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Racial and Ethnic Differences in Health Insurance Coverage Among Workers in Texas

Trenton P. Overstreet
University of South Alabama, tpo1621@jagmail.southalabama.edu

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Trenton P. Overstreet
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LIST OF ABBREVIATION

PPACA..... Patient Protection and Affordable Care Act

ASEC .....Annual Social and Economic Supplement

CPS .....Current Population Survey

HLM.....Hierarchical Linear Model

ABSTRACT

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The purpose of this paper is to analyze the effect of race and ethnicity on health insurance coverage for working age (18-61) adults in Texas. I focus on Texas for three reasons. First, Texas is the second largest state in the United States. Second, Texas is a majority-minority state where Hispanics are the largest ethnic group. Finally, Texas has not yet expanded Medicaid eligibility to individuals with family incomes under 138% of the federal poverty threshold. In this analysis, I use data from the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS). The CPS is a multistage cluster sample collected by the U.S. Census Bureau. This analysis uses data collected in the odd years from 2011 through 2019. I theorize that three factors combine to disadvantage minorities in the Texas workforce: educational attainment, citizenship and employment in a nonstandard work arrangement. Multivariate analyses show that occupations that utilize nonstandard work arrangements and noncitizen labor significantly affect disparities in health coverage among Texan workers, net of the worker's individual characteristics.

INTRODUCTION

Health insurance coverage is a major social and political issue in the United States. Coverage is important for accessing healthcare, especially high quality healthcare (Kleinman et al., 2020). However, the United States is the only country among comparable nations that does not guarantee universally accessible healthcare for all its residents (Papanicolas, Woskie, and Jha, 2018). As a result, millions of Americans are without health insurance from any source. For example, in March 2019 there were nearly 30 million individuals without health insurance from any source (CPS, 2019a).

To address the problem of the uninsured, in 2010 the U.S Congress passed The Patient Protection and Affordable Care Act (PPACA), which was implemented in 2014. The PPACA included provisions to increase insurance coverage in several ways. First, young adults could remain on their parents' insurance until the age of 26. Second, individual states could set up health insurance exchanges for individuals and families with incomes between 100-400 percent of the federal poverty threshold. For states that chose not to establish their own exchange, the federal government established exchanges in those states. However, in those states, there has been wide variations in insurance options (Healthcare.gov, n.d.). Third, the PPACA provided funding for states to expand their Medicaid program to all individuals with family incomes below 138% of the federal poverty threshold. In the original legislation, states that did not expand their program

would lose all Medicaid funding (Morrisey, 2020). However, in 2012 in *The National Federation of Independent Business V. Sebelius,* the Supreme Court ruled that states could not be required to participate in the Medicaid expansion program in order to receive Medicaid funds.

In 2014, the first year of the PPACA implementation, twenty-four states opted out of the Medicaid expansion program (Garber and Collins, 2014). By 2019, this number had shrunk to seventeen. Southern states, which are overrepresented among the remaining non-expansion states (KFF, 2022), also have a greater than average concentration of minorities. Texas is the southern state with the largest proportion of minorities (CPS, 2019a).

In this study, I examine the relationship between race/ethnicity and health insurance coverage in Texas. I have decided to examine Texas for several reasons. First, Texas is a highly populated state with 28 million people. Second, Texas is a majority-minority state with a high percentage of Hispanics, who have the highest rate of uninsured persons in the United States. Lastly, Texas has not yet expanded Medicaid eligibility to individuals with family incomes under 138% of the federal poverty threshold.

Having health insurance is important in the United States for utilizing preventative care when needed. This type of care is associated with higher quality of living and greater life expectancy for those who receive them (Kleinman et al., 2020). Those who do not receive preventive care have an increased risk of mortality from cancer, cardiovascular disease, and diabetes, even when controlling for relevant demographic and lifestyle factors (Bittoni et al., 2015). Due to the high cost of care, the

uninsured are likely to forego these procedures (Weaver and Gjesfield, 2014; Pazol et al., 2017).

REVIEW OF PRIOR RESEARCH

Smith et al. (2017) studied the effect of health insurance on healthcare utilization by conducting a ten-year longitudinal study using two stage cluster sample of high poverty neighborhoods in Mobile, Alabama. They determined that health insurance increased the odds of having a regular healthcare provider and for receiving diagnostic tests for diabetes and cardiovascular disease. Moreover, having a regular doctor mediated the effect of being uninsured on receiving diagnostic tests. In contrast, Bailey et al. (2015) examined health records and Medicaid data from thirty-eight community health centers in Oregon and found that health insurance was an important factor in utilizing recommended preventive diabetes care, even with regular medical visits.

Gorey et al. (2015) examined the effect of a universal, single payer healthcare system on preventative breast cancer care over a fifteen year study by comparing medical data of women living in high-poverty neighborhoods in the United States and Canada. They found that women living in high-poverty neighborhoods in Canada experienced better and faster treatment than women living in high-poverty neighborhoods in the United Stated. Due to the accessibility of Canada's healthcare system, women in Canada experienced longer survival rates than women in the U.S.

In 2006, Massachusetts sought to expand insurance coverage to nearly all the state's residents. This reform led to greater insurance coverage and therefore, greater

preventative service use. Hispanics and African Americans saw the greatest increases in coverage and preventative care. Consequently, rates for all-cause mortality and mortality from medically treatable conditions decreased. This program would later serve as a model for the PPACA. (Hanchate et al., 2015; Sommers et al., 2014).

Okoro et al. (2017) studied the effect of health insurance status and individual's access to healthcare on utilizing recommended preventive medical services among working-aged adults (18-64), controlling for Medicaid expansion status, geographic region, and the family income. They found that working aged adults living below the poverty threshold in expansion states were more likely to be insured, have a regular source of care, receive routine preventative screenings for breast and cervical cancer, and receive treatment when needed than impoverished working aged adults in non-expansion states. Because of this, individuals in Medicaid expansion states experienced better health outcomes than those in non-expansion states.

Minority Health Insurance in Texas

Among non-expansion states, Texas has the highest uninsured rate (CPS, 2019a). Ramirez et al. (2013) estimate that forty percent of Hispanics living in the South Texas border region lack health insurance and are less likely to use preventive services. South Texas Hispanics in particular have a higher occurrence of cervical cancer, adult obesity, diabetes and birth defects than Hispanics in the rest of Texas. In another study, Fisher-Hoch et al. (2015) examined the prevalence of diabetes on the border. They estimate that two-thirds of Mexican Americans in Texas living near the Mexico border have diabetes

or pre-diabetes, but only one-third of those with diabetes has been officially diagnosed. Having health insurance is a major factor in identifying pre-diabetes or diagnosing diabetes and receiving treatment. In addition to reducing the likelihood of developing diabetes, early medical intervention is important in preventing related health conditions such as non-alcoholic fatty liver disease and cardiovascular disease, which are also both more prevalent in South Texas than in the rest of Texas.

The greatest minority disparity in health insurance coverage in Texas appears to be the result of the high uninsured rates among noncitizens and Hispanic immigrants (Carrasquillo et al., 2000; Kao et al., 2010). Lubin (2014) states that cost, language and cultural barriers, citizenship status, stigma around receiving public assistance, and anti-immigration health care policies are all important in Hispanics' lack of health insurance coverage. Mixed-citizenship status families who are eligible for health insurance avoid it out of fear that revealing undocumented family members during enrollment would lead their deportation. These fears have also been expressed in focus group studies (Callaghan et al., 2019). These concerns are not new. Durden and Hummer (2006) found that citizenship status was a key factor in immigrant access to health care. Mexican Americans in particular had less access to care and were more likely to receive inadequate care after controlling for citizenship and socioeconomic factors. Many Hispanics living in the Texas/Mexico border region, regardless of citizenship status, frequently travel to Mexico for healthcare treatment due to health care costs in the United States. However, the quality of the care was not as good as the care that was typically provided in the United States (Brown et al., 2009; Byrd and Law 2009).

Employer based healthcare is the most prevalent form of healthcare coverage in the United States. However, Luthra and Waldinger (2010) found that workers from Mexico, regardless of their citizenship status, are less likely to be eligible for employer health insurance compared to whites and African Americans. Even as subsequent generations began to earn wages comparable to whites, second and third generation immigrants were still less likely to be eligible for health insurance from their employer. Schur and Feldman (2001) found that in the past Hispanics were more likely than non-Hispanics to be employed in occupations and industries that do not offer health insurance. Despite enrolling at equal rates as whites when health insurance was offered, Hispanics were less likely to be offered health insurance plans from their employer compared to whites in the same occupation. Angel et al. (2009) studied the effect of demographic and labor force factors on whether or not an individual had employer-based health insurance. They found that male workers from Mexico were less likely to have employer-based health insurance than whites and African American males, regardless of self-employment, employment in the public or private sector or their industry or occupation.

Labor Market Dualism and Nonstandard Work Arrangements

Much of the disparities in health insurance reflects the existing dualism in the American labor market. Doeringer and Piore's (1971) dual labor market theory and Bonacich (1972) on immigration and split labor markets serves as the foundation of the current literature on labor market inequality. In their study of firm internal labor markets, Doeringer and Piore observed that white workers and black workers experienced

different types of employment. White workers were more likely to be employed in jobs within the primary labor market where they could accumulate skills and increase their labor value by moving up a job ladder. Jobs in the primary labor market provided extrinsic benefits such as high wages, health insurance and retirement. In contrast, black workers, were much more likely to be employed in the secondary labor market where these benefits were absent. Jobs in the secondary labor market were initially considered as additional incomes for families who already had a member employed in the primary market. Secondary labor market incomes were not intended to be the sole source of income.

By the 1970's, educational attainment began to replace race and sex discrimination as the primary mechanism for sorting workers into good jobs and bad jobs. After race and sex discrimination became illegal, employers began prioritizing the hiring of highly trained and educated workers into the core of the primary market, regardless of race. These barriers perpetuated an underclass of both white and minority workers that lacked the ability to move into the primary labor market; however, this practice still disproportionately affected minority workers (Wilson, 1978).

The continued transition from a manufacturing to service based economy in the following decades resulted in the increased use of nonstandard work arrangements. Standard work arrangements refer to those that are stable, predictable, and are typically full time, while nonstandard arrangements are more precarious. Nonstandard arrangements include day laborer, temporary-employment agencies, contract employment and part-time work. Through the use of these arrangements, employers are able to increase their profits by greatly reducing their search and labor cost, i.e., pay and benefits

for the worker. They achieve this due to the lack of employment commitment and union membership opportunities for the workers to demand higher pay and benefits (Kalleberg et al., 2000). Part time employment is particularly detrimental to the likelihood that a worker will be employed in the primary labor market, regardless of the worker's education. Further, part-time workers are more likely to experience poverty than full time workers, even when controlling for demographic and labor force variables (Hudson and Kalleberg, 2019).

The final mechanism that feeds workers into the secondary labor market is through employment restrictions imposed on noncitizens. Since the beginning of the 1970's, the United States started to experience an explosion in migration from Mexico (Poston and Bouvier, 2017). Consequently, a split labor market emerged in which the Hispanic immigrant workforce had an overall cheaper price for their labor than white workers of the same jobs (Bonacich, 1972). Since the late 1980s, employment in a standard or nonstandard work arrangement and citizenship have become greater determinants to whether or not a worker will be employed in a job that offers high pay and benefits, regardless of the worker's human capital (Hudson, 2007).

THEORY AND HYPOTHESIS

I theorize that three factors contribute to minority worker's disparity in health insurance coverage in Texas: educational attainment, citizenship, and employment in a nonstandard work arrangement. Black and Hispanic workers typically have lower levels of educational attainment, which limits their ability to access high quality jobs in the service sector, Hispanic worker's immigration status limits their employment opportunities, and both are likely to work in occupations that employ noncitizens and part-time workers. Workers in occupations characterized by the employment of part-time and noncitizen workers, regardless of their personal characteristics, are disadvantaged by association. I hypothesize that controlling for three things will reduce the odds that black and Hispanic workers will be uninsured: (1) the worker's educational attainment, (2) their citizenship status, and (3) their employment in an occupation that employs noncitizen and part-time workers.

METHODS AND DATA

Data

This analysis uses pooled data from the Annual Social and Economic Supplement (ASEC) to the Current Population Survey (CPS) to examine the effect of race and ethnicity on health insurance coverage in Texas. The CPS is a multistage cluster sample collected by the U.S. Census Bureau by interviewing around 54,000 households each month. The ASEC includes questions on health insurance as well as other household and individual data. Households are surveyed in rotations of four-months-on, eight-months-off, then four-months-on again. Because the second round of surveys occur during the same months as the previous year, I only included the years 2015, 2017, and 2019 as respondents would be included twice if I pooled consecutive years. The final part of my analysis uses a hierarchical linear model, I have added cases from the 2011 and 2013 ASECs to increase the occupational sample size. Cases from the 2015, 2017, and 2019 ASECs are restricted to employed working-age adults from Texas for a total of 14,477 cases. I restricted the sample to working-age adults (18-61) due to early retirement and enrollment in Medicare at age 62 (Ssa.gov, n.d.).

Dependent Variable

The ASEC includes data on health insurance coverage from the following sources: Medicare, Medicaid, U.S. Military insurance, privately purchased or employer provided insurance, and insurance obtained through another person. Responses regarding health insurance in the 2015 and 2017 ASECs pertain to the previous years of 2014 and 2016 respectively. The 2019 ASEC health insurance question uses health insurance data collected in 2019 (CPS 2019b). These sources were recoded into mutually exclusive categories to avoid the possibility of respondents being included in more than one category of coverage. Individuals in the sample who reported having Medicare are assigned to the "Medicare" category regardless of if they had additional types of health insurance. Next, the remaining individuals with Medicaid were assigned to the "Medicaid" group. This method of categorizing health insurance types was employed on the remaining sources of coverage, prioritizing the order of the categories. So, for example, individuals receiving health insurance through another person do not have Medicare, Medicaid, military insurance or employer provided health insurance. The dependent variable in my multivariate analysis is a binary variable. In keeping with the bad jobs literature, individuals without health insurance are coded 1, and those with health insurance from any source are coded 0.

Independent Variables

The independent variables in my multivariate analysis include the following: age, sex, race/ethnicity, citizenship status, educational attainment, student status, part time

employment, and a poverty level family income variable. Age is measured in years. The remainder of the independent variables are coded as dummy variables. “Female” represents the sex of the respondent. Females are coded 1; men are the reference group. Variables for race/ethnicity include “white”, “black”, “Asian” and “Hispanic.” The Hispanic category include all those who reported Hispanic ethnicity regardless of race. Otherwise, respondents are categorized by their reported race. Native Americans, Hawaiian and Pacific Islanders and mixed race individuals are excluded from the analysis due to insufficient cases. The variable “noncitizen” denotes the citizenship status of the respondent; noncitizens are coded 1. Educational attainment variables include “less than high-school,” “some college,” “Trade school,” “Junior college,” “Bachelor’s degree,” “Master’s degree,” “Professional degree,” and “PhD.” Highschool graduates are the reference group. Respondents currently enrolled as a student are coded 1 for the “in school” variable. Respondents with family level poverty earnings are coded 1. Variables for “the year 2014,” “the year 2016,” and “the year 2019” are also included. Health insurance data from 2019 is the reference year.

In the last part of my analysis, I use a hierarchical linear random intercept model (HLM) to capture the effect of the worker's occupational characteristics. The HLM analysis uses detailed level measures for the occupation of the worker. Occupational characteristics measure the proportion of workers in an occupational who have a particular characteristic. The proportion of part-time employees in an occupation measures nonstandard work arrangements. Occupational variables are also characterized by the proportion of Asian workers, black workers, Hispanic workers, noncitizen workers, college graduates, or female workers in an occupation.

Analysis Methods

I examine the distributions of employed working-age (18-61) Texans to employed working-age individuals in the rest of the United States, excluding Texas, across six different health insurance categories for 2014, 2016 and 2019. I then present the same distribution across four race and ethnicity groups as well as Hispanic citizens and noncitizens. I include descriptive statistics for all the variables included in my multivariate analyses. In order to account for racial and ethnic disparities in health insurance coverage in Texas, I estimate a series of multivariate models using logistic regression and hierarchical linear models (HLM).

ANALYSIS AND RESULTS

Table 1 provides distributions across six insurance types for the employed working age Texan population (age 18-61) compared to the same population in the rest of the United States by year.

Table 1. Percent Distributions of Employed Working Aged (18-61) Texans Compared to the Same Group in the Rest of the US* Across Health Insurance Coverage Categories By Year (a).

	Texas	Rest of US	Texas	Rest of US	Texas	Rest of US
Insurance Status	**2014**		**2016**		**2019**	
Medicare	0.3	0.5	0.5	0.5	0.8	0.8
Medicaid	4.1	9.3	4.3	10.3	2.9	8.8
Military Related Insurance	2.4	2.5	3.0	2.6	2.9	2.2
Employer Provided and Privately Purchased	55.7	55.3	55.5	56.2	53.7	56.9
Provided by Another Person	16.4	20.0	17.7	19.9	17.4	20.8
No Health Insurance	21.1	12.4	19.1	10.5	22.4	10.6
Total	100	100	100	100	100	100
Unweighted N	5104	76594	4906	71971	4700	70143

*Weighted Estimates
(a) The insurance data for 2014 and 2016 was collected in the 2015 and 2017 ASECs respectively.
The insurance data for 2019 was collected in the same year.
The analysis is restricted to the civilian population.

There are three noteworthy disparities in health insurance coverage between workers in Texas and in the rest of the United States. First, fewer employed workers in Texas receive Medicaid than workers in the rest of the United States. Second, almost twice as

many workers in Texas are uninsured than in the United States. This is likely due to the lack of Medicaid coverage for the employed working age population in Texas. This suggests the need for more research comparing expansion and non-expansion states. The lastly is the rate at which health insurance is provided by another person. The PPACA provision allowing adults under the age of 26 has not completely eliminated this disparity.

Table 2 offers the same descriptive model for each of the included racial and ethnic groups.

Table 2. Percent Distributions of Employed Working Aged (18-61) White Texans Compared to the Same Group in the Rest of the US* Across Health Insurance Coverage Categories By Year (a).

	White Only					
	Texas	Rest of US	Texas	Rest of US	Texas	Rest of US
Insurance Status	**2014**		**2016**		**2019**	
Medicare	0.2	0.5	0.8	0.4	1.2	0.8
Medicaid	2.8	6.9	2.2	7.5	1.3	6.1
Military Related Insurance	2.7	2.5	3.7	2.7	3.6	2.2
Employer Provided/Privately Purchased	63.0	58.5	62.8	59.0	63.3	59.9
Provided by Another Person	19.0	22.2	21.1	22.0	19.6	23.6
No Health Insurance	12.4	9.3	9.4	8.2	11.1	7.3
Total	100	100	100	100	100	100
Unweighted N	1974	48360	1874	44470	1666	43094

*Weighted Estimates
(a) The insurance data for 2014 and 2016 was collected in the 2015 and 2017 ASECs respectively.
The insurance data for 2019 was collected in the same year.
The analysis is restricted to the civilian population.

Several findings are evident when comparing employed working age adults in Texas to the same population in the rest of the United States. First, the disparities in Medicaid coverage between workers in Texas and workers in the United States remains when

looking at white workers only. However, the proportion of white working Texans who receive health insurance through an employer is greater than that of the rest of the United States. Second, white workers in Texas experience greater uninsured rates than white workers in the rest of the United States.

Table 3. Percent Distributions of Employed Working Aged (18-61) Black Texans Compared to the Same Group in the Rest of the US* Across Health Insurance Coverage Categories By Year (a).

	Black Only					
	Texas	Rest of US	Texas	Rest of US	Texas	Rest of US
Insurance Status	**2014**		**2016**		**2019**	
Medicare	0.4	0.7	0.6	0.7	1.3	1.3
Medicaid	6.2	12.0	7.6	13.5	2.7	12.3
Military Related Insurance	2.5	3.5	2.3	3.5	3.9	2.8
Employer Provided/Privately Purchased	57.8	55.5	60.4	55.9	58.0	57.4
Provided by Another Person	13.9	14.2	13.9	13.7	17.7	14.0
No Health Insurance	19.1	14.2	15.2	12.7	16.5	12.2
Total	100	100	100	100	100	100
Unweighted N	545	8052	495	7608	488	7178

*Weighted Estimates
(a) The insurance data for 2014 and 2016 was collected in the 2015 and 2017 ASECs respectively.
The insurance data for 2019 was collected in the same year.
The analysis is restricted to the civilian population.

Comparing black and white workers in Texas reveals a stark difference in health insurance coverage for black workers. In March of 2019, black workers experience substantially greater uninsured rates than white workers.

Table 4. Percent Distributions of Employed Working Aged (18-61) Asian Texans Compared to the Same Group in the Rest of the US* Across Health Insurance Coverage Categories By Year (a).

	Asian Only					
	Texas	Rest of US	Texas	Rest of US	Texas	Rest of US
Insurance Status	**2014**		**2016**		**2019**	
Medicare	0.0	0.2	0.0	0.2	0.0	0.7
Medicaid	2.9	10.4	4.9	10.5	1.3	10.0
Military Related Insurance	1.7	1.5	0.5	1.4	1.8	1.4
Employer Provided/Privately Purchased	65.2	59.0	66.0	59.9	62.1	60.6
Provided by Another Person	21.6	19.6	18.5	20.9	23.7	19.7
No Health Insurance	8.6	9.2	10.2	7.1	11.1	7.5
Total	100	100	100	100	100	100
Unweighted N	255	4822	253	4806	261	4669

*Weighted Estimates
(a) The insurance data for 2014 and 2016 was collected in the 2015 and 2017 ASECs respectively.
The insurance data for 2019 was collected in the same year.
The analysis is restricted to the civilian population.

In 2019, the distribution of Asian workers in Texas across health insurance coverage was similar to that of white workers. The one exception is insurance provided by another person, which is somewhat higher for Asian workers than for whites.

Hispanic workers in Texas experience the greatest deviation in health insurance coverage compared to white workers. First, Hispanic workers have the largest proportion of coverage through Medicaid compared to the other race and ethnic groups. However, compared to Texas, the percentage of Hispanic workers in the United States enrolled in Medicaid is about three times greater.

Table 5. Percent Distributions of Employed Working Aged (18-61) Hispanic Texans Compared to the Same Group in the Rest of the US* Across Health Insurance Coverage Categories By Year (a).

	Hispanic					
	Texas	Rest of US	Texas	Rest of US	Texas	Rest of US
Insurance Status	**2014**		**2016**		**2019**	
Medicare	0.3	0.5	0.1	0.4	0.3	0.6
Medicaid	5.4	16.6	5.5	18.4	4.8	15.9
Military Related Insurance	2.1	1.6	2.4	1.6	2.0	1.4
Employer Provided/Privately Purchased	44.9	41.3	44.2	44.7	41.7	44.4
Provided by Another Person	13.2	14.9	14.6	15.6	13.6	15.3
No Health Insurance	34.1	25.1	33.1	19.3	37.6	22.4
Total	100	100	100	100	100	100
Unweighted N	2248	12977	2219	12859	2199	12952

*Weighted Estimates
(a) The insurance data for 2014 and 2016 was collected in the 2015 and 2017 ASECs respectively.
The insurance data for 2019 was collected in the same year.
The analysis is restricted to the civilian population.

Second, Hispanic workers in Texas are less likely to have of health insurance provided by their employer than any of the race and ethnic groups. Third, Hispanic workers have a noticeably lower rate of coverage through another person than white workers in Texas. Fourth, Hispanic workers in Texas and in the rest of the United States have the greatest uninsured rate compared to the other race and ethnic groups; the difference between the uninsured rate of Hispanic workers in Texas and the rest of the United States is the greatest of any of the race and ethnic groups.

Table 6. Percent Distributions of Employed Working Aged (18-61) Hispanic Citizen and Hispanic Noncitizen Texans Compared to the Same Group in the Rest of the US* Across Health Insurance Coverage Categories By Year (a).

	Hispanic Citizen					
	Texas	Rest of US	Texas	Rest of US	Texas	Rest of US
Insurance Status	**2014**		**2016**		**2019**	
Medicare	0.4	0.5	0.2	0.4	0.4	0.7
Medicaid	5.6	16.1	4.5	17.4	4.7	14.6
Military Related Insurance	2.8	2.1	2.8	2.2	2.7	1.8
Employer Provided/Privately Purchased	52.4	48.2	51.8	50.6	47.6	51.2
Provided by Another Person	16.5	17.4	17.3	17.5	16.0	17.9
No Health Insurance	22.2	15.8	23.4	11.9	28.6	13.8
Total	100	100	100	100	100	100
Unweighted N	1508	8657	1530	8802	1551	9064
	Hispanic Noncitizen					
	Texas	Rest of US	Texas	Rest of US	Texas	Rest of US
Insurance Status	**2014**		**2016**		**2019**	
Medicare	0.1	0.4	0.0	0.3	0.3	0.3
Medicaid	4.9	17.7	7.6	20.5	5.2	18.9
Military Related Insurance	0.8	0.7	1.6	0.4	0.2	0.3
Employer Provided/Privately Purchased	30.3	27.8	27.7	32.4	27.7	28.9
Provided by Another Person	6.8	10.1	8.9	11.7	7.7	9.5
No Health Insurance	57.0	43.3	54.2	34.7	58.9	42.1
Total	100	100	100	100	100	100
Unweighted N	740	4320	689	4057	648	3888

*Weighted Estimates
(a) The insurance data for 2014 and 2016 was collected in the 2015 and 2017 ASECs respectively.
The insurance data for 2019 was collected in the same year.
The analysis is restricted to the civilian population.

Comparing Hispanic citizen and noncitizen workers to white workers reveals several noteworthy findings. First, Hispanic workers, regardless of citizenship, still have the largest proportion of enrollment in Medicaid in Texas and in the rest of the United States. However, the proportions of both Hispanic citizens and noncitizens workers with Medicaid in Texas remain drastically less than Medicaid enrollment of both Hispanic citizens and noncitizen workers in the rest of the United States. Second, Hispanics

citizens and noncitizen workers, compared to white workers are still disparaged in coverage provided through their employer as well as insurance through another person. Both groups still experience larger uninsured rates than white workers. While health insurance disparities remain for both Hispanic citizens and Hispanic noncitizen workers, citizenship status is important in mediating rates of coverage. Compared to Hispanic citizen workers, Hispanic noncitizen workers have significantly lower rates of health insurance coverage through their employer and through another person. As a result, Hispanic noncitizens experience exceptionally higher uninsured rate. In March 2019, almost thirty-percent of Hispanic citizens in Texas were uninsured compared to sixty-percent of Hispanic noncitizens, which is almost the same proportion of white workers who are insured by their employer.

Descriptive Statistics

Table 7 presents descriptive statistics for the variables used in the multivariate analysis. Most notably, one-out-of-five employed working aged Texans do not have health insurance from any source. Around thirty-eight percent of the sample is Hispanic, which is a large proportion of the Texas population and is about double the proportion of Hispanics in the United States. Hispanic noncitizens comprise about twelve percent of the total sample and a third of Hispanics in Texas do not have citizenship. Fourteen percent of Hispanic citizens and fifty-four percent of Hispanic noncitizen workers have less than a high-school degree (See Table A1 and A2).

Table 7. Descriptive Statistics* for Employed Working Aged Texans (18-61).

	Mean	Std. Deviation
nohealth	0.209	
Female	0.454	
White	0.438	
Black	0.124	
Asian	0.053	
Hispanic	0.386	
Hispanic Citizen	0.264	
Hispanic Noncitizen	0.122	
Noncitizen	0.153	
Age	38.938	12.0197
Less than High School	0.126	
Highschool Graduate	0.255	
Some College	0.203	
Trade School	0.043	
Junior College	0.050	
Bachelors Degree	0.217	
Master's Degree	0.082	
Professional Degree	0.011	
PhD	0.014	
In School	0.075	
Part Time	0.140	
Family Poverty	0.105	
The year 2014	0.320	
The year 2016	0.334	
The year 2019	0.347	
Unweighted N	14477	

*Weighted Descriptive Statisics

Multivariate Analysis

Table 8 presents the effects of selected demographic variables on the likelihood of not receiving health insurance from any source. The equation for the logistic regression model is provided below.

$$\ln\left(\frac{P(Y_i = 1)}{1 - P(Y_i = 1)}\right) = \beta_0 + \sum_{q=1}^{Q} \beta_q X_{qi}$$

The log-odds in this equation refer to the odds that an individual does not have health insurance from any source. β_0 is the intercept of the equation. The effects of each of the covariates, X_q, in denoted with β_q. Model 1 is a reduced form model that only includes variables for sex, race, and the year of the survey. Black and Hispanic workers are less likely to have health insurance than white workers; however, the difference between Asian and white workers is not significant. All models in Table 4 control for the year of the survey.

Table 8. Logistic Regression of Not Having Health Insurance (a) from any Source On Race-Ethnicity and Other Demographic and Labor Force Variables Among Employed Working Age Texans (18-61).

	Model 1		Model 2		Model 3	
	b	Exp(b)	b	Exp(b)	b	Exp(b)
Female	-0.314	0.730 ***	-0.188	0.829 ***	-0.230	0.795 ***
Black	0.453	1.573 ***	0.322	1.380 ***	0.248	1.281 **
Asian	-0.123	0.884	-0.118	0.889	-0.085	0.918
Hispanic	1.439	4.215 ***	0.656	1.927 ***	0.633	1.884 ***
Noncitizen			0.763	2.144 ***	0.698	2.009 ***
Hispanic*Noncitizen			0.305	1.357 ^	0.335	1.398 ^
Age			-0.023	0.977 ***	-0.020	0.980 ***
Less than High School			0.433	1.542 ***	0.339	1.403 ***
Some College			-0.365	0.694 ***	-0.314	0.730 ***
Trade School			-0.453	0.635 ***	-0.401	0.669 **
Junior College			-0.666	0.514 ***	-0.598	0.550 ***
Bachelor's Degree			-0.983	0.374 ***	-0.888	0.412 ***
Master's Degree			-1.725	0.178 ***	-1.614	0.199 ***
Professional Degree			-1.390	0.249 ***	-1.268	0.281 ***
PhD			-1.376	0.252 ***	-1.255	0.285 ***
In School			-0.683	0.505 ***	-0.644	0.525 ***
Part Time			0.639	1.895 ***	0.548	1.730 ***
Family Poverty					1.030	2.800 ***
The year 2014	-0.087	0.917 ^	-0.166	0.847 **	-0.198	0.821 ***
The year 2016	-0.191	0.826 ***	-0.235	0.790 ***	-0.248	0.781 ***
Constant	-1.874	0.154 ***	-0.546	0.579 ***	-0.762	0.467 ***
N	14477		14477		14477	

* pvalue < .05, ** pvalue < .01, *** pvalue < .001

^ pvalue < .1

(a) The insurance data for 2014 and 2016 was collected in the 2015 and 2017 ASECs respectively. The insurance data for 2019 was collected in the same year.

Model 2 examines the effects of race and ethnicity on health insurance status controlling for part-time work, citizenship status, and the effects of educational

attainment. Adding these variables to the model significantly decreases the race and ethnicity effects for black and Hispanic workers, with the largest decrease occurring among Hispanic workers. As expected, part-time employment increases a worker's chances of being uninsured, net of other variables. Due to the heterogeneity and the ordinality of the distinct degree effects, combining these categories would discard important information on the benefits to workers who obtain increasingly higher levels of education (See Table A3). Models 3 adds a family level poverty variable along with the covariates in Model 2. Adding this variable produces a small reduction in the race and ethnicity effects and a slight weakening of the beneficial effects of higher degree attainment.

Table 9 examines the effects of the variables used in the Model 3 controlling for the effects of the worker's occupation on the likelihood of not receiving health insurance from any source. This model also controls for selected demographic characteristics of the worker's occupation. The HLM equations are provided below.

Level 1

$$\ln\left(\frac{P(Y_{ij}=1)}{1-P(Y_{ij}=1)}\right) = \beta_{0j} + \sum_{q=1}^{Q}\beta_{qj}X_{qij}$$

Level 2

$$\beta_{0j} = \gamma_{00} + \sum_{s=1}^{S}\gamma_{0s}W_{sj} + u_{0j}$$

The Level 1 equation is for individual covariates. The subscript *j* represents the detailed occupation that the *ith* individual is nested in. The intercept (β_{0j}) in the Level 1

equation represents the random variation across occupations included in the Level 2 equation, while the effects (β_{qj}) remain fixed.

The Level 2 equation creates an intercept for Level 1 based on occupational characteristics of the worker. The intercept in the Level 2 equation, $\gamma_{00,}$ is the grand mean of not having health insurance when all of the Level 1 and Level 2 variables are 0. Occupations with a greater number of cases are given more weight in their effect on the occupationally specific intercept and occupations with fewer cases gives more weight to the grand mean. The coefficients of each occupational variable, W_{sj}, are represented by γ_{0s}. Both of these equations then come together to create a combined equation (Raudenbush and Bryk, 2001).

Table 9. Hierarchical Logistic Regression of Not Having Health Insurance (a) from any Source On Race-Ethnicity and Other Demographic and Labor Force Variables Among Employed Working Age Texans (18-61).

	Model 4	
	b	**Exp(b)**
Female	-0.100	0.905 ^
Black	0.219	1.245 *
Asian	-0.078	0.925
Hispanic	0.592	1.807 ***
Noncitizen	0.674	1.963 ***
Hispanic*Noncitizen	0.148	1.160
Age	-0.019	0.982 ***
Less than Highshcool	0.191	1.210 **
Some College	-0.189	0.828 **
Trade School	-0.243	0.784 *
Junior College	-0.356	0.700 **
Bachelor's	-0.507	0.602 ***
Master's	-1.103	0.332 ***
Professional Degree	-0.629	0.533 *
PhD	-0.750	0.472 **
In School	-0.566	0.568 ***
Part Time	0.375	1.455 ***
Family Poverty	0.927	2.528 ***
The Year 2014	-0.196	0.822 ***
The Year 2016	-0.266	0.766 ***
Level 1 N	14710	

Table 9 continued.

Intercept	-1.797	0.166	***
Female	-0.175	0.839	
Black	-1.198	0.302	*
Asian	-1.180	0.307	^
Hispanic	-0.317	0.728	
Noncitizen	1.498	4.472	**
Bachelor's or Advanced	-0.597	0.550	**
Part Time	1.692	5.428	***
Level 2 N		447	

* pvalue < .05, ** pvalue < .01, *** pvalue < .001
^ pvalue < .1
(a) The insurance data for 2014 and 2016 was collected in the 2015 and The insurance data for 2019 was collected in the same year.

Model 4 produce several findings. First, black and Hispanic workers experienced a reduction in the odds of not having health insurance after controlling for individual level covariates and occupational level characteristics. However, they still suffer significant disparities in coverage compared to white workers. Second, the disparity in health insurance coverage that part-time and noncitizen workers experience is partially mediated when controlling for occupations characterized by part-time and noncitizen employment; however, these workers are still more likely to be uninsured compared to those employed full-time or with citizenship. Finally, in accordance with my hypothesis, Level 2 of the HLM analysis provides evidence to how detrimental or beneficial a worker's occupation can be on their likelihood of having health insurance. Workers in

occupations that employ noncitizen and part-time workers are much less likely to have health insurance, net of their individual citizenship and part-time work status. However, the percentage of college graduates in an occupation increases the likelihood that a worker will have health insurance. This is true in spite of the worker's individual educational attainment level.

DISCUSSION

This analysis identifies three factors that affect health insurance coverage for black and Hispanic workers in Texas. I found that controlling for a worker's educational attainment, citizenship status, and work arrangement with their employer significantly mediates the effect of race and ethnicity on health insurance coverage. However, black and Hispanic workers remain disadvantaged in their rates of coverage, net of their demographics and labor force characteristics as well as the characteristics the occupation in which they are employed. Future analysis should incorporate more types of nonstandard work arrangements as well as incorporating variables on industry characteristics to further explain this disparity. At the occupational level, I provide evidence to support the segmentation of the labor market on the basis of citizenship and nonstandard work arrangements. The percentage of noncitizen and part-time workers in an occupation significantly harms a worker in an occupation in the likelihood that he or she will be insured. Any worker, regardless of their individual characteristics, is disadvantaged in terms of health insurance coverage purely from working in an occupation in which others are disadvantaged.

IMPLICATIONS

In non-expansion states like Texas, able-bodied, low income working age individuals have few options to receive health insurance. One might say, perhaps these individuals should improve their human capital and get a job that pays enough to purchase health insurance through the state exchange; however, my analysis has shown these disparities still persist after controlling for education and poverty. Or maybe, the uninsured should change occupations to one that is more likely to offer health insurance for compensation-yet again, accounting for individual educational attainment and predictive occupational characteristics still results in a greater likelihood that Hispanic and black workers will remain uninsured. As long as employers serve as the gatekeepers for a majority of workers to receive regular and adequate care, these gaps in health insurance coverage and health outcomes will remain. Universally accessible health care is the ultimate goal in reducing the disparity in health insurance coverage; however, in the meantime, simply expanding Medicaid in states that have not yet done so would capture those currently left uninsured through the current system of employer provided health insurance.

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APPENDIX

Table A1. Educational Attainment by Race and Ethnicity among the Employed Working Age Texans (18-61).

	White	Black	Asian	Hispanic
Less than High School	0.038	0.049	0.046	0.266
High School Grad	0.218	0.259	0.127	0.305
Some College	0.208	0.265	0.078	0.185
Trade School	0.044	0.058	0.027	0.044
Junior College	0.055	0.064	0.038	0.044
Bachelor's Degree	0.297	0.210	0.325	0.115
Master's Degree	0.104	0.079	0.265	0.034
Professional Degree	0.015	0.007	0.035	0.003
PhD	0.020	0.010	0.059	0.004
Total	100	100	100	100

Table A2. Educational Attainment by Citizenship among the Employed Working Age Hispanic Texans (18-61).

	Hispanic Citizen	Hispanic Noncitizen
Less than High School	0.143	0.538
High School Grad	0.322	0.267
Some College	0.230	0.084
Trade School	0.057	0.016
Junior College	0.058	0.013
Bachelor's Degree	0.140	0.061
Master's Degree	0.042	0.015
Professional Degree	0.003	0.003
PhD	0.004	0.002
Total	100	100

Table A3. Health Insurance (a) Status by Educational Attainment among the Employed Working Age Texans (18-61).

	Insured	Uninsured
Less than High School	0.539	0.461
High School Grad	0.708	0.292
Some College	0.811	0.189
Trade School	0.835	0.165
Junior College	0.846	0.154
Bachelor's Degree	0.889	0.111
Master's Degree	0.931	0.069
Professional Degree	0.892	0.108
PhD	0.933	0.067
Total	0.769	0.231

(a) The insurance data for 2014 and 2016 was collected in the 2015 and 2017 ASECs respectively. The insurance data for 2019 was collected in the same year.

BIOGRAPHICAL SKETCH

Name of Author: Trenton P. Overstreet

Place of Birth: Houston, Texas

Date of Birth: May 7, 1998

Graduate and Undergraduate Schools Attended:

University of South Alabama, Mobile, Alabama

Degrees Awarded:

Master of Arts in Sociology, 2022, Mobile, Alabama
Bachelor of Arts in Sociology, 2020, *Cum Laude,* Mobile, Alabama

Awards and Honors:

Graduate Assistant, Department of Sociology, Anthropology, and Social Work, 2020
Graduate Assistant, Department of Sociology, Anthropology, and Social Work, 2021
USA Foundation Sociology Graduate Scholarship 2021
USA Foundation Sociology Graduate Scholarship 2022
Department of Sociology, Anthropology, and Social Work Paper Awards 2022