

# Comparison of Key Demographic Determinants of Absolute and Relative Poverty: An Empirical Analysis

Moses Kwadzo

Department of Agricultural Economics and Extension, University of Cape Coast, Cape Coast

Email: kwamo50(at)gmail.com

## Abstract

Poverty comparison is the most important reason for measuring poverty; especially when two or more situations such as different poverty thresholds are likely to have different impacts on poverty measurements and outcomes. The main objective of this study is to estimate and compare the effects of key demographic determinants of absolute and relative poverty. The logit equations show gender, race, place of residence, and marital status to explain individual socioeconomic status, after adjusting for the various factors. Comparing the varying impacts of the key demographic factors when absolute and relative poverty thresholds are employed, each of the demographic factors has shown the same effect. However, each of the key demographic factors has a variable effect in explaining poverty when an absolute or relative poverty threshold was applied. Because the same demographic factors explain the likelihood of individuals living in absolute or relative poverty, it is important to consider the implication of the two different types of poverty when developing poverty reduction interventions.

**Keywords:** Poverty comparison, demographic determinants, absolute poverty, relative poverty, median income.

## 1. Introduction

Poverty comparison is becoming increasingly important, especially where poverty measurements and policy issues are inseparable (Smeeding, 2006; Ravillion, 1992). Poverty can be measured in either relative or absolute terms. In relative terms, poverty is usually compared to median income. In absolute terms, poverty is compared to purchasing a bundle of goods deemed to be basic necessities in a given country (Smeeding, 2006; Ravillion, 1992). The United States utilizes the absolute measure of poverty defined in the early 1960s by a government statistician, Mollie Orshansky. In order to make international comparisons, relative poverty is usually employed. Most international comparative studies define the relative poverty threshold as one half of the national median income. The United Nations Food and Agriculture Organization estimates that nearly 870 million people of the 7.1 billion people in the world, or one in eight, were suffering from chronic undernourishment in 2010-2012 (FAO, 2012). In 2013, the official poverty rate of the United States was 14.5 percent (45.3 million people) (US Census Bureau, 2014). Comparatively, the United States is ranked 30th out of 40 developed nations based on relative poverty (Smeeding, 2006). A cross-national study in 2000 indicated that the official poverty line of the United States was just about 27 percent of the median US family pretax cash income and about 32 percent of median US disposable pretax household income (Eurostat, 2000; Atkinson, Cantillon, Marlier and Nolan, 2002). The different proportions of a population estimated to be poor vary with the absolute and relative poverty lines. Along with poverty line, the incidence of poverty has been noted to be influenced by various household and individual-level characteristics (World Bank Institute, 2005).

Over the years, many social policies and programs have been implemented to reduce poverty in the United States (Blau & Abramovitz, 2007; Stone, 2011). While many anti-poverty programs have targeted low-income families, none of the programs has been particularly successful in reducing poverty in the United States (Smeeding, 2006). Most domestic US anti-poverty policies are based on absolute poverty measures and the poverty line (Blank, 2007; Smeeding, 2006). Stone (2011) and Smeeding (2006) also argue that American social policies and programs are ill-designed and, therefore, incapable of reducing poverty. The failure to consider comparative poverty analysis using both absolute and relative poverty measures may account for the ineffective design of poverty policy programs (Kwadzo, 2011; Smeeding, 2006). Detailed information on the key determinants of poverty is critical in developing effective policies for poverty alleviation. According to Stone (2011) and Smeeding (2006), a lack of adequate information regarding the cause of poverty could be blamed on inefficient social poverty policies. According to Ravillion (1992), poverty comparison is the most important reason for measuring poverty; especially when different poverty thresholds are likely to have different impacts on poverty and poverty outcomes. Kwadzo (2011) also argues that discrepancies in poverty outcomes exhibited by policy-makers may stem from the variation in poverty definitions and means of measurement. It is, therefore, suggested that researchers seriously consider reporting results using more than one poverty indicator or measure. While previous poverty studies identified certain demographic characteristics critical for poverty incidence, these studies did not compare the varying effects of major demographic determinants utilizing different poverty lines such as absolute and relative poverty. A comparative analysis of poverty is essential to identify effects of the various determinants in formulating effective anti-poverty policy programs. The current study seeks to estimate

and compare the varying impacts of key demographic factors when absolute and relative poverty thresholds are employed.

## 2. Literature Review

### 2.1 Conceptual Approaches to Measuring Poverty

Poverty exists when one or more persons in a given society do not attain a level of well-being considered to be a reasonable minimum standard of that society (Laderchi et al., 2003). According to Ravillion (1992), there are different conceptual approaches to measuring well-being or poverty at the individual level. However, the approaches differ in terms of the importance attached to the idea of materialistic standard of living. In measuring poverty, it is often assumed that there exists a poverty line. Poverty lines are predetermined and well-defined standards of consumption below which a person is considered poor (Ravillion, 1992). While poverty lines exist, views in regard to their location differ. Generally, there are two main forms of poverty lines, absolute and relative poverty lines (Sen, 1976; Laderchi et al., 2003; Blank, 2007). The monetary poverty measurement sets the poverty line by focusing on an absolute standard. The social exclusion poverty measure sets the poverty line based on a relative approach. The social exclusion poverty defines the poverty threshold relative to the average living standard of the people (Schiller, 2008; US Department of Health and Human Services, 2007, 2009). Individuals or households with resources below the poverty threshold are considered poor. The use of an absolute poverty line dominates in developing countries, while the relative poverty lines have largely been used in developed nations.

#### 2.1.1 Absolute Poverty line

Absolute poverty is the situation whereby the poverty line does not vary with the overall living standard of a given society (Ravillion 1992). An absolute poverty line is one that is fixed in terms of living standard indicators being used and is fixed over the entire domain of the poverty comparison (Ravillion, 1992). The absolute poverty line is determined by estimating the cost of a bundle of goods deemed to ensure that basic consumption needs are met in the specific domain of the poverty comparison. Selecting what constitutes “basic need” is one major problem in setting the absolute poverty line since food energy requirements vary across individuals and over time for a given individual. The issue of how to make allowance for non-food consumption also gives rise to another challenge to setting the absolute poverty line. While there are many methods to setting the absolute poverty line, the food energy method and the Orshansky method are examples of the absolute poverty line approaches. With Orshansky’s method, the minimum cost of a food bundle that meets the stipulated intake level is first determined. The minimum cost is then divided by the share of food in the total expenditure of some households likely considered to be poor. The major drawback of the absolute poverty line is its failure to be constant in terms of real consumption or income since the relationship between food energy intake and consumption or income is not the same across regions and dates (Ravillion, 1996). The absolute poverty line tends to shift in response to differences in taste, activity level, relative price, and publicly provided goods. In the case of setting the US federal poverty threshold, Orshansky developed the first official United States poverty measure in 1965. Orshansky used data from a 1955 Household Food Consumption Survey and estimated that food expenditure represented about one third of total family income (Fisher, 1992; US Department of Health and Human Services, 2007, 2009). The US national official poverty thresholds vary by family size and age, but do not vary geographically (Dalaker, 2005; US Department of Health and Human Services, 2007). For example, the 2006 poverty threshold indicated the following poverty thresholds: for one person under 65 years, the poverty line was \$10,488; for a two-person family (person under 65 years with a child under 18), the poverty line was \$13,500; and for a three-person family (two persons under 65 with a child under 18), the poverty line was \$16,227 (US Department of Health and Human Services, 2007).

#### 2.1.2 Relative Poverty line

Relative poverty is the situation whereby the poverty line is set at a certain percentage or proportion of some central summary statistic, such as the mean or median of the population income or resource. Thus, the relative poverty threshold is fixed as a certain percentage or proportion of some central summary statistic, such as the mean or median, of the population income or resource (US Department of Health and Human Services, 2009). Generically, poverty measurement can be expressed as (Ravillion 1992) follows:

$P = P(Z/U, L)$  where

Z is the poverty line

U is the mean of the distribution in which poverty is measured

L is a list of parameters that summarize information about relative inequalities

With a poverty line set at  $Z=K-U$  where K is constant (such as 0.5 as often used in the European studies). A

survey of poverty lines by Ravallion, Datt, and Van de Walle (1991) across 36 developing and developed countries shows that real poverty lines tend to increase with growth. However, the increase in growth is very slow for developing countries. It, therefore, appears that absolute poverty lines are more relevant to low-income countries, while the relative poverty lines are more appropriate to high-income countries (Ravallion 1992). The Luxembourg Income Study (LIS) provided a useful poverty threshold for comparative international poverty analysis. According to the LIS definition, poverty is defined and measured internationally as half the real income of the median household. It is the income of the household at the exact median of the income distribution, adjusted for inflation of the respective country. A person is classified as poor when his adjusted household income is below 50% of the median income of his country. The household income is adjusted for using the Organization for Economic Corporation and Development's (OECD) procedure, where  $W = H / (\text{head of household} * 1 + \# \text{ of adult} * 0.7 + \# \text{ of children} * 0.5) ^ .5$ . Where  $W =$  adjusted household income and  $H =$  total household income. The LIS international definition of poverty has been used by many international development agencies for comparative international study on income inequality, gender, and child poverty (LIS, 2006; Maas & Wiepking, 2004).

### *2.2 Demographic Determinants of Poverty*

While poverty lines are employed to determine the proportion of population in poverty, the incidence of poverty can be viewed under various major causes including regional characteristics, community-level characteristics, as well as household and individual-level characteristics (World Bank Institute, 2005). Regional-level characteristics include vulnerability to flooding or typhoons, remoteness, quality of governance, and property rights. The relationship of these characteristics with poverty is country-specific. In general, poverty is high in areas characterized by geographical isolation, a low resource base, low rainfall, and inhospitable climatic conditions (World Bank Institute, 2005). At the community level, availability of infrastructure and services, proximity to market, and social relationship are the major determinants of poverty. Household and individual-level characteristics are further sub-classified into demographic, economic, and social characteristics. Household size, age structure, gender, and marital status are some demographic indications of poverty. Indicators of these demographic characteristics are important in that they show possible correlation with the level of poverty (World Bank Institute, 2005). Economics characteristics include income or consumption, household, employment, and property owned by the individual or household, while social characteristics include individual or household health and nutritional status, education, and shelter. Empirical findings in the United States indicate that race, gender, marital status, disability, structure, and residence are the demographic factors that may determine a person's probability of being in poverty (National Poverty Center, 2013; Hurst, 2012; US Bureau of Census, 2008).

## **3.0 Research Methodology**

### *3.1 Data*

The sample for this study was drawn from the 2004 cross-sectional data of the United States' National Longitudinal Survey of Youth, 1979 (NLSY1979) (US Department of Labor, 2006). The 2004 data survey is the 21<sup>st</sup> wave of the panel study that was conducted between January, 2004 and February, 2005. The retention rate for the 2004 respondents was 76.9% ( $N = 7661$ ). The 2004 survey was used because it contains relevant information needed for the study and is the only available data source for the study. The NLSY1979 database is a national representative sample of 12,686 young women and men aged 14 to 22 when they were first interviewed in 1979. The National Opinion Research Center (NORC) at the University of Chicago developed a list of housing in selected areas of the United States in 1978 for the first sample of the NLSY79. The sample was selected through a multi-stage stratified area probability sample of dwelling units and group quarter units. Thus, the respondents are a multi-stage, stratified sample from all 50 states, the District of Columbia, and other countries (mainly those that host the US military on official public assignments outside the US).

### *3.2 Dependent Variables*

The dependent variable in this study is the socioeconomic status of the individual defined as being poor. The dependent variable is operationalized in two terms. First, an individual is considered poor when his annual income is less than the US federal poverty threshold (i.e. absolute poverty indicator of monetary poverty) and, second, an individual is considered poor when his annual disposable income is less than 50 percent of the national household median income (i.e. relative poverty indicator, social exclusion poverty).

#### *3.2.1 The US Federal Poverty Threshold*

The official United States poverty measure utilizes an income-based approach that defines poverty as a minimum amount of household or individual income below the poverty line. The federal poverty threshold is a set of income thresholds that vary by family size and composition (based on age and number of family members). Any

household or individual whose total income falls short of the poverty threshold is regarded as poor (US Department of Health and Human Services, 2007 & 2009). This poverty indicator has been used to measure poverty trends and to estimate the number of Americans in poverty annually (US Department of Health and Human Services, 2007). However, it is argued that the official US poverty measure has a methodological flaw and that it cannot not fully capture the reality of the phenomenon and experience of poverty in contemporary society (Blank, 2007; Dalaker, 2005). Methodologically, Orshansky's 1965 computation of the federal poverty line estimated that food expenditure represented about one third of total family income. The poverty threshold is criticized for being based on a simple or subsistence food budget and that such methodology makes the threshold numbers more sensitive to the price of food than to the price of any other expenditure for low-income families in today's economy (US Bureau of Census, 2004; Rank, 2004). Considering the inadequacy of the official federal poverty threshold, this paper also includes an alternative poverty threshold: 50 percent of national median household income.

### *3.2.2 Luxembourg Income Study (LIS)'s International Poverty Threshold (50 Percent of National Household Median Income)*

The Luxembourg Income Study (LIS) defines and measures poverty internationally as half the real income of the median household. A person or family is considered poor when his income is below 50% of the median income of his country. The EU utilizes one half (50%) of the national disposable median income as an indicator of social exclusion poverty (Atkinson, Cautillon, Marlier, & Nola, 2002). The age distribution of the survey respondents ranged from 39 to 48 years. Because the age distribution of the survey respondents was not widespread, the 2004 national household median national income of the population aged between 39 and 48 was weighted, resulting in a national median income of \$60,023 (US Bureau of Census, 2005). The second poverty measure, 50 percent of the national household median income, is set by considering the weighted 2004 US national median income of the population aged between 39 and 48 (\$60,023). Any individuals or households with a total income of less than 50 percent of the national household median income of \$60,023 are considered poor.

### *3.3 Predictor Variables*

Previous empirical findings suggest that a person's experience of poverty is more related to certain demographic factors such as race, gender, marital status, family size and structure, place of residence, and age (US Bureau of Census, 2004; Rank, 2004; Hurst, 2012; Schiller, 2008). In this study, the probable predictor variables of poverty are individual demographic factors including race, gender, family size, marital status, place of residence, and age. The author creates a set of dummy variables for the distribution of all predictor variables, with the reference group coded 1. The variables age and family size are continuous variables; they are not dummied. To understand how race can affect individual poverty status, the respondents were asked to indicate their race. The distribution for race has been coded with 1= White, 2= Black, 3= Hispanic, and 4= others (Asian and Alaska Native). In order to estimate the effect of race on individual poverty status, a set of dummy variables was created with White coded as 1, all else 0. The response category for gender was a dichotomous variable with 1= male, 2= female. Gender was recoded with female scored 1 and male scored 0. The respondents were also asked about their marital status, and the responses were coded as 1=Never married, 2=Married, 3= Separated, 4=Divorced, and 6=Widowed. In order to perform multiple regression analyses, dummy variables were set up for the distribution of marital status as follows: The responses for marital status were recoded with the married coded 1, all else 0. Married was the reference group in the multivariate analysis. To understand the effect of place of residence on poverty, respondents were asked to indicate their current residence in a Standard Metropolitan Statistical Area (SMSA) as defined by US Census. The responses were categorized as follows: 1= Not in SMSA, 2= SMSA, not in central city, 3= SMSA, in central city, 4= SMSA, central city, not known. In order to estimate the effect of place of residence on a poverty measure, a set of dummy variables was created for the distribution of place of residence as follows: Not in Standard Metropolitan Statistical Area (SMSA) is coded 1, all else 0; SMSA, not in central city, is coded 1, all else 0.

## **3.4 Data Analysis**

### *3.4.1 Logistic Regression Model*

In this study, it is hypothesized that the predictor variables have similar effects (similar odds ratios) on the dependent variable. To identify key determinants of poverty and their effects, dichotomous variables were computed for the dependent variable indicating whether an individual is poor or not. An individual socioeconomic status is coded 1 if he is poor; otherwise 0. To identify and compare the effects of key demographic determinants of poverty, dichotomous variables were first computed for the dependent variables. On the basis of phi, the association between the dependent variable and predictor variables including race, gender, marital status, family size and structure, place of residence, and age was determined. Phi is a chi-square-based measure of association between two dichotomized variables (Chen & Popovich, 2002). Multicollinearity



among the predictor variables is tested by computing the variance inflation factor (VIF) (Green & Salkind, 2010; Hosmer & Lemeshow, 2010; Pallant, 2013). The logistic regression model is then used, given by

$$\text{Logit}(P) = \ln(P/1-P) = \beta_0 + \beta_1X_1 + \beta_2X_2 + \beta_3X_3 + \beta_5X_5 + \beta_6X_6$$

Where  $X_1 + \dots + X_6$  were the predictor variables; family size, age, gender, race, place of residence, and marital status, respectively, and  $P$ , which denoted the probability that said individual was poor, was used (Green & Salkind, 2010; Hosmer & Lemeshow, 2010; Pallant, 2013).

#### 4. Results

##### 4.1 Sample Representativeness

The characteristics of the survey sample and the national population based on the 2004 American Community Survey (ACS) were compared to examine the extent to which the sample was similar to the national population of the United States (Table 1). As Table 1 shows, sample characteristics were comparable to the 2004 United States national population. Relevant demographic characteristics for the sample were as follows: male=48%; female=52%; median age=43 years; average household size=3.0; household median income=50,000 dollars; education (Less than Associate's Degree)=63%; Less than Bachelor's Degree)=78%; Graduate/Professional Degree)=9.70%). The sample survey is a general representation of the national population in terms of socioeconomic characteristics that included sex, educational achievement, family size, and family income (US Bureau of Census, 2007).

Table 1: *Characteristics of United States National Population and Survey Sample*

	2004 ACS National Population (%)	Survey Population (%)
<b>Sex (18years and over)</b>		
Male	48.20	48
Female	51.80	52
<b>Age (18 years and above)</b>		
Median Age*	36.2 years	43 years
<b>Race</b>		
White	67	46.9
Black/African American	13	32.0
Asian	5	0.7
Hispanic	14	16.9
Native American, Hawaiian Native & other P.I	1	3.5
<b>Educational Attainment</b>		
Population 25 Year and Over		
Less than Associate Degree	66.20	63.10
Less than Bachelor Degree	73.20	78.40
Graduate/Professional Degree	9.90	9.70
<b>Income</b>		
Median Family Income*	\$60,023	\$50,000
<b>Household Size</b>		
Average Household Size*	2.60	3.00

\* The figure is not express in percentage

\*\$60,023 is the weighted 2004 household median income of the population aged between 39 and 48

##### 4.2 Cross-Tabulation

Table 2 presents individual socioeconomic status, being poor, cross-tabulated by the distribution of individual characteristics of race, gender, marital status, family size and structure, place of residence, and age. The results indicate that there is an association between the socioeconomic status (the two poverty indicators) and the predictor variables. The first set of associations examined race against the two poverty indicators. Almost all associations are significant. Being white is negatively associated with the two poverty indicators. Being black or Hispanic is positively correlated with the two poverty indicators. Surprisingly, "race (others)" other than white, black, or Hispanic is not significantly associated with the two poverty indicators. This could be explained by the fact that the sample size of "race (others)" is very small, 4.2% (297). The results in Table 2 have shown positive relationships between being female at the two poverty indicators. This means that females are more likely to be in poverty. As shown in Table 2, there is no significant relationship between the variable age and the two poverty indicators. The variable age is not widely distributed, as the study sample consists of older cohorts with ages

ranging between 39 and 48. However, a statistical relationship is irrelevant since the federal poverty thresholds are computed based on family size. There is a positive association between family size and the two poverty indicators. Living in a standard metropolitan statistical area, but not in the inner city, is found to be positively associated with median income. Table 2 shows that being married is negatively associated with the two poverty indicators while never being married, separated, divorced, or being widowed are positively correlated with the two poverty indicators. The computed variance inflation factor values associated with each of the predictor variables show low VIF values, with a range of 1.001-1.447. These values indicate the nonexistence of multicollinearity among the predictor variables.

Table 2: Values of Phi's Statistic or Cross-tabulating demographic characteristics with SES

	Federal Poverty Threshold	50% National
<b>Median Income</b>		
Race (being White)	-.205**	-.257**
Race (being Black)	.183**	.247**
Race (being Hispanic )	.053**	.036**
Race (others)	-.008	-.003
Gender (being female)	.049**	-.047**
Age	.042	.038
Family size	.160**	.292**
Place of residence (SMSA, not in inner city)	-.065**	.076**
Place of residence (not in SMSA)	-.147**	-.194**
Place of residence (SMSA, in inner city)	.104**	.145**
Married	-.309**	-.479**
Never married	.228**	.292**
Separated	.128**	.183**
Divorced	.083**	.200**
Widowed	.055**	.074**

Note. \*\*. Correlation is significant for coefficients:  $p < .05$ ;  $p^{**} < .01$ .

Note. Reported odds ratios are significant, except the bolded figures (not significant).

#### 4.3 Logistic Regression Analysis

The final logistic models that fit the data are as follows:

$$\text{Logit}(P) = \ln(P/1-P) = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4$$

Where  $X_1$  is gender,  $X_2$  is race,  $X_3$  is place of residence, and  $X_4$  is marital status. These were devised by using a standard regression logistic method. A good-fitting logistic model requires that the Hosmer and Lemeshow statistics be greater than .05 (Hosmer and Lemeshow, 2010). The values for the Hosmer and Lemeshow statistics for the two models are found to be greater than .05.

The logit equations show that each of the demographic factors such as gender, race, place of residence, and marital status significantly explains individual socioeconomic status, after adjusting for the various factors (Tables 3 and 4). For comparison between the two indicators of the individual's socioeconomic status, Tables 3 and 4 show the odds ratios or effects of the significant demographic determinants of the absolute and relative poverty lines, respectively. All reported odds ratios are significant except the figures in bold. The values of the estimated odds ratios of the predictor variables provide evidence for their varied impacts on the dependent variable, being poor. The variables "age" and "family size" are not included in the estimation of model 1 because they are the basic components used in computing the federal poverty threshold. The estimated coefficients for the level of family size and age in the logit equations in model 2 were not statistically significant.

The estimated odds ratio of gender being in absolute or relative poverty is about 1.2. This means that the effect

of gender on individual likelihood to be in absolute or relative poverty is the same. However, the probability of females being in absolute or relative poverty is 1.2 times that of males. The results also indicate that race significantly explained the probability of individuals being in poverty. The odds ratios for black and Hispanic individuals being in absolute or relative poverty are very close (about 2.4), which implies that the impact of race for individual odds to be in absolute or relative poverty is the same. However, the risk of individual blacks or Hispanics being in absolute or relative poverty was two times higher than whites. The odds ratio for “Other race” is the same, 1.6. This implies that the probability of individuals who were “Other race” to be in absolute or relative poverty is lower than that for individual blacks or Hispanics. The estimated effects of “place of residence” that significantly explain individual socioeconomic status remain the same when absolute or relative poverty lines were applied. The probability for respondents living in a rural area for being in absolute or relative poverty was about 2.4 times that of individuals in an urban area. Similarly, the odds ratio for a respondent living in a metropolitan inner-city area for being in absolute or relative poverty was 1.5 times that of individuals in an urban area. Compared to the other predictor variables, the odds ratio for unmarried individuals living in absolute or relative poverty is relatively high with a range from 4.1 to 11.7. Age and family size were not predictor variables in an individual’s probability of being poor. Studies have found the variable age to show a curvilinear relationship with income (Hurst, 2012; Schiller, 2008; Fronczek, 2005). This observation could be explained by family resource dilution, which states that the availability of parental resources decreases as the number of siblings increases. However, the functional form of this relationship is not always linear, as this depends on whether the resource is interpersonal or economic.

Table 3 (Model 1): Logistic Regression of Predictor Variables on Federal Poverty Threshold (FPT) <sup>1</sup>

Independent Variables	B (S.E.)	Odds Ratio	95% C.I. for EXP (B).	
			Lower	Upper
<b>Gender</b>				
Female	.253(.080)	1.288**	1.189	1.508
<b>Race</b>				
Black	.892(.100)	2.440***	2.006	2.967
Hispanic	.927(.118)	2.528***	2.006	3.186
Other race	.485(.204)	1.624*	1.089	2.423
<b>Place of residence</b>				
Not SMSA	.874(.110)	2.397***	1.933	2.972
SMSA, inner city	.383(.092)	1.467***	1.225	1.756
<b>Marital status</b>				
Never married	1.975(.107)	7.210***	5.843	8.896
Separated	1.915(.144)	6.786***	5.100	9.029
Divorced	1.416(.111)	4.122***	3.319	5.120
Widowed	1.869(.264)	6.482***	3.860	10.884
Constant	-3.825			
-2Log-Likelihood	1478.532			
N	6057			
Pseudo R Square	.230			

Note. Hosmer & Lemeshow Goodness-of-Fit Test: .132

Significant for coefficients:  $p^* < .05$ ;  $p^{**} < .01$ ;  $p^{***} < .001$

“Age” and “Family size” not included in this model as they are elements of the federal poverty threshold .

Table 4 (Model 2): Logistic Regression of Predictor Variables on 50% National Median Income

Independent Variables	B (S.E.)	Odds Ratio	95% C.I. for EXP (B).	
			Lower	Upper
Family size	.021(.024)	1.021	.973	1.071
Age	-.007(.015)	.993	.964	1.022
Gender				
Female	.167(.067)	1.181*	1.036	1.347
Race				
Black	.882(.079)	2.417***	2.070	2.822
Hispanic	.694(.096)	2.002***	1.660	2.415
Other race	.557(.159)	1.745***	1.278	2.382
Place of residence				
Not SMSA	.930(.092)	2.35***	2.117	3.035
SMSA, inner city	.440(.075)	1.552***	1.339	1.799
Marital status				
Never married	2.317(.097)	10.140***	8.383	12.263
Separated	2.463(.138)	11.737***	8.960	15.375
Divorced	1.981(.092)	7.252***	6.053	8.689
Widowed	2.346(.248)	10.443***	6.428	16.967
Constant	-2.602			
-2Log-Likelihood	5709.50			
N	6057			
Pseudo R Square	.358			

Note. Hosmer & Lemeshow Goodness-of-Fit Test: .215

Significant for coefficients:  $p < .05$ ;  $p^{**} < .01$ ;  $p^{***} < .001$

## 5. Discussion

Currently, about 14.5% of Americans are in poverty (US Bureau of Census, 2014). Although many anti-poverty policies and programs have been implemented to reduce poverty, these welfare programs and policies did little to reduce poverty in the United States. These programs and policies have been criticized for being ineffective in reducing poverty (Woodside & McClaim, 2006; Blau & Abramovitz, 2007; Stone, 2011). Stone (2011) and Smeeding (2006) argue that a lack of comparative analysis and detailed information on key determinants of poverty could be blamed on ineffective poverty policy formulation. Multivariate comparative poverty analysis is increasingly being considered to provide a better understanding of the causes of poverty and to aid in formulating effective poverty reduction policies. Poverty profiles or tabulated information on the characteristics of the poor tend to principally describe the pattern of poverty. However, satisfactory explanation of the relative contributions of the different factors in poverty is essential to develop an effective policy intervention (Stone, 2011; World Bank Institute, 2005).

In this study, the multivariate analysis of the likely demographic determinants of poverty has shown gender, race, place of residence, and marital status to significantly explain individual socioeconomic status. Thus, the same demographic factors were found to explain either absolute or relative poverty. Comparing the varying impacts of key demographic factors when absolute and relative poverty thresholds are employed, each of the demographic factors has shown the same effect. However, each of the key demographic factors has a differential effect in explaining poverty when an absolute or relative poverty threshold was applied. Thus, the hypothesis that the predictor variables have similar effects on the absolute or relative poverty lines was rejected. The findings provide important information on the impacts of the various demographic factors on poverty when we consider interventions to reduce absolute (monetary) or relative (social exclusion) poverty. Females had a higher likelihood living in poverty compared to males. This finding suggests the need for gender-based intervention to address poverty. Place of residence has a high impact on the probability of an individual living in poverty, but this appeared to be more important for those living in rural areas followed by persons living in an inner city. The variability in place of residence could arguably be the result of lack of high-paying jobs in rural or inner-city areas (Hurst, 2012; Rural Development Resource, 2004; USDA Economic Resource Service, 2004). The result of the logit analysis indicates that the odds of a respondent who is a black or Hispanic living in poverty was 2.5 times higher than for a white respondent. Compared to the other demographic determinants, marital status has a relatively high impact on the individuals living in poverty. The risk for unmarried individuals or those in the process of divorcing or separating ranges from 4 to 11 times that of married individuals. While the study found the same demographic factors explained the probability of individuals living in absolute or relative poverty,



different policy perspectives are considered in addressing the two forms of poverty. In formulating poverty policies, the monetary (absolute) poverty, a dominant paradigm in the United States, tends to focus on economic growth and contribution of individuals as isolated units in a given economy. Monetary poverty, therefore, embraces individualistic welfare policies. Contrary to the monetary perspective, the social exclusion perspective views individuals' poverty status in relative terms. Social exclusion poverty identifies individuals' vulnerability as a result of social inequality promoted by individual gender, race, place of residence, and marital status. Understanding the contrast between the two poverty perspectives is necessary for policy design (Laderchi et al, 2003; Saith, 2001).

## 6. Conclusion

Considering the findings that the same demographic factors explain the probability of individuals living in absolute or relative poverty, it is important to evaluate the implication of the two different types of poverty when developing poverty reduction interventions. While social exclusion poverty is more concerned with inequality characteristics such as gender, race, place of residence, and marital status as influencing likelihood of living in poverty, monetary poverty fundamentally considers individuals' economic activities and their disposable resources.

## References

- Atkinson, T., Cautillon, B., Marlier, E. & Nola, B. (2002). *Social indicators: The EU and social inclusion*. New York, NY: Oxford University Press.
- Blau, J. & Abramovitz, M. (2007). *The dynamics of social welfare policy*. New York: Oxford University Press.
- Blank, R. (2007). What we know, what we don't know, and what we need to know about welfare reform. National Poverty Center Working Paper Series, 07 (19), 1-8.
- Bureau of Census (2004). *Income, poverty and health insurance coverage in the United States*. Retrieved at <http://www.npc.umich.edu/poverty/>.
- Chen, P. & Popovich, P. (2002). *Correlation: Parametric and nonparametric measures*. Thousand Oaks, CA: International Education and Professional Publisher
- Dalaker, J. (2005). *Alternative poverty estimates in the United States*. Retrieved at [www.census.gov/hhes/www/p60-226sa.pdf](http://www.census.gov/hhes/www/p60-226sa.pdf).
- Eurostat (2000). *Recommendation to task force on statistics on social exclusion and poverty*. Luxembourg: European Statistical Office.
- FAO (2012). *The State of Food Insecurity in the World 2012*. Retrieved at <http://www.fao.org/docrep/016/i3027e/i3027e00.htm>
- Fisher, G. (1992). The development of the Orshansky's poverty thresholds and their subsequent history as the official poverty measure. Retrieved at [www.census.gov/hhes/www/povmeas/papers/orshansky.html](http://www.census.gov/hhes/www/povmeas/papers/orshansky.html)
- Fronczek, P. (2005). *Income, earning, and poverty from American Community Survey*. Retrieved at <http://www.census.gov/prod/2005pubs/acs-01.pdf>
- Green, S. & Salkind, N. (2010). *Using SPSS for Windows and Macintosh: Analyzing and understanding data*. New Jersey: Prentice/Hall.
- Hosmer, D & Lemeshow, S. (2010). *Applied logistic regression*. New York; Chichester, Wiley.
- Hurst, C. (2012). *Social inequality: Forms, causes and consequences*. New York: Person Education Inc
- Kwadzo, M. (2011). *Conceptualization and measurement of poverty: A comparative analysis*. South Carolina: BiblioLabs, ProQuest UMI Publishing.
- Laderchi, C., Saith, R. & Stewart, F. (2003). Does it matter that we do not agree on the definition of poverty: A comparison of four approaches. *Oxford Development Studies*, 31 (3), 233-274.
- LIS (2006). LIS: Introduction. Retrieved at <http://www.lisproject.org/introduction/history.htm>
- Maas, I. & Wiepking, P. (2004). *Gender difference in poverty: Cross national research*. Luxemburg Income Study Working Paper, 389. 672-682
- National Poverty Center (2006). *Poverty facts: Poverty in the United States*. Retrieved at [www.npc.umich.edu/poverty](http://www.npc.umich.edu/poverty)
- Pallant, J. (2013). *SPSS survival manual: A step by step guide to data analysis using SPSS window*. New York: McGraw Hill/Open University Press.
- Rank, M. (2004). *One nation, underprivileged: Why American poverty affects us all*. New York, NY: Oxford Press.
- Ravallion, M. & Chaudhuri, S. (1991). *Testing risk-sharing in three Indian villages*. Welfare and Human Resources Division. World Bank.
- Ravallion, M. (1992). *Poverty comparison: A guide to concepts and methods*. Living Standards Measurement Study Working Paper, 88.
- Rural Development Resource (2004). *Rural poverty at glance*. Retrieved

- at <http://www.ers.usda.gov/publications/rdr100/rdr100.pdf>
- Saith, R. (2001). Social exclusion: the concept and application to developing countries. Retrieved at <http://www3.qeh.ox.ac.uk/pdf/qehwp/qehwps72.pdf>
- Schiller, R. B. (2008). The economics of poverty and discrimination. Upper Saddle River, NJ: Pearson Prentice Hall.
- Sen, A. (1985). Commodity capabilities. New Delhi: Oxford University Press.
- Smeeding, T. (2006). Poor people in rich nations. The United States in comparative perspective. *Journal of Economic Perspective*, 20 (1), 69-90.
- Stone, D. (2011). Policy paradox: The art of political decision making. New York, NY: W.W. Norton and Company Inc.
- US Bureau of Census (2007). 2004 American Community Survey: Selected profile. Retrieved at [http://factfinder.census.gov/servlet/DTGeoSearchByListServlet?ds\\_name=ACS\\_2004\\_EST\\_G00\\_&\\_lang=en&\\_ts=276021053828](http://factfinder.census.gov/servlet/DTGeoSearchByListServlet?ds_name=ACS_2004_EST_G00_&_lang=en&_ts=276021053828)
- US Bureau of Census (2008). American Community Survey: Poverty 2007 and 2008. Retrieved at [www.census.gov/prod/2009pubs/acsbr08-1.pdf](http://www.census.gov/prod/2009pubs/acsbr08-1.pdf)
- USDA Economic Resource Service (2004). Rural poverty at glance. Retrieved at <http://www.ers.usda.gov/publications/rdr100/rdr100.pdf>
- US Department of Health & Human Services (2009). The 2009 HHS poverty guidelines: One version of the US federal poverty measure. Retrieved at [www.aspe.hhs.gov/](http://www.aspe.hhs.gov/).
- US Department of Health and Human Services (2007). The 2007 health and human services guidelines. Retrieved at [www.aspe.hhs.gov/](http://www.aspe.hhs.gov/).
- US Department of Labor (2006). NLS web investigator. Retrieved at <http://www.bls.gov/>.
- U.S. Census of Bureau (2014). Poverty: 2013 highlight Retrieved at <https://www.census.gov/hhes/www/poverty/about/overview/>
- World Bank Institute (2005). Introduction to poverty analysis. Retrieved at <http://siteresources.worldbank.org/PGLP/Resources/PovertyManual.pdf>
- Woodside, M. & McClaim, T (2006). An introduction to human services. Belmont, CA: Thomson Books/Cole.

The IISTE is a pioneer in the Open-Access hosting service and academic event management. The aim of the firm is Accelerating Global Knowledge Sharing.

More information about the firm can be found on the homepage:

<http://www.iiste.org>

## CALL FOR JOURNAL PAPERS

There are more than 30 peer-reviewed academic journals hosted under the hosting platform.

**Prospective authors of journals can find the submission instruction on the following page:** <http://www.iiste.org/journals/> All the journals articles are available online to the readers all over the world without financial, legal, or technical barriers other than those inseparable from gaining access to the internet itself. Paper version of the journals is also available upon request of readers and authors.

## MORE RESOURCES

Book publication information: <http://www.iiste.org/book/>

Academic conference: <http://www.iiste.org/conference/upcoming-conferences-call-for-paper/>

## IISTE Knowledge Sharing Partners

EBSCO, Index Copernicus, Ulrich's Periodicals Directory, JournalTOCS, PKP Open Archives Harvester, Bielefeld Academic Search Engine, Elektronische Zeitschriftenbibliothek EZB, Open J-Gate, OCLC WorldCat, Universe Digital Library, NewJour, Google Scholar

