FOOD PROGRAMS, FAMILY DEMOGRAPHICS AND FOOD SECURITY OF CHILDREN

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Abstract

Young families with least experienced parents (children 0-2) and more experienced parents (children 3-5) are compared on family demographics and food security of children among Food Stamp and WIC participants. Children of a never married, least experienced parent that uses FS exhibit the greatest degree of food insecurity. Children of a more experienced parent not receiving food stamps with less than high school diploma generally have the most hunger.

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Introduction

The food security status of households and individuals may be achieved through a variety of possible pathways. Rapid population growth, for example, may affect food security status through the impact of overcrowding on reduced per capita land availability and per capita food availability, or through its effects on environmental degradation and reduced agricultural productivity, or through its effects on sanitation and the spread of disease, which influences not only labor productivity and incomes, but also nutritional status. The relative importance of any one of these pathways as a determinant of food insecurity will vary significantly across households, locations, and over time (Bailey, Cogil, Kenefick, Mock, and Riely 1999).

Food security for a household means access by all members at all times to enough food for an active, healthy life. Food security includes at a minimum (1) the ready availability of nutritionally adequate and safe foods, and (2) an assured ability to acquire

acceptable foods in socially acceptable ways. Families need easy access to food on a regular basis (Ryerson University 2003).

The food security of children is closely linked with health, nutritional status, education, and economic well being of their mothers. Studies show that each year that a girl stays in school makes it more likely that they will have children later in life, and that their children will be healthier. Healthy, educated mothers with economic resources are more able to appropriately feed and care for their children.

According to Ryerson University Centre for Studies in Food Security the following are the five principles that guide or direct food security:

1. Availability: refers to the need for adequate, assured and reliable food supplies now and in the future. Sufficient supplies of food for all people at all times have historically been a major challenge.
2. Accessibility: Distribution and access to food are important aspects of food security. Within and between societies, inequities have resulted in serious entitlement problems reflecting class, gender, ethnic, racial, and age differentials, as well as national and regional gaps in development within and between societies.
3. Acceptability: Food security requires culturally acceptable food and distribution systems, which are respectful of human dignity and social and cultural norms.
4. Adequacy: Food security requires that all levels- production, distribution, consumptions, and waste management. Certain measures need to be taken to guarantee a democratic and sustainable food system.

5. Agency: Agency identifies the policies and processes that enable or disable the achievement of food security. It emphasizes the need to be conscious of policies and processes and to research hand document the experience with different approached (Ryerson University 2003).

The food security status of a household for all members fall into three categories food secure, food insecure, and food insecure with hunger. For families to be food secure, supplies must be available where they live and be accessible to all members of the household, year in and year out. Families must be able to grow or afford enough food, in terms of quantity, quality, and variety. All members, but especially children, must be free from disease so that their bodies can use the food they eat to grow and thrive. That is why access to clean water, sanitation, and health care is also part of food security. Food insecure is the limited or uncertain availability of nutritionally adequate and safe foods, or limited or uncertain ability to acquire acceptable foods in socially acceptable way. Hunger is a condition in which people do not get enough food to provide the nutrients (carbohydrates, fats, proteins, vitamins, minerals and water) for fully productive and active lives. Poverty, conflict, natural diseases, and outbreak of disease can result in food insecurity (Oregon Food Bank, 2005).

The Food and Nutrition Service (FNS) administers 15 domestic food and nutrition assistance programs. The two that will be focused on in this paper are:

The Food Stamp Program provides benefits through electronic benefit transfer (EBT) or paper coupons to eligible low-income households. Clients qualify for the program based on available household income, assets, and certain basic expenses. Food stamps can be used to purchase food from eligible retailers (ERS 2004).

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) is a federally funded preventive nutrition program that provides grants to States to support distribution of supplemental foods, health care referrals, and nutrition education for low-income pregnant, breastfeeding, and nonbreastfeeding postpartum women, for infants in low-income families, and for children under 5 in low-income families who are found to be at nutritional risk. Most State WIC programs provide vouchers that participants use to acquire supplemental food packages at authorized food stores (ERS 2004).

The purpose of the study is to determine the relationship between the parent's demographics with children 0-5 years old, their participation in government programs and whether their children have eaten enough in the last 12 months.

Review of Literature

In a study conducted by Katherine Alaimo results indicate that almost 83 percent of children that were food insufficient lived in a low-income family. These children are more likely to have mothers that are younger than 18 and live in families where the family head did not have a high school diploma (Alaimo, Olson, and Frongillo). Single-parent families, and especially single-mother families, are at higher risk of children's hunger than are two-parent families.

Nord and Bickel (2000) find that the prevalence of children's hunger was six times as high in single-mother families as in two-parent families (1.8 percent compared with 0.3 percent). Single-mother families comprised 23 percent of all households with children, but accounted for 57 percent of households with hunger among children. Larger families are somewhat more vulnerable to hunger than smaller families, so the proportion of the Nation's children who live in households with children's hunger is slightly higher

than the proportion of households with children's hunger. On average in 1998 and 1999, some 613,000 children (0.9 percent of all children) lived in the 275,000 households (0.7 percent of all households with children) where children's hunger occurred (Bickel and Nord, 2000). A study conducted by Sonya Huffman and Helen Jensen entitled "Do Food Assistance Programs Improve Household Security? Recent Evidence from the United States." This study helps explain why many of those who receive benefits from government programs remain food insecure. It findings state that the food security status of these individuals depends on the family structure, labor market condition, and food stamp benefit. Many of these individuals who receive benefits are unable to work either due to health issues or no jobs available (Huffman and Jensen 2003). Another study entitled" Food Security of Low-Income Single Parents in East Alabama: Use of Private and Public Programs in the Age of Welfare Reform" states that single-parent food pantry clients indicated higher levels of food insecurity than other groups, but non-clients who were not single parents also indicated high levels of need. Although 42 percent of food bank clients were single parents, results showed that married couples with children were more highly represented among the food bank clients that among food needy individuals who do not use the pantry. Single parents were more likely than others to receive food stamp and Temporary Assistance to Needy Families (TANF) benefits. Some of its findings are that 23 percent of single parent pantry clients and 25 percent of single parent non-clients indicated that sometimes or often did not have enough food to eat. 40 percent of single-parent food pantry clients and 30 percent of non-clients reported sometimes or often going to a friend or relative's home for a meal (Duffy, Hallmark, Molnar, Claxton, Bailey, and Miklouicich 2002).

The Food Stamp Program (FSP) in an average month of fiscal year 2004, the FSP provided benefits to 23.9 million people in the United States, totaling over $24 billion for the year. The average benefit was about $86 per person per month (ERS 2004).

The Special Supplemental Nutrition Program for Women, Infants, and Children (WIC) in fiscal year 2004, WIC served an average 7.9 million participants per month with an average monthly benefit of about $38 per person (ERS 2004).

Methodology

The data collected in this research were transferred using Data Ferret. Data Ferret is the federal electronic research and review extraction tool. FERRET is a tool developed and supported by the U.S. Bureau of the Census in collaboration with the Bureau of Labor Statistics and other statistical agencies (Data Ferret 2000)

Technique of Analysis

Chi-square was used to test the significance of the relationship between the independent and dependent variables. The test is designed to convert the differences (or deviations) between the two into the probability of their occurring by chance, taking into account both the size of the sample and the number of variables (degrees of freedom) (Ourworld 1998)

The chi-squared formula is:

$$X^2=\sum(O-E)^2/E$$

O= Observed; E= Expected; X^2=Chi-Square

Contents of the Data File include data in three general categories:

(1) Food Security Supplement data, collected by the Census Bureau for the United States Department of Agriculture. These data consist of answers by household respondents to

questions about household food expenditures, use of food assistance programs, and experiences and behaviors related to food security, food insecurity, and hunger. (2) Food security and hunger scale and status indicators calculated from the Food Security Supplement data by the Economic Research Service of the United States Department of Agriculture. These indicate the screening status of the household as well as continuous and categorical measures of food security status (ERS 2004).

The sample data used contained 1190 households of about 40,000 households in the 2000 CPS Supplement that had all own children in either 0 -2 or 3-5 years old category but not both. For the purpose of this study, the former are referred to as "least experienced" young families and the latter families are "more experienced" young families. In this study only 1142 households were used due to missing data being excluded. These families are both young and small. Probably about 20,000 households in the U.S. are represented by this sub-sample. Only one of the questions from the 18 module questionnaire was analyzed, which is that your "child didn't eat enough in the last 12 months". Most vulnerable sub-samples (the Canaries in the coal mine) among Food Stamp and WIC participants/non-participants are the focus of the results that follow. They include "Never married" mothers versus "All others" as well as parents with "Less than high school diploma" versus "High school diploma or more".

Results

Table 1.1 Food Insecurity of Children among Food Stamp Participants with Only Children 0 to 2 years of age.[a,b]

		Children didn't eat enough		
		True	Never True	Total
Marital Status	All Others	13	53	66
		19.7%	80.3%	100.0%
	Never Married	31	32	63
		49.2%	50.8%	100.0%
Total		44	85	129
		34.1%	65.9%	100.0%

a. Chi-square = 12.5 (sig @ .01)

b. See Appendix Table A

Table 1.1 illustrates that never married receiving food stamps and children 0-2 is 2.5 times more likely to report their child didn't eat enough due to lack of money. Hunger among children of never married families in the other three categories (older children and/or non participants) were not significantly different than "All Others" family configurations. Winship and Jencks (2002) using the same item (Child not eating enough in the last 12 months.) for all families with children 0 to 18 report a 4.0 ratio but with a about 1/5 the incidence of hunger for children in "single mother homes'.

Table 1.2. Food Insecurity of Children among Food Stamp Participants with Children 0 to 2 years of age.[a,b]

		Children didn't eat enough		
		Sometimes True	Never True	Total
Education Level	less than high school	22	17	39
		56.4%	43.6%	100.0%
	high school diploma	12	42	54
		22.2%	77.8%	100.0%
	some college	10	26	36
		27.8%	72.2%	100.0%
Total		44	85	129
		34.1%	65.9%	100.0%

a. Chi-sqaure = 12.67

b. See Appendix Table B

Table 1.2 illustrates that families receiving food stamps and having less than a high school education with children 0-2 years old only were almost twice than as likely to report their child didn't eat enough in the last 12 months. Beyond this particular study, those not receiving food stamps and with children 3-5 only with education less than high school (perhaps a proxy for working poor) had an even more extreme pattern of hunger (Chi-square = 52.52; Sig. @ .001).

Table 1.3. Food Insecurity of Children among Non Food Stamp Participants with Children 0 to 2 years of age.[a]

		Children didn't eat enough		
		Sometimes True	Never True	Total
Education Level	less than high school	38	52	90
		42.2%	57.8%	100.0%
	high school diploma	42	122	164
		25.6%	74.4%	100.0%
	some college	43	122	165
		26.1%	73.9%	100.0%
Total		123	296	419
		29.4%	70.6%	100.0%

a. Chi-square = 9 (sig @ .01)

Table 1.3 illustrates that those who have completed less than high school with children 0-2 years old and are not receiving food stamps have children 1.5 to 2 times hungry than those with high school diploma or some college.

Table 1.4. Food Insecurity of Children among Non Food Stamp Participants with Children 3 to 5 years of age.[a]

		Children didn't eat enough		
		Sometimes True	Never True	Total
Education Level	less than high school	63	24	87
		72.4%	27.6%	100.0%
	high school diploma	78	116	194
		40.2%	59.8%	100.0%
	some college	45	130	175
		25.7%	74.3%	100.0%
Total		186	270	456
		40.8%	59.2%	100.0%

a. Chi-square = 53 (sig @ .01)

Table 1.4 illustrates those parents with children 3-5 years old and not receiving food stamps with less than high school are about 2 to 3 times hungrier than those with more education.

Table 1.5 Food Insecurity of Children among WIC Participants[a] with Children 0 to 2 years of age.

		Children didn't eat enough		
		Sometimes True	Never True	Total
Education Level	less than high school	21	21	42
		50.0%	50.0%	100.0%
	high school diploma	11	57	68
		16.2%	83.8%	100.0%
	some college	11	23	34
		32.4%	67.6%	100.0%
Total		43	101	144
		29.9%	70.1%	100.0%

a. Chi-square = 12 (sig @ .01)

Table 1. 6 Food Insecurity of Children among WIC Participants[a] with children 3 to 5 years of age.

		Children didn't eat enough		
		Sometimes True	Never True	Total
Education Level	less than high school	20	11	31
		64.5%	35.5%	100.0%
	high school diploma	12	45	57
		21.1%	78.9%	100.0%
	some college	9	20	29
		31.0%	69.0%	100.0%
Total		41	76	117
		35.0%	65.0%	100.0%

a. Chi-square = 17 (sig @ .01)

Table 1.5 and 1.6 illustrates that those parents who participate in WIC with children between the ages 0-5 and have less than a high school report that their children are 1.5 to 3 times more likely to be hungry than those with more education. This pattern of significant findings continues with those who are not receiving WIC. Regardless of the Food Stamp or WIC participation children of parents with less than a high school education have experienced hunger more than 1.5 to 4 times likely.

Conclusion

The demographics of the parents who have children 0-5 play an important role in determining the hunger status of their children. The parents with less than a high school diploma are more likely to report hunger for their children regardless of age of children and food program participation. The children of less experienced never married mothers (only children 0 to 2 years old with FS but some with WIC and some without WIC), exhibited a pattern of significantly greater hunger than more experienced "All other" parents of children 3 to 5 with FS but with or without WIC. This suggests that WIC is much more critical to the less experienced young family than the more experienced families.

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Appendix

Table A. Food Insecurity of Children among Non Participants and Participants of Food Stamps and WIC with Children 0 to 5 years of age (n=1142)

				child didn't eat enough in last 12 months		
Number of Children	FSWIC14			Sometimes True	Never True	Total
all own children 0-2	FS&WIC	Marital Status	All Others	2	22	24
				8.3%	91.7%	100.0%
			Never Married	10	21	31
				32.3%	67.7%	100.0%
	NFS&YWIC	Marital Status	All Others	23	39	62
				37.1%	62.9%	100.0%
			Never Married	8	19	27
				29.6%	70.4%	100.0%
	YFS&NWIC	Marital Status	All Others	11	31	42
				26.2%	73.8%	100.0%
			Never Married	21	11	32
				65.6%	34.4%	100.0%
	NFS&NWIC	Marital Status	All Others	69	198	267
				25.8%	74.2%	100.0%
			Never Married	23	40	63
				36.5%	63.5%	100.0%
all own children 3-5	FS&WIC	Marital Status	All Others	10	26	36
				27.8%	72.2%	100.0%
			Never Married	9	14	23
				39.1%	60.9%	100.0%
	NFS&YWIC	Marital Status	All Others	18	26	44
				40.9%	59.1%	100.0%
			Never Married	4	10	14
				28.6%	71.4%	100.0%
	YFS&NWIC	Marital Status	All Others	24	32	56
				42.9%	57.1%	100.0%
			Never Married	9	14	23
				39.1%	60.9%	100.0%
	NFS&NWIC	Marital Status	All Others	153	212	365
				41.9%	58.1%	100.0%
			Never Married	11	22	33
				33.3%	66.7%	100.0%

Chi-Square Tests

Number of Children	FSWIC14		Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
all own children 0-2	FS&WIC	Pearson Chi-Square	4.539	1	.033		
		N of Valid Cases	55				
	NFS&YWIC	Pearson Chi-Square	.462	1	.497		
		N of Valid Cases	89				
	YFS&NWIC	Pearson Chi-Square	11.508	1	.001		
		N of Valid Cases	74				
	NFS&NWIC	Pearson Chi-Square	2.884	1	.089		
		N of Valid Cases	330				
all own children 3-5	FS&WIC	Pearson Chi-Square	.828	1	.363		
		N of Valid Cases	59				
	NFS&YWIC	Pearson Chi-Square	.687	1	.407		
		N of Valid Cases	58				
	YFS&NWIC	Pearson Chi-Square	.093	1	.760		
		N of Valid Cases	79				
	NFS&NWIC	Pearson Chi-Square	.921	1	.337		
		N of Valid Cases	398				

Table B. Food Insecurity of Children among Non-Participants and Participants of Food Stamp and WIC with Children 0 to 5 years of age (n=1142)

				child didn't eat enough in last 12 months		
Number of Children	FSWIC14			Sometimes True	Never True	Total
all own children 0-2	FS&WIC	Education Level	less than high school	9	9	18
				50.0%	50.0%	100.0%
			high school diploma	3	34	37
				8.1%	91.9%	100.0%
	NFS&YWIC	Education Level	less than high school	12	12	24
				50.0%	50.0%	100.0%
			high school diploma	19	46	65
				29.2%	70.8%	100.0%
	YFS&NWIC	Education Level	less than high school	13	8	21
				61.9%	38.1%	100.0%
			high school diploma	19	34	53
				35.8%	64.2%	100.0%
	NFS&NWIC	Education Level	less than high school	26	40	66
				39.4%	60.6%	100.0%
			high school diploma	66	198	264
				25.0%	75.0%	100.0%
all own children 3-5	FS&WIC	Education Level	less than high school	7	8	15
				46.7%	53.3%	100.0%
			high school diploma	12	32	44
				27.3%	72.7%	100.0%
	NFS&YWIC	Education Level	less than high school	13	3	16
				81.3%	18.8%	100.0%
			high school diploma	9	33	42
				21.4%	78.6%	100.0%
	YFS&NWIC	Education Level	less than high school	12	10	22
				54.5%	45.5%	100.0%
			high school diploma	21	36	57
				36.8%	63.2%	100.0%
	NFS&NWIC	Education Level	less than high school	50	21	71
				70.4%	29.6%	100.0%
			high school diploma	114	213	327
				34.9%	65.1%	100.0%

Chi-Square Tests

Number of Children	FSWIC14		Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
all own children 0-2	FS&WIC	Pearson Chi-Square	12.458	1	.000		
		N of Valid Cases	55				
	NFS&YWIC	Pearson Chi-Square	3.331	1	.068		
		N of Valid Cases	89				
	YFS&NWIC	Pearson Chi-Square	4.160	1	.041		
		N of Valid Cases	74				
	NFS&NWIC	Pearson Chi-Square	5.441	1	.020		
		N of Valid Cases	330				
all own children 3-5	FS&WIC	Pearson Chi-Square	1.927	1	.165		
		N of Valid Cases	59				
	NFS&YWIC	Pearson Chi-Square	17.611	1	.000		
		N of Valid Cases	58				
	YFS&NWIC	Pearson Chi-Square	2.045	1	.153		
		N of Valid Cases	79				
	NFS&NWIC	Pearson Chi-Square	30.448	1	.000		
		N of Valid Cases	398				