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Accessing Healthcare in the Intermountain West During the Age of Precarious Labor

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ACCESSING HEALTHCARE IN THE INTERMOUNTAIN WEST DURING THE AGE OF PRECARIOUS LABOR

by

Jordan Hammon

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ABSTRACT

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By

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In this thesis, I investigate the relationship between precarious labor and two outcomes associated with health insurance access, namely Medicaid utilization, and being uninsured. I also examine one potential consequence of Medicaid utilization and lack of insurance, having a usual place of health care in the context of the Intermountain West region of the United States.The theoretical framework for this thesis is the Neoliberal Movement in the United States. Data was collected as part of a broader research project funded by the Utah Agricultural Experiment Station. I employ quantitative methods including binary logistic regression in the analysis. Key findings include that precarious workers are significantly more likely to be on Medicaid or to be uninsured than standard workers. Additionally, the uninsured are significanty more likely to not have a usual place of care whereas this association was non-significant for Medicaid users. Thus, Medicaid prevents precariously employed individuals from becoming completely disconnected from the health care system, which protects vulnerable workers from the

poor health outcomes associated with not having a usual place of care. This can be used to inform future public policy on labor, public assistance and health care.

(57 pages)

PUBLIC ABSTRACT

Accessing Healthcare in the Intermountain West During the Age of Precarious Labor

Jordan Hammon

This research aims to improve our understanding about the association between precarious employment and healthcare access. Using the framework of neoliberalism and the history of welfare reform in the United States, this thesis investigates the relationship between precarious labor and two outcomes associated with health insurance access, namely Medicaid utilization, and being uninsured. I also examine one potential consequence of Medicaid utilization and lack of insurance, having a usual place of health care in the context of the Intermountain West region of the United States.

Using new survey data and quantitative methodologies, this research shows how economic changes, particularly related to labor, impacts healthcare access. The results show that changes in the labor economy are impacting citizens in important ways, including limiting their access to health care. This research is important for understanding how the political economy is changing in the United States and is re-shaping health care access, or the lack thereof, among workers with non-traditional employment arrangements.

Having a better understanding of how neoliberal policies are impacting healthcare access is beneficial for informing policy makers of the the negative consequences of those policies. It also increases our understanding of the direction the political economy is heading in terms of labor and healthcare. This research was made possible through the Utah Agricultural Experiment Station which funded ongoing research in the Department

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I give special thanks to my friends, colleagues, and family who supported me through this the process of researching, proposing, writing, and defending this thesis.

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INTRODUCTION

Since the 1970s, the United States has seen a shift in both employment and health insurance availability through employers. Medicaid, a program that offers government-sponsored healthcare, has replaced private insurance for those living near the poverty threshold, children, people with limitations due to physical or mental illness, the elderly, and pregnant women. During the Ronald Regan administration, policy changes severely defunded social safety net programs, removed labor rights' regulations, and expanded freedom for corporations (Kalleberg 2009). These policies have resulted in employment becoming less stable and public assistance not being the permanent source of financial stability that it once was for those who could not work or experienced chronic poverty.

Policymakers have considered implementing work requirements for Medicaid recipients. Musumeci, Garfield, and Rudowitz (2018) illustrate that Medicaid work requirements align with other programs that already have these requirements in place, such as Supplemental Nutrition Assistance Program (SNAP) or Temporary Assistance for Needy Families (TANF). A primary concern of having work requirements for Medicaid recipients is whether the types of work available to them meets the parameters for remaining eligible for the program. Access to health insurance is crucial for maintaining employment and is associated with increased life satisfaction (Tran, Wassmer, and Lascher 2017). In addition, having access to Medicaid has been shown to increase the

early detection of chronic conditions such as diabetes, allow patients to manage chronic illness better, and reduce rates of depression among recipients (Baicker et al. 2013).

The tech industry's rise over the past few decades and the evolution of mobile digital technologies in recent years have further advanced precarious employment through the creation and expansion of application-based gig job opportunities. Precarious labor includes gig economy workers such as those who transport passengers for Uber and Lyft, deliver food ordered through Instacart and Doordash, and those who find short-term "gigs" through Task Rabbit, Care, and Rover. It also encompasses contract work, temporary employment, and part-time work that is inconsistent in schedule or hours, including many retail and service positions. Precarious work is unpredictable in income and employment duration, making it challenging to remain steadily employed (Kalleberg 2009), which in turn affects Medicaid eligibility among gig workers who do not receive employer-sponsored health insurance. Both having access to Medicaid and being uninsured have been previously shown to be associated with having or not having a usual place of care (Wherry and Miller 2016; DeVoe, Tillotson, Lesko, Wallace, and Angier, 2011).

In this thesis, I investigate the relationship between precarious labor and two outcomes associated with health insurance access, namely Medicaid utilization, and being uninsured. I also examine one potential consequence of Medicaid utilization and lack of insurance, having a usual place of health care in the context of the Intermountain West region of the United States. The main research questions are, for those engaged in precarious work arrangements, how likely is it that they rely on Medicaid for health care

access? Or, are they completely left without health insurance? How does Medicaid or being uninsured impacts access to basic care in the Intermountain West? Precarious employment has important implications for health care access. This line of research is relevant because chronic poverty and unstable employment, related to the neoliberal movement and changing economy in the United States, have increased the likelihood of needing Medicaid and meeting the income criteria to receive government-sponsored health insurance since the Affordable Care Act.

This research is relevant to both the health and inequality literatures. Although research on health care access is extensive, research in the app-based gig economy also known as the shared or platform economy is relatively new, and how this and other precarious work arrangements impact health care access is currently understudied. For example, Schor and Attwood-Charles (2017) note that research about app economy workers is still an emerging field of study, one that is difficult to access because digital platforms often do not share their data. Having access to survey data with relevant measures, such as the ones I use in this study, is valuable in expanding the knowledge about precarious labor, including the digital platform-based economy. Thus, I believe it is relevant to the field of sociology and worthy of scholarly pursuit. I will begin the literature review section by discussing the neoliberal movement in the United States, which is foundational to any discussion of governmental-sponsored programs.

LITERATURE REVIEW

Neoliberalism

Neoliberalism's main objective is a to move away from a regulated economy and governmental assistance towards utilizing the labor market as a social safety net. Neoliberalism provided the basis for the 1996 Personal Responsibilities and Workforce Opportunities Reconciliation Act (PRWORA), better known as *welfare reform*. As a political ideology, neoliberalism seeks to deregulate the labor market, remove, or curtail social safety net programs, and shift away from employer-sponsored benefits. Duggan (2014) describes neoliberalism as a movement based on classical liberalism's utopian ideals of a free market and minimal government, in addition to pro-business activism, cultural politics, minimal state involvement, and dismantling of the welfare state. The definition encompasses the 1996 welfare reform, which utilized the labor market as the primary social safety net for those who had previously been on public assistance and those seeking governmental assistance for the first time in the United States.

According to Barnett (2004), neoliberalism is public policy and government that favors privatization, the liberation of markets, and greater market competition. The most recent neoliberal movement in the United States began in the mid to late 1970s due to the increasing global economic competition (Kelleberg 2009). Companies sought to increase profit and began outsourcing, thus taking away the bargaining power and security from workers in the United States. Dean (2014) argues that neoliberalism was born out of an economic crisis and began with the global economic changes in the 1930s.

Since the neoliberal movement began, the United States has shifted from public and collective values to private-individualistic ones (Barnett, 2004). Indeed, welfare reform pushed America away from collective ideals and instead incorporated an individual approach to economic security through work and privatization. Neoliberalism claims to be “race-neutral” or “colorblind" so it does not acknowledge the inequalities it produces, or how its policies have mainly affected non-whites. Davis (2007: 351) articulates how welfare reform primarily impacted Black and Latinx communities but has not been considered a racial issue by policymakers. The neoliberal movement has arguably resulted in both the increase in precarious employment in the U.S. labor market and the work-first mentality in public assistance since the 1996 welfare reform.

Welfare Reform

In 1996, the United States fundamentally changed its welfare system by enacting the Personal Responsibility and Workforce Opportunity Reconciliation Act (PRWORA). PRWORA aligned closely with neoliberal values and limited state support by implementing work requirements and public assistance time limits (Bullock, Twose, and Hamilton, 2019). Since the 1996 welfare reform, neoliberalism has spread globally and encouraged “market-driven solutions, privatization of government resources, and removal of government protections (Kalleberg 2009: 2)”. Policymakers have sought to extend work requirements and time limits to other public assistance programs and have emphasized work-based programs and other services that make working easier, including

subsidizing health insurance and childcare assistance (Cancian 2001). These efforts have not been enough to pull poor Americans out of poverty as current poverty rates are 10.5% for adults and 14.4% for children (Semega, Kollar, Shrider, and Creamer 2020).

The PRWORA extended work requirements to Supplemental Nutrition Assistance Program (SNAP), requiring all able-bodied adults without dependents (ABAWD) to work 80 hours or more a month (National Conference of State Legislatures, 2019). Work requirements currently consist of 20-30 hours of work and related activities per week (Center for Budget and Policy Priorities, 2019). “In the United States, work is not only treated as central to identity, but earnings are viewed as a reflection of merit.” (Bullock et al. 2019:11).” Based on these policies, it is evident that work was central to American welfare reform.

States are now considering adding work requirements to Medicaid eligibility guidelines for new enrollees and for those already receiving benefits. As of June 2018, four states have received waivers to allow work requirements for Medicaid, and seven more states have waivers pending (Garfield, Rudowitz, Musumeci, and Demico, 2018; Bullock et al., 2019). Empirical evidence does not support the efficacy of work requirements to obtain government-sponsored healthcare. Studies suggest that women who were trying to comply with the work requirements and stopped receiving public assistance post-1996 reform have continued to lack access to health care despite being employed (Danziger, Corcoran, Danziger, and Heflin, 2000).

Precarious Work

Precarious work is widespread in a neoliberal economy because employment is more unstable, and the employer puts much of the economic risk onto the employee. Precarious labor is defined as uncertain, unpredictable, and varying in schedule or duration. The labor is riskier to the worker than to the employer. The relationship is more unstable than traditional work arrangements (Kalleberg 2009; U.S. Government Accountability Office 2015). Scholars examine insecure labor in two ways: it is a critical component of the global economy in a competitive race to increase profit, and that neoliberal economic policies have increased precarious work through enterprises seeking higher revenue (Kalleberg and Valles, 2018). Precarious employment is a growing trend in the United States labor market and across the world. The Bureau of Labor Statistics reported in 2017 that 10.1% of the labor market was made up of alternative work arrangements (U.S Bureau of Labor Statistics 2018). Under broader definitions of precarious work, up to one-third of the labor market involves precarious employment (Government accountability Office 2015).

Kalleberg and Valles (2018) argue that scholars narrowly define precarious work in the United States as temporary work. Kallegard and Vallas (2017:8) note that: "particular work arrangements, such as part-time or temporary work, have often been assumed to mean the same thing even in sharply different national settings. The result is that trends have either been misinterpreted or else overlooked entirely." This does not mean that the research is irrelevant, but it underestimates the number of workers

precariously employed, which is a large and growing economic sector. A new area of concern within precarious work is the digital platform or app economy.

The digital platform or app economy uses software to align the worker with the consumer; the worker is chosen based on crowd-sourced ratings or reputation (Schor and Attwood-Charles 2017). The rise of the platform economy is attributed to the Great Recession that began in 2008, which caused significant destabilization of the economy and high unemployment rates (Van Doorn 2017). However, the rise of contract employees in the 1990s has also played a role in the decline of secure employment in the United States and arguably paved the way for the platform economic model, which is supposed to connect workers directly to the consumer (Hill 2015). In the platform economy, workers are independent contractors rather than employees (Schor and Attwood-Charles 2017). Companies such as Uber and Instacart are not required to provide benefit packages to the people working on their platform since they are not formally employed.

Precarious work is often not explicitly labeled as provisional in the U.S; it is not secure or formal employment (Kalleberg and Valles 2018: 8). Katz and Kruger (2016) suggest ninety-four percent of the net employment growth in the U.S. between 2005 and 2015 was in non-standard work arrangements. As work arrangements have become more precarious, workers need to look beyond their employer for health insurance options and other benefits previously provided by the employer.

Traditionally in the United States, health insurance has been tied to employment, and/or employed spouse, or parent; low-wage workers are much less likely to have access

to health insurance through an employer (Gutierrez 2018; Hoffman and Paradise 2008). Due to the lack of employer-sponsored health insurance, non-standard workers are more likely to seek health insurance through government-sponsored insurance options such as Medicaid or the Federally Facilitated Marketplace (FFM), also known as Obamacare. The Federally Facilitated Marketplace expanded health insurance access to individuals who did not have health insurance through the government or their employer by providing subsidized private options (Drake, Abraham, and McCullough 2016). Lack of access to health care can have devastating consequences, particularly in a country where six in ten adults have a chronic illness (Center for Disease Control 2021). For these individuals, not having health insurance can lead to poor management of their conditions, worse prognosis, and premature mortality.

According to Katz and Kruger (2016), precarious workers are more than twice as likely to be involuntarily part-time than traditional workers. It is not that precarious workers do not want to be employed full-time, but full-time work is unavailable. Since the 2008 recession employment has not fully recovered, as of 2016 individuals who were unemployed, discouraged, marginally attached, or involuntarily part-time was 9.8% (Kalleberg and Von Wachter 2017). The U.S. Government Accountability Office (2015) reports that precarious workers are more likely to report living in poverty and being on public assistance than traditional workers.

Medicaid

Medicaid and Medicare were created under title XIX of the Social Security Act of 1965. Medicaid provides public health insurance to low-income individuals, including the elder, people with disabilities, parents of children under 18, pregnant women, and children. Medicaid has been expanded through legislation in the United States, primarily due to the Affordable Care Act, beginning in 2014 (Courtemanche, Marton, Ukert, Yellowitz, and Zapata 2017). However, a federal court ruling in 2012 found that the federal government could not force states to expand Medicaid (Centers for Medicare & Medicaid Services 2019; Gutierrez 2018).

Medicare is often confused with Medicaid, but there are several differences between the two programs. Medicare is a social insurance program that provides health care to the elderly and those with disabilities, and those who have paid into the social security system; on the other hand, Medicaid primarily serves the poor (Gruber 2011). Both states and federal governments fund Medicaid. While the guidelines are federally mandated, each state decides how to carry out Medicaid programs and what eligibility criteria to utilize. (Center for Budget and Policy Priorities 2019). It is not uncommon for someone to meet the eligibility criteria in one state and not be eligible in another state. This inconsistency across states means that the benefits an individual recipient receives can be vastly different depending on location.

Access to health insurance has significant health implications. Having health insurance is linked to improved mental health status through the mechanism of stress reduction that comes with greater financial security (McMorrow, Gates, Long, and

Kenney, 2017). Hahn (2018) notes that losing Medicaid and SNAP eligibility can erode family health and wellbeing. Lack of health insurance is associated with the increased use of emergency rooms, use of shelters, and welfare utilization (Etzioni 2018). Using Medicaid and SNAP helps workers maintain their health and wellbeing and improve family circumstances, allowing them to use their income to pay for housing and other basic needs (Hahn 2018; Bauer, Schanzenbach, and Shambaugh, 2018). These findings suggest that access to health insurance is vital to maintaining health and being a productive member of society.

Research has found that six in ten nonelderly Medicaid recipients work, and as many as 80% of Medicaid recipients are part of a family where someone is working (Hahn 2018; Garfield et al. 2018). Similarly, Tipirneni, Goold, and Ayanian (2017:566) found that half of all eligible adults in Michigan who would qualify for the Medicaid expansion were already working. Another notable finding is that the Medicaid expansion implemented through the Affordable Care Act reduced the association between employer and health insurance by nearly 70 percent (Gutierrez 2018), meaning that fewer individuals were dependent on their employer for health insurance. This finding shows that it is likely that precarious workers are now seeking insurance through Medicaid expansions.

As of 2016, the most common jobs for adult Medicaid recipients were in the service industry, including cashiering, driving/sales, retail, healthcare, and restaurant positions (Garfield et al., 2018). Many of these positions are considered precarious and are unlikely to include benefits. In the same article, Garfield also found that only 30% of

Medicaid recipients reported their employer providing sick leave, and 33% provided health insurance. Similarly, Hoffman and Paradise (2008) also found that non-standard workers are less likely to have employer-sponsored health insurance. Positions in non-standard fields often pay low or tip-based wages and have unstable schedules, making maintaining employment more difficult. Living at or near the poverty level increases your likelihood of meeting the eligibility criteria for Medicaid in many states. In thirty-eight states and the District of Columbia, Medicaid has been expanded under the ACA to include adults at 138 percent of the poverty level, in the context of the Intermountain West Utah, Idaho, and Colorado have expanded Medicaid while Wyoming has not (Kaiser Family Foundation 2021). Due to policy changes, precarious workers are more likely to be eligible for Medicaid since 2014.

Usual Place of Care

In the United States, there is substantial evidence that having a usual place of care for medical purposes is an important component of health outcomes and the management of chronic illnesses. Usual place of care is defined by Levy and Jenke (2016) as a place where a person usually goes when they need treatment or healthcare advice. Having a usual place of care has been associated with decreased odds of needing inpatient treatment for both physical and mental health conditions (Fullerton, Witt, chow, Gokhale, Walsh, Crable, and Naeger 2018). In a 2011 study, it was found that people without a usual place of care have more problems getting care, tests or treatment, and a delay in getting urgent care when needed despite having health insurance (DeVoe et al, 2011).

Having Medicaid and being disabled have been associated with increased odds of having a usual source of care (Paradise 2015; Lezzoni, Frakt, and Pizer 2011). If Medicaid is associated with precarious labor this could have repercussions for usual place of care as well. Conversely being uninsured has associated with not having a usual source of care (DeVoe et al. 2011). Having a usual place of care is important for both health outcomes as well as health care utilization. Previous studies have shown that having a usual source of care is associated with better self-rated health and having fewer unhealthy days for childless adults (Simon, Soni, and Cawley, 2017). Due to the relevance of health insurance for healthcare access and economic well-being of individuals and the growth of precarious employment resulting from neoliberal policies, I explore the following research question.

RESEARCH QUESTION

1. Are precarious workers more likely to use Medicaid or to be uninsured than other workers?
2. In the Intermountain West, are individuals who use Medicaid or are uninsured more likely to not have a place of care?

HYPOTHESES

Based on the literature, I have predicted four hypotheses:

Hypothesis 1: Precarious workers are more likely than traditional employees to utilize Medicaid.

Hypothesis 2: Precarious workers are more likely to be uninsured than traditional employees.

Hypothesis 3: Individuals who utilize Medicaid are more likely to have a usual source of care than individuals with other types of health insurance.

Hypothesis 4: Individuals who are uninsured are less likely to have a usual place of care than individuals with other types of insurance.

METHODS

Data

For this study, I am using survey data collected under a Utah Agricultural Experiment Station (UAES) funded project titled "Health Outcomes Associated with Food Insecurity." This survey was approved through the Institutional Review board (IRB) protocol #11022. The purpose of this survey is to explore the relationship between disability status and food insecurity. However, the survey addresses both precarious labor and healthcare status. The survey includes questions regarding employment status, employment type, healthcare type, and a wide range of demographic characteristics. The data encompasses the geographic range of the Intermountain West region of the United States, which includes Utah, Colorado, Idaho, and Wyoming. The survey had a total of 2043 respondents and was administered through Qualtrics. Half of the respondents (N=1020) in the sample have a disability, chronic illness, or some other functional

limitation. The respondent age range is 18-80 years. Of those surveyed over one third of respondents reported beingprecariously employed (N=728). Similarly, of the 585 respondents from Utah 202 reported being precariously employed.

Variables of Interest:

I examined the association between precarious work and two insurance-related outcomes, 1) Medicaid utilization and 2) being uninsured; I also researched the association between using Medicaid and being uninsured and not having a usual source of care, controlling for various demographic and socioeconomic characteristics.

There are three outcome variables in this analysis, 1) Using Medicaid, 2) Being Uninsured, and 3) Having a Regular Place of Care. For the first variable, I combined Medicaid and the State Children's Health Insurance Program known as SCHIP/CHIP and coded as one and any other response as zero. Not having health insurance was excluded from this variable. I combined Medicaid and SCHIP because states have the option to administer them together or separate and SCHIP is funded by both federal and state funding like Medicaid (Medicaid 2021). The uninsured measure is also dichotomous; if the respondent reported any form of health insurance, it was coded as zero and no health insurance as one. Medicaid and being uninsured are the dependent variables in models 1 and 2. Usual place of medical care is a binary measure coded as one if the respondent did not have a regular place of care and zero if they reported one or more regular places of care. No usual place of care is the dependent variable in models 3 and 4.

The main independent variable in models 1 and 2 is precarious employment, a binary measure coded 0 for non-precarious employment and 1 for precarious work. Precarious employment includes work that is temporary, contract/freelance, and contingent (1099) and non-precarious includes full and part-time standard employment and self-employed individuals, who in this context were often business owners. Part-time employment was exclude as a precarious measure due to the unique context of employment in Utah where many women choose to be employed part-time and rather than full-time. I did not want to make assumptions about part-time work being voluntary. I operationalized the precarious employment measure based on the definition of alternative work arrangements by Katz and Krueger (2016). On-call work was also included in Katz and Krueger's definition but was not included in this survey to prevent confusion between on-call and contingent work. Respondents were also given the opportunity to explain other sources of income and there were no reports of on-call work. Using Medicaid and being uninsured are the main independent variables for the models predicting having a regular place of care (3-4).

Sociodemographic variables include gender, where I coded male as one, female as two, and non-binary as three. There is evidence that the gender pay gap persists in the precarious economy and that women self-select into the precarious economy for different reasons (Cook, Diamond, Hall, List, and Oyer 2018; Milkman, Elliott-Negri, Griesbach, and Reich 2020). Initially, the race/ethnicity measure had six categories, non-Hispanic white, Black, Hispanic/Latinx, Indigenous, Asian American, and other. However, due to the small size of these groups, I created a second race variable coded zero for non-

Hispanic whites and one for non-whites, non-white includes the five non-white race/ethnicity categories. I used this variable in the final models rather than the more detailed, categorical race variable. I controlled for race and ethnicity as there is evidence that Black, Indigenous, and People of Color (BIPOC) groups are more likely to be on Medicaid and have higher participation, in at least some areas, of precarious work (Gutierrez 2018; Cansoy and Schor 2016). Age was recoded into a categorical variable with four age groups: 18-34, 35-49, 50-64, and 65 and above. For marital status, I coded married as one, not married as two, this category includes those who answered separated, divorced, and widowed, and never married was coded as three. I included marital status because there is evidence that the Affordable Care Act reduced health insurance access through a spouse (Gutierrez 2018). Disability status was coded as zero for inviduals without a self reported disability and one if reporting a disability. Disabilities measured in this survey included: autism, developmental disabilities, psychiatric or emotional disabilities, deaf or hard of hearing, intellectual disabilities, physical disabilities, chronic illnesses, learning disabilities, speech and language disabilities, traumatic brain injuries, blind or low vision, and other self reported disability. Research suggests that disability status is associated with having a usual source of care (Dobberton, Horner-Johnson, Lee, and Andresen 2015; Lezzoni et al. 2011).

In terms of socioeconomic measures, education was coded categorically one through five one being did not finish high school and five being master's degree or higher. Educational attainment has been associated with having a usual source of care (Dobberton et al. 2015). Home ownership was coded as zero if a homeowner and one if

not a homeowner. Homeownership is a proxy for net wealth, which has been associated with wealth accumulation in both low- and middle-income households during normal economic times in the United States (Wainer and Zabel 2020). In terms of receiving government assistance, receiving any form of government assistance was coded as one, and no assistance as zero. Income was excluded as a measure due to the effect the covid-19 pandemic has had on income, many have lost their primary sources of income, however, educational attainment and homeownerships remain stable measurements of socioeconomic status overtime.

Statistical Analysis

Analysis was conducted using Stata 16 (StataCorp 2017). Descriptive statistics are presented in table 1 for all variables of interest. According to a correlation analysis (not shown) none of the variables are highly correlated and none achieved statistical significance a the .05 level, hence the regression models do not have multicollinearity issues. I used binary logistic regression to show the likelihood of using Medicaid (table 2) and being uninsured (table 3) in models 1 and 2 using precarious employment as the main predictor. In models 3 and 4, I used Medicaid and being uninsured as the main independent variables to predict not having a usual place of care. I used model building to integrate covariates in three steps. First, I estimated bivariate models. Then, I added demographic measures, gender, race, age, marital, and disability status. Lastly, I added the socioeconomic measures (i.e., educational attainment, home ownership, and government assistance). I used odd ratios, the exponentiated values of the logit

coefficients, to interpret the effects of the predictors more intuitively (Treiman 2009). Thus, results are discussed in terms of percentage and factor change (Long and Freese 2006).

RESULTS

Sample Characteristics

I present the sample characteristics divided by precarious and non-precarious employment (table 1). Among the precariously employed respondents in this survey, 32.19% reported being on Medicaid compared to 18.4% among the non-precariously employed; In terms of being uninsured, 11.71% of precariously employed respondents reported having no health insurance; that figure is 7.4% among the non-precariously employed. A slightly higher percentage of precariously employed respondents (13.66%) did not have a usual place care than the non-precariously employed (12.47%). Females and non-Hispanic whites are overrepresented in the sample. Among the precariously employed, 75% are women, which is slightly higher than the women representation among the non-precariously employed (70%). About 26% of the precariously employed are non-whites compared to 20% of non-whites among the respondents with traditional working arrangements. Over half of the precariously employed are in the 18-34 age category, 51.3%. About 42% of the non-precariously employed are in the same 18-34 group.

Among precariously employed individuals, 45% were never married and almost 36% were married. Among traditional workers, about 53% are married and 29% were never married. Both types of workers had similar rates of individuals not married, 19% and 18%, Among precarious workers, 54% reported a disability while the figure among non-precarious workers is 47.5%. In terms of educational attainment, roughly two-thirds (67%) of precariously employed respondents had some college education or more; among the non-precariously employed workers, nearly 80% of respondents reported having some college education or more. Fewer precariously employed respondents reported being homeowners at roughly 34% than their non-precariously employed counterparts at around 51%. Finally, among precariously employed individuals, approximately 46% received another form of government assistance besides Medicaid; in comparison, non-precariously employed workers received governmental assistance at a lower rate, 33%.

Table 1 About Here

Multivariate Models

1. Models Predicting Medicaid Utilization and Being Uninsured

In the models presented in tables 2 and 3, I explore the association between precarious employment and Medicaid utilitization and precarious employment and being uninsured. In the bivariate model predicting Medicaid usage, those who were precariously employed were twice as likely to be on Medicaid compared to the non-precariously employed, and it was statistically significant ($p< 0.01$). When adding

demographic covariates, those who were precariously employed remained twice as likely to be on Medicaid, compared to the non-precariously employed, this is statistically significant ($p<0.01$). Those who were non-white, never married, not married, and those who reported a disability had higher odds of being on Medicaid, compared to whites, married, and non-disabled respondents, respectively; all three covariates were statistically significant ($p<0.01$). Those over the age of 65 were 83% less likely to be on Medicaid compared to the 18-34 reference group ($p<0.01$).

Finally, when adding socioeconomic indicators, precarious workers were 48% statistically significant more likely to use Medicaid compared to those with any other kind of insurance ($p<0.01$). Those with less than high school were ten times more likely to be on Medicaid compared to those with more than a bachelor's degree ($p<0.01$). Homeowners were 61% less likely to be on Medicaid ($p<0.01$) than those who did not own a home. Those receiving another form of government assistance were four times as likely to utilize Medicaid in relation to those without assistance.

Table 2 About Here

In the bivariate model predicting being uninsured, those who were precariouslyemployed were 65% more likely to be uninsured than the non-precariously employed($p<0.01$). When adding demographic covariates, those who were precariously employed were 82% more likely to be uninsured. Those in the age groups 50-64 and 65-80 or those who reported a disability were less likely to be uninsured, compared to those under the age or 35 and not disabled and it was statistically significant ($p<0.05$; $p<0.01$).

After adding the remaining socioeconomic indicators, precarious workers remained 65% more likely to be uninsured ($p<0.01$) than non-precariously employed respondents. Those who did not finish high school were nearly three times as likely to be uninsured ($p<0.05$), and high school graduates were twice as likely to be uninsured ($p<0.05$) compared to those with more than a bachelor's degree. Homeowners were 51% less likely to be uninsured ($p<0.01$) than those who did not own a home, and those receiving another form of government assistance were 53% less likely to be uninsured ($p<0.01$) than those without assistance, all described findings were statistically significant.

Table 3 About Here

2. Models Predicting not Having a Usual Place of Care

In the models presented in tables 4 and 5, I explore the association between Medicaid utilization and not having a usual place of care and being uninsured and not having a usual place of care. In the bivariate model predicting not having a usual place of care, those who reported using Medicaid were 36% more likely not to have a usual place of care compared to those who hand another form of insurance; however, it was not statistically significant. After adding demographic indicators to the model, Medicaid recipients were only 19% more likely not to have a usual care source and this remained insignificant. Non-white respondents were twice as likely not to have a usual source of care compared to whites, and it was statistically significant ($p<0.01$). Those who were age 50-64, 65-80, or reported a disability were more likely to have a usual source of care,

than those in the 18-34 group and non-disabled respondents, and it was statistically significant ($p<0.01$; $p<0.05$).

Finally, after adding the socioeconomic covariates, those who reported using Medicaid were only 4% more likely not to have a usual care source than those with any other type of insurance, and it was not statistically significant. Homeowners were 32% more likely to have a usual source of care than non-homeowners, and it was statistically significant ($p<0.05$). In summary, using Medicaid is not statistically significantly associated with not having a usual place of care, which means that Medicaid recipients do have a usual place of care.

Table 4 About Here

In the bivariate model predicting no usual place of care, the uninsured were nearly eight times as likely not to have a usual place of care in relation to those with any insurance, ($p<0.001$). After introducing the demographic indicators into the model, uninsured people remained seven times more likely not to have a usual place of care than insured individuals, and it is statistically significant ($p<0.01$). Non-whites are twice as likely not to have a usual care place compared to whites ($p<0.01$). Females, those over 65, and those reporting a disability were all statistically significantly more likely to have a usual place of care than those in their respective reference categories ($p<0.05$).

After adding socioeconomic characteristics, the uninsured were 6.7 times more likely not to have a usual place of care compared to the insured ($p<0.01$). Homeownership is the only socioeconomic predictor that reached statistical significance ($p<0.05$); homeowners were 33% more likely to have a usual source of care than non-

homeowners. In summary, after accounting for all independent variables, the uninsured remain much more likely than the insured to not have a place of care.

Table 5 About Here

DISCUSSION

In this thesis, I have aimed to make two main arguments. The first is that the precarious labor market puts workers at risk of being either uninsured or requiring the utilization of Medicaid; the former further perpetuates inequality while the latter may serve as an equalizer in terms of having better health outcomes, particularly from chronic conditions such as diabetes and heart disease, by providing basic health services. Neoliberalization of the economy in the United States has exacerbated health and wealth inequality. Expanding Medicaid creates a more equitable society by decoupling healthcare from employment and improving health outcomes and quality of life for the working poor. My findings support that Medicaid is leveling the field for precarious employees, when I compared precarious employees and non-precarious employees there was only a difference of 1.19% difference in not having usual place of care.

The Medicaid expansion under the Affordable Care Act is associated with increased chances of seeking medical care and diagnosing certain chronic illnesses such as diabetes and high cholesterol that would have likely otherwise gone untreated (Wherry and Miller, 2016). By showing that precarious workers are already on Medicaid, I argue that there is significant overlap between the precariously employed and those receiving

government-sponsored healthcare. My analysis supports this assertation and suggests that those precariously employed are more likely to be Medicaid recipients or to be uninsured.

The second argument I make in this thesis is that being on Medicaid or being uninsured is associated with not having a usual source of care. Having a usual source of care has been linked to better preventative care and increased likelihood of having life-saving health screenings for certain types of cancers, and increases the likelihood of receiving yearly influenza vaccines (Blewett et al. 2008). When a person is both uninsured and lacks a usual care source, they are at the most significant risk of having unmet medical needs (DeVoe et al. 2011). Conversely, having insurance, including Medicaid, has been shown to increase the odds of seeing a general practitioner (Wherry and Miller 2016). In previous studies, 59-87% of Medicaid recipients reported having a usual place of care (Fullerton et al. 2018; Paradise 2015).

My findings are in line with previous literature on the relationship between Medicaid and having a usual source of care . I did not find a significant association between utilizing Medicaid and not having a usual source of care. These results suggest that Medicaid recipients do have a usual source of care. In other words, Medicaid prevents individuals from falling through the cracks of the employment-sponsored insurance system. Medicaid allows individuals to access basic healthcare, including having a usual source of care.

In the State of Utah in February 2021; 409,805 people or 12.4% of the Utah population received Medicaid (Utah Department of Workforce Service and U.S Census Bureau, 2021; World Population Review 2021). With the findings of this study we see

that Medicaid recipients in the Intermountain West have a usual place of care. Thus, Utah recipients of Medicaid should also be more likely to have a usual source of care. In the data utilized for this thesis 34.5% of respondents from Utah reported being precariously employed. I was unable to find rates of precarious employment for the state of Utah, however the Mountain Plains Information Office (2021) provides that 8.7% of Utahns fall into the category of labor underutilization meaning those who are "unemployed, workers employed part-time for economic reasons, and those marginally attached to the labor force (Mountain Plains information Office 2021)". The findings of this thesis show the imporantance of knowing these rates due to their association with being uninsured or needing to utilize Medicaid.

This study has four main limitations. First, this study is cross-sectional; therefore, I cannot establish causality. Second, the survey oversampled for disability status, so it is not generalizable to the general population. However, disability was broadly defined in the survey data used in this study and it includes those with at least one chronic illness. About 45% of people in the United States have at least one chronic illness (Raghupathi and Raghupathi 2018), therefore, our insights remain valuable.

Third, some variables were collapsed into binary variables to to increases statistical power; however, it also eliminated the nuances between subpopulations, particularly in terms of race and ethnicity. Finally, this survey was administered during an unusual time in the United States and globally due to the COVID-19 pandemic, which has had significant implications for health care access, accessibility of care, and employment. However, the pandemic has also underscored the vast inequalities in

healthcare access and distribution in the U.S. and might prompt future action to address the issue.

Future research should continue to address the association between labor conditions and healthcare access. A fruitful area of research would be to focus more closely on the digital platform economy and healthcare access, as the app economy is likely to continue growing indefinitively. Another possible avenue of research is expanding upon usual source of care and health outcomes. The current literature focuses primarily on healthcare utilization and preventive measures without looking more closely at whether health status has improved.

The literature has many recommendations for policymakers on how to improve both public insurance and the labor market. Here, I will list what I believe are the most relevant to my research. Etzioni (2018) suggests that in the app economy, an additional charge could be added to the total cost for the consumer that would then be used to cover the cost of benefits such as health insurance for precarious workers. Policymakers could implement this intervention in the platform economy with jobs such as Uber or Taskrabbit through legislative action.

Other policy recommendations include changing how our policymakers handle health insurance, childcare, wages, and transportation because findings support that working does not increase the working poor's overall quality of life (Berner, Ozer, and Paynter, 2008). Hahn (2016, 2018) suggests that rather than expanding work requirements for Medicaid, the government should make the application and renewal process more efficient in addition to making it easier to verify compliance with eligibility

criteria. Inefficiency is a critical problem in our current welfare system, and it makes it challenging to report information and maintain eligibility. Policy changes such as those previously mentioned could make the eligibility process more cost-efficient for the government and reach those who need the most help more readily. Lastly, expanding Medicaid to every state would not only provide healthcare, but also alleviate a significant stressor among working poor individuals in states currently without expansion.

CONCLUSION

Public assistance reform and precarious employment are arguably the results of the growing neoliberal movement that has been present in the United States since the 1970s (Kalleberg, 2009). As the labor market shifts away from institutional responsibility to greater worker responsibility, Medicaid utilization will likely become more necessary for low-wage and non-standard workers. Precarious workers are more likely to be poor, on public assistance, and lack access to employer-sponsored health insurance (Gutierrez 2018). Lack of health insurance is related to higher stress levels, poor mental health, and the uninsured are less likely to have a usual source of care (DeVoe et al. 2011; Hahn 2018; McMorrow et al. 2017). This last finding has been found to be true in the context of the Intermoutain west by this thesis. Not having health benefits through employment can also result in more use of emergency rooms and acute care. Researchers have found that not having access to health insurance hurts labor market participation because stress and untreated medical conditions impact health outcomes and increase the likelihood of chronic illness and disability, perpetuating the cycle of poverty.

Policymakers will likely expand work requirements for Medicaid recipients due to the firmly cemented work-first mentality. As work becomes more precarious, it will be increasingly valuable to know what type of work Medicaid recipients are doing. This knowledge is crucial because precarious employment is highly unstable and could affect the Medicaid recipient's eligibility if states implement work requirements.

This thesis explored the relationship between precarious labor, Medicaid utlization and being uninsured. I also examined how Medicaid utilization and being uninsured influence having a usual place of care in the contex of the Intermountain West. Important findings include that precarious workers are significantly more likely to be on Medicaid or to be uninsured that standard workers. Additionally, in the Intermountain West the uninsured are significanty more likely to not have no a usual place of care whereas this association was non-significant for Medicaid users which aligns with previous findings. Thus, Medicaid prevents precariously employed individuals from becoming completely disconnected from the health care system protecting vulnerable workers from the poor outcomes associated with not having a usual place of care. This can be used to inform future public policy on labor, welfare reform and healthcare public assistance and health care.

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APPENDICES

Appendix A: Survey Codebook

Food Insecurity & Disability Survey Codebook

Original Variable	Renamed Variable	Label	Value Label
Q2_ 13	disabin	Disability (binary)	0- No disability 1- Yes, with disability
Q30	carepl	Is there a place that you USUALLY go to when you are sick or need advice about your health? (categorical?)	1- There is NO place 2- Yes 3- There is MORE THAN ONE place 4- Refused 5- Don't know
Q33_1	prhins	(Type of health insurance) Private health insurance (binary)	0- No 1- Yes
Q33_2	medicare	Medicare (binary)	0- No 1- Yes
Q33_3	medigap	Medi-Gap (binary)	0- No 1- Yes
Q33_4	medicaid	Medicaid (binary)	0- No 1- Yes
Q33_5	schip	SCHIP (CHIP/Children's health insurance) (binary)	0- No 1- Yes
Q33_6	tricare	Military Healthcare (Tri-care/VA/CHAMP-VA) (binary)	0- No 1- Yes
Q33_7	indhs	Indian Health Services (binary)	0- No 1- Yes
Q33_8	sthins	State-sponsored health plan (binary)	0- No 1- Yes
Q33_9	oghins	Other government program (binary)	0- No 1- Yes
Q33_10	ssplan	Single service plan (e.g dental, vision, prescription) (binary)	0- No 1- Yes
Q33_11	nohins	No coverage of any type	0- No 1- Yes
Q33_12	refhins	Refused	0- No 1- Yes
Q33_13	dkhins	Don't know	0- No

			1- Yes
Q50	age	How old are you? (years)	String
Q51	race	Which of the listed groups do you most closely identify with? (categorical)	1- Non-Hispanic White 2- Non-Hispanic Black 3- Mexican American 4- Other Hispanic 5- Non-Hispanic Asian 6- Native American 7- Other-Multiracial 8- Other (string) 9- No response
Q52	educ	What is the highest level of education you successfully completed? (ordinal)	1- Less than high school 2- High school/ GED 3- Some college 4- College (bachelor's degree) 5- More than college (master's and above) 9- No response
Q53	emp	What is your current employment status? (categorical)	1- Employed full-time 2- Employed part-time 3- Unemployed 4- students 5- physically unable to work 6- Retired 7- Homemaker 8- Sick leave/ maternity leave 9- Other (please specify) 9- No response
Q70	typemp	If you are employed part-time or full-time, do you consider your	0- Permanent 1- Temporary

		employment to be (categorical)	2- Self-employed/business owner 3- Contract (freelance) 4- Contingent (1099/Uber) 9- No response
Q55	home	Do you own a home? (binary)	0- No 1- Yes
Q56	oinc	Are you currently receiving income from sources other than employment? (binary)	0- No 1- Yes
Q57	sinc	What are the sources of this income? (categorical)	1- Any form of government assistance 2- Pensions 3- Stipends 4- Investments 5- Other (explain) 98- Don't know 99- Refused
Q58_1	govas1	Did you receive any of the following forms of assistance in the last 12 months? Social Security (SSA or SS) (binary)	0- No 1- Yes
Q58_2	govas2	Social Security Disability (SSDI or SSD) (binary)	0- No 1- Yes
Q58_3	govas3	Supplemental Security Income (SSI) (binary)	0- No 1- Yes
Q58_4	govas4	General Assistance (GA) (binary)	0- No 1- Yes
Q58_5	govas5	Temporary Assistance for Needy Families (TANF) (binary)	0- No 1- Yes
Q58_6	govas6	Free or reduced lunch (for the minor in the household) (binary)	0- No 1- Yes
Q58_7	govas7	Housing assistance	0- No 1- Yes

Q58_8	govas8	Other	Write in
Q58_9	govas9	Did not receive any assistance	0- No 1- Yes
Q59_1	foodas1	At any time during the last 12 months, did you receive food/nutrition assistance from any of the following sources? Assistance from family or friends (binary)	0- No 1- Yes
Q59_2	foodas2	Women, Infants, and Children program (WIC) (binary)	0- No 1- Yes
Q59_3	foodas3	Supplemental Nutrition Assistance Program (SNAP) (also known as food stamps) (binary)	0- No 1- Yes
Q59_4	foodas4	Local food pantries (binary)	0- No 1- Yes
Q59_5	foodas5	Religious organizations (binary)	0- No 1- Yes
Q59_6	foodas6	Other	String
Q60	disast	Did you receive any of the forms of public assistance mentioned above because you have a disability? (categorical)	0- Yes 1- No 8- Refused 9- Don't know
Q61	mar	What is your current marital status? (categorical)	1- Married/living together 2- Separated 3- Divorced 4- Widowed 5- Never been married 9- No response

TABLES

Table 1
Sample Characteristics by Employment Status

(Percent of Each Characteristic)	Precarious Employment	Non-Precarious Employment
Respondents with Medicaid	32.19%	18.34%
Respondents who are Uninsured	11.71%	7.43%
Respondents without a regular place of care	13.66%	12.47%
Gender:		
Male	23.21%	28.59%
Female	75.00%	70.04%
Non-Binary	1.79%	1.37%
Race:		
White	73.90%	79.77%
Non-White	26.10%	20.23%
Age:		
18-34	51.24%	41.75%
35-49	20.88%	30.57%
50-64	13.74%	19.54%
65-80	14.15%	8.14%
Marital Status:		
Married	35.71%	52.78%
Not Married	19.23%	17.91%
Never Married	45.05%	29.28%
Disability:		
With a disability	54.26%	47.53%
Without a disability	45.74%	52.47%
Education:		
Less than high school	4.67%	2.36%
High school	28.71%	18.48%
Some college	39.97%	35.51%
Bachelor's degree	18.41%	29.51%
Master's degree or higher	8.24%	14.14%
Homeownership:		
Homeowner	34.20%	51.18%
Not a homeowner	65.80%	48.82%
Government Assistance:		
Received other assistance	46.47%	33.38%
No other assistance	53.30%	66.62%
Number of Observations	728	1315

Table 2
Regression of Log Medicaid Utilization

	Type of Employment	Demographic	SES
Precariously Employed	2.114**	2.041**	1.484**
	(0.246)	(0.257)	(0.208)
Gender (Ref Male):			
Female		1.200	1.105
		(0.177)	(0.180)
Non-Binary		1.155	0.866
		(0.528)	(0.436)
Race (Ref White):			
Non-White		1.587**	1.290
		(0.221)	(0.199)
Age (Ref 18-34):			
35-49		1.253	1.396
		(0.196)	(0.246)
50-64		0.746	0.998
		(0.147)	(0.223)
65-80		0.171**	0.132**
		(0.0557)	(0.0460)
Marital Status (Ref Married):			
Not married		3.794**	2.183**
		(0.638)	(0.420)
Never married		2.215**	1.810**
		(0.342)	(0.311)
Disability Status (Ref Non-disabled):			
Has a Disability		1.735**	1.433**
		(0.216)	(0.198)
Education (Ref Master's Degree or Higher):			
Less than high school			10.73**
			(4.991)
High school/GED			5.028**
			(1.626)
Some college			2.522**
			(0.790)
College (Bachelor's degree)			2.029*
			(0.663)
Homeownership (Ref Non-homeowner):			
Homeowner			0.390**
			(0.0623)
Public Assistance (Ref No Assistance):			
Received any form of assistance			4.455**
			(0.632)
Constant	0.225**	0.0821**	0.0330**
Observations	1,751	1,751	1,751

S.E. in parentheses
Level of Significance: **= 0.01, *= 0.05

Table 3
Regression of Log of Being Uninsured

	Type of Employment	Demographic	SES
Precariously employed	1.652**	1.819**	1.652**
	(0.270)	(0.310)	(0.292)
Gender (Ref Male):			
Female		0.755	0.713
		(0.139)	(0.134)
Non-Binary		0.324	0.316
		(0.336)	(0.331)
Race (Ref White):			
Non-White		1.075	1.043
		(0.203)	(0.203)
Age (Ref 18-34):			
35-49		1.101	1.477
		(0.220)	(0.312)
50-64		0.490*	0.742
		(0.140)	(0.221)
65-80		0.0958**	0.217*
		(0.0584)	(0.136)
Marital Status (Ref Married):			
Not married		1.559	1.216
		(0.356)	(0.294)
Never married		1.146	0.878
		(0.234)	(0.189)
Disability Status (Ref Not-Disabled):			
Has a disability		0.702*	0.676*
		(0.117)	(0.117)
Education (Ref Master's or Higher):			
Less than high school			2.851*
			(1.407)
High school/GED			2.171*
			(0.726)
Some college			1.720
			(0.544)
College (Bachelor's degree)			0.661
			(0.242)
Homeownership (Ref Non-homeowner):			
Homeowner			0.487**
			(0.101)
Public Assistance (Ref No Assistance)			
Received any form of assistance			0.468**
			(0.0930)
Constant	0.0803**	0.120**	0.144**
	(0.00870)	(0.0295)	(0.0544)
Observations	1887	1887	1887

S.E. in parentheses
Level of Significance: **= 0.01, *= 0.05

Table 4
Regression of Log of No Usual Place of Care

	Insurance Tyle	Demographic	SES
Medicaid	1.367	1.191	1.036
	(0.250)	(0.232)	(0.223)
Gender (Ref Male):			
Female		0.759	0.723
		(0.140)	(0.135)
Non-Binary		1.324	1.187
		(0.775)	(0.699)
Race (Ref White):			
Non-white		2.045**	2.015**
		(0.371)	(0.368)
Age (Ref 18-34):			
35-49		0.950	1.027
		(0.195)	(0.216)
50-64		0.452**	0.508*
		(0.131)	(0.150)
65-80		0.438*	0.495
		(0.158)	(0.189)
Marital Status (Ref Married):			
Not married		1.344	1.172
		(0.318)	(0.285)
Never married		1.022	0.913
		(0.209)	(0.194)
Disability Status (Ref Non-disabled)			
Has a disability		0.678*	0.647*
		(0.115)	(0.111)
Education (Ref Master's or Higher)			
Less than high school			1.527
			(0.883)
High school/GED			1.380
			(0.481)
Some college			1.706
			(0.537)
College (Bachelor's degree)			1.365
			(0.444)
Homeownership (Ref Non-homeowner)			
Homeowner			0.677*
			(0.134)
Public Assistance (Ref No Assistance)			
Any form of assistance			1.063
			(0.204)
Constant	0.104**	0.151**	0.134**
	(0.00989)	(0.0362)	(0.0509)
Observations	1,668	1,668	1,668

S.E. form in parentheses
Level of Significance: **= 0.01, *= 0.05

Table 5
Regression of Log of No Usual Place of Care

	Insurance Type	Demographic	SES
Uninsured	7.928**	7.133**	6.647**
	(1.478)	(1.374)	(1.312)
Gender (Ref Male):			
Female		0.697*	0.666*
		(0.116)	(0.112)
Non-Binary		1.604	1.493
		(0.880)	(0.820)
Race (Ref White):			
Non-white		2.025**	1.967**
		(0.338)	(0.332)
Age Ref 18-34):			
35-49		1.094	1.189
		(0.206)	(0.230)
50-64		0.642	0.728
		(0.164)	(0.190)
65-80		0.491*	0.582
		(0.175)	(0.219)
Marital Status (Ref Married):			
Not married		1.296	1.128
		(0.276)	(0.248)
Never married		1.311	1.169
		(0.244)	(0.226)
Disability Status (Ref Non-disabled):			
Yes, with disability		0.700*	0.659**
		(0.108)	(0.104)
Education (Ref Master's or Higher):			
Less than high school			1.665
			(0.798)
High school/GED			1.319
			(0.409)
Some college			1.536
			(0.438)
College (Bachelor's degree)			1.310
			(0.391)
Homeownership (Ref Non-homeowner):			
Homeowner			0.671*
			(0.120)
Public Assistance (Ref No Assistance)			
Any form of assistance			0.997
			(0.168)
Constant	0.110**	0.134**	0.126**
	(0.00908)	(0.0306)	(0.0437)
Observations	1,782	1,782	1,782

S.E in parentheses
Level of Significance: **= 0.01, *= 0.05