. An individual who uses a spell of food stamps to complete a training or education program may have greater future earnings. Moreover, evidence suggests that FSP participation acts as a consumption stabilizer, also potentially contributing to human capital gains (Blundell & Pistaferri, 2003; Gundersen & Ziliak, 2003). Consumption stability may lead to better health, and better health may contribute to higher, more consistent earnings. For example, using PSID data during the years of food stamp program rollout, and comparing data from low-education, female household heads living in counties that participate in the FSP, to data for those living in non-participating counties, Hoynes and Schanzenbach (2007) find no consistent evidence that FSP participation affects family income and some evidence that participation reduces the likelihood of illness-related work absences.

We examine whether FSP participation has negative economic effects for recipient mothers relative to low income, nonrecipient mothers, both in the short-run and the longer-run.

Data and Variables

Sample

Study data come from the 1968 to 2005 PSID, a nationally representative, longitudinal data set that began in 1968 with approximately 5,000 families and 18,000 individuals, and expanded to include over 8,000 families and nearly 23,000 individuals by 2005. The PSID oversampled families in poverty and black families to obtain relatively large sample sizes for these groups. With weights, the sample is representative of the non-immigrant United States population.

Using the longitudinal advantages of the PSID, we select and follow women with children for up to a 38-year span. We examine women over initial four-year periods from two overlapping samples: (a) "younger young mothers," those who became PSID-designated "heads of households" or wives with child(ren), at less than 23 years of age (becoming, at most, age 25 by the end of the initial period), and (b) "older young mothers," those who became heads of households or wives with child(ren) at less than 28 years of age (becoming, at most, age 30 by the end of the initial period).

Each woman's characteristics (e.g., family income, number of children) are then averaged over each of these initial periods. The use of four-year periods is intended to capture the characteristics of the woman shortly after she has a child (generally her first, although some have children before they become heads of households or wives), while reducing the potentially biasing effects that can result from using only one year of data.

Outcomes are reported over five-year periods: ages 26-30, 31-35, and 36-40, as well as for the entire period, age 26-40. We use the younger sample for the age 26-30 outcome period, and then include the older sample (which incorporates the younger sample because they necessarily have a child by age 28) for the 31-35 and 36-40 age periods. Models for the outcome periods, age 31-35 and age 36-40, using only the "younger young mothers" sample yielded similar results to those obtained using all young mothers, so only this latter set of models is presented. Note that the regressions include age at the beginning of the initial period to control for the amount of

time between starting and ending periods. The use of discrete, five-year outcome intervals in separate models allows us to comment, not only on whether receipt of food stamps differentiates recipient from non-recipient women in the long run, but also whether and to what degree any such effects persist over the next 5 to 15 years.

Outcomes, including family income-to-needs, proportion of time with low income, and average transfer income, are measured at the household level—the level that is arguably of greatest interest for policy makers. Household level outcomes implicitly include the contribution of a spouse or other partner, if present, and such contributions are viewed by many as a critical factor in alleviating the poverty of low-income mothers and their children (Maynard, Boehnan, Corbett, Sandefur, & Mosley, 1998).

Although this study focuses on food stamps, it must also consider cash welfare assistance [Aid to Families with Dependent Children (AFDC) at or before 1996, and Temporary Assistance to Needy Families (TANF) after, referred to hereafter as AFDC] because there is considerable joint participation among low-income single mothers. Before passage of the 1996 welfare reform legislation, women who qualified for AFDC were automatically eligible for food stamps, and substantial overlap between the two programs continued after 1996. However, food stamp eligibility thresholds have been typically higher than welfare eligibility thresholds both before and after 1996. Consequently, while the overlap in program participation is substantial, it is not total, which enables us to derive estimates of FSP participation effects apart from AFDC participation effects.

Marriage is another factor that tends to distinguish FSP-only recipient women from joint FSP/AFDC recipient women, as married women are considerably less likely than their non-married counterparts to be eligible for AFDC. Although widely debated, the premise that marriage bolsters the economic prospects of low-income and welfare-reliant women has been prominent in recent discussions of poverty policy (Lawrence, 2007). For this reason, as well as because AFDC primarily targets single women, we include models that interact women's initial-period marital status with the primary independent variables

to determine whether independent variable effects are different for married and non-married young mothers.

Primary Independent Variables

The central question for this study is whether a mother's early use of food stamps, or both AFDC and food stamps jointly, predicts long-term economic outcomes. Key variables include:

> (a) proportion of time receiving only food stamps ("FSP-only recipient");
> (b) proportion of time receiving food stamps and AFDC jointly ("joint FSP/AFDC recipient");
> (c) proportion of time spent with income above 150 percent of the federal poverty line (FPL), without AFDC or food stamp receipt ("non-eligible, non-recipient"); and,
> (d) proportion of time with income at or below 150 percent of the FPL, without AFDC or food stamp receipt ("low-income, non-recipient" or "eligible, non-recipient").

Because these variables capture proportions of an initial four-year period of motherhood, values for individual women range from *0* to *1*, and include *0.25, 0.50,* and *0.75.* As noted above, this approach differentiates those who have received food stamp income for only one of these four years from those who have received such income over the entire period. For the purpose of analysis, the excluded category is *proportion of time spent as a low-income, non-recipient.* We report estimates as the differences between the two most "extreme" conditions: receipt over all four years and low-income, non-receipt, also over all four years.

For the low-income, non-recipient group, designating the cut-off point for sample FSP-eligibility at 150 percent of the FPL, rather than the actual 130 percent eligibility threshold, has two distinct advantages. First, it allows for income fluctuation over the course of the year: some individuals living in families with annual incomes above 130 percent of FPL may have been eligible for food stamps for some fraction of the year. Second, earnings may be endogenous to FSP participation, and

it would therefore be inappropriate to use a tight bound on earnings to define the sample.

As noted in the preceding section, our analysis includes interactions between marital status (married versus non-married) and proportion of time in various recipient or non-recipient states as primary independent variables. Marriage is defined as being married for at least 50 percent of the initial four-year time period.

Covariates

Other variables used in analyses are averaged over the initial four-year period, and include: mother's race; mother's education; number of children; age of the youngest child; age of the head of household; family income-to-needs; state unemployment rate; maximum welfare payment for a family of four in the state; year started in the sample; region of residence; year entering the sample; and city size. As a proxy for a disability, we also control for whether the woman had any work limitations during the initial period (Newman et al., 2009; Vartanian & McNamara, 2004).

In addition to variables measured during the initial period, regression models include several variables calculated in the ending (i.e., outcome) periods, including: the proportion of time in particular marital states; number of children; age in the ending period; and whether the focal woman's work is limited by health conditions at any point during the outcome period.

Because adult economic outcomes may be related to economic conditions in the family of origin, our models also control for childhood household income. A full list of independent and dependent variables is given in Table 1.

Dependent Variables

We examine three economic outcomes, all measured during the ending period. These include: (a) family income-to-needs (or family income relative to the poverty line); (b) proportion of time with income at or below 150 percent of the FPL; and (c) AFDC, food stamp, and other welfare income (referred to hereafter as transfer income).

Method

Outcomes are modeled using both sister sibling fixed-effects (FE) models and standard regression models. Use of FE models controls for unobserved, permanent family factors, including parental factors (e.g., intelligence or emotional states), which are factored out of the estimates if and only if they are permanent features of the family (Duncan & Raudenbush, 2001; Leventhal & Brooks-Gunn, 2000). Our use of these models acknowledges the possibility that low-income women enrolling in the FSP differ from similarly eligible but non-participating women in ways that may obscure or be mistaken for program participation effects.

Hausman tests, which detect differences in coefficient estimates between fixed and random effect models, indicate that the random effects models (which produce almost identical coefficients to OLS models) produce essentially the same results as the FE models for two of the three models. Because standard regression models provide more powerful tests and are not limited to women with sisters, we present only standard regression results for models of these first two outcomes. However, for models of effects on transfer income, Hausman tests indicate statistically significant differences in coefficient estimates; sibling FE model coefficient estimates for food stamp-only receipt and for joint FSP/AFDC receipt differ substantially from coefficient estimates derived from standard models. Results for transfer income are therefore presented in two ways: first, using tobit models (Table 3), and then using sister fixed-effects models, as these are better able to control for unobservable family differences (Table 4).

The type of analysis used is also determined by the distribution of each dependent variable. Results for the log of family income-to-needs are modeled using OLS regression analysis with robust standard errors, clustered by family status for the women during their childhood years. To account for left censoring (i.e., a disproportionate number of zero values) of the remaining two dependent variables, the proportion of time with low income and total transfer income, we use tobit models with robust standard errors.

Results

Descriptive Results

Because the study examines differences between non-married and married mothers, we present descriptive statistics for each group, as well as for all observations, in Table 1. Overall, there are 3,748 observations, including 1,013 single mothers and 2,735 married mothers. Sample sizes are larger here than in the regression samples, because all single mothers and all married mothers, regardless of age, are included.

Each descriptive statistic reflects an average value across the first four years after the birth of a first child. During this initial period, the average percent of time young mothers spend using the FSP and AFDC jointly is 14 percent for all mothers, but nearly 42 percent for single mothers and only four percent for married mothers. Consistent with the higher eligibility threshold for the FSP, the proportion of time spent receiving food stamps alone is nine percent for all mothers, 15 percent for single mothers, and seven percent for married mothers. Young mothers spend an average of seventeen percent of the initial, four-year period as low-income non-recipients, and an average of 60 percent as non-eligible non-recipients (i.e., having incomes above 150 percent of the federal poverty line).

Turning now to conditions measured during the ending or outcome period, the most sizable differences between the married and the non-married group are for the existence of work limitations and for the four dependent variables. As we might expect, married mothers have higher household incomes, and single mothers have higher levels of transfer income and time spent with low income.

Regression Results

Log of family income-to-needs. Table 2 shows the regression results for the log of family income-to-needs over the entire outcome period (age 26 - 40), as well as five-year sub-periods (ages 26 - 30, 31 - 35, and 36 - 40). Joint FSP/AFDC participation has negative effects on future family income-to-needs across the outcome age periods. The future family income-to-needs ratio is around 0.30 points lower for young mothers with joint participation during the entire initial period, relative

Table 1. Weighted Means and Standard Deviations for Married and Non-Married Mother Groups

	All Mothers		Non-Married Mothers		Married Mothers	
Initial Period Variables	M	SD	M	SD	M	SD
Percent of time joint FSP/AFDC recipient	14.41	30.00	41.81	40.80	4.26	15. 37
Percent of time FSP-only recipient	9.34	20.26	15.10	24.81	7.39	17.83
Percent of time low-income, non-recipient	16.74	26.21	22.24	25.40	15.81	26.08
Percent of time non-eligible, non-recipient	59.51	41.79	21.15	31.11	72.54	36.37
Non-married mother	0.27	0.44	1.00	0.00	0.00	0.00
Married mother	0.73	0.44	0.00	0.00	1.00	0.00
Family income-to-needs	2.23	1.48	1.17	0.81	2.63	1.49
Grew up in low-income household	0.06	0.25	0.05	0.22	0.07	0.26
Number of children	1.61	0.89	1.69	0.98	1.59	0.85
White	0.53	0.50	0.19	0.39	0.66	0.47
Black	0.42	0.49	0.77	0.42	0.30	0.46
Not Black or White	0.04	0.20	0.04	0.20	0.04	0.20
Age of the youngest child	2.18	1.64	2.71	2.06	1.99	1.40
Max state welfare payment ($00) ($2006)	8.64	4.18	7.93	4.13	8.90	4.17
State unemployment rate	6.23	1.92	6.40	2.00	6.17	1.89
City size greater than 500,000	0.04	0.19	0.07	0.26	0.03	0.16
Living in the South	0.47	0.50	0.50	0.50	0.46	0.50
High school dropout	0.22	0.42	0.26	0.44	0.21	0.41
High school graduate	0.35	0.48	0.34	0.47	0.35	0.48
Some college	0.32	0.47	0.35	0.48	0.31	0.46
College graduate	0.11	0.31	0.06	0.23	0.12	0.33
Age at start of sample period	22.63	2.97	22.02	2.79	22.86	3.00
Whether any work limits	0.13	0.34	0.30	0.46	0.07	0.25
Ending Period Variables						
Percent of time married	63.30	42.38	24.14	36.28	77.80	34.58
Percent of time never married	14.74	33.45	49.72	46.03	1.78	11.31
Percent of time widowed	1.56	10.40	1.70	10.85	1.52	10.22
Percent of time divorced or separated	20.39	33.63	24.44	37.00	18.89	32.17
Age at end of sample period	37.04	4.19	35.46	4.82	37.62	3.77
Number of children	2.24	1.05	2.20	1.21	2.25	0.98
Whether any work limits	0.10	0.27	0.22	0.35	0.06	0.21
Dependent Variables						
Family income-to-needs	2.45	1.89	1.55	1.32	2.78	1.96
Percent of time with low-income	34.60	39.06	59.67	40.05	25.34	34.34
Transfer income (000) ($2006)	1.16	3.09	2.55	4.42	0.64	2.22
N	3,748		1,013		2,735	

to young mothers with low income, but no participation over the same initial period.

Table 2. OLS Regression Results for the Log of Family Income-to-Needs Ratio

Independent Variables	Full Outcome Period: Ages 26 - 40 B (SE)	Early Outcome Period: Ages 26 - 30 B (SE)	Middle Outcome Period: Ages 31 - 35 B (SE)	Late Outcome Period: Ages 36 - 40 B (SE)
Joint FSP/AFDC recipient	-.29 (.09)***	-.31 (.09)***	-.31 (.08)***	-.36 (.10)***
FSP-only recipient	-.36 (.12)**	-.44 (.12)***	-.04 (.11)	-.09 (.15)
Non-eligible, non-recipient	-.01 (.13)	.05 (.14)	.38 (.09)***	.24 (.11)*
Joint FSP/AFDC*Married	.23 (.12)	.30 (.12)**	-.09 (.11)	.09 (.14)
FSP-only*Married	.28 (.14)*	.38 (.14)**	-.09 (.13)	.01 (.18)
Non-eligible, non-recipient *Married	.16 (.13)	.12 (.14)	-.22 (.10)*	-.13 (.12) ·
Adjusted R^2	.56	.56	.64	.57
N	2,289	2,240	3,219	2,695
Number of families	1,829	1344	2,551	2,175

Note: OLS regression is used for the log of family income-to-needs with a full set of control variables. *p < .05. **p < .01. ***p < .001.

For food stamp-only receipt, we find strong negative effects in the early outcome period (ages 26 - 30), even somewhat stronger than the effects for joint usage, but these coefficient estimates decrease in size and significance over time, until the coefficient estimates are close to zero in the last two outcome periods. We find some differences between married and non-married mothers, with the effects of food stamp-only receipt for married mothers close to zero or zero in all outcome periods.

Proportion of time with low income (below 150 percent of the poverty line). As shown in Table 3, we find no evidence that joint FSP/AFDC receipt during an initial four-year period of motherhood has a long-term impact on the proportion of adulthood spent with low income. However, we do find that, relative to non-married mothers, married mothers spend less time with low income over the full outcome and the early outcome periods, with a statistically significant interaction coefficient of -0.45 in the early period and -0.27 in the full period. These

differences for married and non-married mothers in the full period results appear to be driven by the initial period outcomes and not by later period outcomes.

Table 3. Tobit Regression Results for the Proportion of Time with Low Income and Transfer Income

Independent Variables	Full Outcome Period: Ages 26 - 40 B (SE)	Early Outcome Period: Ages 26 - 30 B (SE)	Middle Outcome Period: Ages 31 - 35 B (SE)	Late Outcome Period: Ages 36 - 40 B (SE)
Percentage of time with low income				
Joint FSP/AFDC recipient	.08 (.07)	.10 (.11)	.19 (.13)	.28 (.17)
FSP-only recipient	.19 (.09)*	.28 (.15)	.05 (.18)	-.24 (.23)
Non-eligible, non-recipient	-.22 (.10)*	-.50 (.16)**	-.61 (.16)***	-.71 (.21)***
Joint FSP/AFDC*Married	-.23 (.10)*	-.45 (.17)**	.04 (.19)	.11 (.25)
FSP-only*Married	-.16 (.12)	-.27 (.19)**	.15 (.22)	.49 (.28)
Non-eligible, non-recipient *Married	-.08 (.10)	-.09 (.16)	.15 (.17)	.49 (.22)*
Adjusted R²	.39	.37	.37	.32
Transfer Income				
Joint FSP/AFDC recipient	.27 (.05)***	.41 (.07)***	.28 (.08)***	.19 (.07)**
FSP-only recipient	.14 (.07)*	.31 (.09)***	.22 (.10)*	.12 (.10)
Non-eligible, non-recipient	-.13 (.08)	-.15 (.11)	-.40 (.12)***	-.10 (.10)
Joint FSP/AFDC*Married	.04 (.08)	.08 (.11)	.17 (.11)	-.03 (.11)
FSP-only*Married	.11 (.09)	.10 (.12)	.12 (.13)	.07 (.13)
Non-eligible, non-recipient *Married	.07 (.08)	.08 (.11)	.24 (.12)*	.11 (.11)
Adjusted R2	.54	.47	.44	.45
N	2,289	2,240	3,219	2,695
Number of families	1,829	1344	2,551	2,175

Note: Tobit regression is used for the percentage of time with low income and for transfer income with a full set of control variables.
*p < .05. **p < .01. ***p < .001.

We find similar results for food stamp usage alone. The coefficient estimate for FSP-only receipt becomes statistically significant only in the model used to predict proportion of future time with low income over the entire 15-year period. This finding appears to be driven by early outcome period effects, which then fade over time. The interaction of marital status

with food stamp program participation variables suggests that younger mothers who are married fare better than those who are not, but only in the early outcome period, where the effect of FSP participation is close to zero for married mothers.

Transfer income. As shown in Table 3, standard regression models suggest that joint FSP/AFDC participation during initial motherhood years substantially increases the amount of transfer income used during the early outcome period (age 26-30), with weaker but still statistically significant increases during the subsequent outcome periods. For the entire 15-year outcome period, standard regression models indicate positive, statistically significant effects of joint FSP/AFDC participation on future transfer income.

However, as described fully in the Methods section, we find that sister sibling fixed-effects regression models offer a better fit for the relationship between young mothers' participation in the Food Stamp Program, and their future transfer income. As shown in Table 4, for the later outcome period (age 36 - 40), we find substantially smaller and insignificant effects using the sister fixed-effects model, relative to the standard regression (i.e., tobit) model, suggesting that the tobit estimates may be overestimating the effects of joint participation. We also ran a tobit model using only young mothers and their sisters, with results similar to those achieved using the full-sample tobit model (b = 0.26, significant at the 0.01 level). These results suggest that sample differences (i.e., a sisters sample versus a full sample) do not account for the differences in coefficient estimates between the tobit and FE models, but rather that the FE model better estimates the effects of joint participation.

For young mothers who participate in the Food Stamp Program alone, the future transfer income story is much the same. Standard regression models suggest that FSP-only recipients have higher levels of future transfer income relative to their low-income, non-recipient peers (Table 3). Projected transfer income is higher for FSP-only recipients than for low-income non-recipients during the age 26 - 30 outcome period and, though to a lesser degree, for the age 31 - 35 outcome period. The effect disappears, however, for the age 36 - 40 outcome period.

Table 4: Fixed Effects Regressions for Transfer Income

Independent Variables	Full Outcome Period: Ages 26 - 40	Early Outcome Period: Ages 26 - 30	Middle Outcome Period: Ages 31 - 35	Late Outcome Period: Ages 36 - 40
	B (SE)	B (SE)	B (SE)	B (SE)
Transfer Income				
Joint FSP/AFDC recipient	.17 (.06)**	.29 (.08)***	.16 (.06)**	.04 (.05)
FSP-only recipient	.05 (.09)	.13 (.12)	.00 (.08)	-.06 (.06)
Non-eligible, non-recipient	-.09 (.09)	-.09 (.11)	-.20 (.08)**	-.08 (.06)
Joint FSP/AFDC*Married	-.01 (.09)	.05 (.12)	-.04 (.09)	-.01 (.07)
FSP-only*Married	-.07 (.12)	-.15 (.16)	-.04 (.12)	.06 (.09)
Non-eligible, non-recipient *Married	.03 (.09)	.02 (.11)	.11 (.08)	.08 (.06)
W/in R^2	.34	.37	.31	.18
N	775	742	1,119	876
Number of families / Average size	321 / 2.4	311 / 2.4	451 / 2.5	356 / 2.5

Note: Results are for sister fixed effects models with a full set of control variables.
*p < .05. **p < .01. ***p < .001.

In the FE models shown on Table 4, we find that the effects of FSP-only receipt on future transfer income are small and statistically insignificant, in this case for all age categories. As with the models for joint FSP/AFDC receipt, these differences again appear to be attributable to the statistical controls introduced by the FE models.

In the FE models shown in Table 4, we do not find differences in the relationship between FSP participation, either alone or jointly with AFDC, and future transfer income for married and non-married women.

Discussion and Conclusion

We have tested the question of whether the use of food stamps, either alone or in conjunction with other types of government assistance, results in economic or other hardships in later life, or whether simply being poor, or the combination of poverty and other factors, threatens economic outcomes for married and non-married mothers. The results indicate that if

we were to look solely at the entire 15-year outcome period, we might conclude that the effects of government assistance are adverse and far-reaching—that food stamps taken when one is a young mother negatively impact economic outcomes over the long run. Our data indicate that this conclusion may well be faulty and premature. By looking at five-year periods after the initial young parenting period, we find that it is generally only the period between the ages of 26 - 30 that is affected by time using food stamps. If other, longer periods after the initial period show any effects at all, these effects generally diminish as time passes.

Our models show that joint participation, however, does affect outcomes, such as lower future family income-to-needs, and for earlier outcome periods, receiving more transfer income, relative to those who have low income without public assistance in the initial period. We acknowledge that the reference group in these models (time with incomes below 150% of the poverty line) will tend to have higher income relative to those on AFDC, and therefore may not be an appropriate reference group. Our reference group was better suited for comparison with those who spend time using food stamps. However, we find no differences between those who jointly use AFDC and food stamps in future time spent with low income, relative to low-income, non-recipients, either in the short run or long run.

Generally, we found few differences between married and single mothers. While some short-term differences were found, these differences did not last over the long-term. These results support the notion that food stamp usage alone negatively affects some outcomes but that these effects are generally short-lived. For all outcomes, including income-to-needs, time with low income, and transfer income, we find that young mothers who use food stamp income alone have similar economic outcomes to low-income, non-recipient mothers. These results for food stamp recipients run counter to theories of dependency for public assistance recipients.

In general, we do not find that time receiving food stamps improves the economic situation of young mothers relative to those with low income and no transfer assistance. At the same time, because of the generally short-lived nature of initial food

stamp usage effects, we find that the long-term impact of time on food stamps is neither positive nor negative for the economic outcomes we have examined relative to time with low income without government assistance. Thus, if, as some studies have suggested, the use of food stamps leads to positive outcomes in other or non-economic areas, such as nutrition, consumption stabilization, or physical and emotional well-being, these alone may well justify continued support of the food stamp program (Perez-Escamilla et al., 2000).

It is important to emphasize that while there are few differences over the long run between the transfer and non-transfer income groups, this does not mean that either group, especially single mothers, fares particularly well over the long run. Income is barely over the poverty line for the early outcome period (age 26 - 30), and is at or near 150 percent of the poverty line at ages 31 - 35 and 36 - 40 (results not shown). In light of these descriptive findings, we would also caution against construing certain economic outcomes as negative in a prescriptive, rather than a statistical sense. What may be "good" economically may not be so for the less quantifiable outcomes of health and well-being, such as caring for children. As a goal shared by food and nutrition programs more generally, "ensuring the health of vulnerable Americans" may be seen as having implications beyond the nutritional (Fox, Hamilton, & Christenson, 2004, p. 1).

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