SNAP, Postnatal Education, and Maternal and Child Wellbeing

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Abstract

Poor mothers often have low levels of education and struggle to support their families. These women are increasingly returning to school in the hopes of improving their employment opportunities. This study uses data from the Fragile Families and Child Wellbeing Study (waves two through five when the focal children are ages one to nine) to explore a potential source of financial support for student mothers beyond traditional financial aid: the Supplemental Nutrition Assistance Program (SNAP). Using logistic regression models with person and period fixed effects, I estimate the probability that mothers will complete additional education conditional on receiving SNAP. The findings suggest that receiving SNAP is associated with a 9.8 percentage point increase in the probability of completing any education and a 8.3 percentage point increase in the probability of completing a two-year degree. In additional analyses, I will use wave six data (when the focal children are fifteen from FFCW to examine various outcomes for mothers who completed their education by the previous wave and their families. Preliminary results show that mother's education is positively associated with family income and negatively associated with unemployment insurance and Medicaid. I plan to examine child outcomes as well.

Keywords: Education, Public Transfers, SNAP

INTRODUCTION

Over the last twenty years, real wages have declined for those with a high school diploma or less while the returns to a college education have approximately doubled (Deming and Dynarski 2010; Goldin and Katz 2008; Western and Rosenfeld, 2012). It has become increasingly difficult for those with low levels of education to obtain stable, well-paid employment (Autor and Dorn 2013; Hout and Cumberworth 2012). Poor mothers are often less educated than those with higher incomes and face many challenges while attempting to provide for their children. These women are increasingly returning to school in the hopes of improving their employment opportunities (Noll, Reichlin, and Gault 2017; Butler, Deprez, and Smith 2004).

Recent research has demonstrated that even some post-secondary education is positively associated with employment and wages (Belfield and Bailey 2017). However, low-income women face many obstacles, many financial, to completing additional education once they become mothers (Goldrick-Rab and Sorensen 2010). Since financial aid and the generosity of aid are positively correlated with enrollment (Dynarski and Scott-Clayton 2013), government transfer programs may be another source of support for poor mothers while they are enrolled in school. Are there programs that help mothers overcome these some of these obstacles and increase their educational attainment?

Most scholarly work has focused on the negative relationship between TANF and women enrolling in higher education (Dave et al. 2012). Several scholars have documented the negative effects of TANF on recipients enrolling in education programs and the continuation of poverty post-TANF (Danziger and Seefeldt 2003; Dave et al. 2012; Kahn and Polakow 2004; Shaw et al. 2009). Government transfer programs vary significantly from each other with regards to eligibility, time limits, and work requirements, and this variation may lead to different

educational outcomes for recipients. There may be other programs that provide support for

parent students and are positively correlated with education.

The first part of this paper uses data from the Fragile Families and Child Wellbeing Study

(wave two through five) to examine the association between the Supplemental Nutrition

Assistance Program (SNAP), and the educational attainment of mothers. For poor mothers, do

government transfers, specifically SNAP, make the completion of additional education more or

less likely? Additionally, what is the association between SNAP and specific educational

outcomes such as the completion of sub-baccalaureate programs (including associate's degrees

and vocational/technical certificates), and bachelor's degrees?

The second part of this paper uses data from wave six when the focal children are age

fifteen to examine multiple outcomes for mothers and their families conditional on the mothers

completing education programs during waves two through five. This part of the paper is still in

development. I have done some preliminary analyses and find that mother's postnatal education

is positively associated with mother's employment, health and family income. Mother's

postnatal education is also negatively associated with receiving unemployment insurance,

Medicaid, and SSI. I also plan to examine child outcomes.

Analytic Approach

For this study, I use logistic regression models with person and period fixed effects,or

conditional logistic regression, to estimate the relationship between SNAO and the likelihood of

completing an education program:

$$\log\left(\frac{p_{it}}{1-p_{it}}\right) = \alpha_i + \delta_t + \beta_2 SNAP_{it} + \beta_1 T_{it} + X_{it}\lambda + \varepsilon$$

where p_{it} is the probability of individual i completing additional education in wave t, α_i is the

person fixed effect for individual i, β is the change in the logs odd of completing an education program when one moves from being a non-recipient to a recipient in the prior wave, T_{it} is a vector for other safety net programs that may also influence maternal education for individual i in wave wave t and $X_{it}\lambda$ is the vector for time-varying control for individual i in wave t. The fixed-effects model provides within-person comparisons, holding all observed and unobserved time-invariant variables constant and controls for an unobserved heterogeneity. A period fixed effect was included (δ_t) to control for shifts between waves in the dependent and independent variables that might confound the results.

Table 1. Descriptive Statistics for Mothers at the Baseline Survey (N= 3892)

	Full Sample	SD	Min	Max
White	0.21	0.41	0	1
Black	0.48	0.50	0	1
Hispanic	0.27	0.44	0	1
Teen Birth	0.45	0.50	0	1
Married	0.29	0.46	0	1
Cohabitating	0.37	0.48	0	1
Single	0.34	0.47	0	1
HS diploma or Higher	0.66	0.47	0	1
Grandmother HS diploma or Higher	0.79	0.41	0	1
Mother's Intelligence Score	6.76	2.65	0	15
Poverty Threshold Ratio	1.78	2.03	0	24.3
Number of Children in Household	2.33	1.34	0	10

Source: Fragile Families and Child Wellbeing Study

Graph 1. Completed Education Programs by Type of Education Completed.
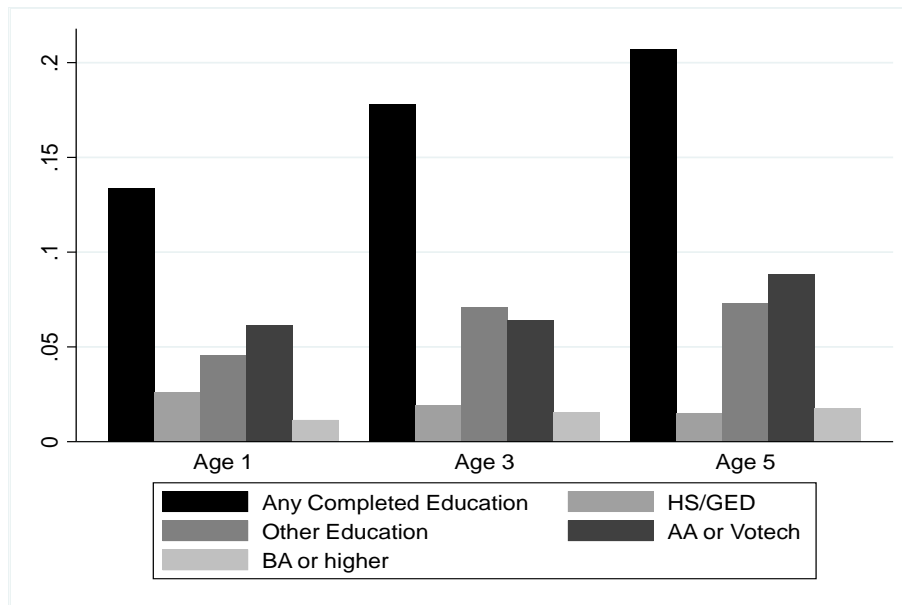
Table 2. Descriptive Statistics for Time Varying Variables Averaged Across Waves. (N=3892)

	Full Sample	Completed Education	
		YES	NO
Married	0.33	0.30	**0.34**
Cohabitating	0.29	0.26	**0.30**
Single	0.37	0.43	**0.36**
Employed	0.58	0.65	**0.56**
Poverty Threshold Ratio	1.88	1.90	1.87
Number of Children in Household	2.45	2.43	2.46
Grandmother in Household	0.14	0.13	0.14
SNAP	0.41	0.45	**0.40**
SNAP Annual Total	1192.52	1362.96	**1150.47**
SNAP - Number of Waves	1.88	2.03	**1.85**
TANF	0.20	0.23	**0.20**
Supplmental Security Insurance	0.60	0.05	0.60
Rent Subsidy	0.11	0.13	**0.11**
Unemployment Insurance	0.06	0.07	**0.05**
Medicaid	0.59	0.62	**0.59**
Earned Income Tax Credit	0.45	0.55	**0.42**

Source: Fragile Families and Child Wellbeing Study

Note: Bold type indicates that the T test between the bolded column and "Yes, Completed College" is significant at p<.05.

Results

Table 3 presents three different models that estimate of the probability of completing any type of education program. Model 1 estimates the probability of completing any education conditional on receiving SNAP only. Model 2 estimates the probability of receiving SNAP controlling for other safety net programs (TANF, ssi, rent subsidies, Medicaid, unemployment insurance and EITC). Model 3 is the full model which includes SNAP, safety net program and time varying covariates.

Table 3. Logistic Regression estimates of the probability of completing an education program by type of aid received using fixed effects and reported in average marginal effects. All independent variables are lagged one wave.

	Model 1	Model 2	Model 3
SNAP	0.091**	0.087**	0.078**
	(0.027)	(0.029)	(0.029)
Other Safety Net Programs	N	Y	Y
Time Varying Controls	N	N	Y
AIC	2382	2385	2385
Number of Observations	3,292	3,292	3,292
Number of Individuals	1181	1181	1181

Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05

Table 4 presents three different models that estimate of the probability that mother's will complete specific education programs: high school diploma or GED certificate, associate's degrees or vocational/technical certificates, and bachelor's degree or higher.

Table 4. Logistic Regression estimates of the probability of completing specific education programs by type of aid received using fixed effects and reported in average marginal effects. All independent variables are lagged one wave.

	Model 4 HS/GED	Model 6 AA or Votech	Model 7 BA or more
SNAP	-0.144	0.077**	0.039
	(0.094)	(0.035)	(0.300)
Other Safety Net Programs	Y	Y	Y
Time Varying Controls	Y	Y	Y
Number of Observations	295	1,975	439
Number of Individuals	113	1064	156

Standard errors in parentheses
*** $p<0.001$, ** $p<0.01$, * $p<0.05$

Additional analyses

I will use data from wave 6 when the focal children are 15 years old to conduct additional analyses to estimate the relationship between mother's postnatal educational attainment by wave five and several mother, family and child outcomes.

References

Autor David, H., and David Dorn. 2013. The growth of low-skill service jobs and the polarization of the US labor market. *The American Economic Review*, *103*(5), 1553-1597.

Autor, David, H., Lawrence Katz, and Melissa Kearney. 2006. "The polarization of the US labor market." (No. w11986). National Bureau of Economic Research. Chicago, IL.

Baum, Sandy, Jennifer Ma, and Kathleen Payea. 2013. Education pays 2013. *The College Board*.

Deming, David, and Susan Dynarski. 2009. *Into college, out of poverty? Policies to increase the postsecondary attainment of the poor* (No. w15387). National Bureau of Economic Research.

Goldin, Claudia, and Lawrence Katz. 2009. *The race between education and technology*. Harvard University Press.

Goldrick-Rab, Sara, and Seong Won Han. 2011. "Accounting for Socioeconomic Differences in Delaying the Transition to College." *Review of Higher Education* 34(3):423-445.

Goldrick-Rab, Sara and Kia Sorensen. 2010. "Unmarried Parents in College." The Future of Children. 20(9):179-203.

Hout, Michael. 2012 "Social and Economic Returns to College Education in the United States." *Annual Review of Sociology.* 38 (4): 379–400.

Hout, Michael, and Erin Cumberworth. (2012). The labor force and the great recession. *The Russell Sage Foundation and The Stanford Center on Poverty and Inequality*.

Hoynes, Hilary W. and Diane Whitmore Schanzenbach. 2012. "Work Incentives and the Food Stamp Program." *Journal of Public Economics.* 96(1-2): 151-62. doi: 10.1016/j.jpubeco.2011.08.006.

Hoynes, Hilary W., Diane Whitmore Schanzenbach, and Douglas Almond. 2012. "Long Run Impacts of Childhood Access to the Safety Net." NBER Working Paper 18535. National Bureau of Economic Research, Cambridge, MA.

Rumberger, Russell. 2010. "Education and the reproductions of economic inequality in the United States: An empirical investigation." Economics of Education Review. 29:246-254.

Shaw, Kathleen M. 2006. *Putting Poor People to Work: How the Work-First Idea Eroded College Access for the Poor*. New York: Russell Sage Foundation.

Western, Bruce, and Jake Rosenfeld. 2012. Workers of the world divide: the decline of labor and the future of the middle class. *Foreign Affairs*, 88-99.