# SOURCES OF RESOURCEFULNESS: EVIDENCE THAT THE CULTURE OF POVERTY IS A PRODUCTIVE ADAPTATION TO ECONOMIC UNCERTAINTY

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ABSTRACT

Low-income communities in industrialized societies share common characteristics such as unmarried cohabitation and female-headed households. The unresolved question about these unstable family structures is whether they are a cause or effect of poverty. This mystery is the axis continuously turning the policy debate over welfare programs, with arguments about government assistance easing the economic stresses that threaten family stability and counterarguments about benefits targeting unstable families undermining the stabilizing institution of marriage. This thesis seeks to resolve this debate by offering a third way: unstable family structures are not a detriment for low-income households but are, instead, a source of flexibility and resourcefulness. Evidence presented below indicates that non-traditional family structures such as unmarried cohabitation and female-headed households are associated with greater wealth for households below the federal poverty line (which is why these patterns persist) but are associated with less wealth for other Americans (which is why these patterns are decried in the mainstream). Because this improvement in resourcefulness below the poverty line is likely linked to networks of mutual obligation, which could prevent individuals from escaping poverty, I also use panel data to test whether these same indicators are associated with a decreased likelihood of exiting poverty. This research therefore finds quantitative evidence for qualitative descriptions of life in poverty and, in doing so, offers unique evidence explaining the behaviors of people living below the federal poverty line.

Keywords: poverty culture, social welfare, family structure, wealth, difference-in-difference

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**Table of Contents**

**List of Figures**

**List of Tables**

## Introduction

Why do people in poverty tend to have different behaviors from other groups in society? Since mainstream America sees the traditional family structure and individualism as the best approach to personal progress, this lens sees frequent shifts in cohabitation partners and the indiscriminate sharing of unexpected gains to be aberrant behavior. But what if these behaviors, when conducted among people in low-income communities, are an economically advantageous strategy for overcoming the uncertainties of a modern capitalist economy (at least in terms of their present interests)?

The key idea of this thesis is that many of the behaviors attributed to the poverty culture are financially beneficial for low-income families. This logic of poverty is counterintuitive to people steeped in the middle-class perspective. Non-marital family structures and indiscriminate resource-sharing violate notions of stability and individuality at the core of middle-class American culture. However, these poverty behaviors exhibit a *flexible* approach to relationships and resources that could be adaptive in the uncertainty defining livelihoods in poverty. In other words, the structures that are associated with the accumulation of wealth outside of poverty may be too rigid and anti-resourceful for people whose jobs are nearing obsolescence in a society that seeks continual growth and increasing efficiency.

As a topic in public policy, this hypothesis challenges the dominant mindset addressing poverty. Policymakers encouraging marriage and personal savings among the poor may be imposing middle-class structures that are overly rigid and maladaptive in the context of poverty. The logic of poverty may also offer new explanations for why and how the separate underclass emerges in modern capitalist societies.

Not only is its hypothesis unique, but this thesis also proposes a novel method for analyzing behaviors associated with poverty. Because society measures poverty by income level (Kennedy & Fitch, 2012), reverse causality becomes a fatal flaw in studying the causes of poverty. In other words, are the behaviors associated with poverty the cause or consequence of low-income status (Lichter, 2019)? This chicken-and-egg question especially propels the debate around welfare benefits and family structure in poverty, with liberals arguing this assistance protects low-income families from economic stresses (Jencks, 2000) and conservatives arguing this assistance undermines the stabilizing effect of marriage by incentivizing single parenthood and dependence on the State (Rector, 2014). To avoid this flaw, this thesis will focus on the resourcefulness of people in poverty by analyzing their wealth (assets minus debts).

The analysis presented in this thesis provides evidence that "unstable" family structures such as unmarried cohabitation and female-headed households, while associated with decreases in wealth for households above the federal poverty line, are also associated with increases in wealth for households below the poverty line. These findings help to explain why non-traditional family structures associated with the poverty culture have persisted despite admonitions and deterrence from policymakers.

If supported, this hypothesis points to an explanation for why modern, capitalist societies produce low-income underclasses. For centuries before the Industrial Revolution, rural societies had stable family structures—despite living in objectively worse conditions than people in poverty today—because economic activity required long-term, stable relationships (Cherry, 1995). However, in an increasingly industrialized economy requiring specialized skills and a dynamic workforce, the positions of people in society can become precarious. Communities at the edge of usefulness in this society will address their economic instability by developing

informal support networks and flexible family structures to soften economic shocks such as job-termination, inconsistent incomes, and results of these stressors. This flexible approach to resources and relationships is at the heart of our budding understanding of the poverty culture.

However, this primary hypothesis about the benefits of poverty-culture characteristics also raises questions about their costs. Informal support networks among low-income families can aid in resourcefulness, but they also obligate their participants to use extra income to help each other rather than get ahead. Also, while flexible family structures may prevent people below the poverty line from being tightly bound to someone who becomes unemployed, addicted, or incarcerated, they also prevent children from having a stable set of parent figures, which could impede their upward mobility. After identifying household characteristics associated with the poverty culture by their beneficial effects in terms of current wealth for households under the poverty line, I will then test whether these characteristics are associated with a decreased overall likelihood of exiting poverty.

This thesis will attempt to quantify the financial effects on households of behaviors associated with a rejection of middle-class values. In doing so, it will provide evidence of the tensions facing people living below the federal poverty line, thereby explaining behaviors that seem counterproductive outside of the poverty context.

**Research Question**

The research question driving this analysis is a search for poverty culture indicators—characteristics that are associated with decreased wealth outside of poverty but increased wealth within poverty. The proposed approach to answering this question will involve a "descriptive difference-in-difference" analysis, comparing whether changes in wealth between traditional and

non-traditional family structure themselves change between households above versus below the federal poverty guidelines.

The strategy driving this approach will involve two steps. First, I identify characteristics of the sociological literature on the poverty culture that are also captured by surveys of net worth. Second, I use statistical procedures to test how these household characteristics are associated with differences in wealth below the poverty line and whether these differences are themselves different for households above the poverty line. For example, because non-marital family structures mark poverty-culture households, this thesis will compare the changes in average wealth of married versus unmarried cohabitants above versus below the federal poverty line. If poverty-culture behaviors are positive adaptations rather than maladaptive coping strategies, then low-income people with unique poverty-culture behaviors will have higher net worth on average than low-income people with the same middle-class behaviors benefitting those above the poverty line.

As a secondary research questions, this thesis will also estimate the costs of these household characteristics associated with improved wealth only below the poverty line. Because the sociological research indicates these characteristics may hinder the long-term chances of exiting poverty, I will use panel data to estimate changes of likelihood of exiting poverty for households with poverty-culture, as opposed to middle-class, family structures.

**Literature Review**

By providing a logic of poverty, this thesis offers policymakers a framework for understanding the seemingly maladaptive behaviors of people in the poverty culture. Currently, some social scientists argue there is no coherent perspective of culture and low-income

communities, there is a disconnect between the scholars studying the cultural patterns of poverty and social scientists working in poverty policy, and the research on the intersection of culture and poverty is not quantitative (Lamont & Small, 2008). This thesis seeks to bridge these gaps.

The following sections set the stage for analyzing the resourcefulness of poverty-culture behaviors. First, I will briefly define the attributes of the poverty culture to allow for a baseline understanding of the behaviors being examined. Next, I will examine the political and sociological debates over behavioral patterns associated with poverty. Finally, I will look more deeply at the potential costs as well as the potential benefits of behaviors unique to low-income communities. As this analysis will demonstrate, researchers and theoreticians on poverty issues have not considered the possibility that seemingly chaotic behaviors serve the present interests of people living below the poverty line.

### A. Describing the Poverty Culture

A distinct set of behavior patterns characterizes people in poverty. Oscar Lewis is credited with first identifying these patterns and coining the term, "the culture of poverty" (Lewis, 1966). Though this theory fell from the research spotlight for decades, it was separately identified in 1995 by Ruby Payne, an educator and non-academic author (Payne, 2013).

"Culture" refers to widespread "modes of behavior among individuals who face similar place-based circumstances" (Wilson, 2010, pg. 202). The patterns of behavior Lewis and Payne observe center on flexibility and collectivism emphasized over structure and individualism. Families in poverty display these patterns through temporary spouse-like living situations, matriarchal family structures, and a tendency to share rather than save extra assets.

Instead of traditional family structures, people in poverty tend to live in a series of non-marital partnerships. Lewis describes non-marital relationships as a "consensual union" that

bestow “freedom and flexibility” (Lewis, 1966, p. 23), while Payne describes a family structure of multiple spouse-like relationships (Payne, 2013, p. 75). This does not mean that marriage is undervalued in this population. Rather, women in poverty idealize marriage but rarely enter a legal commitment (Lewis, 1966; Staples, 1985; Small, Harding, & Lamont, 2010). Because pairings are subject to change and children tend to stay with mothers, families in poverty eschew the hierarchical structure of the traditional family in favor of a web emanating from a central matriarch (Lewis, 1966, p. 23; Payne, 2013, p. 67). This is the likely reason for the prevalence of female-headed households in poverty, discussed later.

Also, rather than building a pool of personal assets and financial savings, people in poverty share extra resources (Payne, 2013, p. 26), even when it hinders self-sufficiency (Lewis, 1966). This behavior is likely rooted in a fatalistic belief that poverty is inevitable and a sensitivity of low-income people to status symbols (Lewis, 1966; Payne, 2013). The logic behind this behavior is the importance of relationships in poverty. In poverty, “people rely on each other in order to survive” in an unstable environment (Payne, 2013, p. 26).

Though other scholars reject the idea of a cultural explanation for poverty as blaming the victims (Small, et al., 2010), several respected sociologists describe behaviors fitting into the above-described framework. From conversations with mothers in poverty, Edin and Kefalas (2005, pg. 9) describe a mindset in which marriage is desired but avoided because it involves a “loss of control” and inability to quickly leave. One of their prototypical subjects works her way out of poverty while the father of her child ends up in jail, and another subject describes the father of her child as unable to handle the pressures of parenthood and turning to drugs (Edin and Kefalas, 2005, pg. 188-89). Next, Carol Stack’s *All Our Kin* devotes an entire chapter to “swapping” as “a steady source of cooperative support” needed to survive in poverty (Stack,

1974, pg. 32). Matthew Desmond refined Stack's findings, arguing that reciprocal resource exchange does not happen only among kin, but instead occurs through "disposable ties" of accelerated—but temporary—intimacy among people in poverty (Desmond, 2012). Furthermore, there is an entire line of research from Latin America indicating "social networks of reciprocal exchange" are a successful survival strategy for people in poverty (Rosas, 2001, pg. 46). These sociological observations support the usefulness of flexible family structures and communalism for households below the poverty line.

I posit that, in poverty, groups of people are more reliable than individuals. Behaviors that appear to be wasteful and unwise from a middle-class perspective may allow people in poverty to build a sort of social capital that insulates them from the uncertainties of a low-income existence while also interfering with the goal of individual financial growth. As the next section explores, social scientists who ignore the potential logic of poverty often face confusion by imposing middle-class values into situations in which they are counterproductive.

### B. Framing the Issue of Poverty

By searching for a logic behind poverty-culture behaviors, this thesis will test our most central assumptions around poverty. For example, social scientists and policy elites interpret the rise of the flexible, non-traditional family structures described above as a "crisis" of unmarried parents (Rein, 2017, p. 441; Staples, 1985, p. 1005). Through this lens, poverty behaviors appear to be a social ill arising from disorganized family structures (Bauman, 1999; Cherry, 1995).

As a highly visible element of poverty, trends in family structure become a focus of policy elites and their supporters (Testa, Astone, Krough, & Neckerman, 1989; Small et al., 2010). Family is an ideological lightning rod, attracting strong viewpoints about supporting families and equally strong counterpoints on keeping the government out of family matters

(Brodkin, 1988). However, the idea assumed by both sides is that marriage forms the basis of a stable family and a path out of poverty (Staples, 1985; Kimenyi, 1991), leading to public policies that explicitly or implicitly support marriage (Small et al. 2010; Mead, 2008).

These approaches ignore the potential of reverse causality. Families may enter marriage only when they are economically stable, rather than experiencing economic instability because they are not married. Either way, this assumption would be undone by evidence showing that unmarried couples in poverty have more resources than married couples in poverty.

### 1. History of the Poverty Culture Concept

As a concept that emerged, receded, and emerged again without ever reaching a resolution in the social science research, the poverty culture has an important history. This history is a confused succession of observations about widespread, cultural behaviors in poverty, which are used alternatively in the service of arguments attacking and then defending underserved communities in the United States.

Early antecedents of a cultural explanation for behaviors of low-income people first emerged in America as a counterargument to assertions that immigrants from Africa, Eastern Europe, and Southern Europe were genetically inferior (Cherry, 1985). Under these theories, underdeveloped conditions in countries of origin and under slavery influenced these minorities to adopt behaviors inimical to productivity in an industrial economy. In the 1960s, Oscar Lewis pointed to the poverty culture, not as an issue of personal failings, but as an adaptation to marginalized status (Duncan, 1999; Lewis, 1966). The early reference to a poverty culture was therefore a defense of minority groups that shifted focus from adopted personal characteristics to imposed cultural habits.

But then, the concept of a poverty culture became a policy argument against low-income, minority communities. In 1965, the Moynihan Report framed the issue of poverty as a result of crumbling families (Notes and Comments, 1966). This early and arguably unsophisticated example of social science research argued that single-parent African American households were in a "tangle of pathology" (Gans, 2011, p. 316). Though Moynihan was calling for policymakers to pay attention to the plight of people in inner-city ghettoes, his judgmental, accusatory conclusions led to an aversion by liberals to cultural explanations of poverty (Kelso, 1994). Because an imprecise understanding of culture allowed this concept to be used interchangeably with "race" (Lamont & Small, 2008), and because conservatives have historically focused on traditional values (Wilson, 1987), the culture of poverty became a dog whistle for arguments blaming minorities for their impoverished conditions (Leacock, 1971; Harding, 2007). The result was several decades in which social scientists basically ignored cultural aspects of poverty (Wilson, 1987; Cohen, 2010).

An interesting outcome of the resulting perspective involves the rise of single women in the 1970s. As women increasingly entered the workforce, social science research found that increased economic independence led to rising divorce rates for white women (Brodkin, 1988). While choosing to trade the traditional family structure for economic flexibility became a sign of liberation for white women, the same calculus became a sign of desperation for black women (Brodkin, 1988). Perhaps the well-developed research on the financial status of men affecting a woman's decision to marry (Xue, 2014) implies that non-marital, female-centered households in poverty could be a positive adaptation that avoids economic pains of becoming legally bound to a partner with an uncertain position in society.

Because the cultural patterns Oscar Lewis first identified in the 1960s did not wither under a lack of attention, the concept of the poverty culture recently reemerged in the literature (Rein, 2017; Cohen, 2010; Small et al. 2010). However, this analysis has not arrived at an underlying organization or logic for the reasons poverty-culture behaviors occur (Lamont & Small, 2008).

### 2. Rival Explanations of Poverty

The current iteration of the poverty culture debate largely pits cultural patterns against structural limitations as the root cause of unstable families and a lack of personal savings in poverty. Importantly, however, both sides of this debate assume these behaviors are harmful. The cultural explanation is that these negative behaviors are ingrained through upbringing, and the structural counterargument is that these negative behaviors are the product of limitations. Therefore, neither perspective considers that poverty-culture behaviors are financially in the present interests of people in poverty.

The current debate over the origins of poverty involve a debate between cultural and structural frameworks (Rein, 2017; Wilson, 2010; Kelso, 1994). The cultural explanation is that low-income people do not teach their children the practices needed to get ahead in society (Duncan, 1999). This explanation involves isolation from mainstream society (Harding, 2007; Cherry, 1985) and a preference for close-knit communities over the nuclear family structure (Rein, 2017). The policy implications of this explanation are that welfare benefits will not lift people out of poverty so long as they retain practices counterproductive to amassing personal property (Tietz & Chapple, 1998). Furthermore, formal methods of distributing welfare benefits will parallel informal distribution channels and hinder their precision (Small et al., 2010). Therefore, “ignoring culture can lead to bad public policy” (Small et al., 2010, p. 11).

As long as policymakers assume that poverty behaviors are counterproductive, the problem with the cultural explanation is that it carries the implication "of the complicity of the poor in their own fate" (Teitz & Chapple, 2008, p. 46). Also, because the popular conception of culture is a set of behaviors that perpetuate themselves across generations, the cultural explanation implies that disrupting these behaviors will extinguish the incidence of poverty (Small et al., 2010). The cultural explanation is therefore used by conservative policymakers through a variety of arguments (Duncan, 1999; Rein, 2017; Tietz & Chapple, 2008). Some argue that low-income neighborhoods have antisocial values around teen pregnancy (Harding, 2007). Others argue that the absence of strong family values in low-income environments leads to the natural development of antisocial norms (Kelso, 1994). However, the loudest voices argue that the learned nature of poverty behaviors indicate an addictive "welfare culture" in which life choices are made to maximize welfare benefits (Kimenyi, 1991, p. 947). This argument relates to Charles Murray's welfare-incentives explanation, which uses microeconomic logic to argue that poverty culture family structures are primarily shaped by the incentives of welfare benefits (Testa et al., 1989; Small et al, 2010; Tietz & Chapple, 2008). Though it is based on an intuitive and useful depiction of poor people attempting to achieve beneficial results, this argument does not explain the divergence between rising rates of single-mother households and declining rates of welfare benefits to these households (Brodkin, 1988).

The alternative explanation to the cultural theory is based on structural limitations of people in poverty. The structural explanation deemphasizes the mindsets of individuals and shifts emphasis to external restrictions (Kelso, 1994). The underlying theory involves declining opportunities causing fewer marriages, leading to a greater incidence of impermanent family structures, which then causes increasing reliance on government support (Rein, 2017). Some

social scientists support this explanation with macro-level data associating economic booms with diminishing sizes of high-poverty neighborhoods (Wilson, 2010). However, the most cited structural explanation for the link between economics and the incidence of poverty-culture behaviors relates to the availability of "marriageable" men (Wilson, 1987, p. 91; Darity & Myers, Jr., 1994, p. 118). Under this idea, many low-income women are compelled to lead single-parent households because many low-income men are jobless or incarcerated (Rein, 2017). The reverse-causation flaw with this argument is fewer marriageable men could lead to fewer marriages but no single-parenthood if couples stayed together. As its clearest contribution to the debate, the structural argument recognizes that stable relationships decline in poverty because their costs outweigh their benefits (Staples, 1985).

The cultural and structural explanations interact through a variety of angles in the debate over poverty: as argument versus counterargument, salient versus complex understanding, and sociological versus economic explanations. First, these conflicting explanations are the product of an argument and counterargument among policy elites attempting to improve conditions for the poor. The cultural explanation is an argument commonly associated with the Moynihan Report about cultural patterns perpetuating intergenerational poverty (Kimenyi, 1991). As a counterargument, the structural explanation states the behaviors Moynihan observed originated in economic limitations that are not the fault of people in low-income circumstances (Harding, 2007; Ladson-Billings, 2017). Second, these explanations operate on different levels of understanding. The cultural explanation is based on popular values and is therefore more accessible than the structural argument, which relies on complex understandings of macroeconomic trends (Wilson, 2010). Finally, these explanations are the product of different research orientations. The cultural explanation is conducive to the qualitative research style used

by sociologists, while the structural explanation is conducive to the quantitative research style used by economists (Tietz & Chapple, 1998; Harding, 2007; Small et al., 2010).

These angles reveal that the cultural and structural arguments are not mutually exclusive. Systematic behaviors of people in low-income communities can be passed down through cultural practices and also be the result of economic limitations. The concept that would bridge these perspectives would be the identification of a logic behind poverty behaviors, demonstrating that these practices are positive adaptations rather than negative behaviors. Such a logic would explain why people in poverty develop and pass down certain practices to address economic uncertainty and why they differ from the practices prevalent outside of poverty.

### C. Benefits and Costs of the Poverty Culture

Inspired by the sociological literature on poverty culture, the central hypothesis of this thesis is low-income households with poverty-culture characteristics will have more wealth than low-income households adopting middle-class behaviors. However, even if substantiated, this would not reveal the entire story of the poverty culture.

When people in the poverty culture share extra resources, they "obligate one another" (Stack, 1974, pg. 32). Through habitual giving and exchange, people in the poverty culture become immersed in intricate networks of people who "can be called upon for help and who can bring others into the network" (Stack, 1974, pg. 44). In a slightly different explanation, people in poverty become accustomed to temporary relationships "characterized by high levels of emotional intensity and reciprocity of goods and services" (Desmond, 2012, pg. 1328). While these vehicles for flexibly mobilizing support can be beneficial, the cost of these support networks is their incompatibility with individual achievement—as one interviewee noted about swapping, "You not really getting ahead of nobody" (Stack, 1974, pg. 34). As suggested by the

phrase “don’t get above your raisin’,” people in the poverty culture are likely treated as selfish hoarders if they try to leave this network through personal savings.

Therefore, “those who attempt social mobility must carefully evaluate *their job security*, even if it is at the poverty level, before they risk removing themselves from the collective help of kinsmen” (Stack, 1974, pg. 24) (emphasis added). Not only does this observation support the link between a lack of economic security and the need for social networks of resource-sharing, it also points to the pressures these networks exert against upward mobility.

The flipside of characteristics associated with resourcefulness is a potential association with economic immobility. My secondary hypothesis is therefore that any characteristic that captures the short-term resourcefulness of the poverty culture will also be associated with a reduced likelihood of escaping poverty in the long term.

### D. Research Gap

The research gap addressed in this thesis is significant and multifaceted. The below analysis introduces an alternative explanation for behaviors common in poverty, applies a novel approach to measuring resourcefulness in the face of poverty, and uses quantitative methods to identify an underlying logic to the poverty culture.

First, neither of the dominant explanations for behaviors associated with poverty consider that poverty-culture behaviors are financially advantageous for the present interests of low-income families. For example, Darity and Myers (1994, p. 119-141) review eight explanations for female-headed households and never consider that this flexible approach to parenthood avoids the problems of relying too much on one other partner. This thesis will therefore propose a unique explanation for behaviors common in modern poverty.

Next, the novel approach proposed for this thesis compares net worth across household and economic characteristics, measuring resourcefulness through accumulation of wealth. This approach aims to identify the unique characteristics of households remaining resilient in the face of economic instability. Because social scientists have generally neglected wealth as a measure of the economic wellbeing of low-income Americans (Shapiro, 2001, p. 11), this approach could provide new insights.

Finally, sociologists have identified behavioral patterns among people in poverty but have not translated these patterns into quantitative data. By using regression models to test associations between household characteristics and levels of average wealth, this thesis offers a novel approach to measuring the resourcefulness associated with behaviors in poverty. To my knowledge, no other researcher has attempted to measure how changes in wealth associated with certain characteristics may be different above versus below the federal poverty line. This thesis is therefore uniquely positioned to uncover the logic, financial consequences, and inherent tension in behaviors common to low-income communities.

**Data and Methodology**

The primary question presented in this research is whether households below versus above the poverty line experience an improvement in wealth in non-traditional versus traditional family structures—in other words, whether poverty-culture characteristics are resourceful in the face of poverty. Though unstable family structures and communalistic sharing appear to be signs of instability from a middle-class perspective, they may be rational, productive features of a lifestyle that promotes flexibility in the face of economic uncertainty. Based on the above literature review, these characteristics likely take the form of non-traditional family structures

such as unmarried cohabitation (Lewis, 1966; Payne, 2013) and female-headed households (Darity & Myers, 1994; Corcoran, 1995).

This thesis predicts that these non-traditional family structures are associated with lower average wealth for households earning above the poverty line but higher relative wealth for households below the poverty line. Testing this hypothesis involves a comparison of differential associations of these non-traditional family structures across households of different income levels. In other words, the process of identifying household traits that are resilient to the effects of poverty involves a double-difference—testing for different levels of wealth between low-income and mid- to high-income populations as they differ across traditional and non-traditional family structures.

### A. The Descriptive Difference-in-Difference Model

Introduced in the 1990s (Card, 1990; Card & Krueger, 1994), the difference-in-difference methodology is an increasingly popular method for estimating causal relationships (Bertrand, Duflo, & Mullainathan, 2004). This method involves measuring the difference in average outcome for one difference (usually treatment and control) against the difference in average outcome of another difference (usually pre- and post-treatment periods). Through OLS regression, the difference-in-difference method involves a binary variable for the first difference, a binary variable for the second difference, and a binary interaction variable that captures the impact of the intervention (Bertrand, et al., 2004, pg. 250).

This thesis, however, does not employ a classic difference-in-difference model, which tests the effectiveness of a treatment over time, attempts to eliminate selection bias, and aims to isolate a causal effect. Instead, this thesis will explore associations as part of a descriptive

analysis, using the difference-in-difference procedure on cross-sectional rather than panel data.[1] The point of this model is to measures how differences across one distinction may be different along another distinction.

Specifically, this thesis intends to search for associations in resourcefulness (i.e., the accumulation of wealth) between traditional versus non-traditional family structures and how they may be different for households above versus below the poverty line. The proposed regression model takes the form of Equation (1) with the coefficients of interest being the interaction term (δ) and its relationship to the family structure term (γ).

(1) $Y\ \textit{net worth} = \alpha + \gamma\ \textit{non-traditional} + \beta\ \textit{poverty} + \delta\ (\textit{non-traditional} * \textit{poverty}) + \phi\ \textit{confounders} + \varepsilon$

The levels, signs, and relationships among these coefficients will be useful for analyzing how certain traits affect the accumulation of wealth in different ways for different types of income-earners. As illustrated in Figure 1 below, the constant term (estimated by α) will serve as a baseline (1), representing the average wealth of above-poverty income earners with traditional family structures. Non-traditional family structures (estimated by γ) are predicted to be associated with a negative deviation from this baseline for households above poverty (2), explaining their rejection within middle- and upper-class society. Having income below the federal poverty line (estimated by β) is predicted to also be associated with a negative deviation from the baseline even for families with traditional, middle-class family structures (3). Finally, the interaction of low-income status and non-traditional family structure (estimated by δ) should have a positive coefficient, at least diminishing the decreased in wealth described by the combination of the other two effects, (2) and (3).

[1] Please note that, while part of this analysis involves panel data, it will not be used to measure changes over time when testing the primary hypothesis.

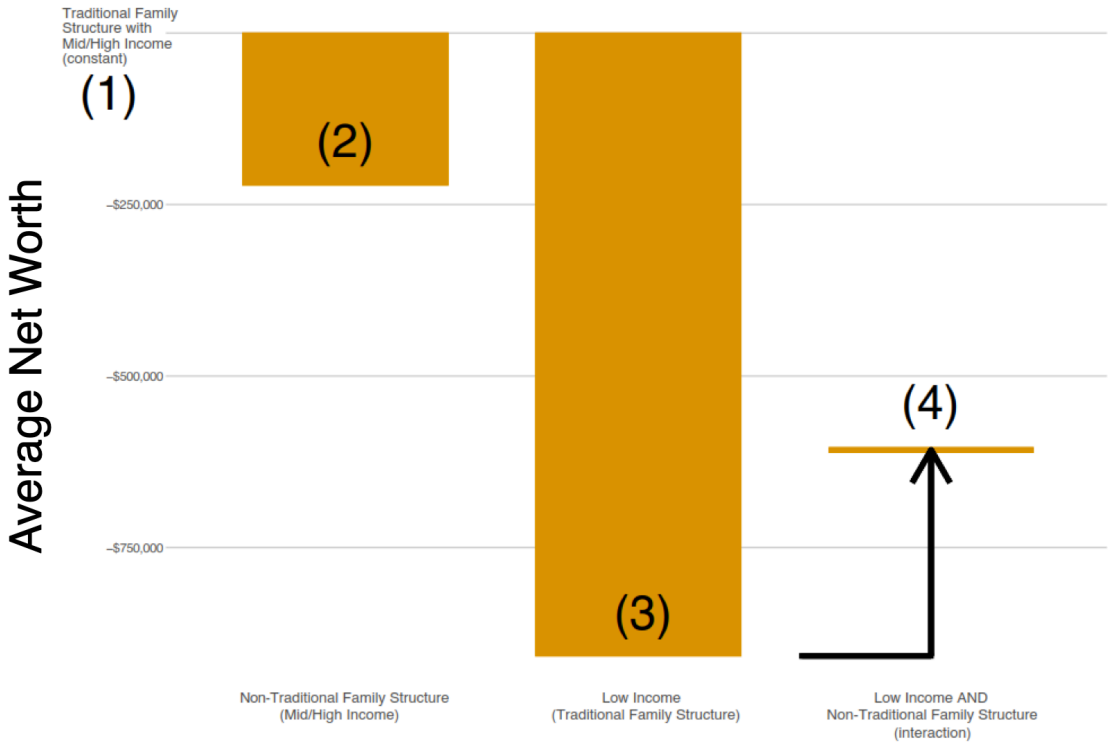



**Figure 1: Predicted Relationships.** Deviations of Average Wealth Levels Based on Family Structure and Poverty Indicators

The above model may illustrate two important relationships. First, a characteristic associated with less wealth from a middle-class perspective may not be associated with a decrease in wealth for low-income earners. This could explain why mainstream voters and policymakers see certain poverty-culture behaviors as irresponsible while the people earning below the poverty line who continue these practices apparently do not. Second, the interaction term may be of such a positive magnitude to counteract the combined negative effects of the other two indicators. Illustrated in Figure 2, this would indicate that low-income households with the identified non-traditional characteristics are more resourceful than low-income households with the traditional, middle-class characteristics.

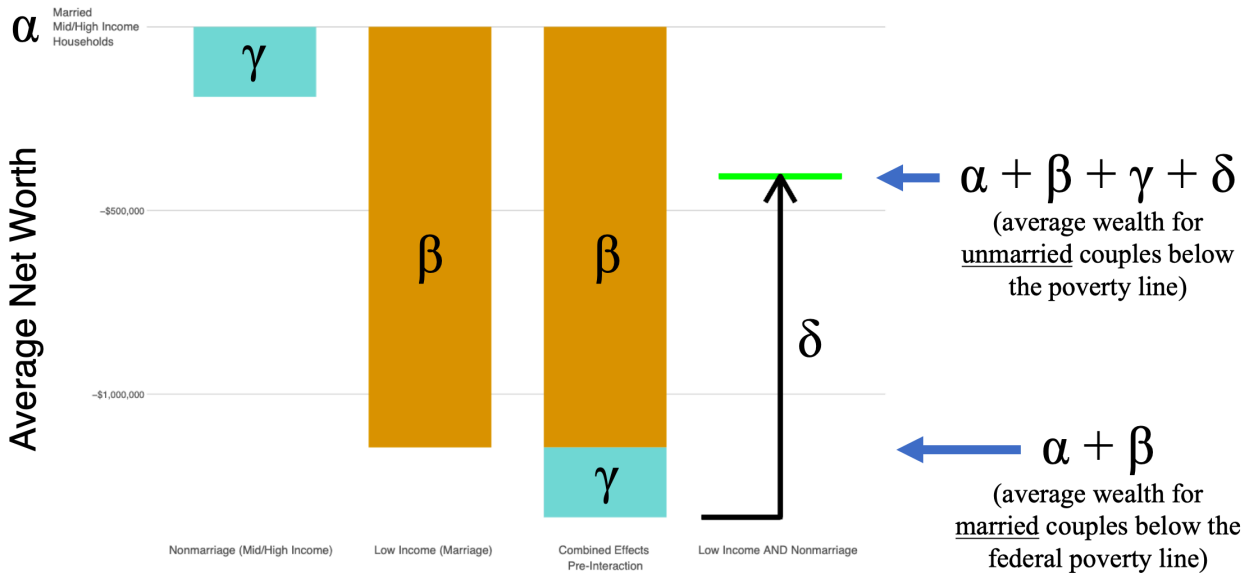



**Figure 2: Wealth Estimates for Negative Wealth Characteristics that Are Adaptations to Poverty.** Example of Characteristic Associated with Less Wealth Above the Poverty Line and an Improvement in Wealth Below the Poverty Line

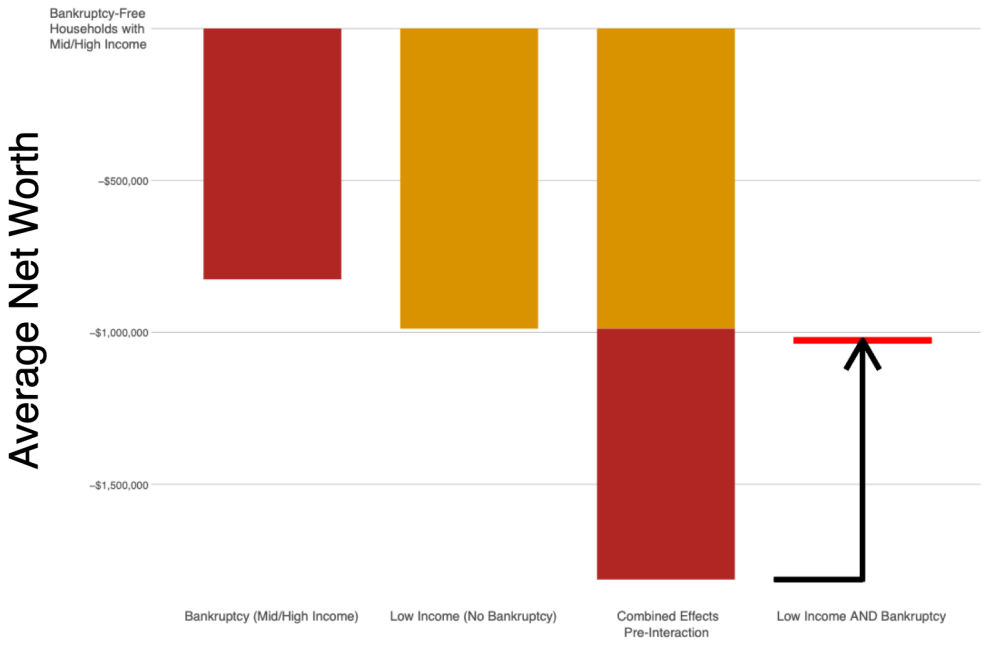



**Figure 3: Wealth Estimates for Negative Wealth Characteristics Not Affected by Poverty.** Example of Characteristic Associated with Less Wealth Above the Poverty Line and NO Improvement in Wealth Below the Poverty Line

Figure 3 offers a contrast in which a hypothetical variable associated with a decrease in wealth above the poverty line is not associated with improved wealth below the poverty line.

### B. Concerns About the Descriptive Difference-in-Difference Model

Before explaining how this regression model will identify links between resourcefulness and family structure, I should first address concerns about the descriptive difference-in-difference model. These concerns involve the difference from normal regressions with interaction variables and, more importantly, *why this analysis does not just compare associations across only the households below the poverty line*.

First, regarding its deservingness of a unique title, the descriptive difference-in-difference is different from other regressions with interaction terms. Regression coefficients are often used to isolate the effects of one independent variable on the dependent variable while controlling for the effects of other independent variables. In a search for "true" relationship between variables, regression models primarily use interaction terms because the effect of one independent variable may depend on the presence or magnitude of another independent variable (Wooldridge, 2013). As a result, the un-interacted terms are included in the regression, but their coefficients are often "not of interest" (Wooldridge, 2013, pg. 199). In the descriptive difference-in-difference, in contrast, the relationship between the interaction term and non-interaction terms is important because the goal is to compare changes along one difference by changes along another difference. Furthermore, though regression analysis used for prediction does take interest in the coefficients on interacted as well as un-interacted terms, it often uses many interactions and does not focus on comparisons across particular combinations of coefficients.

In contrast, the descriptive difference-in-difference measures how differences across one distinction may be different along another distinction. The next, and more important question, is

why both differences are measured (especially in this case, where the focus on households in poverty would seem *not* to be affected by changes in wealth with vast majority of households outside poverty). For example, if the effect of non-traditional family structures in poverty is important, why not examine only the households below the federal poverty line and conduct a bivariate regression of wealth on non-traditional family structures? This analysis is depicted in Figure 4.

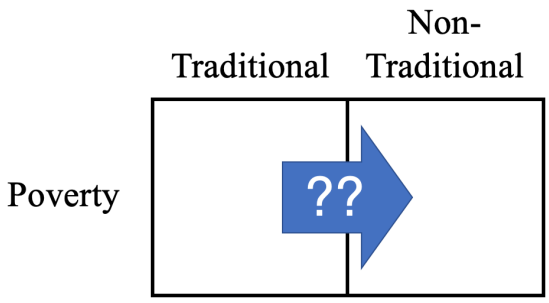



**Figure 4: Single Difference Analysis**

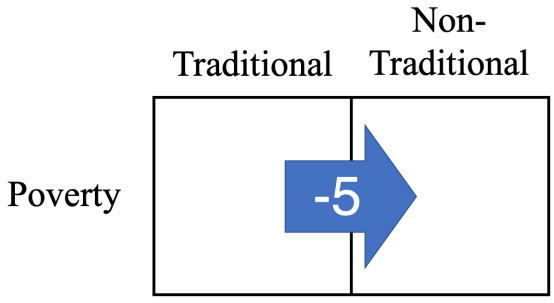



**Figure 5: Single Difference Example**

If this approach identified a negative relationship—indicated by, for example, a decrease of five dollars (see Figure 5)—does this demonstrate households below the federal poverty line have less wealth in non-traditional family structures? I would argue this analysis is insufficient because it measures an association across one variable (family structure) but ignores associations involving the other variable (poverty status). Unlike the analysis in Figures 4 and 5, the analysis in Figure 6 presents the same identified relationship from Figure 5, but in the context of both differences.

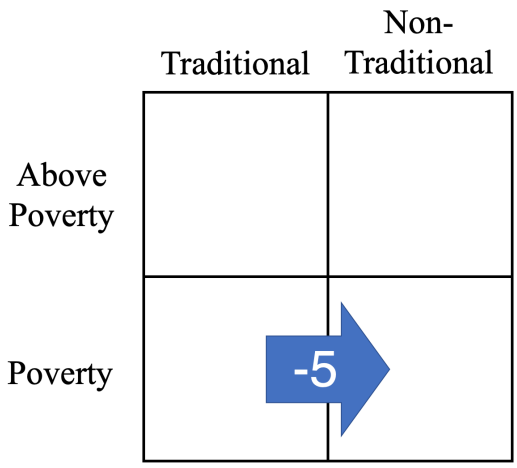



**Figure 6: Single Difference in Context**

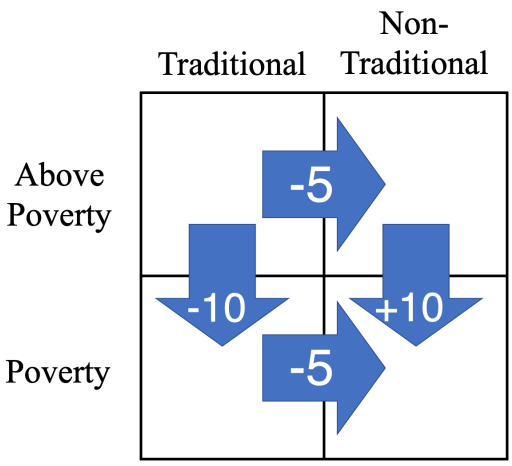



**Figure 7: Double Difference Example**

Figure 7 then shows why this is important. Here, the change in wealth associated with a distinction between traditional and non-traditional households is the same above and below the federal poverty line (a decrease in 5 dollars). However, the change in wealth associated with a distinction between households above and below the poverty line is different for traditional (minus 10 dollars) versus non-traditional family structures (plus 10 dollars). Now, the households under the poverty line with traditional family structures appear to have less wealth than low-income households with non-traditional family structures.[2]

Of course, a fair response is this: it is unlikely that these particular demographic groups experience an increase in wealth associated with earning below-poverty income as compared to above-poverty income. This criticism is fair, but consider the next step. Without altering the relationship between the bottom-left and bottom-right quadrants, Figure 9 subtracts twenty from both comparisons of above- and below- poverty households in Figures 7 and 8. Now, all

[2] Using the top-left quadrant as a baseline, the bottom-left quadrant has -10 dollars and, given an even distribution of observations in each quadrant, the bottom-right quadrant has the average of -10 + -5 and -5 + 10, which is -5 dollars.

categories below the poverty line experience a decrease in wealth, but the bottom-left quadrant still has *less* average wealth than the bottom-right quadrant.[3]

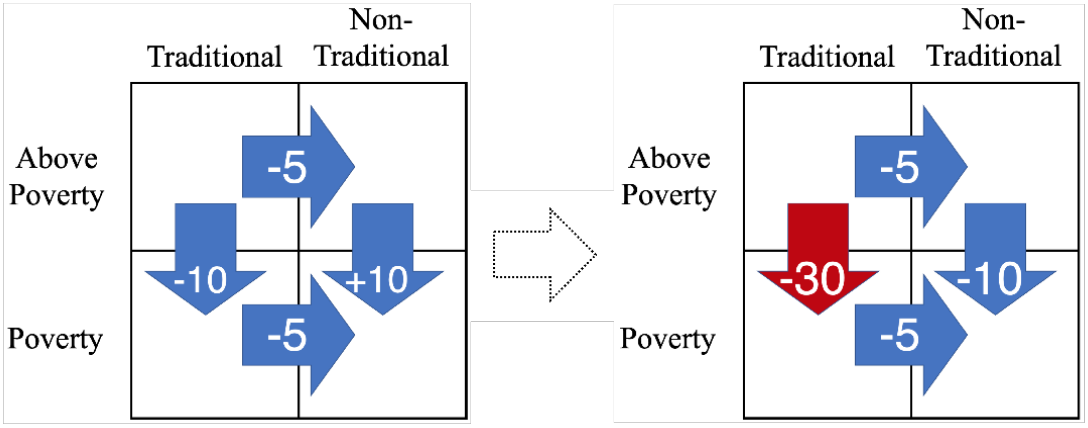



**Figure 8: Double Difference Scenario #1** **Figure 9: Double Difference Scenario #2**

As indicated by the above graphs, measuring both differences is important because the changes across the categories omitted in Figures 4 and 5 can outweigh the measured differences between the non-omitted categories. Stated in terms of the primary hypothesis of this study, traditional households may experience a disproportionately greater decrease in wealth associated with poverty (indicated by the red arrow), in comparison to non-traditional households. This may happen, for example, because households with middle-class family structures also have middle-class expectations or beliefs that are not adaptive in the context of poverty. If this were the case, then households below the poverty line would have more wealth on average under *non-traditional* family structures, even if the change in wealth associated with the *family structure variable only* appears to depict low-income households as having greater wealth under *traditional* family structures.

[3] Using the top-left quadrant as a baseline, the bottom-left quadrant has -30 dollars and, given an even distribution of observations in each quadrant, the bottom-right quadrant has the average of -30 + -5 and -5 + -10, which is -25 dollars. So, the bottom-right quadrant has 5 more dollars than the bottom-left in both scenarios.

Thus, subparts of a population should not be studied along a single difference because that subpart may be an important distinction itself, carrying differential effects along the single difference studied. Also, after presenting regression results for the descriptive difference-in-difference models described above, I will return to the above quadrant approach using data from wealth surveys.

### C. Identifying Why the Poor Act Differently: The Poverty Culture Indicator

As I describe in the above literature review, the poverty culture involves a pattern of behaviors that persist in poverty despite being perceived and treated as counterproductive by the rest of society. The above regression model offers a method for examining the differential effects of non-traditional family structures at different income levels. This model could therefore identify household characteristics that are positive adaptations to low-income status. If we assume cultural behaviors emerge from self-interested individual decisions in response to different environments (Wilson, 2010), we could refer to household structures associated with resourcefulness only in the context of poverty as "poverty culture indicators."

A poverty culture indicator would exhibit certain relationships among coefficients produced by the descriptive difference-in-difference model described above. A characteristic associated with a positive adaptation to poverty should exhibit a higher level of wealth for low-income households exhibiting that trait, compared to other low-income households. Because they are only widely adopted in poverty, poverty culture indicators would be different from traits associated with wealth-building above and below the poverty line. The difference would likely be a decrease in wealth associated with middle- and upper-class households. Because the primary hypothesis of this research is based on cultural patterns being rejected as unproductive in wealth

but are accepted as productive in poverty, a poverty culture indicator will exhibit both of these features.

Because the coefficients in Equation (1) are average deviations of wealth from a baseline constant, comparing the average wealth of different groups involves summing the coefficients associated with each group. To be associated with a net increase in wealth for low-earners, a poverty culture indicator will therefore be one for which the average wealth of the low-income group with middle-class characteristics ($\alpha + \beta$) is less than the average wealth for the group with low-income and a non-traditional family structure associated with the poverty culture ($\alpha + \beta + \gamma + \delta$). Using the coefficients from Equation (1), this means:

(2) $\alpha + \beta\ poverty < \alpha + \beta\ poverty + \gamma\ non\text{-}traditional + \delta\ (poverty * non\text{-}traditional)$

which can be simplified to

(3) $0 < \gamma\ non\text{-}traditional + \delta\ (poverty * non\text{-}traditional)$

and further simplified to

(4) $-\gamma\ non\text{-}traditional < \delta\ (poverty * non\text{-}traditional)$

Figure 10 below illustrates the relationships among coefficients for a poverty culture indicator used in Equation (4). The difference is that Equation (4) reverses the sign of one coefficient to directly compare their magnitudes (rather than presenting them as a negative and counteracting positive, as in Figure 10).

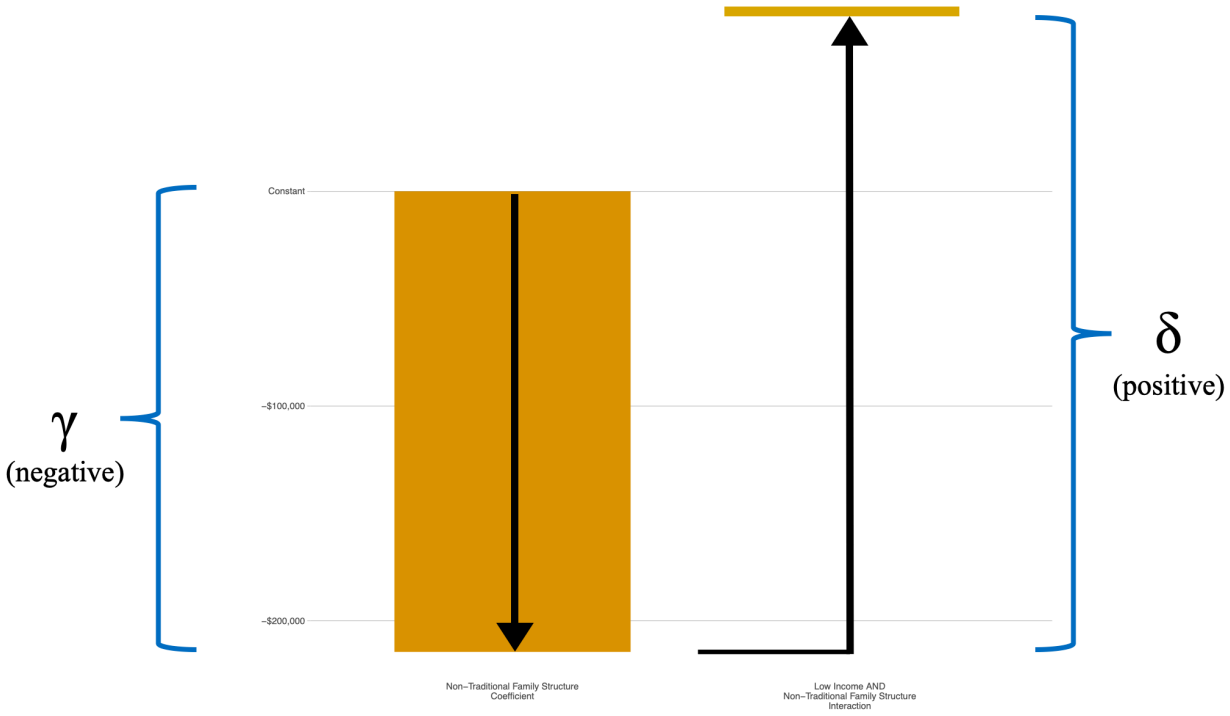



**Figure 10: Simplified Representation of a Poverty Culture Indicator.** A poverty culture indicator involves a positive return on wealth associated with a non-traditional family structures, but only for households below the federal poverty line.

A poverty culture indicator would therefore have two unique characteristics. First, it would be associated with negative wealth for households above the federal poverty line, as indicated by a statistically significant negative coefficient on β, the estimator of non-traditional family structures in equation (1). Second, it would be associated with a positive amount of wealth in δ, the interaction term, that is greater than the negative amount of wealth indicated by γ, the non-traditional family structure estimator, in equation (1). This second element requires coefficients with magnitudes such that $\delta > -\gamma$ and a test of joint significance with an F test for the statistical significance of $\delta \neq -\gamma$. After executing the appropriate regression command, I will test $\delta = -\gamma$ using the "test" function in Stata.

Because this indicator is based on measurable household characteristics and not individual cultural affiliations identified by sociologists, this indicator would serve as a proxy

variable for the poverty culture described above. In other words, the household characteristics studied in this research are not a direct measure of the poverty culture. Quantitative research of the relationship between race and wealth or gender and income are different because all of these variables are observable. In contrast, quantitative research of the poverty culture cannot measure it directly and therefore requires proxy variables.

This proxy variable distinction is important because it prevents confusion in interpreting the effects non-traditional family structures. This research is not arguing that marriage or male-headship are themselves a hindrance to wealth-accumulation in poverty. Rather, family characteristics such as unmarried cohabitation and female headship are important for their associations with the behaviors making up the poverty culture. Non-traditional family structures could be a source of flexibility and resourcefulness in the face of economic uncertainty. However, it is difficult to parse out the separate impact of this flexibility and the cultural habits (such as communalistic sharing and diffuse social networks) that themselves likely lead to these non-traditional family structures. The important point is variables studied below are important for their associations with the poverty culture and not for their direct effects.

Again, the poverty culture is a lifestyle that promotes flexibility and communal support over rigid structures and individualism (Lewis, 1966; Payne, 2013). Characteristics that serve as poverty culture indicators would therefore quantitatively measure this phenomenon.

The discovery of a poverty culture indicator would serve several policy-relevant purposes. Primarily, this indicator would explain the rationality of the poverty culture, justifying flexible family arrangements and frequent resource-sharing as positive adaptations rather than counterproductive behaviors. Second, this indicator would identify the characteristics that are and are not associated with productive adaptations to poverty. Finally, this indicator would also

present variables to be studied for other effects, such as long-term costs, thereby producing a fuller understanding of the tensions facing people below the poverty line.

### D. Proposed Variables and Predicted Relationships

To test the hypothesis that poverty culture characteristics are uniquely resourceful for low-income earners, this thesis will apply the above methodology using key variables. The required variables are net worth, income, household characteristics associated with the poverty culture, and falsification variables. Testing the long-term costs of poverty culture behaviors uses the same independent variables but regresses them on the likelihood of exiting poverty.

First, this thesis will estimate the wealth of households using a net worth variable ideally measuring all assets and debts for each case. This variable indicates the resourcefulness of each household—whether they are acquiring assets and avoiding debts. For my secondary hypothesis, the dependent variable will be a binary variable indicating households that began a panel survey in poverty and earned above the federal poverty line at a later point in time.

Second, this thesis uses income levels to identify households in poverty. Importantly, this approach will allow us to differentiate low-income households with a higher asset-to-debt ratio compared to low-income households with less wealth. As described above, studying poverty based only on differences in income creates a danger of reverse causality in which we cannot know whether characteristics associated with poverty are a cause of or attempt to deal with poverty. This thesis therefore defines "poverty" based on incomes below the federal poverty line and then measures resourcefulness based on wealth levels. Furthermore, because outlier cases may have zero income or business losses and also great amounts of wealth, cases are dropped with zero/negative income and no government benefits (for the Survey of Consumer Finances).

Third, this thesis will examine household characteristics associated with the poverty culture such as unmarried cohabitation and female-headed households. These characteristics will serve as candidates for poverty culture indicators. This thesis will also use secondary demographic characteristics to control for the ways that these characteristics could be associated with differences in wealth. For example, because unmarried cohabitation is likely more frequent among younger people who also have less wealth on average, variables such as age could be included in the descriptive difference-in-difference regression to avoid this bias.

Finally, this thesis will make efforts to test the robustness of the proposed methodology with falsification variables. Because this thesis proposes a potentially new and underexplored methodology, it could produce results that are statistical tricks rather than representative estimators. For example, if all traits associated with a negative effect on wealth also likely produce a substantial positive coefficient on the interaction of that trait and low-income status, then the above methodology will not prove the hypothesis tested. The proposed falsification variables are bankruptcy and proportion of women in the household. Bankruptcy likely has a negative association with wealth but is unlikely to be associated with the poverty culture. As described in the above literature review, the poverty culture would not likely be associated with bankruptcy—rather, poverty culture households share in times of plenty and ask for assistance among each other in times of hardship. Also, the proportion of women in the household likely has a negative association with wealth through its association with lower average earnings. However, having more women in a household should not be associated with poverty if we control for the effects of female headship.

These variables are described in Table 1 below.

**Table 1: Proposed Variables**

| Variable Name | Variable Type | Characteristics | How Calculated | Purpose |
|---|---|---|---|---|
| net worth | dependent/outcome variable | continuous | combined value of assets – debts | measure resourcefulness of households |
| poverty | independent variable | indicator | "1" if at/below the federal poverty line, "0" otherwise | identify households in poverty |
| non-marriage | first independent variable of interest | indicator | "1" if unmarried couple, "0" if married couple, dropped if single | predicted association with the poverty culture (higher net worth for low-income households) |
| female-headed household | second independent variable of interest | indicator | "1" if determined to be female-headed, "0" if determined to be male-headed | predicted association with the poverty culture (higher net worth for low-income households) |
| age | independent variable | continuous | reported in survey | control for differences in wealth based on average age of married vs. unmarried couples |
| single | independent variable | indicator | "1" if determined to be single, "0" if determined to be cohabitating | control for differences in wealth based on average age of male- vs. female-headed households |
| bankruptcy | independent falsification variable | indicator | "1" if reporting prior bankruptcy, "0" otherwise | negative association with wealth, not associated with poverty culture |
| femaleness | independent falsification variable | continuous | gender reported in survey, used to calculate proportion | negative association with wealth, not associated with poverty culture |
| left poverty | secondary dependent/outcome variable | indicator | households starting in poverty, leaving at some point | measure of likelihood of leaving poverty |

If the primary hypothesis tested is correct, then low-income households organized around female-headship and unmarried cohabitation will have more wealth than low-income households exhibiting traditional, middle-class family structures. Furthermore, low-income households with the falsification variables should not experience similar effects. These differences would

illustrate the association of unmarried cohabitation and female-headship with behaviors that are resourceful in the face of economic uncertainty.

After exploring the potential benefits of behaviors associated with the poverty culture, this research will also examine the costs of these behaviors by changing the dependent variable. Because networks of mutual support in poverty and flexible family structures may hinder upward mobility, I create a binary variable capturing households starting below the poverty line and earning above the poverty line at a later point in panel data. Regressing the above models on this variable in a linear probability model should estimate the overall change in likelihood of leaving poverty unique to households with poverty-culture characteristics.

### E. Data Sources

Using the above methodology and variables to test the hypothesis that low-income households associated with poverty culture characteristics have more current wealth but are also less likely to exit poverty, two surveys contain the necessary data. These sources are the Survey of Consumer Finances and the Survey of Income and Program Participation.

First, the Survey of Consumer Finances ("SCF") is a triennial cross-sectional survey of the assets and debts of U.S. households conducted by the Federal Reserve Board. It claims to be the most detailed survey of its kind, asking about all sources of net worth and their value. This survey also collects data on income, government assistance, family structure, and demographic information. Survey administrators interview at least 5,000 households for each survey, use multiple imputation to address missing data, and up-weight under-sampled households based on income levels.

The SCF is the most detailed instrument measuring the net worth of U.S. households. Because a precise estimate of wealth is crucial to the above analysis, SCF is the primary tool proposed for testing the above hypothesis.

In the interest of double-checking results from the SCF and exploring the secondary hypothesis, this thesis will also employ the Survey of Income and Program Participation ("SIPP"). SIPP is a panel survey instrument managed by the U.S. Census Bureau, collecting information from representative samples of U.S. households over 48-month periods. Focusing on income levels and uptake of government benefits, SIPP serves as the most extensive source of information on the economic wellbeing of people in the United States. In measuring resourcefulness, SIPP collects information on assets and debts attached to these assets. However, this survey does not claim to record levels of unsecured debt. SIPP may therefore understate the maladaptive nature of middle-class norms by ignoring any tendency for low-income earners with rigid family structures and individualistic ideals to acquire unsustainable amounts of debt.

The benefit of SIPP is that its panel data structure may capture the tendency of families with poverty culture characteristics to enter or leave low-income status. As described by Payne (2013), the poverty culture can be mutually supportive among its participants; however, this communalistic ethic also tends to keep people in poverty because of expectations that individual gains will be shared with the broader community. I will therefore use the SIPP to test this secondary hypothesis.

## Empirical Results

### A. Introduction

As I will explain in this section, the evidence supports my research questions. This research offers insights into the logic of "unstable" family structures in poverty and their rejection outside of poverty. The central hypothesis in this analysis is behaviors found in the poverty culture (such as unmarried cohabitation and female headship) are associated with a different impact on household wealth below versus above the poverty line. In other words, poverty behaviors condemned in the mainstream have an opposite, beneficial effect that is unique to low-income households.

Testing this primary hypothesis involves, first, identification of poverty-culture behaviors measured in surveys of the wealth of Americans and then applying a novel "descriptive difference-in-difference" model. The behaviors under focus—unmarried cohabitation and female-headed households—serve as proxy variables, capturing the variation in wealth associated with the absence of middle-class values (i.e., they are not necessarily the cause of greater wealth). The descriptive difference-in-difference model is like a traditional difference-in-difference approach in that it locates a trend or difference unique to one group compared to another. It is different from a traditional difference-in-difference, however, in that one of the differences is not time. This model therefore measures the difference in wealth associated with poverty-culture behaviors that are unique to households below the poverty line as compared to households above the poverty line.

By way of regression equations, this analysis tests two specific models:

(1) $Y\ net\text{-}worth = \alpha + \beta\ poverty + \gamma\ unmarried + \delta\ (poverty * unmarried) + \phi\ age + \varepsilon$

(2) $Y\ net\text{-}worth = \alpha + \beta\ poverty + \gamma\ female\text{-}headed + \delta\ (poverty * female\text{-}headed) + \phi\ singleness + \varepsilon$

I was able to test both models through the 2001-2016 data from the Survey of Consumer Finances and the 2014 Survey of Income and Program Participation, a longitudinal survey covering calendar years 2013-2016. As a reminder, the measure of interest is whether the coefficient on the interaction term, $\delta$, is significantly more positive than the family-structure term, $\gamma$, is negative. This would indicate, controlling for the above factors, low-income households with "poverty culture" behaviors (net worth = $\alpha + \beta + \gamma + \delta + \phi$) have more wealth than low-income households with middle class behaviors (net worth = $\alpha + \beta + \phi$), considering effects for all four groups. A significantly negative coefficient on the family-structure term, $\gamma$, indicates the behavior is associated with a decrease in wealth above the federal poverty line. A positive interaction term, $\delta$, outweighing this effect indicates the behavior is not similarly maladaptive in the context of poverty. Thus, such a term indicates a specific adaption to poverty, i.e., a "poverty culture indicator."

After the above analysis, this thesis will test the cost of poverty-culture behaviors to determine whether they are associated with an overall decreased likelihood in exiting poverty. This secondary hypothesis tests two models:

(3) $Y\ \textit{left poverty} = \alpha + \beta\ \textit{poverty} + \gamma\ \textit{unmarried} + \delta\ (\textit{poverty} * \textit{unmarried}) + \phi\ \textit{age} + \varepsilon$

(4) $Y\ \textit{left poverty} = \alpha + \beta\ \textit{poverty} + \gamma\ \textit{female-headed} + \delta\ (\textit{poverty} * \textit{female-headed}) + \phi\ \textit{singleness} + \varepsilon$

Under this secondary analysis, the difference in the chance of exiting poverty between low-income households without poverty-culture characteristics (likelihood = $\alpha + \beta + \phi$) compared to households without these characteristics (likelihood = $\alpha + \beta + \gamma + \delta + \phi$) is estimated as $\gamma + \delta$. This analysis also uses a form of sensitivity analysis to calculate the precision of these estimates.

### B. Univariate Analysis

Rather than describe a particular segment of the overall population and its unique characteristics, the below univariate statistics begin by describing two survey instruments aimed at presenting representative samples of the U.S. population. While these statistics do not directly affect the analysis, univariate analysis remains important for three reasons. First, it tests whether my analysis is valid by checking whether my samples have comparable characteristics to other studies of the U.S. population. Second, it checks for discrepancies between the survey instruments. Third, it measures the effects of attrition by comparing the first wave of the SIPP (with inherently no attrition) to the full sample. Tables 2 and 3 therefore present the results for each survey side-by-side.

**Table 2: Univariate Statistics for Female-Headed Household Analysis.** These datasets include the entire sample from each survey.

| Variable | Statistic | Survey of Consumer Finances (SCF), 2001-2016 | Survey of Income and Program Participation (SIPP), 2013-2016 | Survey of Income and Program Participation, 2013 (no attrition) |
|---|---|---|---|---|
| Household net worth (continuous) | Mean | $747,304.80 | $ 439,559.2 | $368,953.3 |
| | Std. Dev. | 6,713,205 | 3,024,720 | 1,588,036 |
| | Median | $201.21 | $84,830 | $77,947 |
| | Top 1% | $13,700,000 | $4,269,900 | $4,188,500 |
| | Bottom 25% | -$30,617.03 | $4,360 | $3,462 |
| Household income (continuous) | Mean | $70,470.24 | $76,586.22 | $72,735.31 |
| | Std. Dev. | 244,950.8 | 91,842.54 | 90,882.1 |
| | Median | $41,000 | $53,172 | $49,584 |
| | Top 1% | $506,412 | $425,472 | $433,716 |
| | Bottom 25% | $22,173 | $25,860 | $23,916 |
| Below poverty line | Percentage | 10.07% | 13.72% | 15.22% |
| Female-headed | Percentage | 53.93% | 44.39% | 52.06% |
| Poverty and female-headed | Percentage | 6.82% | 6.98% | 9.10% |
| Single | Percentage | 42.51% | 39.37% | 45.84% |
| Race | White | 75.52% | 78.56% | 78.51% |
| | African American | 11.64% | 14.93% | 15.01% |
| | Other | 12.84% | 6.51% | 6.47% |
| Sample size | | n = 32,123 (× 5 imputations) | n = 1,063,389 (29,686 households × months in sample) | n = 355,423 (29,685 households × months in sample) |

**Table 3: Univariate Statistics for Unmarried Cohabitation Analysis.** These datasets are limited to households composed of cohabitating couples.

| Variable | Statistic | Survey of Consumer Finances (SCF), 2001-2016 | Survey of Income and Program Participation (SIPP), 2013-2016 | Survey of Income and Program Participation, 2013 (no attrition) |
|---|---|---|---|---|
| Household net worth (continuous) | Mean | $1,052,250 | $603,045.1 | $518,080.2 |
| | Std. Dev. | 8,057,486 | 3,330,586 | 2,080,011 |
| | Median | $770.14 | $163,590 | $146,150 |
| | Top 1% | $18,600,000 | $5,527,200 | $5,507,100 |
| | Bottom 25% | -$50,931.38 | $24,630 | $18,020 |
| Household income (continuous) | Mean | $93,849.9 | $103,557.40 | $98,399.13 |
| | Std. Dev. | 273,187.1 | 105,626.6 | 103,436.3 |
| | Median | $58,320 | $77,640 | $73,008 |
| | Top 1% | $700,000 | $495,756 | $503,532 |
| | Bottom 25% | $34,020 | $46,176 | $42,300 |
| Below poverty line | Percentage | 4.92% | 6.88% | 8.09% |
| Unmarried | Percentage | 13.35% | 11.25% | 12.66% |
| Poverty and unmarried | Percentage | 1.49% | 1.55% | 2.02% |
| Age in years (continuous) | Mean | 49.53 | 47.59 | 50.23 |
| | Std. Dev. | 15.81 | 16.21 | 15.55 |
| Race | White | 80.28% | 83.75% | 83.81% |
| | African American | 6.68% | 8.90% | 8.91% |
| | Other | 13.04% | 7.35% | 7.28% |
| Sample size | | n = 32,123 (× 5 imputations) | n = 536,944 (15,481 households × household members × months in sample) | n = 185,276 (15,481 households × household members × months in sample) |

Comparing the statistics reported across these tables, it is important to first note the impacts of focusing on non-single households in Table 3. Unlike analysis of female headship, the sample within each survey measuring differences between married and unmarried couples includes only households with married or unmarried couples. Specifically, they exclude observations for which the head of household did not report a significant other in the household (in the SCF) or households in which a person identified as a married or unmarried spouse was not surveyed (in the SIPP). Because the samples without single heads of household in Table 3 indicate higher average wealth, income, and whiteness, the analysis of female heads of households checks for potential selection bias in the analysis of marriage rates.

A comparison of statistics between the first wave of the SIPP and the full sample reveals the effects of attrition. As a preliminary matter, we can observe the presence of attrition because the number of observations in the first wave is very slightly less than 12 times the number of households; whereas, the number of observations across all four waves is significantly less than 48 times the number of households. So, with the first wave of the SIPP reporting systematically higher levels of financial wellbeing in terms of wealth, income, and family structure, it seems the less well-off are predictably less likely to stay in touch with census workers. The main analysis below will therefore focus on the first wave of the SIPP, even though this excludes much of the sample and will reduce the statistical power of estimates.

Within their individual results, Tables 2 and 3 describe two surveys that are mutually consistent enough to be useful but different enough to avoid duplicity. In terms of similarities, the SCF and SIPP present comparable figures for distribution of age, proportions of single households, proportions of female-headed households, and proportion of cohabiting couples who are unmarried. Because these are the primary independent variables in this research, these two

surveys should serve as valid checks on each other, in terms of idiosyncrasies in data-collection or coding.

Using both surveys is important, because differences between them certainly exist. For example, the SIPP allows for easy construction of a female-headship indicator because it asks one respondent from each household to identify as a "householder" (and also asks for gender), whereas the SCF does not have respondents self-identify as householder.[4] Also, the SCF asks the householder whether they are single, whereas the SIPP asks each person in each household for their relationship status to the householder.[5]

The significant differences between the surveys in measuring income and net worth likely reflect different units of analysis. For example, the SCF measures income and wealth from the "primary economic unit," excluding information from household residents who are not the primary earners and their minor children, while the SIPP counts income and wealth from all members of a household. Furthermore, the SIPP interviews each member of a household for household income and wealth, whereas the SCF interviews either the primary income-earner or their spouse.

Overall, the variations between these surveys will likely add to the robustness of the model if the model is supported by both instruments. For example, the dependent variable (household net worth) in the SCF is the product of 18 series of questions about sources of assets and 12 series of questions about sources of debts (see Figure 11), while the SIPP provides a pre-constructed net worth variable. If two survey instruments with idiosyncratically different

[4] For the SCF, I constructed female-headship based on gender if single, number of hours worked between couples, and the primary respondent identified by surveyors if both cohabiting adults work the same number of hours.
[5] For the SIPP, I identified single-adult households as households for which none of the interviewed respondents identified as the married or unmarried spouse of the householder.

approaches to gathering and presenting data support the existence of a poverty culture indicator, it would bolster the validity of the results.

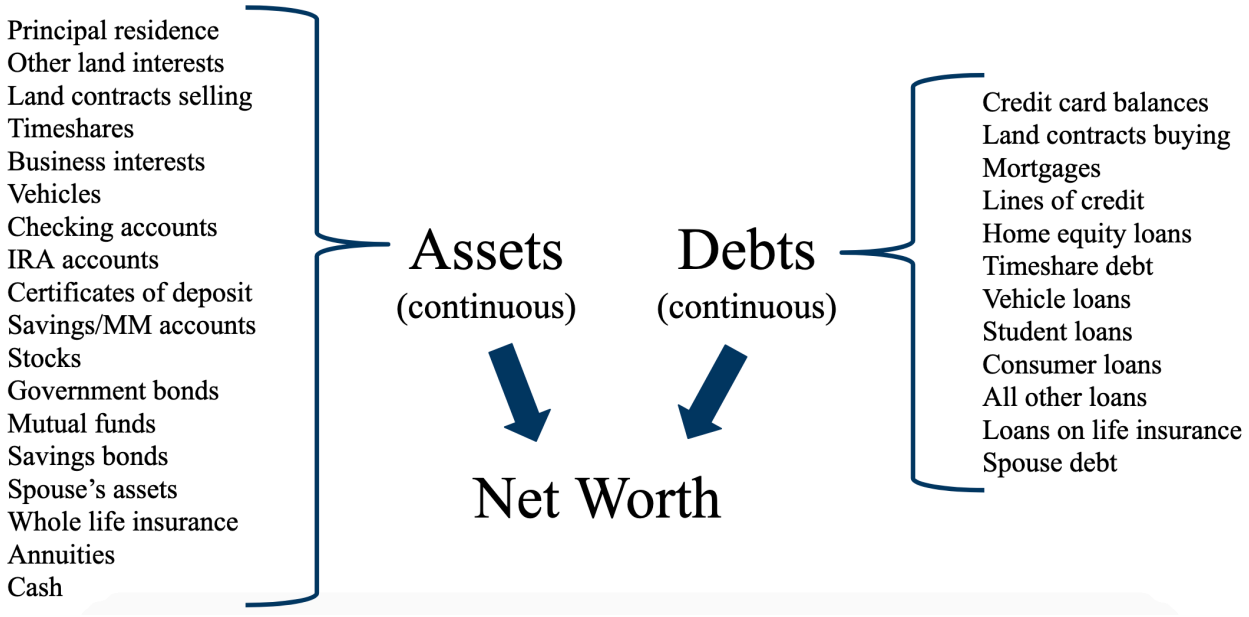



**Figure 11: Constructing the Net Worth Variable in the Survey of Consumer Finances**

### C. Regression Results: Primary Hypothesis on the Benefits of the Poverty Culture

Using the above-described samples, I tested the descriptive difference-in-difference model on both potential poverty culture indicators and through both survey instruments. This approach tests the primary hypothesis, which is whether household characteristics identified with the poverty culture are associated with higher wealth for families below the federal poverty line.

First, to understand the regression models, it is important to appreciate the confounding factors included. Confounding factors are important because the main research model examines the relationship between a family structure, poverty, and household wealth. Policymakers and sociologists do not decry the link between poverty and unmarried cohabitation because unmarried people are, on average, younger, even though younger people tend to have less wealth. Because a survey is a still picture of a population in time, many of the unmarried households may enter stable marriages in the future but just happen to be young. In order to

study phenomena with unique relationships to poverty and the accumulation of wealth, it is therefore important to remove separate factors not producing effects along the intended channels.

To illustrate these channels, the below diagrams depict chains of bivariate regression results in the form of omitted variable bias maps. As Figure 12 reveals, female-headed households are significantly more likely to be single. Analysis with a linear probability model (LPM) indicates female-headship is associated with an overall increase in the likeliness of being single of 17.46% in the SCF and 16.15% in the SIPP. These are important changes in this overall likelihood because being single is associated with a statistically significant and large decrease in wealth in both surveys.

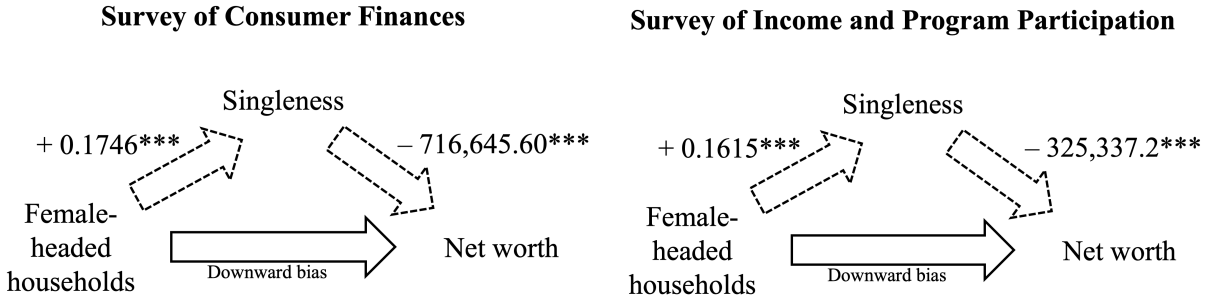



**Figure 12: Omitted Variable Bias Analysis for Female-Headship** (*** indicates $p < 0.000$)

Next, Figure 13 shows unmarried households are significantly younger by more than a decade. Having ten fewer years in the unmarried compared to the married segment of the sample affects the analysis because each year of life is associated with a significant increase in wealth under both surveys.

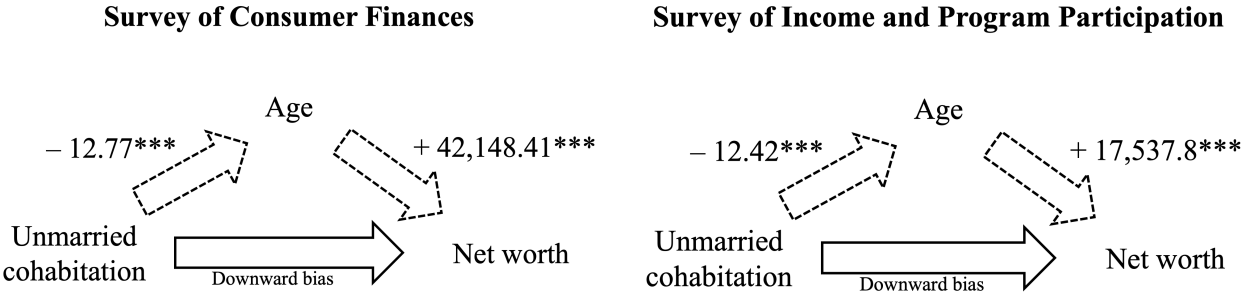



**Figure 13: Omitted Variable Bias Analysis for Unmarried Cohabitation.** (*** is $p < 0.000$)

Isolating wealth effects unique to unmarried cohabitation and female-headed households should therefore involve comparing these effects across households that are similarly situated. Singleness and age are therefore confounding factors in the female-headship and unmarried cohabitation models, respectively.

The following tables (Tables 4-8) present the models tested in the top portion of the table, then present stepwise regression results in the middle portion, and finally report summary statistics in the bottom portion. Standard deviations are listed in parentheses under each coefficient, and the last variable in each column is the p-value of the difference between the interaction term and the negative of the family structure term (indicating whether the positive interaction effect outweighs the negative family structure effect). This p-value indicates the chance that variations in sampling account for the reported difference in net worth for low-income households with traditional versus non-traditional family structures. While the other reported results relate to coefficients from regression commands, the p-value for the difference between $\delta$ and $-\gamma$ is the product of the "test" command in Stata (testing $\delta = -\gamma$).

**Table 4: Regression Results for Female-Headed Households as a Poverty Culture Indicator.** Results indicate poor households have greater average wealth under female headship.

(1) Y *net-worth* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + ε

(2) Y *net-worth* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + ϕ *singleness* + ε

| | Survey of Consumer Finances (SCF), 2001-2016 | | Survey of Income and Program Participation (SIPP), 2013 | |
|---|---|---|---|---|
| | (1) | (2) | (1) | (2) |
| Poverty (income below poverty guidelines) (β) | -1,146,890*** (35,097.6) | -997,127.5*** (36,914.7) | -341,324*** (7,430.36) | -260,796.1*** (6,975.35) |
| Female-headed household (γ) | **-688,058.5***** (36,792.66) | **-602,739.5***** (36,631.59) | **-63,615.53***** (7,839.38) | **-22,183.23***** (7,979.19) |
| Poverty and female-headed household (δ) | **674,495.9***** (39,426.92) | **702,563***** (43,009.76) | **40,394.44***** (9,696.43) | **45,531.45***** (9,696.8) |
| Single (ϕ) | | -557,398.3*** (31,702.2) | | -285,704.1*** (6,172.1) |
| Constant (average net worth when above = 0) (α) | 1,183,150*** (32,834.63) | 1,357,135*** (36,227.15) | 450,336.3*** (5,689.54) | 547,007.7*** (6,917.99) |
| δ + γ (estimated advantage of female-headship in poverty) | -13,562.6 | 99,823.5 | -23,221.09 | 23,348.22 |
| p-value of difference between δ and –γ | 0.3340 | 0.0000†† | 0.0000 | 0.0001†† |
| Joint probability (F-test) | 0.0000§§ | 0.0000§§ | 0.0000 | 0.0000 |
| $R^2$ | 0.0036§§ | 0.0052§§ | 0.0057 | 0.0132 |
| Sample size (observations) | 31,717 | 31,717 | 355,423 | 355,423 |

*** $p < 0.01$

*Note*: the difference between absolute values of the coefficients in bold indicates the estimated difference in wealth between below-poverty-line households with traditional versus non-traditional family structures (see the "δ + γ" row above)

†† p-value indicates positive interaction term counteracts negative family structure term

§§ $R^2$ and F-test are not the product of the micombine command, which reduces the t-score for larger standard errors

*Note*: standard errors are reported in parentheses below each reported coefficient

*Note*: data from the Survey of Consumer Finances (SCF) are from 2001-2016 and are reported in inflation-adjusted 2016 dollars

**Table 5: Regression Results for Unmarried Cohabitation as a Poverty Culture Indicator.** Results indicate poor households have greater average wealth under unmarried cohabitation.

(1) Y *net-worth* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + ε

(2) Y *net-worth* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + ϕ *age* + ε

| | Survey of Consumer Finances (SCF), 2001-2016 | | Survey of Income and Program Participation (SIPP), 2013 | |
|---|---|---|---|---|
| | (1) | (2) | (1) | (2) |
| Poverty (income below poverty guidelines) (β) | -1,150,404*** (33,369.66) | -1,086,435*** (47,196.42) | -403,948.7*** (10,211.71) | -308,958.3*** (9,303.79) |
| Unmarried (vs. married) (γ) | **-744,165.2***** (67,844.18) | **-238,779***** (72,511.58) | **-315,292.8***** (15,704.94) | **-117,324.1***** (16,509) |
| Poverty and unmarried (δ) | **739,342.9***** (74,757.28) | **824,207.1***** (92,273.28) | **169,421.2***** (17,663.22) | **150,116***** (17,605.28) |
| Age (ϕ) | | 40540.11*** (17,71.75) | | 16,378.84*** (446.398) |
| Constant (average net worth when above = 0) (α) | 1,191,740*** (28,723.51) | -887,134.3*** (77,916.79) | 587,238.6*** (7,124.69) | -267,765.4*** (19,146.28) |
| δ + γ (estimated advantage of unmarried cohabitation in poverty) | -4,822.3 | 585,428.1 | -145,871.6 | 32,791.9 |
| p-value of the difference between δ and –γ | 0.8736 | 0.0000†† | 0.0000 | 0.0008†† |
| Joint probability (F-test) | 0.0000§§ | 0.0000§§ | 0.0000 | 0.0000 |
| $R^2$ | 0.0017§§ | 0.0076§§ | 0.0050 | 0.0188 |
| Sample size (observations) | 20,209 | 20,209 | 185,276 | 185,276 |

*** $p < 0.01$

*Note*: the difference between absolute values of the coefficients in bold indicates the estimated difference in wealth between below-poverty-line households with traditional versus non-traditional family structures (see the "δ + γ" row above)

†† p-value indicates positive interaction term counteracts negative family structure term

§§ $R^2$ and F-test are not the product of the micombine command, which reduces the t-score for larger standard errors

*Note*: standard errors are reported in parentheses below each reported coefficient

*Note*: data from the Survey of Consumer Finances (SCF) are from 2001-2016 and are reported in inflation-adjusted 2016 dollars

**Table 6: Regression Results on Four Waves of the Survey of Income and Program Participation.**

(1) Y *net-worth* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + $V_{waves2-4}$ + ε

(2) Y *net-worth* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + ϕ *singleness* + $V_{waves2-4}$ + ε

(3) Y *net-worth* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + $V_{waves2-4}$ + ε

(4) Y *net-worth* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + ϕ *age* + $V_{waves2-4}$ + ε

| | Survey of Income and Program Participation (SIPP), 2013-2016 | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Poverty (income below poverty guidelines) (β) | -403,317.8*** (9,789.02) | -352,637.4*** (9,941.18) | -458,632.9*** (8,195.06) | -373,458.4*** (7,766.10) |
| Non-traditional family structure (γ) | **-104,035.6***** (8,286.69) | **-53,732.97***** (8,769.2) | **-274,443.1***** (24,265.51) | **-105,704***** (24,007.8) |
| Poverty and non-traditional family structure (δ) | **69,991.52***** (11,498.88) | **85,063.88***** (11,483.91) | **176,066.9***** (29,022.44) | **174,515.6***** (29,035.2) |
| Confounding factor (ϕ) | | -242,165.2*** (8,240.08) | | 16,257.12*** (318.086) |
| Constant (average net worth when above = 0) (α) | 473,027.3*** (5,373.33) | 539,934.5*** (5,756.41) | 586,358.1*** (6,845.52) | -236,236.7*** (16,763.78) |
| δ + γ (estimated advantage of non-traditional in poverty) | -34,044.08 | 31,330.91 | -98,376.2 | 68,811.6 |
| p-value of the difference between δ and –γ | 0.0000 | 0.0002†† | 0.0000 | 0.0000†† |
| Joint probability (F-test) | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| $R^2$ | 0.0040 | 0.0054 | 0.0045 | 0.0105 |
| Sample size (observations) | 1,063,389 | 1,063,389 | 536,944 | 536,944 |

*** p < 0.01

†† p-value indicates positive interaction term counteracts negative family structure term

*Note*: data from the Survey of Income and Program Participation (SIPP) are reported in nominal dollars.

*Note*: $V_{waves2-4}$ indicates the regressions control for a dummy variable for each of waves 2-4, preventing the weights variable, which is designed to make each wave representative of the entire United States, from reflecting systematic changes from attrition.

Tables 4 and 5 present regression results from both the SCF and SIPP (wave 1) survey instruments. For good measure, Table 6 presents comparable results from all four waves of the SIPP, analyzing both regression models. Because the weights variable is calculated to eliminate the effects of attrition within each wave (but is the same variable in all four waves), using this variable to weight the analysis of all four waves appended together would produce inaccurate results. For the full SIPP, I therefore created a dummy variable for waves two, three, and four and included these variables in the regression to control for differences in weighting schemes across the waves. However, I do not report the coefficients on these variables because they are not important to the analysis.

When controlling for confounding factors (age or singleness), both surveys confirm the interaction term is more positive than the family structure term is negative and this difference is statistically significant. This means, when accounting for the effect of non-traditional family structures on people above and below the poverty line separately, low-income households have more wealth when they have "poverty culture" family structures (such as female-headed households and unmarried cohabitation). Furthermore, the statistically significant negative coefficient on the non-traditional family structure term indicates these characteristics are associated with decreased wealth for households above the poverty line.

To interpret the above descriptive difference-in-difference model ($Y = \alpha + \beta + \gamma + \delta$), consider the above results as dividing America into four bins and calculating the average change in net worth of households in each bin, as compared to the constant. The constant reports the average net worth of households with traditional family structure above the poverty line ($\alpha$) and these align with the univariate analysis above. The poverty term indicates the change in average wealth for households below the poverty line *but with traditional family structures* ($\alpha + \beta$). The

non-traditional family structure term indicates the change in average wealth for households *above the poverty line* but with non-traditional family structures ($\alpha + \gamma$). And the interaction term is the change in average wealth combined with other terms for the average wealth of households that are both below the poverty line and have non-traditional family structures ($\alpha + \beta + \gamma + \delta$).

This four-bin conceptualization demonstrates the importance of the statistically significant difference between the absolute magnitude of the non-traditional ($\gamma$) and interaction ($\delta$) terms. If the coefficient on the interaction term is significantly more positive than the coefficient on the non-traditional family structure term is negative, then low income families have more wealth under non-traditional family structures, controlling for other factors in the regression. In terms of the regression equation, this means $\alpha + \beta$ is less than $\alpha + \beta + \gamma + \delta$ in terms of net worth.

The point of this analysis is to show that poverty-culture behaviors have a differential impact above and below the poverty line. This means mainstream society (above the poverty line) experiences a different wealth effect with non-traditional family structures than do households below the poverty line (which experience comparatively positive wealth when controlling for confounding variables).

**D. Visualizing Main Results**

Because these results require comparisons across four categories (the bins described above) and a double-difference, data visualizations are a valuable addition to this research. The first series of visualizations below place the respective coefficients from Tables 4 and 5 into context. The second series of visualizations present an imperfect representation of the comparative distributions of wealth levels and comparisons of average wealth levels across the four categories.

The first set of visualizations (Figures 14-17) depict the projected wealth of similar and typical households in the four categories relative to each other. Because the above analysis controls for age on marital status and singleness on female-headed households, one set of bar charts indicates average wealth of 37-year-old couples in each category and the other indicates average wealth of single householders in each category. In each visualization, the blue bars represent average wealth for traditional family structures and the orange bars represent average wealth for non-traditional family structures. The grey box identifies households below the poverty line. Each bar and arrow represents a statistically significant difference in net worth.

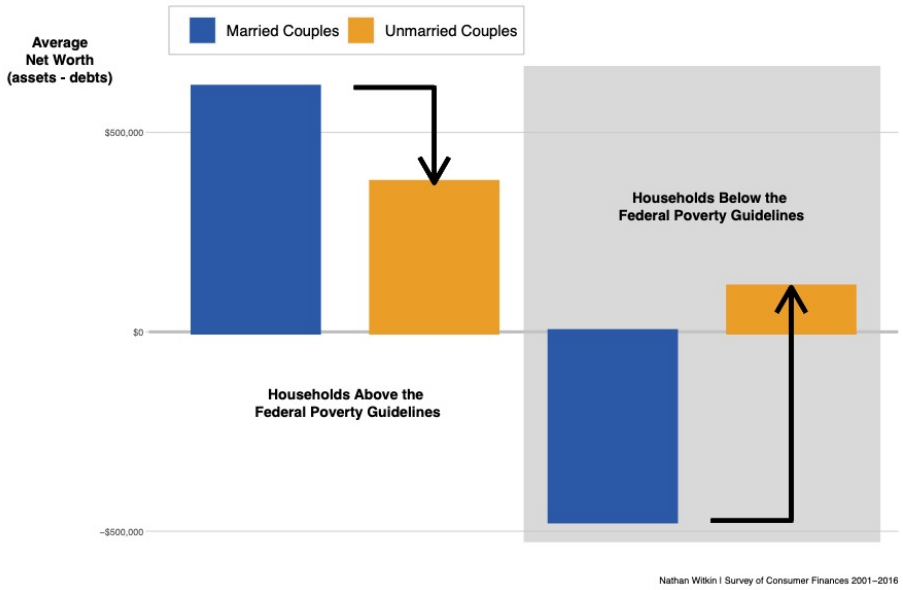



**Figure 14: Unmarried Cohabitation as a Poverty Culture Indicator (SCF).** Controlling for age, unmarried cohabitation is associated with lower wealth for U.S. households above the federal poverty guidelines but higher wealth for households below the poverty level.
*Note*: the bars and arrows above represent statistically significant amounts and differences ($p<0.001$)
*Note*: wealth is reported in inflation-adjusted 2016 U.S. dollars, and results indicate projected wealth for a median-age (37) householder.

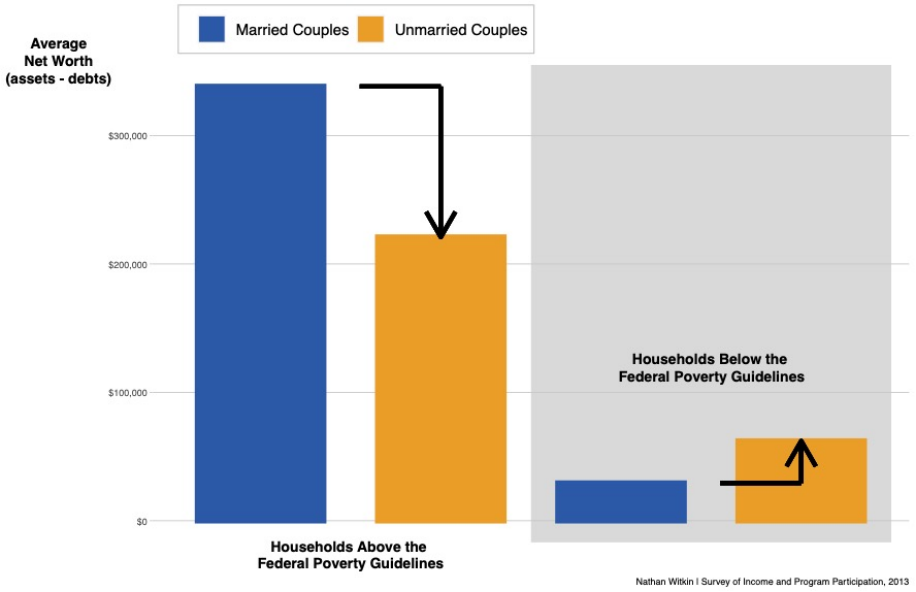



**Figure 15: Unmarried Cohabitation as a Poverty Culture Indicator (SIPP).** Controlling for age, unmarried cohabitation is associated with lower wealth for U.S. households above the federal poverty guidelines but higher wealth for households below the poverty level.
*Note*: the bars and arrows above represent statistically significant amounts and differences ($p<0.001$)
*Note*: results indicate projected wealth for a median-age (37) householder

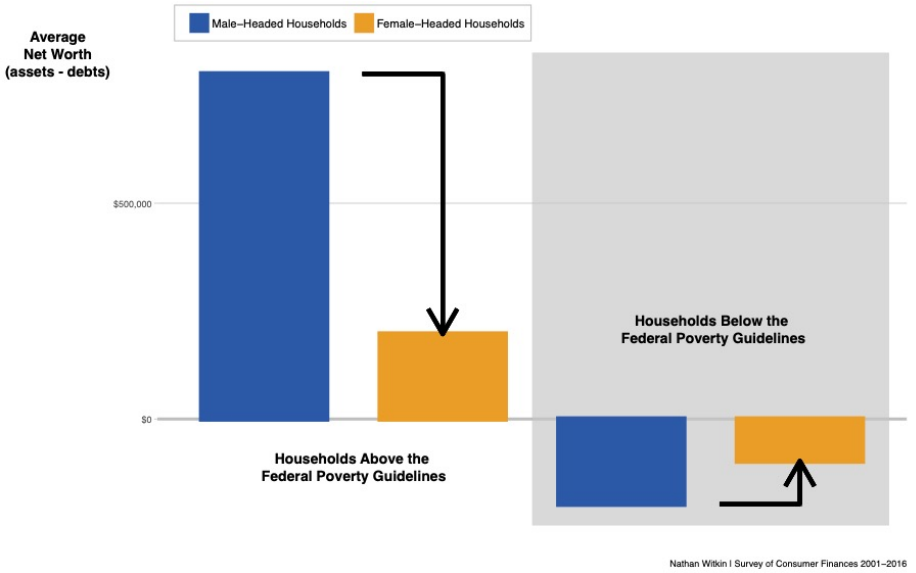



**Figure 16: Female-Headed Households as a Poverty Culture Indicator (SCF).** Controlling for singleness, female-headship is associated with lower wealth for U.S. households above the federal poverty guidelines but higher wealth for households below the poverty level.
*Note*: the bars and arrows above represent statistically significant amounts and differences ($p<0.001$)
*Note*: wealth is reported in inflation-adjusted 2016 U.S. dollars, and each category is reduced by the coefficient on singleness

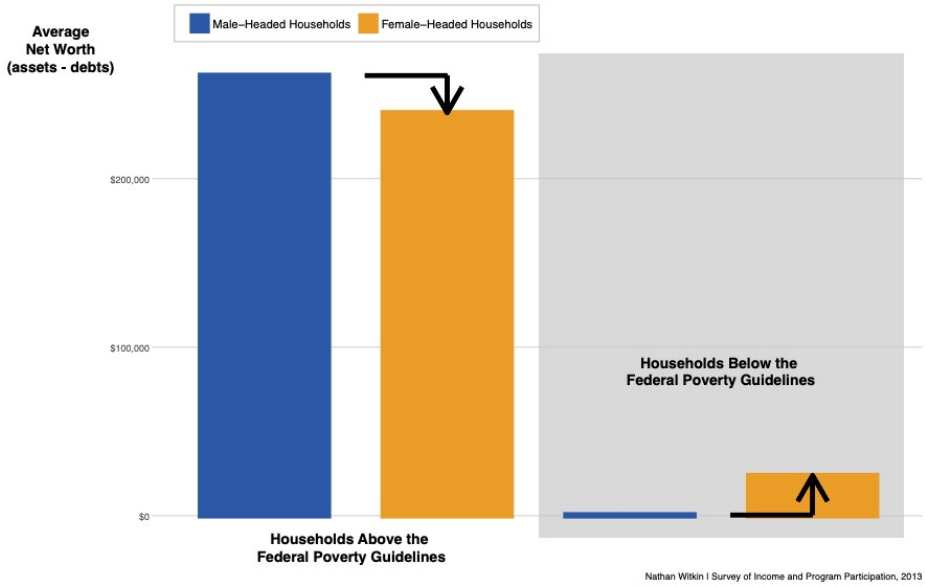



**Figure 17: Female-Headed Households as a Poverty Culture Indicator (SIPP).** Controlling for singleness, female-headship is associated with lower wealth for U.S. households above the federal poverty guidelines but higher wealth for households below the poverty level.
*Note*: the bars and arrows above represent statistically significant amounts and differences ($p<0.001$)
*Note*: each category is reduced by the coefficient on singleness

These visualizations are useful in depicting the relative levels of wealth among the four categories resulting from dividing respondents into above/below poverty and traditional/non-traditional family structures. Through the different directions of the arrows, these visualizations highlight how non-traditional family structures are associated with a decrease in average net worth above the poverty line but are associated with an increase in net worth below the poverty line. Also, these charts are a reminder that, even though low-income households have higher average wealth when organized in non-traditional family structures, they remain far below the average wealth of both groups above the federal poverty line.

The benefit of these graphs is their estimation of average wealth controlling for confounding factors. The limitation of these graphs is they do not directly or richly depict the data. To overcome these limitations while minimizing the resulting tradeoffs, Figures 20 to 23

depict the distributions of wealth levels for the four categories as well as the single and double differences among the average wealth of each category.

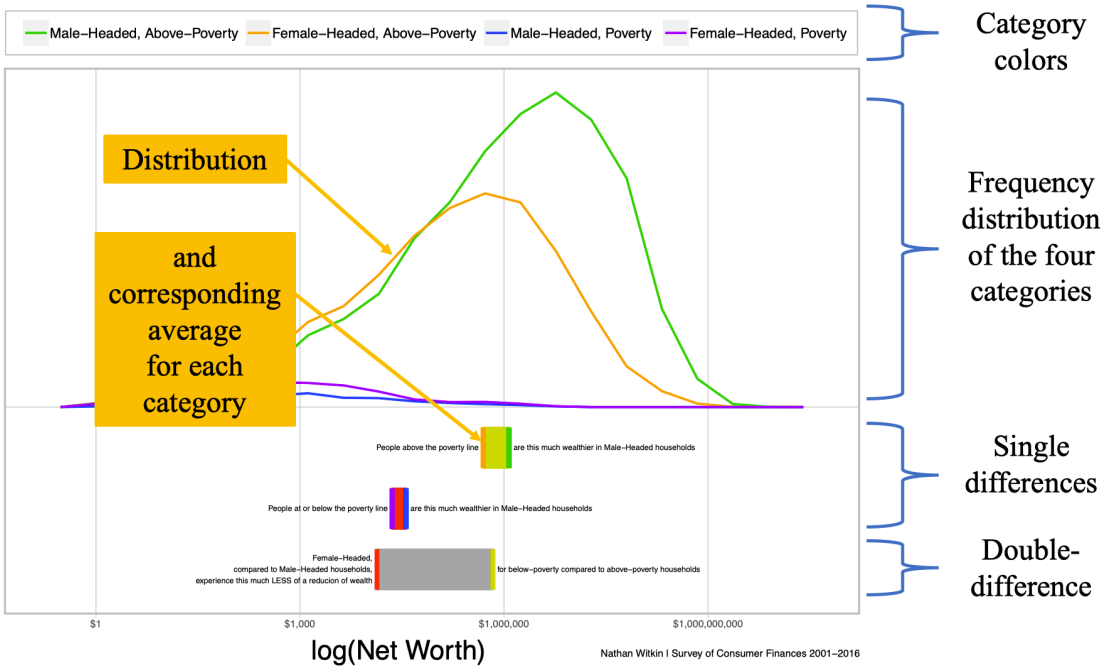



**Figure 18: Overall Breakdown of Frequency Polygon/Difference-in-Difference Graphs**

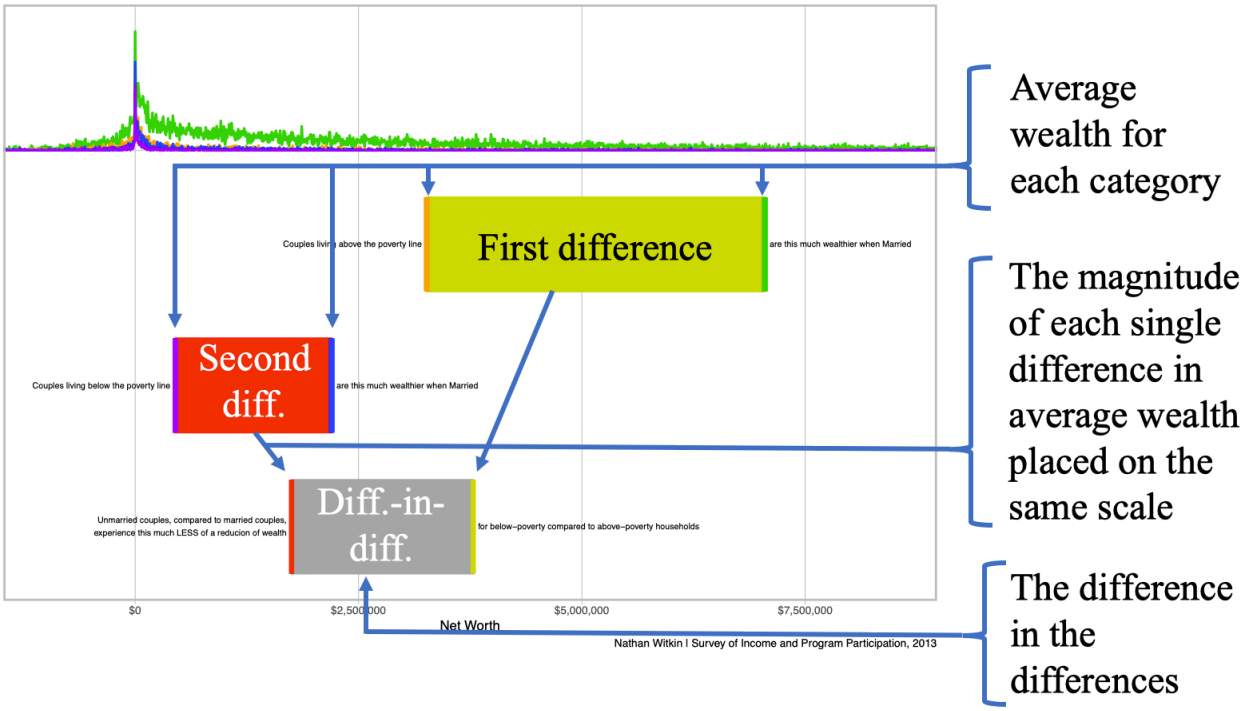



**Figure 19: Detailed Breakdown of Difference-in-Difference Component**

As described in the Figure 18 and 19 breakdowns, these graphs present the data in two ways. In the upper area of each graph, frequency polygons depict the distributions of wealth levels by category. Though these distributions show the relative numbers of households in each category, they are not perfectly representative because they do not take survey weights into account. In the lower area of each graph, vertical lines indicate the average wealth of each category, using survey weights to counteract sampling bias. To assist in interpretation, the top four bars share the color-coding of categories from the frequency polygons, and they are accompanied by explanatory text. The differences between these average wealth levels (the gold and red bars) are then depicted again at the bottom of the graph (as gold and red lines), with the grey area between them representing the difference-in-difference. Please note that, though they are visually digestible and appropriately weighted, these lines and bars do not account for confounding factors.

Furthermore, each graph is presented in a linear and log scale. The linear scale is useful for analyzing average wealth levels and difference-in-difference analysis; however, it is less useful for frequency polygons, because much of the distributions spike near $0 in wealth and stretch in a long, flat tail. Ranging from moderate wealth to billionaire status, these flat tails are not very informative, and they bunch the average wealth indicators too close together when fully presented (which is why the linear scales present a limited range of the data). To overcome problems with linear frequency polygons, I also present data on a log scale. Though these log graphs make the relative distributions of wealth levels more discernable, they make the difference-in-difference bars less understandable because movement along the x-axis indicates change in both amount and magnitude of wealth.

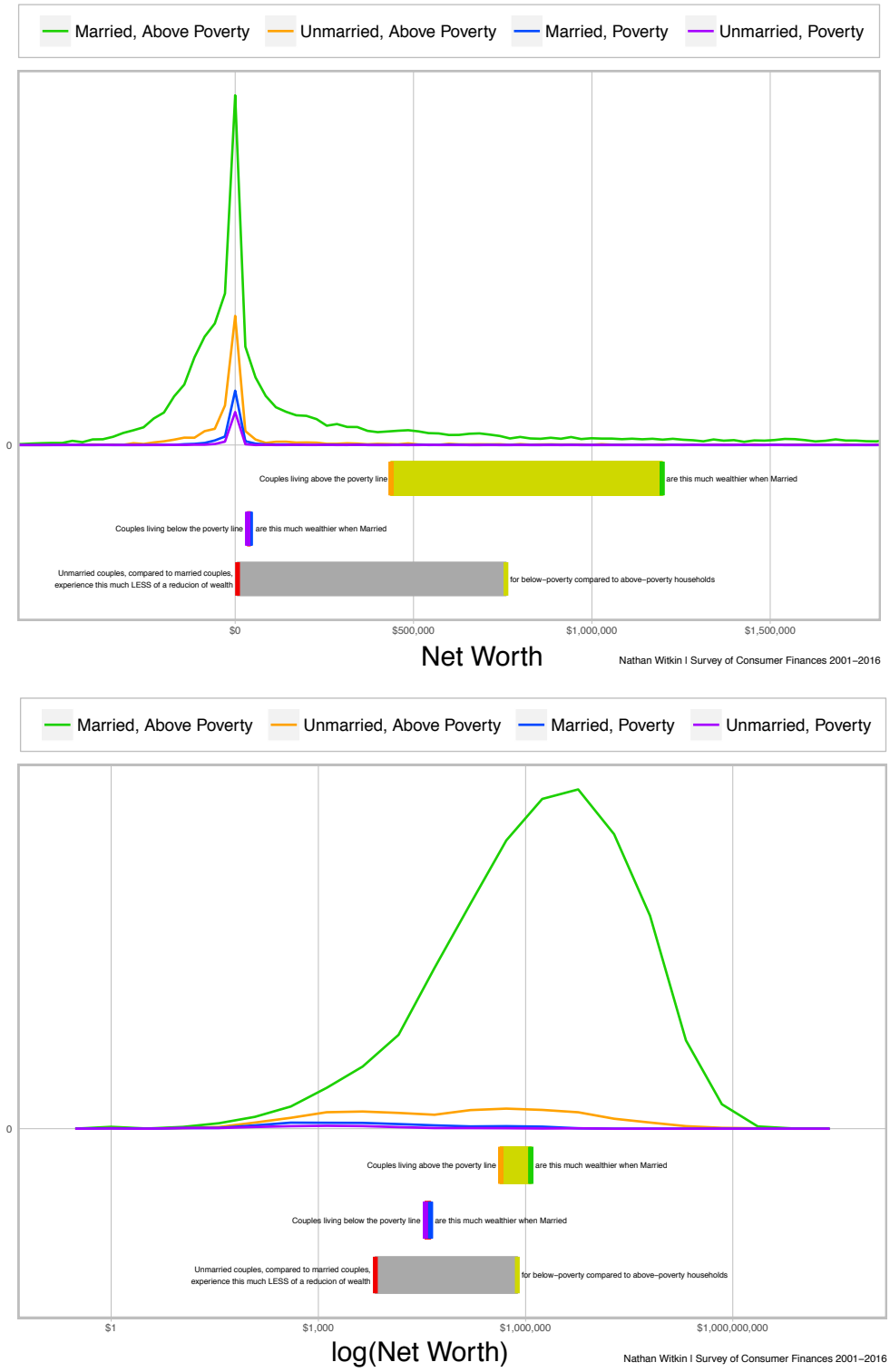



**Figure 20: Distribution and Double Difference for Unmarried Cohabitation (SCF).** Frequency polygon over averages for each category and difference between single differences.

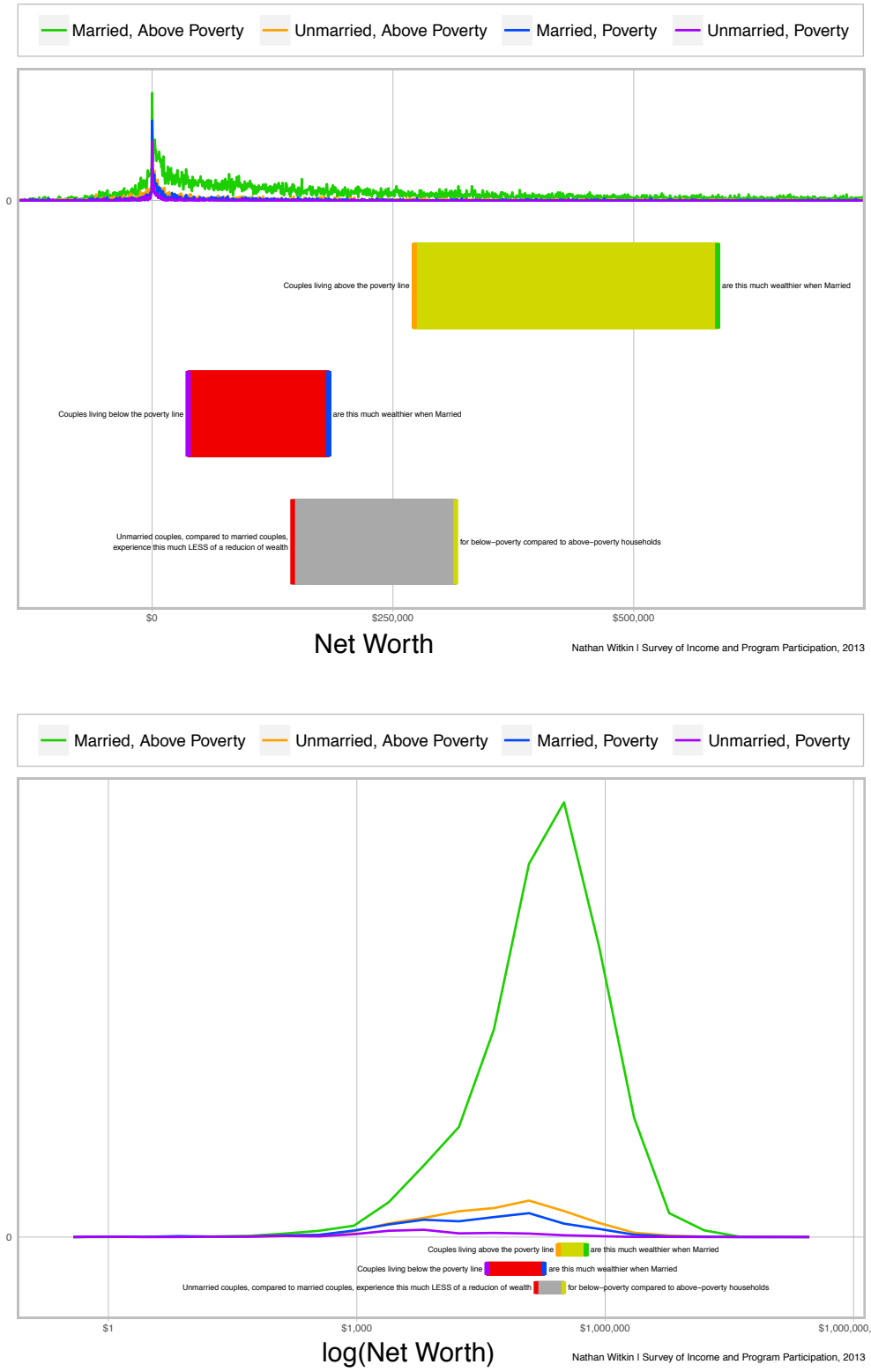



**Figure 21: Distribution and Double Difference for Unmarried Cohabitation (SIPP).**
Frequency polygon over averages for each category and difference between single differences.

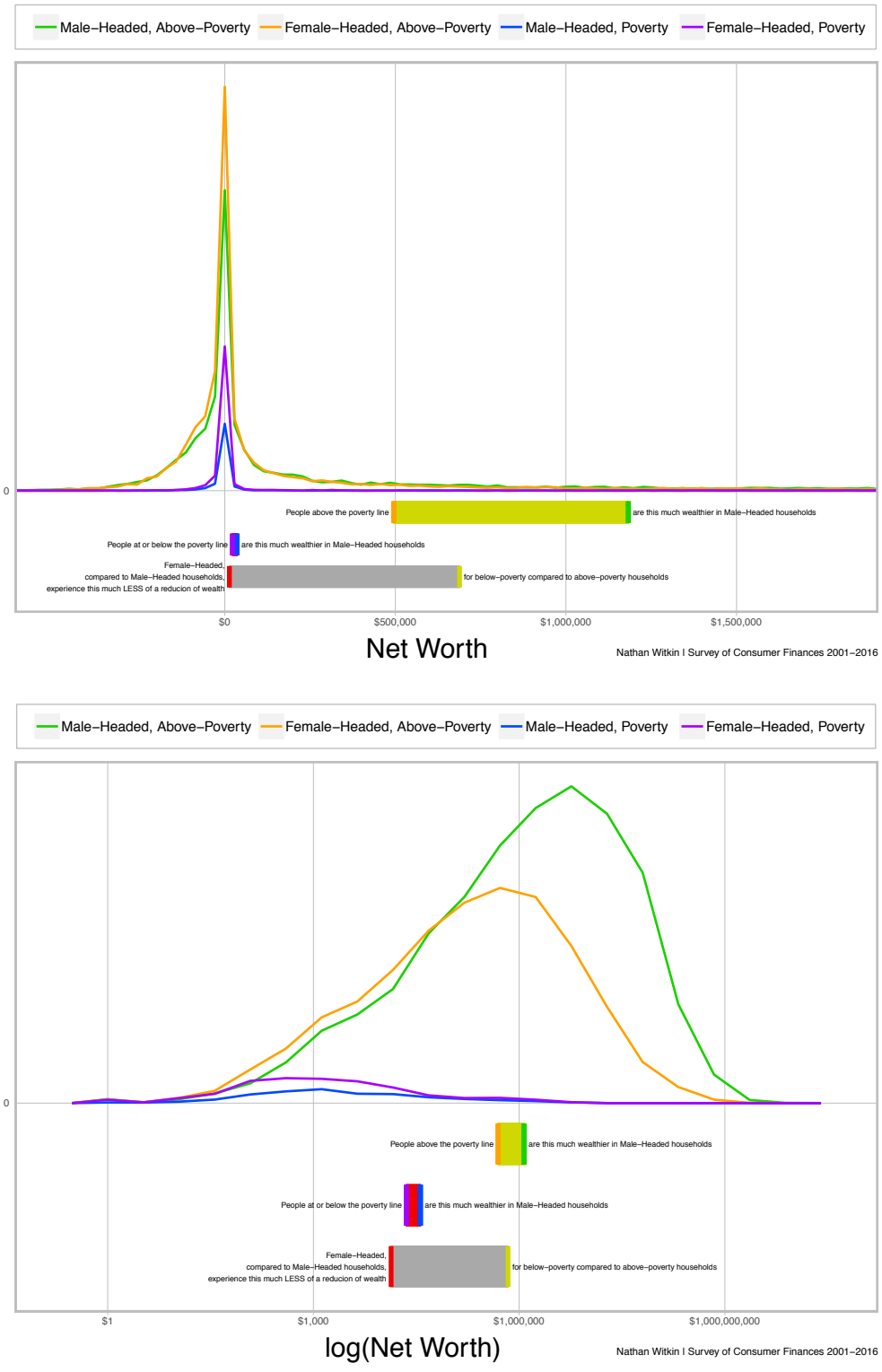



**Figure 22: Distribution and Double Difference for Female-Headed Households (SCF).** Frequency polygon over averages for each category and difference between single differences.

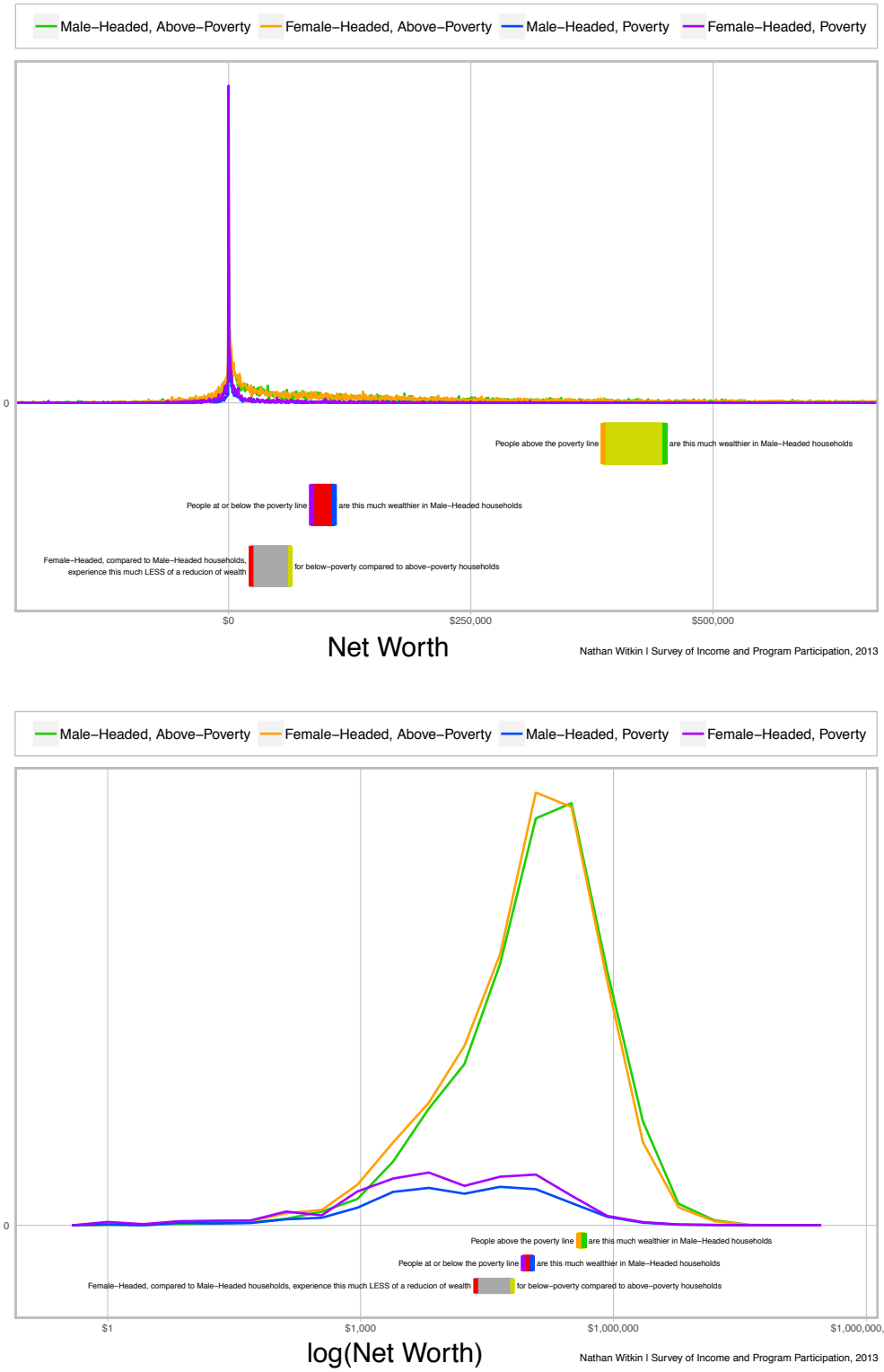



**Figure 23: Distribution and Double Difference for Female-Headed Households (SIPP).** Frequency polygon over averages for each category and difference between single differences.

Though they do not control for confounding factors, these graphs do show changes in wealth associated with traditional versus non-traditional family structures are different for households above versus below the federal poverty line. These findings are especially in the data from the Survey of Consumer Finances, where the advantage of having middle-class values (as indicated by family structure) is negligible below the poverty line and significant above it. Notably, none of the above graphs show a greater decrease in wealth for poverty versus above-poverty households. This means family structure has a greater negative effect on wealth above the poverty line, even without controlling for confounding factor.

The above results therefore appear to support the primary hypothesis that unmarried cohabitation and female-headed households are associated with a decrease in wealth above the federal poverty line, but a different and even positive change in wealth for households below the poverty line.

### E. Addressing Concerns

Because of the novelty of the descriptive difference-in-difference model and the counterintuitive results it produces above, I will now address several concerns through falsification tests and alternative models.

#### 1. Falsification Tests

One reaction to the above results is the "parlor trick" argument. Conceivably, any negative effect interacted with another negative effect would more likely produce a positive coefficient on the interaction term. The reason for this relates to the law of diminishing effects. If low-income status decreases wealth by $1 million, and non-traditional family structure decreases wealth by $500,000—both from a traditional-family/non-poverty starting point—then the interaction term would need to be somewhat positive. In this example, households that are low-

income and non-traditional will not experience an average decrease in wealth more than $1.5 million, because of diminishing effects (they can only be so poor). The interaction term, in this case, is the difference between negative $1.5 million (the first two coefficients combined) and the average wealth of low-income, non-traditional households as compared to the constant.

However, the unique results presented by unmarried cohabitation and female-headed households as poverty culture indicators is that the interaction term outweighs and counteracts the non-traditional family structure term. Hypothetically, other negative effects on wealth should not, when interacted with low-income status, produce a positive coefficient outweighing the negative effects it presents in isolation. In other words, characteristics which decrease wealth on average and *are not adaptive in the face of poverty* should have negative coefficients but not produce an interaction term with poverty counteracting those negative effects.

To show the above results are not a parlor trick, I will use each survey to conduct a falsification test of the descriptive difference-in-difference model. The strategy each time will be (1) to find a measurable phenomenon associated with an average decrease in household wealth but not associated with the poverty culture and (2) test whether the interaction of this phenomenon with low-income status counteracts the decrease in wealth it otherwise causes. These falsification tests will therefore measure whether other causes of declining wealth produce the appearance of being adaptive in the face of poverty.

The first falsification test uses the Survey of Consumer Finances (SCF) and involves bankruptcy. While bankruptcy is likely adaptive for middle-class wealth-accumulation, it is not commonly associated with the poverty culture. Again, the core idea behind this thesis is behaviors associated with the poverty culture are not maladaptive in the environment facing low-income households.

As with the unmarried and female-headship models, I first checked for omitted variable bias to see if bankruptcy was associated with a separate phenomenon not operating through the intended channels. I found that African Americans are 3% more likely to use bankruptcy and being African American is associated with an average decrease of $676,457.50 in net worth. This is not a large effect, but bankruptcy arguably has few spurious associations that impact net worth through unintended channels.

**Table 7: Regression Results for Bankruptcy Falsification Test**

(1) Y *net-worth* = α + β *poverty* + γ *bankrupt* + δ (*poverty* * *bankrupt*) + ε

(2) Y *net-worth* = α + β *poverty* + γ *bankrupt* + δ (*poverty* * *bankrupt*) + ϕ *African American* + ε

| | (1) | (2) |
|---|---|---|
| Poverty (income below poverty guidelines) (β) | -887,609.9*** | -801,097.1*** |
| | (21,301.09) | (20,526.04) |
| Bankruptcy (γ) | **-742,713.9*** ** | **-717,547*** ** |
| | (27084.65) | (26,992.36) |
| Poverty and bankruptcy (δ) | **710,155.1*** ** | **663,696*** ** |
| | (31,959.07) | (37,845.47) |
| African American (ϕ) | | -573,736.5*** |
| | | (27,375.18) |
| Constant (average net worth when above = 0) (α) | 917,506.5*** | 986,077.1*** |
| | (20,349.54) | (21,948.25) |
| δ + γ (estimated advantage of bankruptcy in poverty) | -32,558.8 | -53,851 |
| p-value of the difference between δ and –γ | 0.0421 | 0.0401 |
| Joint probability (F-test) | 0.0000[§§] | 0.0000[§§] |
| $R^2$ | 0.0025[§§] | 0.0034[§§] |
| Sample size (number of observations) | 31,717 | 31,717 |

*** $p < 0.01$ [†] p-value indicates positive interaction term counteracts negative bankruptcy term
Note: data are from the Survey of Consumer Finances, 2001-2016, and are reported in inflation-adjusted 2016 dollars.
[§§] $R^2$ and F-test are not the product of the micombine command, which reduces the t-score for larger standard errors.

The above results therefore do not demonstrate the negative wealth effect associated with bankruptcy is counteracted by the interaction of bankruptcy and poverty. Bankruptcy is therefore not associated with a differential and counterbalancing effect in households above versus below the poverty line. In fact, results from both surveys indicate that, at the $p < 0.05$ level, low-income families are significantly worse off with bankruptcy. In other words, the interaction term is less positive than the bankruptcy term is negative, and this difference is significant at the $p < 0.05$ level. This test therefore contrasts to the poverty culture indicators of unmarried cohabitation and female-headed households.

The second falsification test uses the Survey of Income and Program Participation (SIPP) and involves the proportion of women in a household. Though the SIPP does not ask as many detailed questions about household finance as the SCF, it does record the gender of each household member and count income from all residents as household income, neither of which occur in the SCF. I will therefore use the percentage of women in each household as a falsification test. Because women tend to have lower earnings on average than men, this test is predicted to produce a negative association between proportion of women in a household and household net worth. However, being a woman is not a behavior associated with poverty and is therefore not associated with adaptations to poverty like the other poverty culture indicators.

But, while gender may not have a direct association with poverty, there is a chance the proportion of women in a household will capture variation associated with single motherhood. In other words, though the genders of children are random, households run by a single female income-earner will have a slightly higher proportion of women than households run by heterosexual couples. To control for this effect, I also conduct the above falsification test while controlling for the effects of female-headship.

The results from Table 8 indicate that the positive interaction term for female and poverty does not outweigh the negative coefficient for female. In fact, in these models, the interaction term was negative, demonstrating the possibility of negative wealth characteristics (γ) having an exacerbated effect in poverty (i.e., in the first model below, the combined effect of femaleness and poverty are worse than their individual negative coefficients combined). This means households with a greater proportion of females have less wealth whether above or below the poverty line.

**Table 8: Regression Results for Proportion of Women Falsification Test**

(1) Y *net-worth* = α + β *poverty* + γ *female percentage* + δ (*poverty* * *female percentage*) + ε

(2) Y *net-worth* = α + β *poverty* + γ *female percentage* + δ (*poverty* * *female percentage*) + ϕ *female-headed* + ε

| | (1) | (2) |
|---|---|---|
| Poverty (income below poverty guidelines) (β) | -324,128.9*** | -322,699.6*** |
| | (5,952.51) | (5,967.85) |
| Female percentage (γ) | **-6,103.813** | **45,089.98*** ** |
| | (7,060.45) | (9,168.33) |
| Poverty and female percentage (δ) | **-16,487.29*** | **-8,492.882** |
| | (95,77.81) | (9,444.95) |
| Female-headed household (ϕ) | | -68,853.77*** |
| | | (5,435.72) |
| Constant (average net worth when above = 0) (α) | 427,593*** | 436,432.8*** |
| | (3,935.10) | (3,867.01) |
| p-value of the difference between δ and –γ | 0.0005 | 0.0000 |
| Joint probability (F-test) | 0.0000 | 0.0000 |
| $R^2$ | 0.0054 | 0.0058 |
| Sample size (number of observations) | 867,655 | 867,655 |

*** p < 0.01 , ** p < 0.05 , * p < 0.10

† p-value indicates positive interaction term counteracts negative female term

The above results therefore indicate that not every factor associated with a decrease in net worth will produce a positive interaction term counteracting the negative magnitude of its primary effect. This thesis therefore suggests variables with negative effects outside poverty and with comparatively positive effects inside poverty are positive adaptations often misunderstood outside of poverty.

### 2. Measuring One Difference at a Time

As discussed in the Data and Methods section above, it would be inadequate to measure only one difference by measuring changes in wealth between households with traditional versus non-traditional family structures in low-income households only (as depicted in Figure 24). The reason is low-income households are themselves a distinction, and measuring a change across one distinction without measuring the change across the other distinction can produce misleading results. I demonstrated this concept using comparisons across the four quadrants created by dividing a population along two distinctions (two binary independent variables). As depicted in Figure 25, this shows how a greater negative poverty effect for traditional family structure could outweigh a negative family-structure effect in poverty.

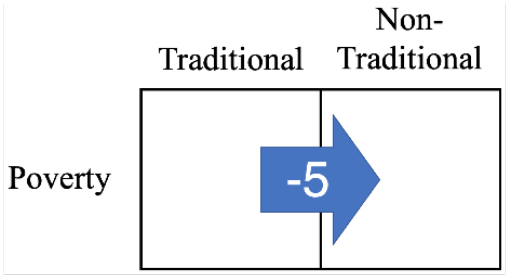



**Figure 24: Single Difference**

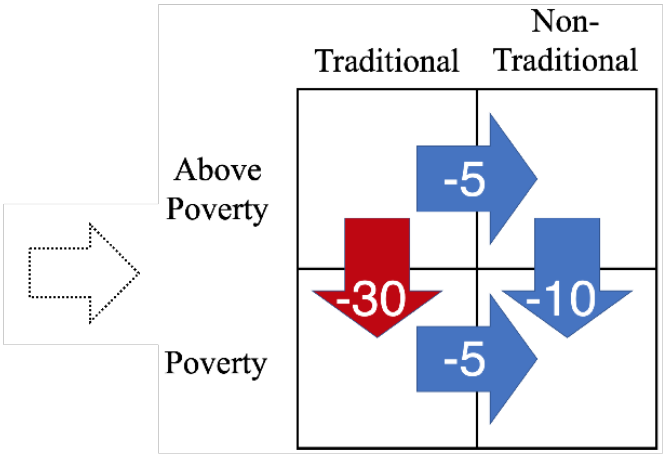



**Figure 25: Double Difference**

To check whether the above dynamics play out, I isolated two of the four segments at a time and compare wealth while controlling for variables identified in Figures 12 and 13 as causing bias when omitted. In Figures 26 and 27, I present these results as a series of measured single differences within a double-difference framework.

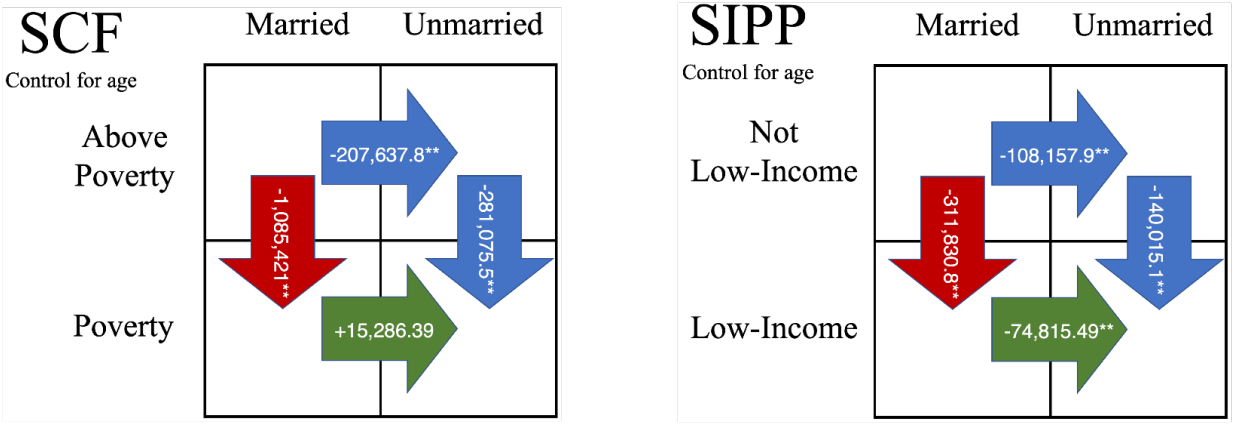



**Figure 26: Unmarried Cohabitation Differences in Household Wealth**

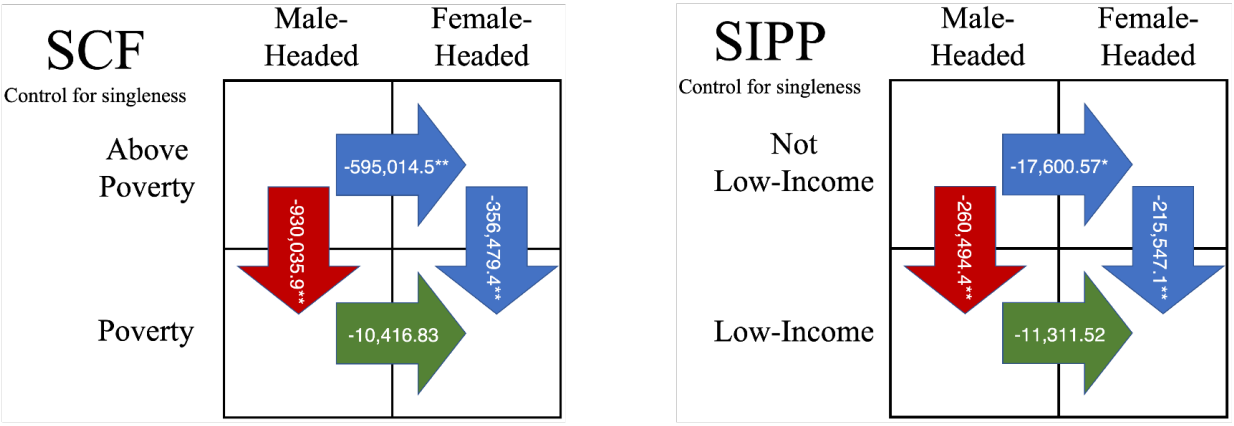



**Figure 27: Female-Headed Households Differences in Household Wealth**

Results were statistically significant (** indicates $p < 0.01$; * indicates $p < 0.05$) except where the coefficients were of a small magnitude. To draw attention to important differences, I indicate the largest negative difference with a red arrow and the smallest negative difference

(positive in one case) with a green arrow. Consistently, the largest drop in wealth occurs for households with traditional family structures between the above- versus below-poverty distinction. In contrast, the smallest drop in wealth consistently occurs for low-income households between the traditional versus non-traditional family structure distinction.

Because single differences do not indicate average values in each cell, I also produced averages for each category using the weights variables in each survey (see Figures 28 and 29). As a warning, these results are not as robust as the regression output because they do not control for confounding factors. To somewhat control for age on the married/unmarried data, I present averages for all respondents over the age of 35 (a point at which non-marital status is arguably more a product of culture or values and less a product of age). I also somewhat control for singleness by splitting cells along the lines of two-adult and one-adult households (though this does not capture the particular association between singleness and female-headed households).

SCF
Age > 35

| | Married | Unmarried |
|---|---|---|
| Above Poverty | $1,141,283 | $789,588.3 |
| Poverty | $55,982.15 | $71,061.74 |

SIPP
Age > 35

| | Married | Unmarried |
|---|---|---|
| Above Poverty | $671,705.4 | $432,654.3 |
| Poverty | $213,754 | $82,953.87 |

**Figure 28: Unmarried Cohabitation Averages in Household Wealth**

SCF

| | Male-Headed | Female-Headed | |
|---|---|---|---|
| Above Poverty | $1,456,864 | $679,431.3 | |
| | $579,944.4 | $283,177.8 | Single |
| Poverty | $32,200.72 | $46,891.62 | |
| | $39,218.89 | $16,049.49 | Single |

SIPP

| | Male-Headed | Female-Headed | |
|---|---|---|---|
| Above Poverty | $557,110.6 | $540,834.6 | |
| | $241,548.3 | $222,009.3 | Single |
| Poverty | $170,802 | $123,632.3 | |
| | $71,176.55 | $75,317.47 | Single |

**Figure 29: Female-Headed Households Averages in Household Wealth**

As highlighted by the red boxes, the average wealth in non-traditional households is higher in half of the comparisons in poverty and none of the comparisons above the poverty line. Even without robust controls for confounding factors, the low-income households often appear to have higher net worth on average with non-traditional compared to traditional family structures. This outcome is especially apparent in the Survey of Consumer Finances.

Thus, analysis of two nationwide surveys of wealth indicate households below the federal poverty line have more wealth on average when organized in non-traditional versus traditional family structures. These findings present unmarried cohabitation and female headship as indicators of resourcefulness in the face of poverty. Because they are strongly identified with the poverty culture in the sociological literature, this research points to a logic of poverty-culture behaviors, at least in the present interests of people in poverty.

### F. Regression Results: Secondary Hypothesis on the Costs of the Poverty Culture

The above results indicate the social networks of exchange and sharing among people in the poverty culture likely improve the asset-to-debt ratio for households below the federal poverty line. However, as the above literature review indicates, these communalistic networks can also exert social pressures against people moving out of poverty. This section departs from the rest of the above research by changing dependent variables of interest—from net worth to

likelihood of leaving poverty. The hypothesis is this: the same household characteristics associated with the poverty culture and unique levels of resourcefulness in the face of poverty are also associated with a decreased likelihood of exiting poverty.

Because the SIPP offers panel data (collected monthly over four years), I am able to test whether households with poverty culture characteristics are more or less likely to exit poverty. To do this, I create an indicator variable for households that were not consistently above or consistently below the poverty line for the entire survey (i.e., the average of the binary poverty variable over the months reported was not 0 or 1). I also create an indicator variable for the households that were in poverty for the first month of the first wave of the survey. I then created an indicator variable for all households for which the above two indicator variables were true. This is the "left poverty" variable, and I regress it using a linear probability model to find the overall change in likelihood of exiting poverty unique to the poverty culture indicators.

To test the hypothesis about poverty culture indicators being associated with a decreased likelihood of exiting poverty, I again apply a descriptive difference-in-difference model. The need for this model is more apparent here than in testing the primary hypothesis. Regressing the "left poverty" indicator dependent variable on only unmarried cohabitation, for example, would produce downward bias because there are many unmarried couples who do not leave poverty because they were never in poverty. Alternatively, replacing the independent variable in the prior example with an interaction of unmarried cohabitation and poverty will produce upward bias because people in poverty are more likely to leave poverty because they are in poverty. Finding the unique relationship between non-traditional family structures and the change in likelihood of exiting poverty for people in poverty is captured in the interaction term of the below regression equations.

(3) Y *left poverty* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + ϕ *age* + ε

(4) Y *left poverty* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + ϕ *singleness* + ε

Applying these models to the SIPP data produces the following results.

**Table 9: Unique Change in Chance of Exiting Poverty Associated with Each Category**

(1) Y *left poverty* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + $V_{waves2\text{-}4}$ + ε

(2) Y *left poverty* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + ϕ *singleness* + $V_{waves2\text{-}4}$ + ε

(3) Y *left poverty* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + $V_{waves2\text{-}4}$ + ε

(4) Y *left poverty* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + ϕ *age* + $V_{waves2\text{-}4}$ + ε

| | Survey of Income and Program Participation (SIPP), 2013-2016 | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| Poverty (income below poverty guidelines) (β) | 0.3319733*** (0.0021967) | 0.3219705*** (0.0022044) | 0.3241924*** (0.0031092) | 0.3188713*** (0.0031115) |
| Non-traditional family structure (γ) | **-0.0021933*** (0.000746)** | **-0.0121216*** (0.000758)** | **0.0363417*** (0.0014164)** | **0.0258*** (0.0014327)** |
| Poverty and non-traditional family structure (δ) | **-0.0305262*** (0.0030358)** | **-0.0335011*** (0.0030363)** | **-0.0759823*** (0.0063525)** | **-0.0758854*** (0.0063422)** |
| Potential confounding factor (ϕ) | | 0.0477962*** (0.0008477) | | -0.0010156*** (0.0000229) |
| Constant (average net worth when above = 0) (α) | 0.0773957*** (0.0006063) | 0.0641902*** (0.0006437) | 0.0324529*** (0.0004671) | 0.0838432*** (0.0012802) |
| p-value for δ + γ = 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| value of δ + γ | -0.0327195 | -0.0456227 | -0.0396406 | -0.0500854 |
| Joint probability (F-test) | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| $R^2$ | 0.1036 | 0.1087 | 0.1035 | 0.1076 |
| Sample size (observations) | 1,063,389 | 1,063,389 | 536,944 | 536,944 |

*** $p < 0.01$

*Note*: $V_{waves2\text{-}4}$ indicates the regressions control for a dummy variable for each of waves 2-4, preventing the weights variable, which is designed to make each wave representative of the entire United States, from reflecting systematic changes from attrition.

These results indicate unmarried cohabitation and female headship are associated with a decreased likelihood of exiting poverty for people in poverty. Remember, the interaction terms (indicating a 3-7.5% decreased likelihood) must be added to other terms to show differences in likelihoods across categories. Mirroring the explanation of the poverty culture indicator above, a change in likelihood based on family structure for households in poverty compares the sum of the poverty-traditional terms ($\alpha + \beta$) to the sum of the poverty-non-traditional terms ($\alpha + \beta + \gamma + \delta$). Therefore, the difference in likelihood of exiting poverty for low-income households between traditional versus non-traditional family structures is the sum of the non-traditional and interaction terms ($\gamma + \delta$).

To calculate the statistical significance of these results, I use the "test" command in Stata to test the hypothesis $\gamma + \delta = 0$. The magnitude of the change in likelihood of leaving poverty, for people in poverty between traditional and non-traditional households is reported at the bottom of the middle cell in Table 9. For both female-headed households and unmarried cohabitation, and when controlling for confounding factors identified above, the associated change in likelihood of exiting poverty is a decrease of 4.5 and 5 percent.

To check the preciseness of the estimates for the unique change in likelihood of exiting poverty for non-traditional compared to traditional low-income households, I further test a series of null hypotheses for these estimates. This approach shares a core element with sensitivity analysis, in that it incrementally changing potential statistical characteristics to determine the range at which research conclusions hold true (Rosenbaum, 2005). Table 10 reports the results from these tests.

**Table 10: P-Values for Specific Estimates of Unique Change in Likelihood of Exiting Poverty**

(1) Y *left poverty* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + $V_{waves2-4}$ + ε

(2) Y *left poverty* = α + β *poverty* + γ *female-headed* + δ (*poverty* * *female-headed*) + ϕ *singleness* + $V_{waves2-4}$ + ε

(3) Y *left poverty* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + $V_{waves2-4}$ + ε

(4) Y *left poverty* = α + β *poverty* + γ *unmarried* + δ (*poverty* * *unmarried*) + ϕ *age* + $V_{waves2-4}$ + ε

| | Survey of Income and Program Participation (SIPP), 2013-2016 | | | |
|---|---|---|---|---|
| | (1) | (2) | (3) | (4) |
| value of δ + γ | -0.0327195 | -0.0456227 | -0.0396406 | -0.0500854 |
| p-value for δ + γ = 0 | 0.0000 | 0.0000 | 0.0000 | 0.0000 |
| p-value for δ + γ = -0.02 | 0.0000 | 0.0000 | 0.0015 | 0.0000 |
| p-value for δ + γ = -0.025 | 0.0087 | 0.0000 | 0.0181 | 0.0001 |
| p-value for δ + γ = -0.03 | 0.3554 | 0.0000 | 0.1195 | 0.0012 |
| p-value for δ + γ = -0.035 | 0.4384 | 0.0003 | 0.4537 | 0.0148 |
| p-value for δ + γ = -0.04 | 0.0134 | 0.0571 | 0.9537 | 0.1032 |
| p-value for δ + γ = -0.045 | 0.0000 | 0.8331 | 0.3868 | 0.4112 |
| p-value for δ + γ = -0.05 | 0.0000 | 0.1386 | 0.0944 | 0.9890 |
| p-value for δ + γ = -0.055 | 0.0000 | 0.0015 | 0.0131 | 0.4271 |
| p-value for δ + γ = -0.06 | 0.0000 | 0.0000 | 0.0010 | 0.1091 |
| p-value for δ + γ = -0.065 | 0.0000 | 0.0000 | 0.0000 | 0.0160 |

These results indicate the chance the estimates—of change in likelihood of exiting poverty associated with family structure—could be the results of sampling error based on the data at hand. Without controlling for confounders, we can be 95% confident female headship is associated with a change in likelihood between -2.5% and -4% and 90% confident unmarried cohabitation is associated with a change in likelihood between -2.5% and -5%. Controlling for confounding factors, we can be 95% confident female headship is associated with a change in

likelihood between -3.5% and -5.5% and 90% confident unmarried cohabitation is associated with a change in likelihood between -3.5% and -6.5%. The difference in precision is likely a result of the different sample sizes for female headship and unmarried cohabitation.

Though approximately three-to-five percent may not appear large, consider the relatively brief window for which observations are collected. Low-income households with non-traditional family structures experienced a statistically significant and non-negligible decrease in likelihood of escaping poverty, and this only occurred during a four-year period. Considering the intergenerational persistence of poverty (Corcoran, 1995), climbing over the federal poverty line may take a lifetime of work. Thus, a three-to-five-percent decreased likelihood of exiting poverty in four years is a significant decline.

Thus, the same household characteristics associated with greater average amounts of current net worth for families below the poverty line as also associated with a significant decline in likelihood of exiting poverty. These results match sociological observations about poverty. This research therefore provides quantitative evidence for the economic thinking and actions associated with the poverty culture. The next section explores the lessons and implications revealed by this evidence.

**Discussion**

Two insights guided this research: (1) people living in poverty are often incredibly resourceful, and (2) people who maintain middle-class assumptions while sliding into poverty do not adjust well. Following these ideas, I found separate measurable household characteristics associated with a distinction between poverty and middle-class culture, and tested their

association with resourcefulness using two nationwide, American surveys of household wealth. The findings from this research consistently support the original guiding insights.

The above research challenges assumptions central to the middle-class understanding of poverty, calling instead for greater esteem and deference for the lifestyle choices of people living below the federal poverty line. The overall evidence indicates poverty-culture characteristics, such as unmarried cohabitation and female-headship, are associated with decreases in wealth above the poverty line but increases in wealth below the poverty line. This section will describe the context for this research, summarize the results, discuss limitations, and present its various implications.

### A. Context

Before I summarize research results, it is important to review the research question, existing literature, the unique methodology I employed, and specific hypotheses.

Serving as impetus and focal point for this research, the central question I address is whether households below the poverty line with poverty-culture characteristics have greater or less wealth than low-income households exhibiting middle-class values. Our understanding of cultural patterns in poverty are of the utmost importance because they shape our collective judgments about the deservingness of the poor, our approaches to social welfare policy, and our conclusions about capitalism and social mobility.

The above literature review presents a longstanding and unresolved debate over the poverty culture. First identified in the 1960s, the poverty culture is a pattern of behaviors associated with modern poverty, including relatively frequent changes in monogamous relationships, a matriarchal family structure, and a communalistic ethic promoting the indiscriminate sharing of temporary gains. These behaviors are the central focus of the cultural

versus structural explanations of poverty, which frame the ongoing debate over social welfare policy. As the lens of American conservatives, the cultural perspective sees the lack of family structure and middle-class morals as the reason families fall into and remain in poverty. As the lens of American liberals, the structural perspective sees unstable family structures as the result of economic stresses and reason for greater social welfare.

My research seeks to resolve the modern debate over poverty. Cultural patterns associated with poverty are not harmful behaviors that either cause or result from low-income status. Rather, they are not harmful at all (at least in the short run). I propose poverty-culture behaviors are the outcome of individuals below the poverty line making rational, wealth-maximizing decisions in the unique context of poverty. The reason people living above the poverty line decry these behaviors is, based on their personal experience outside of poverty, these behaviors are counterproductive to the accumulation of wealth (which is also true).

As I describe above, this research question merits a unique "descriptive difference-in-difference" methodology. Instead of capturing differential changes over time associated with a distinction (e.g., treatment versus control), the descriptive difference-in-difference captures associations along one distinction that are different based on another distinction. Measuring a single difference within a particular segment of society is insufficient because doing so ignores the differential comparisons with the population outside of that segment (i.e., that single difference is also subject to a difference between the studied segment and the excluded segment of the population).

To conduct this research, I test two hypotheses across two different sources of data. The first part of the primary hypothesis is unmarried cohabitation should be associated with higher wealth than married cohabitation for households below the poverty line. This hypothesis seeks to

capture poverty culture tendencies toward flexible, ambiguous relationships between adults. The second part of the primary hypothesis is female-headed households should be associated with higher wealth than male-headship for households below the poverty line. This hypothesis aims to capture poverty culture tendencies toward matriarchal family structure. Because household wealth and family relationships are complicated, nuanced variables to measure, I tested these hypotheses on the two nationwide surveys of household wealth in the United States—the Federal Reserve Bank's Survey of Consumer Finances and the Census Bureau's Survey of Income and Program Participation.

### B. Results

Evidence from this research supports both primary hypotheses using datasets from both surveys. After controlling for confounding factors, the coefficients on the interaction variables indicating poverty and non-traditional family structure are more positive than the coefficients on the corresponding non-traditional family structure terms are negative. Furthermore, the difference in magnitude between these coefficients in absolute value is statistically significant. In other words, the positive coefficient on the interaction term counteracts the negative coefficient on the non-traditional family structure term.

This evidence therefore indicates non-traditional family structures are associated with greater wealth for families below the poverty line. From most wealthy to least wealthy, the categories would rank (#1) above-poverty, traditional family structure, (#2) above-poverty, non-traditional family structure, (#3) below-poverty, *non-traditional* family structure, (#4) below-poverty, *traditional* family structure. I follow this descriptive difference-in-difference analysis with less-robust methods (e.g., averaging wealth within each category and estimating a series of

comparisons across single categories) and find generally supportive evidence despite an absence of controls for confounding factors.

To make sure these results are not a function of the new model rather than a function of the underlying data, I conduct two falsification tests. Each falsification test involves a variable with a negative relationship with net worth but not an association with the poverty culture. The idea is negative wealth characteristics not associated with the poverty culture are not widespread behaviors below the poverty line because these variables are not associated with improved wealth in poverty. Because the coefficients for the interaction of these variables and poverty do not counteract their negative association with net worth, my methodology arguably differentiates poverty culture variables from variables associated with a decrease in wealth for all households.

Thus, variables identified with the poverty culture are associated with decreased wealth above the federal poverty line and increased wealth below the federal poverty line. These findings lend themselves to two explanations. The first explanation is non-traditional family structures such as unmarried cohabitation and female-headed households are associated with more flexibility and less structure. Under this logic, the economic uncertainty households face in poverty leads flexible family arrangements to be more resourceful than the more rigidly structured family arrangements traditionally associated with the middle class. The second explanation is unmarried cohabitation and female-headship are associated with poverty-culture ethics of communalism and ubiquitous resource-sharing. While wealth accumulation above the poverty line is a matter of individualistic achievement and incrementally building personal savings, wealth accumulation below the poverty line could be a matter of maintaining networks of people sharing temporary individual gains. In other words, households able to meet their basic needs are better off saving, but households unable to meet basic needs may be better off sharing.

### C. Limitations

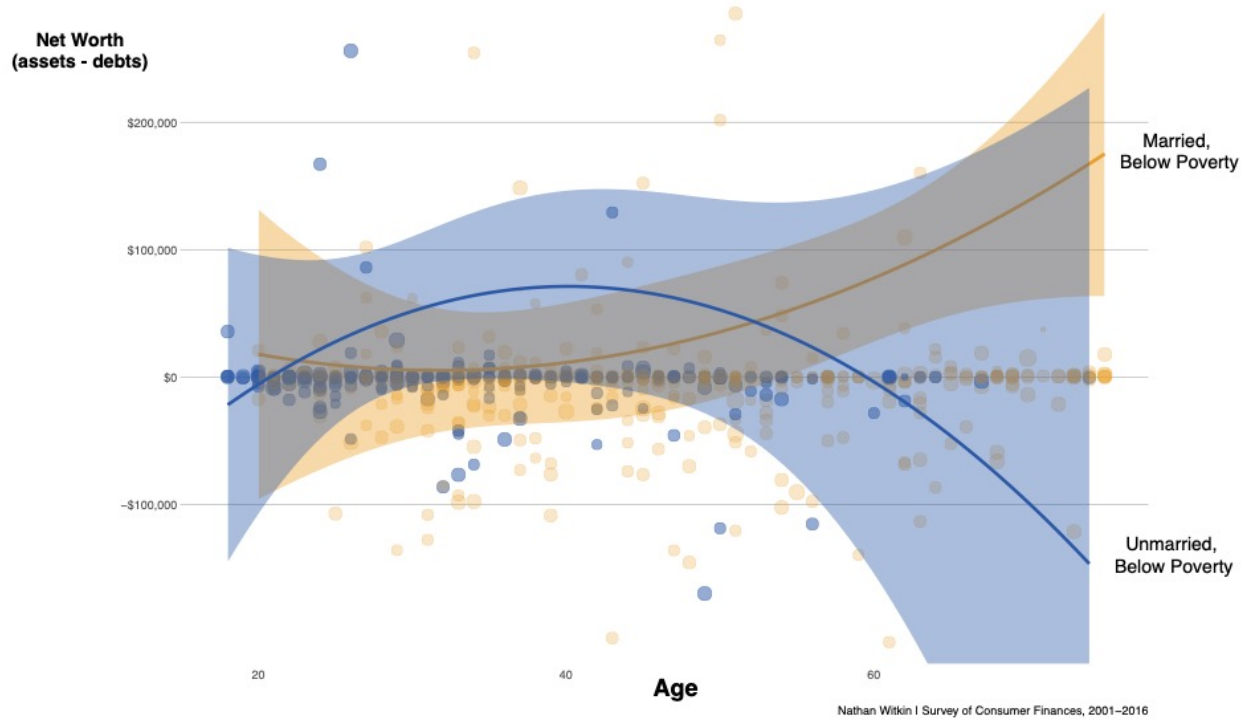
Though the above results appear to be novel and interesting, they are also subject to likely misinterpretation. Sources of potential misunderstanding include the size of the wealth gap among households, the short-run nature of measured financial wellbeing, and potential bias.

First, I would strongly caution readers against interpreting the above regression results to determine the size of the wealth gains experienced by low-income households in the poverty culture. The household characteristics I use in the above models are only *proxy* variables. Neither survey instrument I analyze specifically asked or determined whether the households interviewed were "of the poverty culture." Variables such as unmarried cohabitation controlling for age and female-headship controlling for singleness are useful because they are more likely to capture changes in wealth associated with the poverty culture—but this does not mean they are precise measurements for it. Therefore, this research provides consistent evidence that low-income families are better off in the short run without traditional middle-class family structures; however, it remains entirely unclear how much better off they are.

Second, the above analysis on the primary hypothesis is mainly based on snapshots and does not reflect long-term effects of middle-class versus poverty-culture lifestyles. In other words, surveying the current status of household net worth finds low-income households with middle-class characteristics to be less wealthy; however, this does not mean these households are less likely to exit poverty over time. Maintaining middle-class values while living below the poverty line may have short-term costs but long-run benefits. Though the regression model on unmarried cohabitation controls for age, this measures the effect of age across all categories (to account for unmarried people being more than 10 years younger on average) and not the different trajectories of wealth-accumulation for each category.

To check on the long-run costs of poverty culture characteristics, I use the four-year panel data from the SIPP to measure how much more likely low-income households with poverty-culture characteristics were to exit poverty during those four years. Applying the descriptive difference-in-difference methodology, I show that households with poverty culture characteristics are less likely to exit poverty. Because this approach only covers four years, and breaking the cycle of poverty likely only occurs over a lifetime or across generations, these further findings indicate households with poverty culture characteristics come with long-term costs as well as the previously reported short-term benefits. This tendency matches the literature on the poverty culture indicating the support network it provides as a cushion for hard times is also wrought with obligations to others, which often prevent community members from breaking out of poverty.

Reinforcing these additional findings, further data visualizations reporting net worth by age for each category indicate low-income traditional family structures tend to be associated with higher wealth at older ages than low-income non-traditional family structures (see Figures 30 and 31). Notably, the below figures do not indicate distributions of households across age groups very well. For example, while the trends for households with traditional family structures indicate a rise in wealth in later years, there are also likely fewer observations in these age groups. The graphs also do not account for differential differences in wealth across income categories. So, though Figures 30 and 31 depict low-income households with traditional family structures as having more wealth relative to the low-income households with non-traditional family structures, they do not reflect the associations of wealth differences across the below/above poverty distinction, they do not control for associations with singleness, and they do not likely present even distributions across the age groups.



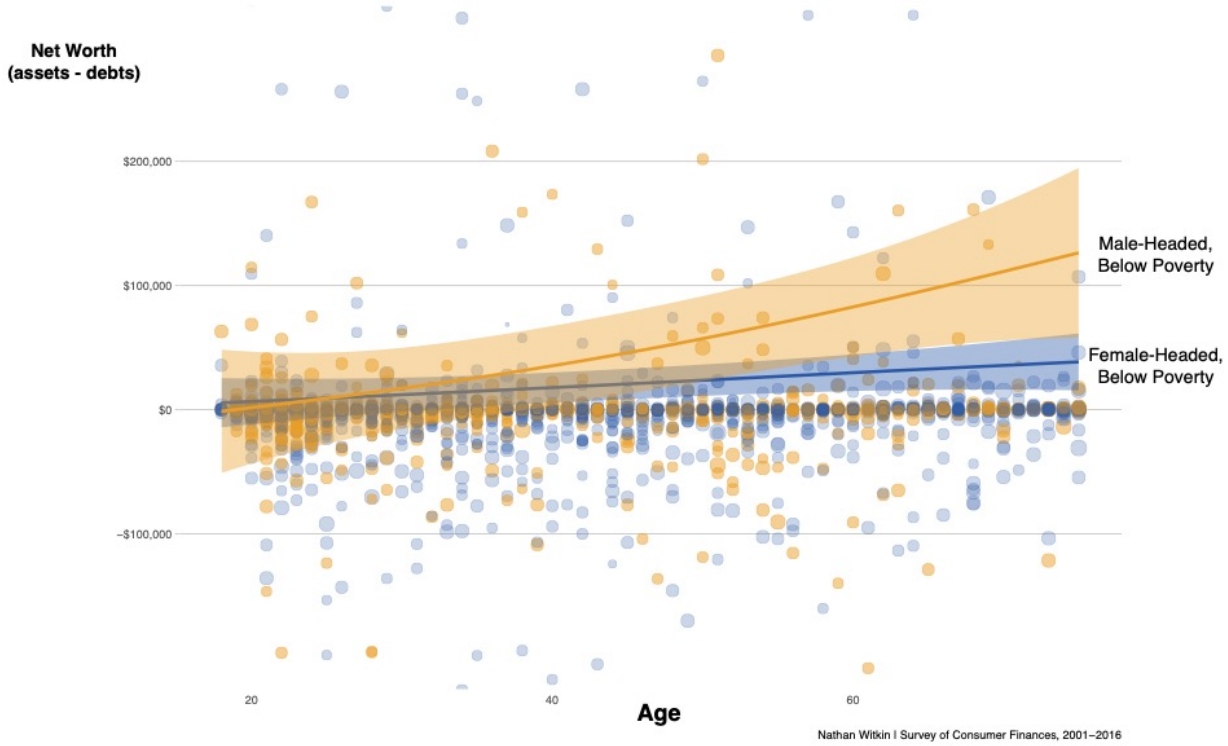




**Figure 30: Trends in Lifetime Wealth-Accumulation (Survey of Consumer Finances)**

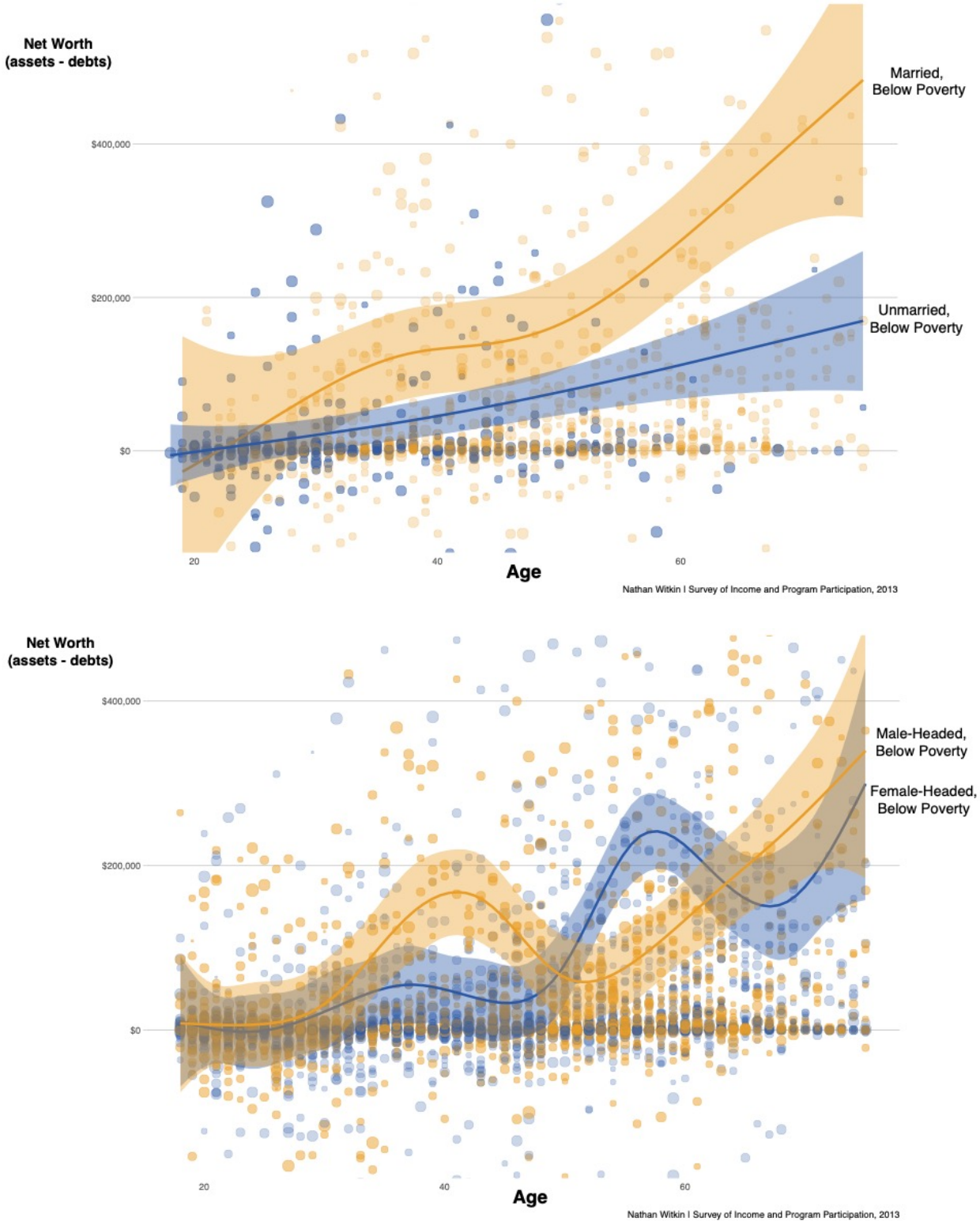



**Figure 31: Trends in Lifetime Wealth-Accumulation (Survey of Income and Program Participation)**

Furthermore, these figures are also imperfect in that they exclude multiple imputations in the SCF data and exclude changes across months in the SIPP data.

Third, the above analysis is potentially vulnerable to two sources of bias. Hinted at in the above graphs, the first source of potential bias involves the possibility low-income households with middle-class values may acquire debt early in life with the expectation of paying it off later. This tendency would conform to the life-cycle hypothesis of consumer behavior (Modigliani, 1966). This is certainly a weakness in the above research; however, I would also argue middle-class households may not be acting in their long-term financial interests if they are taking out large loans while earning below the federal poverty line. Also, though I use age to control for unmarried couples being younger on average than married couples, the above research does not interact age with each category to control for differences in lifetime wealth accumulation.

However, this limitation points to another potential source of potential misinterpretation—instead of showing poverty-culture behaviors are independently adaptive, this thesis could only show how carrying middle-class expectations into poverty leads to lower levels of wealth. Admittedly, this thesis cannot differentiate to what degree poverty-culture behaviors are beneficial in poverty and, alternatively, middle-class behaviors are harmful in poverty. The truth may involve a combination of the two.

Another potential source of bias is parentage. Children may be a significant drain on household wealth, leading to potential selection bias in each model. For example, couples who become accidentally pregnant may be more likely to marry, leading to more households with children in the married category. However, this would arguably work in the opposite direction for female-headed households—because women exercise a greater share of parenting responsibilities on average, heterosexual couples with children would seem to be more likely to

have a male primary income-earner. This means the female-headed household analysis, which does not exclude households from the tested sample, should find more people with children in the male-headed than female-headed category.

The final limitation is the novelty of this research design. Outside of this thesis, a descriptive difference-in-difference methodology is not used to compare outcomes across categories, to my knowledge. Though I make an honest attempt to check the validity of this model, it should be handled with caution until it proves to be useful in other contexts as well. This point leads to the larger implications of this study.

### D. Implications

This thesis presents important findings and novel research methods. As such, it presents larger implications in terms of policymaking, further research, and social/cultural trends in light of economic history.

#### 1. Lessons for Policymakers

Once they understand the divergent impacts of non-traditional family structures above versus below the poverty line, policymakers should take a variety of lessons from this research. The first lesson is policymakers should show deference to the family and lifestyle choices of people living below the poverty line. Far too often, and for far too long, our society has assumed all low-income adults are unwise, wasteful, and incapable members of our economy. Many of them may be, and the stresses of a scarcity mindset may not help; however, many others below the poverty line are resourceful, rational, and adaptable, while many above the poverty line often are not. This research therefore contributes to a growing recognition among economists that poor people are experts in their own situations, which often differ from situations confronting those of us in mainstream society (Banerjee and Duflo, 2011). This insight promotes a combination of

libertarian and left-wing policy, in which governments provide social welfare by giving low-income people cash without strings or restrictions, trusting they will put it the best use (Banerjee and Duflo, 2019).

Addressing a less prevalent misunderstanding, the flipside of this first lesson is that policymakers cannot assume middle-class values are adaptive in the context of poverty.

For example, it may be unwise to promote marriage as the best path out of poverty. While it seems to be true that delaying childbirth has strong associations with the absence of later poverty (Moore, et al., 1993), marriage is merely a legal procedure providing judicial oversight over division of property in the event of a breakup.[6] However, for people facing the economic uncertainty inherent to poverty, the legal formalities of marriage may reduce adaptability and flexibility. Because people living below the poverty line are more likely to have a significant other who suffers mental health issues, substance abuse problems, or legal troubles stemming from a precarious livelihood, relationship flexibility may contribute to wise, resourceful decision-making (see Edin & Kefalas, 2005). Therefore, traditional family structures such as marriage are not equivalent to delaying childbirth and should not be assumed to be beneficial when applied both above and below the poverty line.

As a second example of unwise enforcement of middle-class values in low-income communities, policymakers should also be hesitant about preventing households in poverty from sharing or swapping resources. It is currently illegal to transfer Supplemental Nutrition Assistance Program (SNAP) benefits,[7] and punishment for selling $5,000 in food stamps[8] is equivalent—in terms of incarceration under federal law—to selling less than 100 grams of

[6] Divorce also involves judicial oversight over child custody matters (not just division of property), but these legal procedures are generally available to unmarried parents as well.
[7] See 7 U.S.C. § 2024.
[8] 7 U.S.C. § 2024(b)(1).

heroin.[9] The above research indicates households in poverty are likely serving their current financial best interests and also the best interests of others in poverty by frequently sharing and swapping resources. Enforcing middle-class values about private property ownership by adding risks and costs to transactions in food stamps likely reduces wealth-accumulation below the federal poverty line, which should not be the aim of public policy. Therefore, when middle-class people at grocery store check-out lines observe people in poverty exchanging or planning to exchange extra items purchased with government benefits, they should not think of this behavior as wasteful. Rather, this behavior is analogous to people in the middle class making deposits into savings accounts to be withdrawn later (Stack, 1974, pg. 34).

However, another policymaking lesson from this research is that non-traditional family structures (indicating a lack of middle-class values) *are* counterproductive above the poverty line, while they are also associated with improved wealth below the poverty line. In light of these findings, the implications for political debate may be more important than any specific policymaking recommendation. Our national conversation about poverty needs to recognize that wisdom gained through years of middle-class wealth-building should not necessarily be applied when thinking about people living in the entirely different context of poverty. Even though adopting middle-class values appears to increase the odds of breaking the cycle of poverty over a lifetime or across generations, democratic debate over these values must recognize the short-term costs they simultaneously impose. If there is one takeaway policymakers and informed citizens should learn from this research it is this: be mindful when assuming middle-class values and behaviors are productive for people living in poverty.

[9] 21 U.S.C. § 841(b)(1)(C).

### 2. Further Research and Larger Implications

The above research points to further areas of immediate study. While I used the framework of a poverty culture indicator to briefly examine other hypotheses, I am not presenting them at this time. However, these questions for further research are notable and important. First, this thesis does not explore characteristics historically associated with the poverty culture that are no longer associated with it. The main example is race. Though sociological research of poverty in the 1970s described the unique cultures in "black communities" rather than "low-income communities" (Stack, 1974), I found that being African American is no longer statistically associated with the poverty culture. Testing the relationship between race and the poverty culture should, however, apply surveys of wealth dating back to the 1980s or 1970s if possible. This would determine whether race served as a poverty culture indicator in the past and, if so, at what point race became disassociated with the poverty culture.

The second aspect of this research meriting further attention involves the levels of income at which poverty culture characteristics change from being resourceful to being counterproductive. By incrementally raising the income levels distinguishing below versus above poverty should help to distinguish the point at which middle-class norms start to be productive. Interest in better indicators of poverty status would likely drive this further research.

The larger research implications of this thesis are twofold. First, the descriptive difference-in-difference methodology appears to be a valid tool for understanding how opposing segments of a society experience divergent outcomes under the same binary choice. For example, do states with the death penalty see an opposite difference in murder rates from non-death-penalty states depending on whether their populations are highly religious? Also, do private schools have higher average test scores over public schools, but only when they teach

Darwinian evolution versus Creationism? Do college students with high AP test scores, who are made to take introductory courses, graduate with a larger improvement in grades over fellow students compared to the high-AP-scorers who are allowed to skip introductory courses? And also, are companies with highly paid versus moderately paid CEOs experience an opposite likelihood of declaring bankruptcy during periods of economic growth versus recession? As these examples illustrate, the descriptive difference-in-difference does not measure different changes over time—it, instead, measured how differences along one distinction may move in a different direction along another distinction. Thus, difference-in-difference an important tool for econometricians, and these researchers should not only use it to measure different changes between treatment and control populations across time.

The second important research implication of this research involves the poverty culture. For decades, academics and left-wing policymakers dismissed as racist the notion people in poverty operate under unique cultural norms. Though they rightly disagreed with intellectual and political rivals who used these cultural patterns to blame low-income households for their poverty, they were wrong to ignore the prevalence of these behaviors in low-income communities. This thesis offers a lens for policymakers and concerned citizens sympathetic to poor families to understand the cultural differences these families express as adaptive and not blameworthy. From politicians down to case workers, people serving low-income communities must understand the rationality of behaviors such as unstable family structures and frequent sharing of resources in order to understand and full empathize with their constituents or clients.

Finally, this thesis has the largest theoretical implications in terms of culture, history, and economic progress. The original impetus behind this study of the poverty culture was the proposition that unique behaviors widespread under modern poverty—and not appearing at other

points in history—are likely driven by each low-income earner following their individual self-interest. Human history progressed through centuries of arguably worse and more-stressful conditions than those confronting low-income people in modern society. However, the tendency of poor communities to have unstable family structures is a phenomenon of recent origin. While many conservative thinkers see this as a breakdown of traditional family values, this thesis poses a different explanation.

Poor farmers and feudal serfs historically reaped improved livelihoods under stable family structures; however, modern capitalism treats its low-income workers differently. Rather than offering income as a product of hard work only, industrial capitalist economies require certain livelihoods to be tenuous—subject to outsourcing, automation, or the inconsistent work needed for just-in-time efficiency. Under these conditions, it does not make sense for people at the edge of obsolescence to form lifelong partnerships or attempt to build individual savings. Under frequent bouts of unemployment and underemployment, it makes more sense to diversify relationships and create wide support networks. This thesis shows how families who adapt to these conditions with unstable family structures have more wealth on average than families holding onto middle-class tendencies in an environment calling for other behaviors.

Though this thesis also shows how people earning below the federal poverty line would likely serve their long-term financial interests by shunning the resourceful behaviors associated with the poverty culture, this strategy also has immediate costs. Thus, a fuller understanding of the decisions facing low-income households struggling for wealth involves a tension between immediate benefits of poverty-culture behaviors and the corresponding cost of not engaging in these behaviors while pursuing economic mobility under middle-class behaviors.

## Conclusion

In summary, household characteristics associated with the poverty culture are associated with greater wealth for households below the poverty line and less wealth for households above the poverty line. These poverty-culture characteristics are also associated with a unique decreased likelihood of exiting poverty for households below the poverty line. Because this research involves two different indicators (unmarried cohabitation and female-headed households), applies two falsification tests, and uses a large amount of data from two national surveys of household wealth, these findings are robust. Unique to other research on the poverty culture, this thesis finds quantitative evidence fitting the tension of costs and benefits facing low-income households predicted by prominent qualitative sociological studies.

This thesis therefore contributes to a mysterious and controversial line of research about why low-income communities tend to have unstable family structures and an aversion to building personal savings. By revealing the financial effects of these poverty-culture behaviors, this research offers evidence partially resolving the underlying debates about poverty. Low-income families with unstable family structures are not poor because this instability is counterproductive, and this instability is not a counterproductive behavior to be blamed on economic stresses. Rather, unstable family structures allow low-income families to diversify their support networks and/or be flexible in response to the frequent economic shocks inherent to poverty in an industrial, capitalist economy.

I will conclude with the thought inspiring this research. People may not be perfectly rational, but when a behavior persists in similar contexts across space and time, it is likely following a logic. And because most people strive to do good—though their definitions of this ideal are individually varying and self-serving—this logic probably makes sense.

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