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# Characteristics of Working Supplemental Nutrition Assistance Program Recipients in Maine, according to the 2011 American Community Survey

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# Characteristics of Working Supplemental Nutrition Assistance Program Recipients in Maine, according to the 2011 American Community Survey

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PPM 699 Final Project

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## INTRODUCTION:

The Supplemental Nutrition Assistance Program (SNAP) is a federal program administered by the United States Department of Agriculture (USDA). SNAP is designed to provide assistance in purchasing food to low income households in the United States. In Maine, individual benefits are administered by the Maine Department of Health and Human Services. Formerly (and still colloquially) known as the Food Stamp program, SNAP makes a dollar-value benefit, based on income, household size, household expenses, and a host of other factors, available to households via a debit or Electronic Benefit Card for the purchase of unprepared food from grocery and convenience stores, among other retail establishments. An estimated 46,542,005 of households in the US received SNAP benefits in January 2014 ("SNAP Current Participation - Persons"), with \$274.98 being the median household benefit in FY2013 ("SNAP Average Monthly Benefits per Households", 2014). Between 2008 and 2009, there was a 19.8% increase nationally in the number of households that received SNAP (Loveless, 2010), and since then SNAP reliance has remained high as the job market has remained soft (Stone et al, 2013). Despite this, the program is increasingly under scrutiny from the Republican-controlled US House of Representatives that hopes to narrow the programs' scope, even as more families rely on it as part of the overall household budget.

One reason that attempts to restrict access to SNAP gain popular support is the perception that otherwise able-bodied adults are using SNAP benefits to avoid joining the labor force (Sheffield, 2014). The purpose of this research is to examine the American Community Survey's 2011 data set for Maine to examine the population of SNAP recipients that are participating in the Labor force, and to look at the occupational and other characteristics of those SNAP recipients who receive earned income.

Determining the characteristics of adults who work and receive SNAP is important for many reasons. First, the US welfare system is currently designed as a temporary program that supports households while able-bodied adults participate in activities that prepare them to enter the labor force and engage in self-support. However if a significant number of people relying on government assistance programs are already working, it calls into question the effectiveness of this model over the long term. If working adults cannot guarantee the food security of other members of their households, it calls into question the long-term viability of work-first policies.

Understanding the characteristics of the working poor also allows policymakers to evaluate programs that help disenfranchised adults gain work skills. ASPIRE, which supports adults receiving TANF in job-training activities, and the Workforce Investment Act, which supports dislocated adults in job-training activities, frequently used Department of Labor reports about anticipated job openings and job growth to determine training trends. However, if there are certain occupations where a large percentage of employees are earning wages that are low enough that they find it difficult to support themselves, then it

would make sense to try and divert retraining funding away from those occupations and instead redirect funding towards occupations where adults are less likely to receive assistance. This is good stewardship of limited resources but also keeps these programs from flooding the market with cheap labor, driving down demand and wages.

## BACKGROUND:

In 2010, nationally, about 15% of households were food insecure. The USDA defines food insecurity as “a household-level economic and social condition of limited or uncertain access to adequate food.” (United States Department of Agriculture Economic Research Service, 2014) In Maine, 235,771 individuals receive SNAP benefits through a program administered by the US Department of Agriculture and Maine’s Department of Health and Human Services. (“SNAP Current Participation - Persons”) In 2011, it was estimated that more than 60% of households with children who suffered from food insecurity had an adult in the household who was working full time. This research study is intended to examine the prevalence of work in SNAP receiving households in Maine.

More than 50% of SNAP recipient households which contain a working-age, non-disabled adult have a member who participates in the labor force, and this jumps to more than 60% when households with children are included. (Rosenbaum, 2013) In the year prior to receiving SNAP benefits, almost 90% of households indicated that there was a work-aged member participating in the labor force. (Rosenbaum, 2013) The number of SNAP households that have earnings has tripled since 2000, even while the overall proportion of adults participating in the labor force has decreased. (Rosenbaum, 2013) This strongly indicates that, despite misperceptions by policy makers, SNAP receipt is not a disincentive for working. In fact, findings like these could indicate that SNAP actually helps support families with temporary un- and underemployment situations.

Studies have shown, however, that households that have non-standard work arrangements are more likely to be food insecure than those with standard arrangements. (Coleman-Jensen, 2012) Workers that work multiple jobs, part-time jobs, or those whose schedules do not allow them to work the same amount of hours each week were far more likely to be food insecure than those working stable full time schedules. In 2010, for instance, 11.5% of households with at least one stable full-time worker were food insecure compared to 28% of households with a member that worked part-time. Another study from 2010 showed that households that were headed by an unemployed adult were more than 3.5 times more likely to suffer from food insecurity than households where at least one adult was employed as a full time worker (Coleman-Jensen, 2012). This study provides additional support to the idea that SNAP supports, rather than disincentives, work.

Full time work is no panacea, though, according to a 2009 study. Mark Nord found that 80% of children suffering from food insecurity had an employed household adult. Almost 70% of food insecure children lived a household where one or more adult was

employed full time. Only 15% of children in the study who suffered from food insecurity lived in households where no adult participated in the labor force, employed or unemployed, and of those, more than half failed to participate in the labor force because of a disabling condition. Less than one in ten households which contained a food insecure child contained an adult that either wasn't employed or unemployed and looking for work, or an adult that self-identified as disabled.

SNAP is also a program that disproportionately benefits those who reside in rural areas of the United States. In 2005, only 22% of the population lived in rural areas but 31% of SNAP recipients were categorized as living in rural areas. (Smith, 2005) When regional analysis is applied it appears, however, that the south is the engine of the increase in proportion of rural food stamp recipients. More than 3/5 of rural southerners receive food stamps despite making up only 40% of the rural population of the US. According to the US Census, Maine is the most rural state in the nation. In 2010, more than 61 percent of Maine's population lived in a rural area. More than 10% of Mainers work a non-standard schedule ("Sex of workers by time leaving home to go to work", 2011). This makes accurate research about the state of Maine's working SNAP recipients extremely important in shaping workforce and food policies.

## PURPOSE:

The purpose of this study is to explore the characteristics of Maine's working SNAP recipients, and to see if working SNAP recipients differ from the general population participating in the labor market in Maine, by using secondary data collected by the US Census department through the American Community Survey in 2011. (US Census Bureau, 2011) It is my hope that exploratory research about the population of adults who both work and receive SNAP benefits will inspire research using the ACS and other sources about the causal relationships between some of these variables and SNAP receipt. This paper will attempt to answer the following questions about working SNAP recipients in Maine:

1. What are the demographic characteristics of adults who work and receive SNAP benefits in Maine? How do these differ from the demographic characteristics of other working adults, if at all? How do these differ from the demographic characteristics of the general population of adults in Maine, if at all?
2. Do adults who work and receive SNAP benefits have a different level of educational attainment from other working adults? Do adults who work and receive SNAP have a different level of educational attainment from adults who receive SNAP benefits but do not work?
3. Are working adults who receive SNAP benefits more likely to work a night shift than other working adults?

4. What are the occupations of working adults who receive SNAP benefits, and do they differ significantly from the occupations of working adults who do not receive SNAP benefits?
5. What are the industries that working adults who receive SNAP benefits typically employed in? Do those industries differ significantly from the industries that working adults that don't receive SNAP benefits are typically employed in?
6. How many hours a week are adults that receive SNAP benefits typically working? Does this differ from the number of hours that adults that do not receive SNAP benefits typically work?
7. How long is the commute of a working adult who receives SNAP benefits, and how does it compare to the commute of other working adults?
8. Does the receipt of unearned income by an adult receiving SNAP benefits predict that adult's participation in the labor market?
9. Is a working adult that receives SNAP benefits more likely to reside in a household with their spouse, or as an unmarried parent?

## DESCRIPTION OF DATA:

In response to declining participation in the long-form decennial Census, the American Community Survey was developed to obtain demographic, occupational and economic information from a representative sample of US and Puerto Rican Households. Developed in 1995 and fully implemented in 2005, the American Community Survey creates a sample of approximately 3,000,000 housing units and group living quarters annually. The American Community Survey uses a dual-stage stratified sampling procedure. The master sampling frame is the US Census department's Master Address File, which is used for the Commerce department's demographic surveys as well as the decennial census. Addresses within the MAF are geocoded, which means that each address's state, county, census tract, and census block are tracked. In the first phase, all census blocks are assigned to one of five sampling strata. Once sampling rates are determined for each stratum, the sample is extracted from the sample frame. Each half of the first-stage annual sample is extracted from the frame at two different points in the year. Main sampling occurs in August and September for survey early in the following year. Supplemental sampling occurs in January and February and captures addresses that were added to the MAF in the preceding calendar year. The supplemental sample is surveyed later in the same calendar year. The survey process is three-pronged. Initially, the instrument is sent to selected housing units and group living quarters via the US mail. Responses are requested within the month. In order to fall within the parameters of data collection, the survey response needs to be received in the month of request or the two subsequent months. Housing units and group living quarters who fail to respond to the mailed instrument are eligible for Computer Aided Telephone Interviewing in the month preceding the month in which the instrument was mailed. Two months following the month in which the instrument was mailed, housing units and group living units which

have failed to respond are eligible to be selected for Computer Aided Personal Interviewing. This is the second stage of the sampling process. The sampling frame is housing units and group living quarters that failed to respond to either the mailed instrument or the CATI. A subsample of non-respondents is selected. This sample is also based on blocks, is stratified, and weighted for maximum representativeness.

The data that this study is based on is a subset of the 2011 one year ACS data set released in October 2012. The US Census Bureau releases subsets of the complete data set at the state level. This study uses data for Maine. The data is further subdivided into public use micro data areas, cities and towns, census tracts, and blocks.

The final dataset used for analysis consisted of 15,224 individual respondents. 11,036 respondents were adults, meaning they were greater than or equal to 18 years of age at the time of their response. There were 8,078 adults in the labor force, or about 73% of adult respondents. 1,045 members of the dataset indicated the receipt of SNAP benefits in the last 12 months. 600 adult SNAP recipients work. This research excluded those respondents that indicated that they were living in an institutional setting which decreased the total number of responses in each category. For those residing in a non-institutional setting, there were 14,411 total respondents in the sample; 10,260 of those were adults, and 7,741, or about 74%, reported that they were working. 913 SNAP recipients resided outside institutional settings. Of these, 540 were employed.

<b>TABLE 1: 2011 1 YEAR AMERICAN COMMUNITY SURVEY, MAINE SAMPLE</b>		
<b>Total sample</b>	15,224	100%
<b>Adults</b>	11,036	72.5%
<b>Working adults</b>	8,078	53.1%
<b>Total sample residing in non-institutional settings</b>		
<b>Adults residing in non-institutional settings</b>	10,260	67.4%
<b>Working adults residing in non-institutional settings</b>	7,741	50.8%
<b>SNAP recipients</b>		
<b>Working SNAP recipients</b>	600	3.9%
<b>Percent of SNAP recipients that work</b>		57.4%
<b>SNAP recipients residing in non-institutional settings</b>		
<b>Working SNAP recipients residing in non-institutional settings</b>	540	3.5%
<b>Percent of SNAP recipients residing in non-institutional settings that work</b>		59.1%



## DESCRIPTION OF VARIABLES:

The variables utilized in this study included a number related to work and labor, as well as a number of socioeconomic indicator variables and others related to household demographics and household composition. I created a variable to identify individuals that received SNAP, assigning a 1 to those who received SNAP benefits and a 0 to those that did not. Since this is an exploratory rather than explanatory subject, receipt of SNAP benefits can't be accurately defined as an independent variable, but this variable served as the focal variable of this research.

I created several variables that would measure aspects of respondents' labor market participation.

*Occupation:* I wanted to measure whether there was a relationship between a working adult's receipt of SNAP benefits and that adult's occupation of employment. Occupation is the term used to describe the day to day activities that make up an individual's employment tasks. The 2010 Standard Occupational Classification system is abbreviated as SOC and is a method used by Federal agencies to classify workers into occupational categories in order to collect information and complete research on the kinds of jobs that people do. There are 840 detailed occupations, which are further characterized into 461 broad occupations, 97 minor groups and 23 major groups. (BLS website, "Standard Occupational Classification (SOC) System"). All 840 SOC codes were listed as potential responses for ACS respondents. I recoded the responses into the 23 major groups as defined by the Bureau of Labor Statistics, and then, based on my professional knowledge of occupational activities, further refined those 23 categories into 4 broader groups. The four categories were Managerial and Professional Work, Support Work, Physical Labor and Trade Work, and Production Work.

*Industry:* Additionally, I wanted to measure whether there was a relationship between a working adult's receipt of SNAP and that adult's industry of employment. BLS defines an industry as a group of establishments which are engaged in handling the same group of products, or performing the same service. In the United States, industry is codified using the North American Industry Coding System, developed in partnership with Canada and Mexico and in use since 2002 (BLS website, "North American Industry Classification System (NAICS)"). NAICS codes all establishments into 1,170 industries within 20 sectors, 5 primarily goods-producing and 15 service-rendering. All NAICS codes at the 4 digit level were listed as potential responses for ACS respondents. I recoded these into the 20 sector-level roll-ups, and then, using my professional knowledge of NAICS, further refined responses into 7 categories: Trades, Sales, Professional, Medical & Behavioral Health Services, Entertainment, Personal Services, and Administration.

*Commute time:* I was interested in whether SNAP recipients had different commuting patterns than workers who were not receiving SNAP benefits. ACS respondents were asked to write the number of minutes that it takes to complete the average daily commute to work. I recoded the raw responses into 5 ranges: Less than 15 minutes, 15-29 minutes, 30-44 minutes, 45-59 minutes, and 60 minutes or more.

*Shift work:* Some studies have found that SNAP recipients are more likely to work alternative schedules than adults that do not receive SNAP benefits. I wanted to analyze whether that relationship between variables held true in Maine workers. ACS respondents were asked to write the time that they arrived at work. I recoded this into a dichotomous variable entitled shift. Everyone who indicated that they arrived at work between 6:00 am and 5:59 pm was coded 1 and everyone who indicated that they arrived at work between 6:00 pm and 5:59 am was coded 2.

*Hours of work:* I was interested in determining whether there was a relationship between receipt of SNAP benefits and the number of hours worked. I created a dichotomous variable to measure hours of work. ACS respondents who averaged 30 or fewer hours a week of work over the 12 months preceding the survey were coded as part-time, and those averaging 31 hours or more were coded fulltime.

I created two variables relating to household composition as well.

*Married adults:* I was interested to see if there was a relationship between the presence of married adults in the home and participation in the labor force in a population of SNAP recipients in Maine. I created a dichotomous variable in which ACS respondents that indicated they lived with their spouse were coded 0 and those that did not live with a spouse were coded 1.

*Presence of children in the home:* I created two variables to determine whether there was a relationship between the presence of a child in the home and participation in the labor force in a population of Maine adults receiving SNAP benefits. I created a dichotomous variable in which households indicating there were children in the home were coded 1 and those with no children were coded zero. I repeated that process except with children under 5.

Several more variables were analyzed which related to respondents' socioeconomic status and demographics. I analyzed the sample by age and by gender. I did not include a variable for race because Maine's relative homogeneity made the population of non-Caucasian respondents too small to accurately gauge results. I analyzed the sample and several subsample categories by size of household. Three education dummy variables were created, one that identified those with a high school diploma (1=has a diploma and 0= did not complete high school), another that identified those respondents who had at least any college (1=any college 0 = no college), and another flagged those with a Bachelor's degree or

more (1= Bachelor's and 0=less than a Bachelor's degree, including those with some college and a high school diploma and those with no diploma).

## METHODS:

Research questions were answered by performing crosstabs and chi squares. When analyzing travel time to work, analysis of variance was performed.

## RESULTS:

*What are the demographic characteristics of adults who work and receive SNAP benefits in Maine? How do these differ from the demographic characteristics of other working adults, if at all? How do these differ from the demographic characteristics of the general population of adults in Maine, if at all?*

The sample was made up of Maine residents residing outside institutional living arrangements and 14,411 individuals are included. 12,752 respondents in this category answered the question about their age. The median age of the sample was 47. The mean age of the sample was 43.33. The youngest age reported was 0, and the oldest was 95. A quarter of the sample was 24 or younger; another quarter was 61 or older. The same number of respondents replied to a question on respondent's sex. 48.8% of respondents identified as male, and 51.2% identified as female. 7,256 individuals responded to the question about the size of the household in which they reside. The mean household size of the entire sample was 1.68. The median was 2.00. 75% of respondents indicated that the household in which they reside is 2 members or smaller. The answers to this question ranged from 0 residents to 16 residents.

When the sample was restricted to only individuals participating in the labor force and residing in non-institutional living situations, 7,741 respondents are included. The median age of this subsample is 48; the mean age 46.54. The range of responses was 16 through 95. A quarter of the sample is 38 or younger, and another quarter is 58 or older. 50.7% of respondents identified as male and 49.3 as female. Workers had a mean household size of 2.47 and a median of 2. 25% of respondents lived in households with 3 or more residents. Answers to this question ranged from 1 to 16 residents.

When the subsample is defined as non-institutionalized SNAP recipients, 913 individuals are included. Mean age is 49.24. Median age is 49. The youngest age reported was 18 and the oldest was 95. 25% of the subsample is younger than 35; 25% is older than 62. 40.5% of respondents identified as male, and 59.5% identified as female. The mean household size was 2.58, largest among the subsamples analyzed. The median household size was two. A quarter of SNAP recipients lived alone. Another quarter had 4 or more residents of their household. The smallest response was 1 and the largest was 16.

*Do adults who work and receive SNAP benefits have a different level of educational attainment from other working adults? Do adults who work and receive SNAP have a different level of educational attainment from adults who receive SNAP benefits but do not work?*

Three statistical analyses were performed for each question, in order to answer each question discretely. A crosstab and chi square was computed to assess if there is a relationship regarding education attainment between two populations of adults in Maine: those receiving SNAP benefits and those who are not. Three levels of educational attainment were measured: High School, Any College and Bachelor’s Degree. In all three circumstances, there was a significant relationship between the level of educational attainment and the receipt of SNAP benefits. (High School:  $\chi^2(1)=39.19$ ,  $p<0.001$ ; Any College:  $\chi^2(1)=90.266$ ,  $p<0.001$ ; Bachelor’s Degree:  $\chi^2(1)=138.561$ ,  $p<0.01$ ) At all three levels, among working adults, SNAP recipients were significantly more likely to have lower educational attainment than adults that do not receive SNAP benefits.

**TABLE 2: EDUCATIONAL ATTAINMENT AMONG NON-INSTITUTIONALIZED WORKING ADULTS BY SNAP RECEIPT STATUS**

N=7741

<i><b>Educational Attainment</b></i>	<i>Working SNAP Recipients</i>		<i>Other Working Adults</i>		<i>Significance</i>
	Percentage	N	Percentage	N	
<b>High School or More</b>	89.6%	484	95.9%	3380	***
<b>Some College</b>	46.9%	253	67.8%	2389	***
<b>Bachelor’s degree or More</b>	10.4%	56	32.5%	1263	***

\*\*\*:  $p<0.01$ ; \*\*:  $p=0.05$ ; \*:  $p<0.10$ ; NS: no significant relationship

Although there were significant relationships at all three educational levels, there was a fairly small effect size when examining receipt of high school diplomas. In both working SNAP recipients and other workers, the vast majority were likely to have their high school diploma or equivalency. There was a dramatic difference for effect size, however, in the other two categories of educational attainment. Less than half of SNAP recipients reported having attended any college at all, compared to nearly 70% of workers that did not receive SNAP. There was a difference of more than 20 percentage points in the measure of workers who had received at least a Bachelor’s degree as well; only about 10% of working SNAP recipients held a degree while more than 32% of workers that did not receive SNAP had at least a Bachelor’s.

A separate crosstab and chi square test was computed to assess if there is a relationship between educational attainment and participation in the labor force among a population of adults receiving SNAP benefits. Again, three levels of educational attainment were measured. In two of three analyses, there was a significant relationship between educational attainment and participation in the labor force. (High School:  $\chi^2(1)=64.671$ ,  $p<0.01$ ; Any College:  $\chi^2(1)=51.006$ ,  $p<0.01$ ) SNAP recipients with more educational attainment at these two levels were significantly more likely to participate in the labor force than SNAP recipients with lower educational attainment. There is no statistically significant relationship observed between receipt of a Bachelor's Degree or higher and participation in the labor force among SNAP recipients in Maine. ( $\chi^2(1)=3.119$ ,  $p=0.077$ ).

In this analysis, I found a similar pattern of effect size. SNAP recipients with a high school diploma or equivalent credential were 21 percentage points more likely to work than SNAP recipients that didn't. Similarly, 46.9% of SNAP recipients with some college were working, versus 23.6% of SNAP recipients that didn't have any college at all. The effect size all but dries up when comparing the work experiences of SNAP recipients with Bachelor's degrees to those without, most likely due to the small N.

**TABLE 3: EDUCATION ATTAINMENT AMONG NON-INSTITUTIONALIZED SNAP RECIPIENTS BY WORK STATUS**

N=913

<i><b>Educational Attainment</b></i>	<i>Working</i>		<i>Not Working</i>		<i>Significance</i>
	Percentage	N	Percentage	N	
<b>High School or More</b>	89.6%	484	68.4%	255	***
<b>Some College</b>	46.9%	285	23.6%	88	***
<b>Bachelor's or More</b>	10.4%	56	7.0%	26	*

\*\*\*:  $p<0.01$ ; \*\*:  $p=0.05$ ; \*:  $p<0.10$ ; NS: no significant relationship

*Are working adults who receive SNAP benefits more likely to work a night shift than other working adults?*

A crosstab and chi square was computed to assess the relationship between receipt of SNAP benefits and shift of employment in a population of working adults in Maine. Working SNAP recipients were slightly more likely to work an evening work schedule than adults that do not receive SNAP. ( $\chi^2(1)=5.650$ ,  $p<0.05$ )

Although there was a statistically significant likelihood that working SNAP recipients were more likely to work a shift that starts at night, the effect size was much smaller. Fewer than 20% of either population is working an alternative shift, meaning that the vast majority of working adults work during the day, whether or not they receive SNAP.

**TABLE 4: SHIFT OF WORK AMONG NON-INSTITUTIONALIZED WORKING ADULTS BY SNAP RECEIPT STATUS**

N=7741

<b>Shift</b>	<i>Working SNAP Recipients</i>		<i>Other Working Adults</i>		<i>Significance</i>
	<i>Percentage</i>	<i>N</i>	<i>Percentage</i>	<i>N</i>	
<b>Day</b>	80.9%	228	86.1%	2258	**
<b>Night</b>	19.1%	54	13.9%	365	

\*\*\*:  $p < 0.01$ ; \*\*:  $p = 0.05$ ; \*:  $p < 0.10$ ; NS: no significant relationship

*What are the occupations of working adults who receive SNAP benefits, and do they differ significantly from the occupations of working adults who do not receive SNAP benefits?*

A series of crosstab and chi square tests were computed to assess the relationship between receipt of SNAP benefits and occupation in a population of working adults in Maine. SNAP recipients were significantly less likely than other adult workers to work in Management and Professional occupations. ( $\chi^2(1)=72.414$ ,  $p < .001$ ) SNAP recipients were more likely to have a Support Work occupation than other working adults in Maine. ( $\chi^2(1)=67.952$ ,  $p < .001$ ) There was no statistically significant relationship between the receipt of SNAP benefits and working in a Physical Work and Trades occupation. ( $\chi^2(1)=2.557$ ,  $p=.108$ ) Working SNAP recipients were somewhat more likely to work in Production occupations than working adults that do not receive SNAP. ( $\chi^2(1)=8.442$ ,  $p=0.004$ )

Although there were significant relationships within three occupations, there was a fairly small effect between workers receiving SNAP and other workers that were employed on Production Work occupations. Less than three percentage points separated them, and the occupation made up less than 8% of either category of workers. There was a dramatic difference for effect size, however, in the other two categories of occupation where a statistically significant result was obtained. Less than 15% of SNAP recipients reported employment in Managerial and Professional Work occupations, compared to almost 1/3 of adults that work but do not receive SNAP. The relationship was similar but in the opposite direction when examining the populations which work in Support Work occupations. Almost 40% of snap recipients were employed in these occupations, compared to less than 1/4 of adults that worked but did not receive SNAP.

**TABLE 5: OCCUPATION AMONG NON-INSTITUTIONALIZED WORKING ADULTS BY SNAP RECEIPT STATUS**  
N=7741

<b>Occupation</b>	<b>Working SNAP Recipients</b>		<b>Other Working Adults</b>		<b>Significance</b>
	<b>Percent</b>	<b>N</b>	<b>Percent</b>	<b>N</b>	
<b>Managerial and Professional Work</b>	13.9%	75	31.8%	1121	***
<b>Support Work</b>	38.3%	207	22.0%	776	***
<b>Physical Labor and Trade Work</b>	31.3%	169	28.0%	985	NS
<b>Production Work</b>	7.6%	41	4.7%	164	**

\*\*\*:  $p < 0.01$ ; \*\*:  $p < 0.05$ ; \*:  $p < 0.10$ ; NS: no significant relationship

*What are the industries that working adults who receive SNAP benefits typically employed in? Do those industries differ significantly from the industries that working adults that don't receive SNAP benefits are typically employed in?*

A series of crosstab and chi square tests were computed to assess the relationship between receipt of SNAP benefits and industry of work in a population of working adults. There was no relationship between receipt of SNAP and employment among the population of working adults in Maine in the following industries:

Trades:	$(\chi^2(1)=0.186, p = 0.667)$
Sales:	$(\chi^2(1)=1.033, p=0.309)$
Professional:	$(\chi^2(1)=1.397, p = 0.237)$
Entertainment:	$(\chi^2(1)=0.867, p =0.352)$
Administration:	$(\chi^2(1)=0.673, p =0.412)$

There were significant relationships between SNAP receipt and industry of employment among a population working adults in Maine in two cases. Working SNAP recipients were significantly less likely than other working adults to be employed in the Medical and Behavioral Health industry.  $(\chi^2(1)=8.299, p =0.004)$ . Working SNAP recipients were significantly more likely than other working adults to be employed in the Services industry.  $(\chi^2(1)=41.311, p < .001)$

Despite the statistical significance, there is a difference of just more than 5 percentage points between working SNAP recipients and other working adults who work in the Medical & Behavioral Health industry. The effect size was much more noticeable in the other statistically significant result in this analysis. While 12.6% of SNAP recipients were

employed in the Services industry, only 5.4% of other working adults were employed in the same field.

**TABLE 6: INDUSTRY AMONG NON-INSTITUTIONALIZED WORKING ADULTS BY SNAP RECEIPT STATUS**  
N=7741

<b>Industry Grouping</b>	<i>Working Snap Recipients</i>		<i>Other Working Adults</i>		<b>Significance</b>
	Percentage	N	Percentage	N	
<b>Trades</b>	31.9%	172	30.9%	1090	NS
<b>Sales</b>	11.5%	62	13.1%	460	NS
<b>Professional</b>	17.8%	96	19.9%	703	NS
<b>Medical &amp; Behavioral Health</b>	18.1%	98	23.8%	837	**
<b>Entertainment</b>	3.1%	17	2.5%	87	NS
<b>Services</b>	12.6%	68	5.4%	189	***
<b>Administration</b>	5.0%	27	4.2%	149	NS

\*\*\*: p<0.01; \*\*: p=0.05; \*: p<0.10; NS: no significant relationship

*How many hours a week are adults that receive SNAP benefits typically working? Does this differ from the number of hours that adults that do not receive SNAP benefits typically work?*

A crosstab and chi square was computed to analyze the relationship between receipt of SNAP benefits and number of hours worked weekly in a population of Maine’s working adults. SNAP recipients were significantly more likely to work 30 hours or less than other working adults in Maine. ( $\chi^2(1)=61.129$ ,  $p<0.01$ ).

In addition to the statistical significance of the result, there was a large effect size as well. More than 1/3 of SNAP recipients responded that they worked 30 or fewer hours a week, compared to fewer than 1/5 of other working adults.



**TABLE 7: AVERAGE HOURS OF WORK PER WEEK AMONG NON-  
INSTITUTIONALIZED WORKING ADULTS BY SNAP RECEIPT STATUS**  
N=7741

<i>Hours of Work</i>	<i>Working SNAP Recipients</i>		<i>Other Working Adults</i>		<i>Significance</i>
	Percentage	N	Percentage	N	
<b>30 or less</b>	36.0%	144	19.1%	607	***

\*\*\*: p<0.01; \*\*: p=0.05; \*: p<0.10; NS: no significant relationship

*How long is the commute of a working adult who receives SNAP benefits, and how does it compare to the commute of other working adults?*

Analysis of variance showed no statistically significant difference in commute time between working adults receiving SNAP benefits and those not receiving SNAP. (F(1,2903) = .544, p = .461)

**TABLE 8: TRAVEL TIME BY AMONG NON-INSTITUTIONALIZED WORKING  
ADULTS BY SNAP RECEIPT STATUS**  
N=7741

<i>Travel Time</i>	<i>Working SNAP Recipients</i>		<i>Other Working Adults</i>		<i>Significance</i>
	Percentage	N	Percentage	N	
<b>Less than 15 minutes</b>	33.3%	94	31.4%	824	NS
<b>15-29 minutes</b>	34.0%	96	34.4%	903	NS
<b>30-44 minutes</b>	18.1%	51	18.1%	474	NS
<b>45-59 minutes</b>	6.7%	19	7.7%	201	NS
<b>60 minutes or more</b>	7.8%	22	8.4%	221	NS

\*\*\*: p<0.01; \*\*: p=0.05; \*: p<0.10; NS: no significant relationship

*Does the receipt of unearned income by an adult receiving SNAP benefits predict that adult's participation in the labor market?*

A chi square and crosstab was completed to assess the relationship between participation in the labor force and receipt of public assistance among a population of adult SNAP recipients. Public assistance was defined in the instrument as “any public assistance or welfare payments from the state or local welfare office”. (US Census Bureau, 2011) The researcher posited that SNAP recipients with public assistance income would be negatively correlated with participation in the labor market. However, analysis indicates that there is no relationship between receipt of public assistance and participation in the labor market in a population of SNAP recipients ( $\chi^2(1)=3.520$ , p=0.61).

**TABLE 9: RECEIPT OF PUBLIC ASSISTANCE AMONG NON-INSTITUTIONALIZED SNAP RECIPIENTS BY WORK STATUS**

N=913

<i>Receipt of Public Assistance</i>	<i>Working</i>		<i>Not Working</i>		<i>Significance</i>
	<i>Percentage</i>	<i>N</i>	<i>Percentage</i>	<i>N</i>	
<b>Yes</b>	16.3%	88	21.2%	452	NS
<b>No</b>	83.7%	79	78.8%	294	

\*\*\*: p<0.01; \*\*: p=0.05; \*: p<0.10; NS: no significant relationship

*Is a working adult that receives SNAP benefits more likely to reside in a household with their spouse, or as an unmarried parent?*

A crosstab and chi square test was computed to assess the relationship between the receipt of SNAP benefits and the marital status of adults in the household. There was a significant relationship between household composition and receipt of SNAP benefits in a population of working adults. ( $\chi^2=368.856$ ,  $p<0.001$ ). Working SNAP recipients are far more likely to live in an unmarried parent household than adults that don't receive SNAP.

The statistical significance was borne out by the effect size as well. While nearly 40% of working SNAP recipients reported that they were unmarried parents, less than 10% of other workers identified in that way.

**TABLE 10: HOUSEHOLD COMPOSITION AMONG NON-INSTITUTIONALIZED WORKING ADULTS BY SNAP RECEIPT STATUS**

N=7741

<i>Household Composition</i>	<i>Working SNAP recipients</i>		<i>Other Working Adults</i>		<i>Significance</i>
	<i>Percentage</i>	<i>N</i>	<i>Percentage</i>	<i>N</i>	
<b>Unmarried Parent</b>	38.3%	207	9.0%	316	***
<b>Married Couple</b>	36.3%	196	62.0%	2186	
<b>Missing or Lives Alone</b>	25.4%	137	29.0%	1022	

\*\*\*: p<0.01; \*\*: p=0.05; \*: p<0.10; NS: no significant relationship

## SUMMARY AND DISCUSSION:

This study showed that there were significant difference between two populations in regards to several variables around the subject of labor market participation, socioeconomic status and household composition. There were several subjects raised by this study that

may inspire further research and that have broad policy implications for the populations studied.

### *Demographics:*

SNAP recipients were older, more likely to be female, and more likely to reside in larger household than the general population. The median age was nearly a year older than the general population and a quarter of recipients were older than 62 years old. 6 in ten respondents were female, a huge difference from all the other populations analyzed, where gender counts hewed more closely to national averages. Finally, SNAP recipients were more likely to reside in larger households. The mean size of a SNAP recipient's household was almost one full resident larger than the general public not residing in an institutional setting, and more than a quarter of respondents' households were more than 4 residents.

Women frequently earn less than men and make up a disproportionately large percentage of the recipients of mean-tested government programs. Policies that require equal pay for equal work are a solid starting point in correcting this discrepancy. Additionally, legislation that relaxes company policies about discussing compensation will likely result in more equitable compensation as employees find it possible to compare what they are making. Expanding the Earned Income Tax Credit is another way to support working SNAP recipients.

### *Labor Market Participation:*

#### *Labor market variables*

When analyzing differences between two populations of working adults, those who receive SNAP benefits and those who do not, there were differences between the populations in regard to both occupation and industry of employment. Working adults that didn't receive SNAP benefits were more likely to work in professional, scientific and managerial occupations, while SNAP recipients were more likely to work in support occupations. An earlier statistic had shown that there were differences in the two populations studied in regards to educational attainment. The occupational findings mirror the finding in the research question about educational attainment. When recoding, the researcher elected to group together in Managerial and Professional Work occupations that would require at least some post-secondary training, and to group in Support Work jobs that would not. Physical Labor and Trade Work and Production are more likely to be semi-skilled work and frequently rely more heavily on on-the-job training, non-secondary credentials and industry certifications in determining applicant's eligibility. That sort of information is unfortunately outside the purview of the ACS, but numbers were far more similar between the two populations within these categories.

Additional research on the causality and direction of the relationship regarding occupation, along with occupational trends in the labor force, would be helpful in shaping policy recommendations for SNAP recipients in the future. Have lower skill wages declined with

inflation, compared to jobs requiring higher skills? Do the skills of adults holding low-skill jobs match the skill requirements of those occupations, or are adults with advanced skills having difficulty locating those jobs and using SNAP to make up the difference in wages? How much does a lifetime of SNAP cost as compared to training in a high wage occupation? More research into the costs of a lifetime of SNAP receipt could be used, along with government job-training program evaluations, to compare the costs and benefits of both and calculate some return-on-investment information that will be useful in guiding future policy makers on this subject.

When recoding, I grouped like industries together, and the “Service” category included services aimed at individuals that fell outside of the purview of health, both medical and behavioral. These are the two categories of employment where significant differences between the populations were recorded. Over the past several decades, and especially since the 2008 recession, both health sector and service jobs have been growing at a pace that far outstrips the pace of growth of the rest of the economy. Additional research about the causality of this potential relationship between the receipt of SNAP benefits and service work could be valuable to policy makers shaping education, labor and compensation policies in the future.

#### *Household composition:*

38% of working SNAP recipients were unmarried parents, compared to less than 10% of other working adults. One possible explanation for this discrepancy is access to subsidized child care. Eligibility for SNAP requires extremely low income, but it has more generous income guidelines than most public cash assistance programs. Subsidized child care in Maine is available to individuals with income low enough to qualify for SNAP benefits, but for the last several years there has been a waiting list of several months for families that don’t receive a public assistance cash benefit. Future research around whether expanding subsidized childcare would increase the work activity of unmarried parents on SNAP would answer this question and potentially offer policy makers more information about what helps unmarried parent households receiving SNAP benefits engage more fully with the labor market.

## **POLICY RECOMMENDATIONS:**

The population of SNAP recipients is increasingly overlapping with that of the working poor. Well over half of SNAP recipients are working, and they are more likely to work part time and in non-professional occupations. They are far more likely to be the only adult in their household. With this in mind, I would like to posit three additional, more formal policy recommendations based on my analysis.

1) Revamp the formula for determining SNAP benefits

A key component calculating the amount of SNAP benefits a household receives is a formula known as the Thrifty Food Plan. Last revised in 1999 and based on a 1964 emergency “economy food plan” which was designed to be used over short-term periods of extreme hardship, the Thrifty Food Plan contains an unrealistic amount of cooking for a welfare system with a work requirement. It’s unfair to determine a benefit using a formula that operates under the assumption that there’s an adult in the home with the ability to cook for two to five hours daily. Instead, analysis indicates that SNAP recipients are working and parenting children.

2) Increase the percentage of earned income deducted from the wages of working SNAP recipients

Current rules deduct 20% of a household’s gross earned income from the income that is counted to determine a household’s monthly SNAP benefit. The 20% deduction just about covers the FICO deductions. An additional 5-10% deduction would increase slightly the amount of the household’s monthly benefit. Perhaps the larger increase could be implemented in place of my first recommendation, to offset the additional cost of foods that take less time to prepare. Perhaps the smaller deduction could be implemented to offset the additional costs that households’ incur when a member works. Either way, increasing the deducted earned income for households with working adults is an incentive to work.

3) Subsidize the cost of the first registered vehicle in a household with earned income via a tax refund

One of the most interesting findings in my analysis is that SNAP recipients are commuting in a similar pattern to other working adults. That means that many of them are operating and maintaining a vehicle at an income that is less than 135% of the Federal Poverty Level, which is the threshold for SNAP receipt. Adding a tax rebate for low-income workers that subsidizes the cost of vehicle ownership will ease some of that pressure on their budgets. It could be implemented in one of three ways:

- An income tax deduction
- A fixed-period application rebate modeled on Maine’s Rent and Property Tax Rebate
- A percentage-off the excise tax rate during annual registration renewal

To qualify, a household would need to have earned income and proof that the vehicle is inspected.

## LIMITATIONS OF THE DATA:

### *Confusing/unclear definitions*

More than 3,000,000 households and group living quarters are asked to complete the American Community Survey instrument annually. The instrument is a large and complex document with separate sections for the household and then each member of the household. The sample is so large and the population that is being sampled so diverse that it's impossible for US Census Bureau staff to respond personally to each survey-taker's question, or to follow-up and make sure that those completing the survey understand each question. In order to try and make the process easier to understand, the US Census Bureau developed a guidance document for the instrument. In 2011, that document was 16 pages long and several of the questions that were poorly defined in the survey itself were more comprehensively outlined in the guidance document. It is safe to assume that not every survey-taker consulted the guidance document or assumed that terms meant the same thing. Therefore it is inevitable that there were some questions where it not everyone interpreted meanings and definitions in the same way.

### *Missing data*

6,410 respondents answered the question about SNAP receipt, but 8,814 did not. 1,045 respondents answered the SNAP receipt question in the affirmative, meaning that about 17% of respondents indicated that they receive SNAP benefits. Nationally, about 1 in 7 people receive SNAP benefits, so the response rate indicates that Maine hews close to the national average. However, if I estimate that 17% of the missing responses actually are SNAP recipients, the responses of an additional 1499 SNAP recipients were not included in the analysis conducted in the study. In a survey of this size, it is difficult to monitor responses to make sure every question is answered. Indeed it is the scope of this survey that makes it so attractive to researchers. However, any policy recommendations that emerge from a survey of this scope should be used cautiously and with the knowledge that is possible that more than half of relevant voices remain unheard.

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