Latino Workers and Employer Health Benefits in Dane County, Wisconsin

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I. Introduction

Employer sponsored health insurance (ESI) is a primary feature of the healthcare system in the United States. In 2015, ESI covered 119.9 million adults in the United States (Carman, Eibner & Paddock, 2015, p. 1046). However, when this number is broken down into racial categories, inequities in coverage begin to surface (Gould, 2012). Latino workers may be limited from obtaining jobs that offer ESI due to language barriers, a disproportionate level of education, and citizenship status (Reschovsky, Hadley, & Nichols, 2007, p. 271). Additionally, Latino workers are further marginalized from opportunities for ESI if they work multiple part time jobs (rather than one full time job) or have short job retention (Irs.gov, 2015).

Given this context, our study aimed to examine the difference in access to ESI between Latino and White workers at a local level in Dane County Wisconsin. We hypothesized that Latino workers are less likely to have ESI compared to White workers in Dane County. Using data obtained from the Workers' Rights Center of Madison (WRC), our research considered length of employment, full time versus part time work, education level, domestic versus foreign born status, and primary language as the independent variables for determining access to ESI among both Latino and White workers.

We found our resulting model to be unspecified: the combination of independent variables explained very little of the change in ESI. That said, our model suggested that working full time at a single job and holding a job for a year or more were important factors and having a university level education had some significance in attaining ESI. Ethnicity, primarily language, and domestic or foreign born status did not have significant impacts on ESI in our model.

II. Literature Review

Before addressing the racial disparities within ESI, it is important to understand insurance coverage laws for employers in Wisconsin. The literature exposed two major variables in determining eligibility for ESI: full time versus part time employment and the size of employer (categorized as either small or large). By state and federal standards, a full time employee is any person who works at least 30 hours a week or averages 130 hours a month (Irs.gov, 2015). In terms of ESI coverage, full time employment status is job specific. In other words, if an employee works at least 30 hours a week, but those hours are scattered across multiple jobs, they are not considered full time employees under ESI standards (Irs.gov, 2015).

In Wisconsin, in accordance with the ACA, an employer is considered "small" if it has between 2 and 50 employees. There are no federal or state laws that require small employers to offer health insurance benefits to their employees (State of Wisconsin Office of the Commissioner of Insurance, 2015, p. 4). If a small employer voluntarily decides to offer health insurance benefits to its employees, the employer is required to offer coverage to *all* eligible employees regardless of pre-existing conditions (State of Wisconsin Office of the Commissioner of Insurance, 2015, p. 7). According to the Wisconsin Office of the Commissioner of Insurance (2015) an eligible employee is, "an employee who works on a permanent basis and has a normal work week of 30 or more hours" (p. 4). If a small employer offers coverage through a group plan, the costs of that plan vary (State of Wisconsin Office of the Commissioner of Insurance, 2015, p. 10).

A large employer is therefore defined as any firm with more than 50 employees (State of Wisconsin Office of the Commissioner of Insurance, 2014, p. 3). Federal law under the ACA requires all large employers, that have 50 or more *full time* employees, to offer affordable health insurance to their employees. Insurance is deemed affordable if: the employer covers at least 60% of the expected

claim costs and the employee's share of the premium for self-only coverage does not exceed 9.5% of the employee's income (Irs.gov, 2015). Employers face costly penalties if they do not adhere to these requirements (State of Wisconsin Office of the Commissioner of Insurance, 2014, p. 4).

Under the ACA, "an eligible individual cannot be required to wait more than 90 days before the individual's health coverage becomes effective" (Willis North America Inc., 2014, p.1). However, there is an important caveat to this waiting period. If upon hiring, it is unclear if an employee will satisfy the full time employment requirements, a maximum 12 month measurement period can determine the employee's eligibility for coverage (Willis North America Inc., 2014, p. 2). This measurement period is especially important for hourly employees with schedules that vary week to week, and therefore a relevant detail to consider in our study of Latino workers.

Now that the insurance coverage laws have been presented, the literature regarding Latino access to ESI will be discussed. A study conducted by Reschovsky et al. (2007), concluded that Hispanic workers are less likely to have a job that offers ESI compared to White workers (p. 265). However, when socioeconomic factors are controlled, the overall ESI coverage gap between Hispanics and Whites is reduced by roughly two thirds (Reschovsky et al., 2007, p. 259). Comparatively, Paringer (2007) found that 66.9% of Hispanic workers in California are offered ESI compared to 78.7% of White workers (p. 42). However, after controlling for education level, immigration status, age, earnings, and language skills, the study found that Hispanic workers are actually more likely to have jobs that offer ESI than non-Hispanic workers (Paringer, 2007, p. 50). Nonetheless, when compared to non-Hispanic, nonimmigrant workers, Hispanic immigrants are 26% less likely to have jobs that offer ESI (Paringer, 2007, p. 51), demonstrating that country of origin is significant in determining access to ESI. Reschovsky et al concluded that English-speaking Hispanics have more similar rates of ESI to Whites than non-English speaking Hispanics (2007, p. 269),

illustrating primary language to be another barrier for ESI coverage. The research also exposed the fact that Hispanics tend to have lower levels of education, which limits their employment options offering ESI (Paringer, 2007, p. 40).

In reference to the available literature, employers do not *directly* discriminate against Latino workers in terms of offering ESI. The discrimination is more indirect: due to a lower socioeconomic standing, Latino workers are less likely to have a job that offers ESI compared to White workers (Reschovsky et al., 2007, p. 259). The research suggests, "the process of acculturation - attaining citizenship, English language proficiency, and greater knowledge of the American labor market and health care system - is likely to contribute to improved Hispanic health insurance coverage over time" (Reschovsky et al, 2007, p. 258). Despite the potential of this theory, Reschovsky et al (2007) note that the coverage gap has been persistent over time despite a growing Hispanic population in the U.S. (p. 257). Given this trend, acculturation alone is not sufficient for reducing the ESI coverage gap between Latino and White workers.

Given this background, does the ACA, which mandates ESI policy and regulation, make a larger difference in reducing the coverage gap? A 2012 report by the National Council of La Raza predicted that because of the ACA, the percentage of Latinos with ESI coverage will increase from 35% to 38%. The report predicted the rise in Latino access to ESI to be a result of greater employer accountability under the ACA (National Council of La Raza, 2012, p. 1). However, the ACA does not consider working multiple part time jobs as full time employment even if the hours worked per week exceed 30 (Patient Protection and Affordable Care Act of 2010).

In keeping with the insurance laws, the ACA accountability measures only affect Latino workers holding a full time job through one specific "large employer". The ACA has many benefits and opportunities for Latinos in terms of obtaining general insurance coverage, but the potential gains

for ESI are more limited (Clemans-Cope, Kenney, Buettgens, Carroll & Blavin, 2012). Therefore, reducing the coverage gap for ESI between Latinos and Whites involves a combination of acculturation and ACA policy. Looking ahead, the Affordable Care Act (ACA) provides new options and accountability measures for ESI, but also creates new complications. If this important benefit is not equally distributed among races, inequity prevails.

III. Methodology

Data Source

Our research data came from a 2015 survey conducted by the Workers Rights Center of Madison (WRC) as part of their larger Latino Workers Project. WRC is a community center dedicated to empowering workers through advocacy efforts and education outreach. The survey was distributed door-to-door in neighborhoods with a high percentage of Latino residents and at sites with a heavy Latino presence including the Mobile Mexican Consulate, ESL classes and food pantries. WRC also conducted in person and phone interviews with Latino workers who had previous experience working with WRC. While the survey was specifically interested in Latino Workers' rights, respondents also included workers who identified as White, Black, Asian or Pacific Islander, or Biracial.

Variable Selection and Data Preparation

First we combined the Latino and non-Latino data sets into one consolidated data set. The combined data set included 339 responses.

Questions 20: "Do you receive health benefits from your job?" was a natural fit for our dependent variable. We created a new variable called "HBEN" to indicate if a participant received health benefits from his or her employer or not. Because unemployed study participants do not have

an employer to provide him or her with health benefits, we eliminated the 24 rows of data with "no" responses and 4 rows with no response to Question 1: "Are you employed?"

After examining the responses to "What is your race/ ethnicity?" we elected to eliminate the 12 "Asian or Pacific Islander," 4 "Biracial," and 24 "Black" responses, for a total of 40 eliminated responses. This left us with 45 white and 226 Hispanic/ Latino responses. The majority of the literature uses White populations as a point of comparisons for Latinos. Given the limited number of Asian, Biracial, and Black populations, we did not eliminate a large number of respondents. Practically speaking, this allowed us to turn Race/ Ethnicity into a single dummy variable, "RACE."

To Question 41: "Have you ever had problems at work for not speaking English?" a quarter (25%) of latinos in the original data set responded yes while only 62% responded no (other responses were blank or "N/A"). This indicated that language could be an important independent variable for our study. We used "Primary Language" to create the variable "LANG." We grouped those who reported English and English/ Spanish into one class because we are interested in if a lack of fluency in English was a barrier to receiving health benefits from an employer.

The literature indicated that length of time in the US can have bearing on if an employer provides health benefits. Because no white participants in the study were born outside of the US, "Years in the US for foreign born" only applied to Latinos. So we chose to explore if respondents were foreign born as this provided a mix within the Latino respondents, that could allow us to see a pattern emerge. We created a new variable, "FBORN", classifying respondents who were or were not foreign born.

We hypothesized that education level as an independent variable may help specify the model to see differences between Latinos and Whites. We decided to classify the respondents into two groups: those with and without university level education for the new variable "UNI." We considered

creating two dummy variables so that we could differentiate between Primary and Secondary. "Primary" has 59 rows, all of whom were latino. "University" and "Secondary" are a mix of Latino and White. Because we are analyzing so many factors, we wanted to minimize the number of variables generated to maintain the integrity of the model. University or no university seemed like an acceptable class break given that there is a significant number of both Whites and Latinos with university level education and that there is a mix of responses to HBEN in both categories of UNI.

Based on our working knowledge and the literature review, we suspected full or part-time employment status to be a relevant independent variable. After exploring the responses to Question 2: "Do you work full-time or part-time?" we found that some "part-time" respondents worked as much as 50 hours a week at one job. This survey question did not provide a definition for full or part time so respondents classified themselves based on their own perceived definition. This created inconsistencies in the data. The literature review revealed that working 30 hours or more a week at a single employer was the accepted definition of full-time related to ESI. We decided to create a new variable, "FTIME" that reclassified respondents into two groups: those who had at least one job where they worked at least 30 hours a week on average and those who did not.

Federal law requires large employers to provide healthcare to employees after one year of employment even if they started out as a part-time employee. We theorized that working in a job for at least a year would be another relevant independent variable. We created a variable, "JB1YR" where we classified respondents into those who had worked at least one job for at least one year and those who had not.

Industry of work or type of work would have been a relevant independent variable for our analysis but we were unable to include this variable in our study. The survey broke down many of the questions into Job 1, 2, 3, and 4, collecting specific data to each job. Questions 20: "Do you receive

health benefits from your job?" did not specify which job provided those health benefits. If we had this information, we could have correlated the job that provided ESI with its industry.

As we coded the variables, we found missing data for the variables FBORN, FTIME, and UNI variables. We coded blanks as "99". At the end of the coding process, we sorted all rows containing 99s. This yielded 16 out of 248 or about 6% of the total responses. We decided to eliminate these rows to aid in our analysis. It is worth noting though that of these 16 responses, all but one were latino, 94% spoke Spanish as their primary language compared to 68% for all Latinos in the study, 75% did not receive health benefits from their employer compared to 61% for all Latinos in the study. The 16 responses we eliminated represent a population more socially disadvantaged than the total study population.

After running an initial regression and testing for multicollinearity we found a very low R^2 and adjusted R^2 values and high multicollinearity between FBORN, RACE, and LANG. We combined these variables into a new variable "SVL," which classified anyone whose primary language is only Spanish and who was foreign born and who is Latino/ Hispanic in ethnicity into one class and anyone else into another class.

Variables for Regression and Summary Statistics

Table 1: Variables for Regression and Summary Statistics

Short Name	Description	Original Variables	Code	Frequency			Percent		Mean	Std. Dev.
				0	1	Total	0	1		
HBEN	Do you receive health benefits from your job?	20. Do you receive health benefits from your job?	0=no, 1=yes	141	91	232	61%	39%	0.39	0.489
JB1YR	Have you had at least one job for at least one year?	6. How long have you had this job - years (Job 1, 2, 3, 4)?	0=no, 1=yes	59	173	232	25%	75%	0.75	0.436
FTIME	Do you have at least one job where you work 30 hours a week or more on average?	7. How many hours on average do you work every week (Job 1, 2, 3, 4)?	0=no, 1=yes	41	191	232	18%	82%	0.82	0.382
UNI	Do you have university level education?	37. What is the highest level of education that you have you have completed?	0=primary or secondary, 1=university	178	54	232	77%	23%	0.23	0.424
FBORN	Foreign born? (y or n)	Foreign born? (y or n)	0=n, 1=y	63	169	232	27%	73%	0.73	0.446
RACE	What is your race/ ethnicity	Race/Ethnicity	0=white, 1= Hispanic/ Latino	43	189	232	19%	81%	0.81	0.389
LANG	Primary Language	Primary Language	0=English or English/ Spanish, 1=Spanish	74	158	232	32%	68%	0.68	0.467
SFL	Is your primary language Spanish and your ethnicity Latino and foreign born?	Combination of LANG, RACE, and FBORN	If LANG =1 and RACE =1 and FBORN =1, then SFL =1; if LANG =0 or RACE =0 or FBORN =0, then SFL =0	80	152	232	34%	66%	0.66	0.476

We created class breaks primarily with our theory in mind, but we also checked each variable to make sure no one class included the vast majority of individuals. The categories with the lowest number of individuals were "no" for FTIME with 41 and White as RACE with 43. Because these represented 18 and 19% of the overall sample respectively, we deemed this not to be a problematic frequency distribution. HBEN had the most even distribution with a 39-69% split between those who did and did not receive health benefits from their employer.

IV. Results

Table 2: Regression Results

	Dependent variable	
	HBEN	
	OLS	
Independent variables	*Unstandardized coefficients*	*Beta*
JB1YR	0.179*	0.160
	(0.075)	
FTIME	0.227**	0.178
	(0.084)	
UNI	0.130	0.113
	(0.087)	
FBORN	-0.045	-0.041
	(0.132)	
RACE	0.119	0.095
	(0.136)	
LANG	-0.090	-0.086
	(0.110)	
Constant	0.038	
	(0.116)	
Observations	233	
R2	.083	
Adjusted R2	.059	
F statistics	3.411***	
Note:	** p < 0.1; ** p < 0.05; *** p < 0.01*	

(Please refer *Appendix A* for original SPSS regression results.)

V. Analysis

Theoretical regression model:

$$HBEN = \beta_0 + \beta_1 JB1YR + \beta_2 FTIME + \beta_3 UNI + \beta_4 FBORN + \beta_5 RACE + \beta_6 LANG + \varepsilon$$

Multicollinearity Tests:

1) *Pearson Zero – Order*

Table 3 : Pearson zero - order correlation

	HBEN	JB1YR	FTIME	UNI	FBORN	RACE	LANG
HBEN	1	.165*	.210**	.122	-.045	-.026	-.075
JB1YR	.165*	1	.171**	-.100	.200**	.078	.153*
FTIME	.210**	.171**	1	.041	.047	.070	.047
UNI	.122	-.100	.041	1	-.466**	-.472**	-.498**
FBORN	-.045	.200**	.047	-.466**	1	.781**	.767**
RACE	-.026	.078	.070	-.472**	.781**	1	.697**
LANG	-.075	.153*	.047	-.498**	.767**	.697**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Based on *Table 3*, the Pearson zero-order correlation test of the main regression model shows weak correlation for FTIME - HBEN, FTIME - JB1YR, UNI - HBEN, UNI - JB1YR, UNI - FTIME, FBORN - HBEN, FBORN - JB1YR, FBORN - FTIME, RACE - HBEN, RACE - JB1YR, RACE - TIME, LANG - HBEN, LANG - JB1YR, and LANG - FTIME since they score less than |0.4|. The results suggest strong relationships between FBORN - UNI, RACE - UNI, RACE - FBORN, LANG - UNI, LANG - FBORN, and LANG -RACE since they score |0.4 - 0.8|. No variable relationships scored ≥|0.8|, however, the Pearson zero - order scores of RACE - FBORN, LANG - FBORN, and LANG -RACE are very close to |0.8|. This suggests that UNI, LANG, and RACE are likely to be

strongly related. Therefore, Variance Inflation Factor (VIF) will be tested on UNI, LANG, and RACE to identify their correlation with other independent variables.

2) *Variance Inflation Factor (VIF)*

Table 4: Variance Inflation Factor (VIF)

Variables	VIF	Interpretation
FBORN	3.540	Moderately correlated
RACE	2.858	Moderately correlated
LANG	2.708	Moderately correlated

The result of VIF test on FBORN, RACE, LANG reveals a moderate correlation for FBORN, RACE, and LANG with other independent variables in the regression model (as shown in *Table 4*).

Estimating equation:

$$\hat{y} = 0.038 + 0.179 \text{ x } _{JB1YR} + 0.227 \text{ x } _{FTIME} + 0.130 \text{ x}_{UNI} - 0.045 \text{ x } _{FBORN} + 0.119 \text{ x } _{RACE} - 0.090 \text{ x } _{LANG}$$

Statistical Test:

1) *Overall Goodness of Fit:*

$H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = \beta_5 = \beta_6 = 0$

$H_1 \neq \beta_1 \neq \beta_2 = \beta_3 \neq \beta_4 \neq \beta_5 \neq \beta_6 \neq 0$

$F_{Calculated} > F_{0.01}$(F (6, 225) = 3.411, p > 0.01). Therefore, we reject null hypothesis and conclude that overall model is useful in explaining the variation in HBEN.

2) *Coefficient of determination, R^2 and Adjusted R^2:*

The R^2 of the regression model indicates the combined linear influence of JB1YR, FTIME, UNI, FBORN, RACE, and LANG explained 8.3% of the variation in HBEN and the Adjusted R^2 shows 5.9% of the total variation in HBEN. A low R^2 and a significant F- statistics mean that the regression model is poorly specified and there are mission variables to explain the variation in

HBEN. Therefore, we experimented with several variation of models with different combination of independent variables to identify possible higher yield in R^2 and Adjusted R^2. The results of the regression models and data analysis are included in *Appendix B, E, and F*.

3) Significance level of partial coefficients in explaining the variation in HBEN

According to Table 2, only the partial coefficients of JB1YR and FTIME are useful in explaining the variation in HBEN in the main regression model because they are statistically significant at 10% and 5% respectively. UNI (education level) has a weak statistical significance (15%) of influence on the variation of HBEN (health benefit) as shown in **Coefficients[a]** in *Appendix A.* FBORN, RACE, and LANG are not significant in explaining the variation in HBEN.

Interpretation:

1) Unstandardized coefficients:

a) constant = 0.038. If all of the independent variables are zero, then the chances of an employee receiving health benefit is 3.8%.

b) $b_1 = 0.179$, $t(232) = 2.396$, $p < 0.05$ means that, holding FTIME, UNI, FBORN, RACE, and LANG constant, if the employee had at least one job for at least one year, the chances of him or her receiving ESI increases by 17.9%.

c) $b_2 = 0.227$, $t(232) = 2.722$, $p < 0.10$ means that, holding JB1YR, UNI, FBORN, RACE, and LANG constant, if the employee has at least one job with 30 or more working hours per week, his or her chances receiving ESI will increases by 22.7%

d) $b_3 = 0.13$, $t(233) = 1.493$, $p < 0.15$ means that, holding JB1YR, FTIME, FBORN, RACE, and LANG constant, if the employee has at least university level of education, his or her chances of receiving ESI will improved by 13%.

e) Since FBORN (b_4 = -0.45, t(232) = -0.342, p < 0.75) is not statistically significant, holding JB1YR, FTIME, UNI, RACE, and LANG constant, we can conclude that there is insufficient evidence to suggest a relationship between whether the employee is foreign born and his or her chances of receiving ESI.

f) Since RACE (b_5 =0.119, t(232) = 0.880, p < 0.40) is not statistically significant, holding JB1YR, FTIME, UNI, FBORN, and LANG constant, we can conclude that there is insufficient evidence to suggest a relationship between the ethnicity of the employee and chances of receiving ESI.

g) Since (b_6 =-0.09, t(232) = -0.822, p < 0.45) is not statistically significant, holding JB1YR, FTIME, UNI, FBORN, and RACE constant, we can conclude that there is insufficient evidence to suggest a relationship between the primary language of the employee and chances of receiving ESI.

2) *Standardized coefficients (β*):*

a) β^*_1 = 0.160 this means the standardized coefficient of JB1YR is equal to 0.160, which means one standard deviation change in JB1YR will result in a 0.160 standard deviation increase in HBEN.

b) β^*_2 = 0.178 this means the standardized coefficient of FTIME is equal to 0.178, which means one standard deviation change in FTIME will result in a 0.178 standard deviation increase in HBEN.

c) Since UNI, FBORN, RACE, and LANG are not statistically significant, sufficient evidence does not exist to suggest a relationship between standard change in UNI, FBORN, RACE, and LANG with the standard deviation change in HBEN.

Linearity assumption test:

1) *Visual Inspection*

The *Appendix C* shows results of six scatter plots with JB1YR, FTIME, UNI, FBORN, RACE, LANG plotted against HBEN. The Table 5 below indicates the slope and the relationships of the independent variables with HBEN based on the scatter plots. Generally, the existence slope reveals linear relationships between the independent variables and dependent variable.

Table 5: Result of Scatter Plot with IVs Against DV

Independent variables	Slope	Relationship with HBEN
JB1YR	0.19	Positive
FTIME	0.27	Positive
UNI	-0.19	Negative
FBORN	0.14	Positive
RACE	-0.08	Negative
LANG	-0.03	Negative

2) *Residuals vs. predicted values*

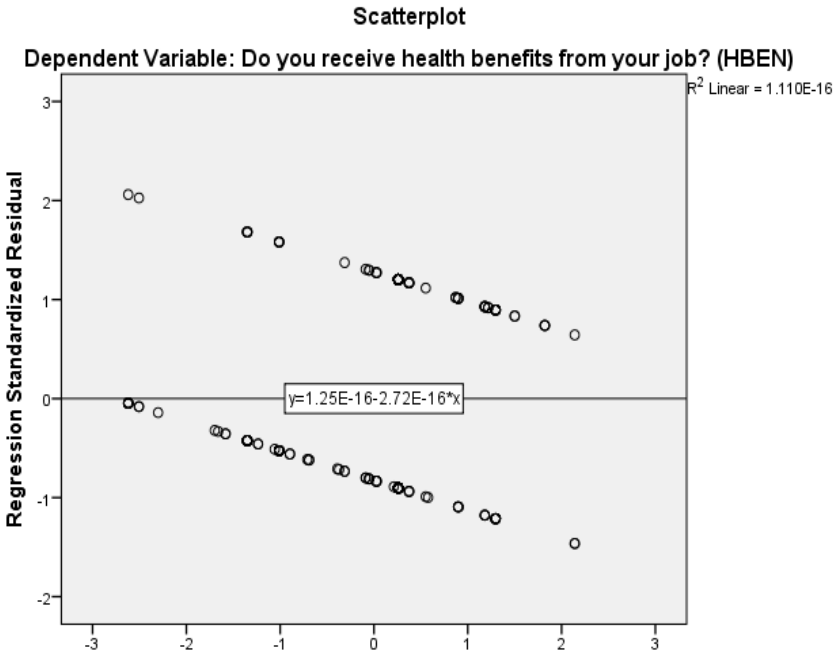

Figure 1: Scatter plot of standardized residual against predicted Y

Figure 1 above is the scatter plot of the standardized residuals versus predicted Y. Instead of scattering randomly along the line, the graph presents a distinctive downward sloping pattern. The nature of the independent variables as dummy variables might be the reason of the formation. The graph also shows a constant variance across levels of Y. Based on the visual inspection of Figure 1, we might be able to conclude that the residual are not normally distributed at each level of Y.

3) Skewness and Kurtosis of standardized residuals distribution

The *Appendix D* also includes the skewness and kurtosis of standardized residual distribution. The skewness is .362 and fall within the range of |1.63|. So we can conclude the distribution of the Standardized Residuals as moderately skewed. The kurtosis is -1.561 which means it is less peaked than the standard normal distribution.

Non-autoregression assumption test: Durbin-Watson Test

The regression model scores 1.768 in Durbin-Watson Test, which falls within the acceptable range of 1.5 to 2.5. Thus, we can conclude that the regression model fulfills the OLS Assumption of non-autoregression, or that the error term associated with one observation is not associated with the next observation.

Heteroscedasticity assumption test: Breush-Pagan Test

H_0 : The regression model is homoskedastic.

H_1 : The regression model is not homoskedastic.

The Breush-Pagan test reveals no statistically significant results (chi-square (6) =3.661, p=.7225). In other words, we cannot reject the null hypothesis and conclude that the regression model is homoskedastic. This result fulfills the OLS assumptions that there will be equal variance of Yi about its mean for each level of Xi.

Normality assumption test: Shapiro- Wilk Test

H_0 : The distribution of the residuals is normal

H_1 : The distribution of the residuals is not normal.

The Shapiro-Wilk test of studentized residuals yielded a statistical value of .835 and a probability of .000 (df =232) as shown in *Appendix A.* This is less than the alpha level of .01 for diagnostic tests (p = .01). Sufficient evidence exists to reject the null hypothesis and we accept the research hypothesis that distribution of the residuals is not normal. Therefore, the regression model fulfills the normality assumption of OLS.

VI. Conclusions

The low R^2 and adjusted R^2 values combined with a statistically significant F value suggest that while the overall model accurately describes the regression, the model is not properly specified, that is, it does not include a mix of independent variables that together explain a large amount of the change in the dependent variable. We explored different iterations of our model, leaving out variables and combining multicollinear variables into a single variable, but this did not have a significant impact on the R^2 and adjusted R^2 of the model, in fact our theorized model had the best overall goodness-of-fit of the options.

The lack of statistical significance in the partial slopes for ethnicity, domestic or foreign born status, and primary language was puzzling given the literature suggesting these to be important independent variables. Perhaps there are other variables at play that we were unable to include in our analysis, but which would have specified the model and drawn out a pattern in these variables.

Recommendations for Future Study

The dataset generated by the Worker Rights Center of Madison provides a helpful starting place for the exploration of Latino workers' access to ESI in Dane County. Future data collection should make some slight changes to questions to aid analysis. Survey developers should add a question after Question 20: "Do you receive health benefits from your job?" asking which Job provides these benefits. The survey carefully tabulates many categories by Job 1, 2, 3, and 4, but this information is not accessible to someone studying health benefits unless the job that provides the benefits can tie to a particular job. Question 2: "Do you work full-time or part-time?" could be eliminated in future surveys. When people self-classify without a clear definition, it introduces error. Asking respondents the number of hours they work at each job is more helpful in determining full or part time work.

The ACA requires companies with more than 50 employees to provide ESI to their full time employees. Future studies should build in some mechanism for discovering if employers are above or below this threshold. Self-reporting likely would introduce significant error. The survey could ask respondents to share the location of their employer: for instance, which hotel location. Researchers could then anonymously look up numbers of employees of the various employers and correlate this to the responses. This would allow the study to analyze if an employer is shirking its legal obligations.

While our model did not have highly significant explanatory power, staying in a job for over a year, working at one place for at least 30 hours a week, and to a lesser extent having a university-level education all positively impacted receiving ESI. Further research efforts of the WRC could focus on exploring what factors support workers in finding full time work, keeping a job for longer than a year, and achieving a university level education. Focus groups could help bring definition to

the problems and solutions, which could then feed directly into programming or further survey research.

Recommendations for obtaining ESI among Latino workers

For Latino workers that do not qualify for ESI, the ACA provides many opportunities for insurance that would otherwise be unattainable (Clemans-Cope, Kenney, Buettgens, Carroll & Blavin, 2012). However, given the focus of this paper, recommendations will be based on how to increase access to ESI specifically rather than insurance coverage in general.

The ACA implements employer accountability strategies regarding ESI (State of Wisconsin Office of the Commissioner of Insurance, 2014, p. 4), but more needs to be done to increase its accessibility for all workers. This requires both a policy and community outreach approach. Beginning with ESI policy, the ACA needs a better definition of a full time employment. Recently, there has been rising concern that some employers will cut, or continue to cut, employees' hours to be under the 30 hour cut off. Instead of having to provide one full time employee with ESI, the employer could potentially hire two part time employees without the additional cost of ACA mandated health benefits (Mathur, Slavov & Strain, 2015). Given that the ACA is a relatively new government policy, more academic research needs to be done to solve this unintended consequence.

Another policy implication within the ACA regarding ESI is that small employers are not required to provide insurance to full time employees (State of Wisconsin Office of the Commissioner of Insurance, 2015, p. 4). While this is intended to relieve a cost burden for of small businesses, the burden ends up falling to the workers. Therefore, an unintended consequence may be that more employees start working for bigger corporations because of the associated ESI benefits. Traditionally, small employers offer ESI plans to attract and retain employees, however these jobs tend to be more competitive in salary, which puts Latino workers at a disadvantage (Blumberg, Buettgens, Feder &

Holahan, 2012, p. 117). Further research on how the ACA can limit this inequity under small employers is required to best address this issue.

As a result of these policy implications, a bottom-up approach centered on achieving higher levels of ESI among Latino workers is also necessary. Our data found that a university level education had some statistical significance related to ESI. In general, employees with higher education levels have more employment options, which accordingly increases the potential for ESI coverage (Paringer, 2007, p. 40). Additionally, higher education may not only increase the opportunity for ESI, but may also increase the worker's knowledge on the coverage available. They may know more about the ACA and can therefore hold their employers more accountable. The WRC can put Latino workers in contact with continuing education programs and outreach efforts to help them achieve higher education. This program needs to consider the high costs of continuing education and provide resources to reduce this burden. WRC should also work with high school programs, which encourage continuing education and retention for younger Latinos. This is a proactive approach for attaining ESI in the future.

Working at least one job for over 30 hours and working one job for at least a year also proved to be statistically significant variables in determining ESI coverage. Therefore, WRC should direct efforts to support finding full time work and job retention. This can be done through special education, training and career fair type events. WRC also needs to be an advocate for full time employment, especially if employers try to cut hours to avoid ESI obligations.

In conclusion, both acculturation and policy were important factors in determining access to ESI among Latino workers. Looking forward, the ACA promises ESI accountability, but only in specific circumstances. Therefore, WRC should partner with education outreach services to promote higher education and make it a more attainable goal for Latino workers. WRC also needs to stress the

importance of full time work through one employer and longer job retention. The ACA requires many employers to change the way they view and offer ESI. Everyone should have access to healthcare regardless of ethnicity, primary language, educational level, or type or length of work. We hope that this study will help the WRC and others support the Latino workers of Dane County in accessing ESI.

VII. Works Cited

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VIII. Appendices

Appendix A: SPSS Output for Main Regression Model

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.289[a]	.083	.059	.475	1.768

a. Predictors: (Constant), Primary Language, Do you have at least one job where you work 30 hours a week or more on average?, Have you had at least one job for at least one year?, Do you have university level education?, Race/Ethnicity, Foreign born? (y or n)

b. Dependent Variable: Do you receive health benefits from your job?

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.612	6	.769	3.411	.003[b]
	Residual	50.694	225	.225		
	Total	55.306	231			

a. Dependent Variable: Do you receive health benefits from your job?

b. Predictors: (Constant), Primary Language, Do you have at least one job where you work 30 hours a week or more on average?, Have you had at least one job for at least one year?, Do you have university level education?, Race/Ethnicity, Foreign born? (y or n)

Shapiro- Wilk Test

Tests of Normality

	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Studentized Residual	.214	232	.000	.835	232	.000

a. Lilliefors Significance Correction

Bruesh - Pagan Test

Brush Pagan
Number of predictors (P) = 6
Breusch-Pagan test for Heteroscedasticity (CHI-SQUARE df=P) =3.661
Significance level of Chi-square df=P (H0: homoscedasticity) =.7225

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.038	.116		.328	.743
	JB1YR	.179	.075	.160	2.396	.017
	FTIME	.227	.084	.178	2.722	.007
	UNI	.130	.087	.113	1.493	.137
	FBORN	-.045	.132	-.041	-.342	.732
	RACE	.119	.136	.095	.880	.380
	LANG	-.090	.110	-.086	-.822	.412

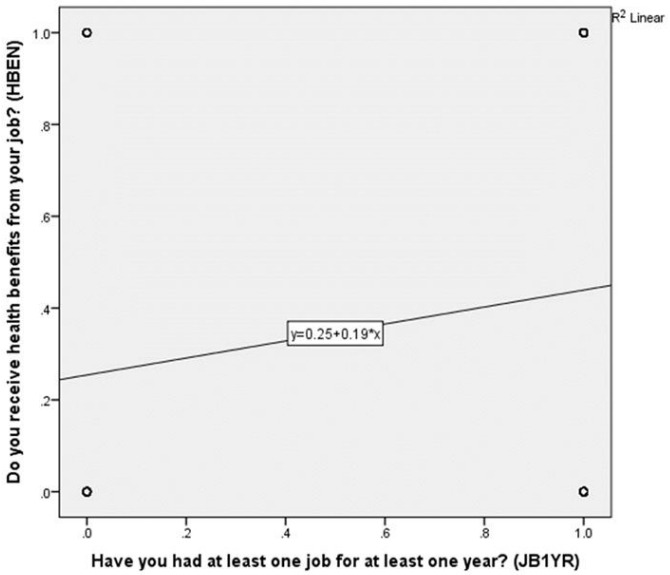
a. Dependent Variable: HBEN

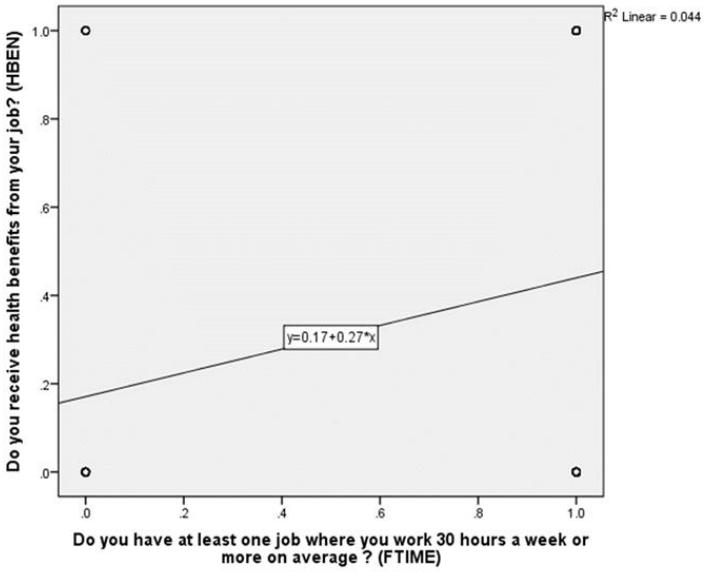
Appendix B: Alternative Regression Models

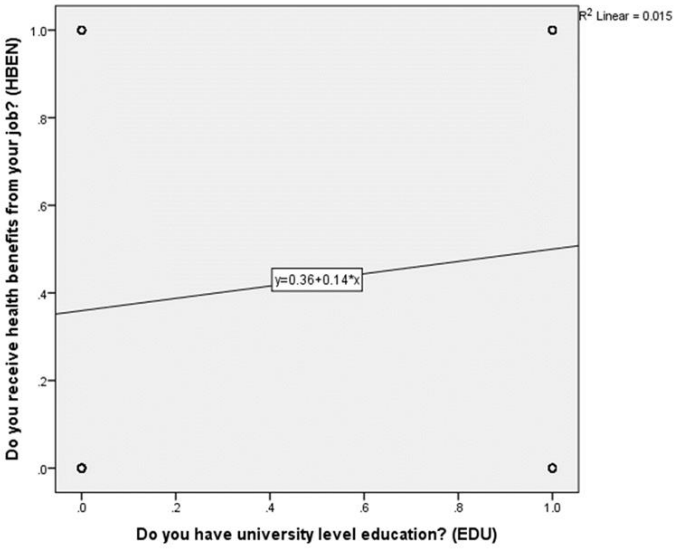
Regression Results

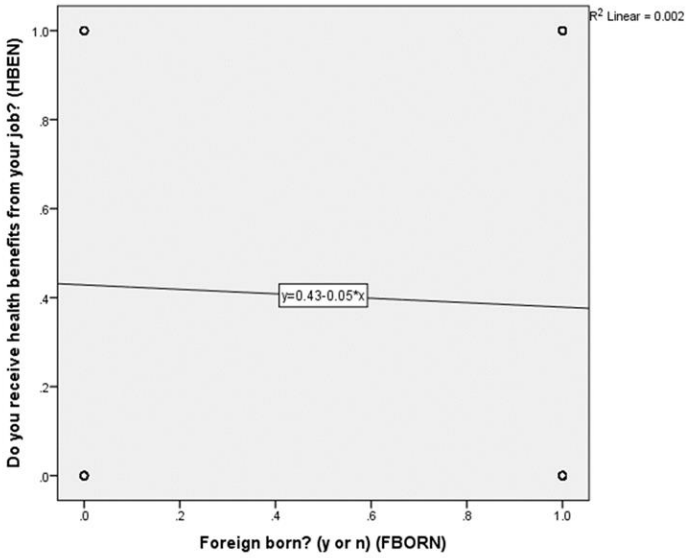
	Dependent variable:						
	HBEN						
	OLS						
Independent variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)
JB1YR	0.179*	0.172**	0.1649**	0.153**	0.1492**		0.1885**
	(0.075)	(0.074)	(0.073)	(0.073)	(0.0723)		(0.073)
FTIME	0.227**	0.233*	0.228***	0.2437***	0.240**		
	(0.084)	(0.083)	(0.083)	(0.083)	(0.083)		
UNI	0.130	0.120	.157				
	(0.087)	(0.085)	0.084*				
FBORN	-0.045						
	(0.132)						
RACE	0.119		.018	-.062		0.41861	-.049
	(0.136)		(0.091)	(0.0809)		(0.075)	(0.0821)
LANG	-0.090						
	(0.110)						
SFL		-0.052					
		(0.077)					
Constant	0.038	0.078	.030	.128	.083	0.419	.291
	(0.116)	(0.1)	(0.116)	(0.104)	(0.086)	(0.075)	(0.089)
Observations	233	233	233	233	233	233	233
R2	.083	0.08	.078	0.063	0.051	0.00066	0.029
Adjusted R2	.059	0.063	.062	0.052	0.053	-0.0037	0.02
F statistics	3.411***	4.911***	4.796 ***	5.181***	7.487***	0.153	3.389**
Note:							** p < 0.1; ** p < 0.05; *** p < 0.01*

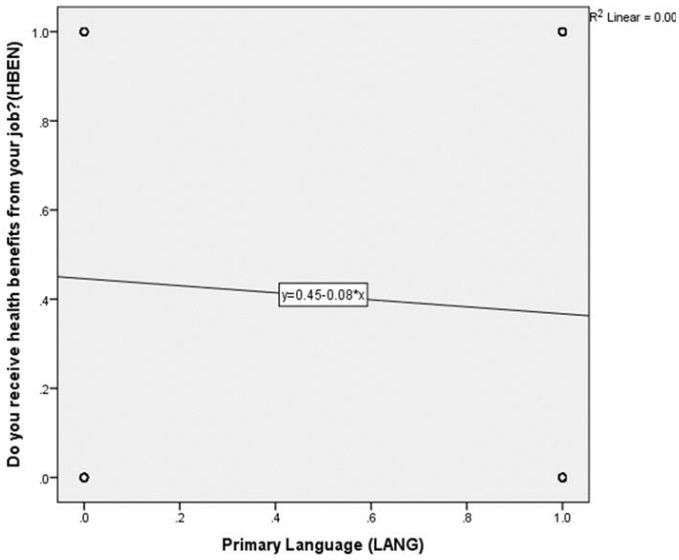
Appendix C: Scatter Plots of IVs against DV

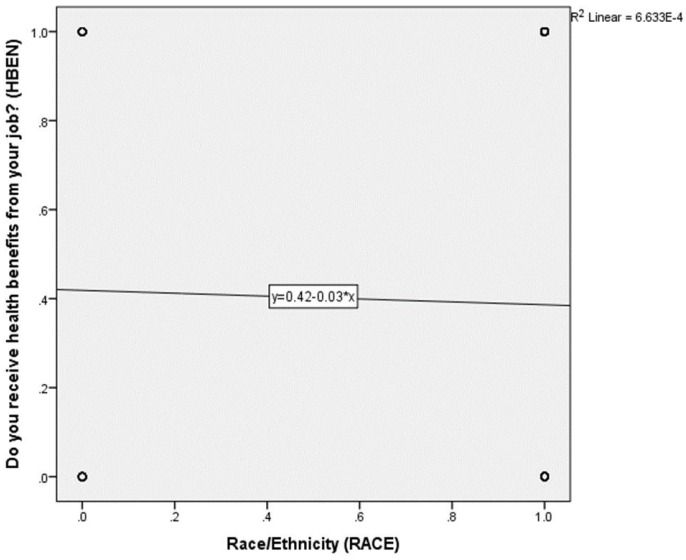












Appendix D: Skewness and Kurtosis of standardized residuals distribution

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation	Skewness		Kurtosis	
	Statistic	Statistic	Statistic	Statistic	Statistic	Statistic	Std. Error	Statistic	Std. Error
Standardized Residual	232	-1.46347	2.06046	.0000000	.98692754	.362	.160	-1.561	.318
Valid N (listwise)	232								

Appendix E: SPSS Output for Alternative Regression Model

($\hat{y} = 0.078 + 0.172 \text{ x } _{JB1YR} + 0.233\text{x } _{FTIME} + 0.120 \text{ x } _{UNI} - 0.052 \text{ x } _{SFL}$)

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.282[a]	.080	.063	.474	1.784

a. Predictors: (Constant), Spanish primary language, foreign born, and latino/hispanic ethnicity, Do you have at least one job where you work 30 hours a week or more on average?, Have you had at least one job for at least one year?, Do you have university level education?

b. Dependent Variable: Do you receive health benefits from your job?

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	4.405	4	1.101	4.911	.001[b]
	Residual	50.901	227	.224		
	Total	55.306	231			

a. Dependent Variable: Do you receive health benefits from your job?

b. Predictors: (Constant), Spanish primary language, foreign born, and latino/hispanic ethnicity, Do you have at least one job where you work 30 hours a week or more on average?, Have you had at least one job for at least one year?, Do you have university level education?

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	.078	.100		.783	.435					
	Have you had at least one job for at least one year?	.172	.074	.154	2.339	.020	.165	.153	.149	.940	1.063
	Do you have at least one job where you work 30 hours a week or more on average?	.233	.083	.182	2.807	.005	.210	.183	.179	.965	1.036
	Do you have university level education?	.120	.085	.104	1.407	.161	.122	.093	.090	.744	1.344
	Spanish primary language, foreign born, and latino/hispanic ethnicity	-.052	.077	-.051	-.682	.496	-.067	-.045	-.043	.729	1.371

a. Dependent Variable: Do you receive health benefits from your job?

Appendix F: Data analysis for Alternative Regression Model

Theoretical regression model:

$HBEN = \beta_0 + \beta_1 JB1YR + \beta_2 FTIME + \beta_3 UNI + \beta_4 SFL + \varepsilon$

Multicollinearity Tests:

1. *Pearson zero - order*

Table 1: Pearson zero - order correlation of alternative regressin model

	HBEN	JB1YR	FTIME	UNI	SFL
HBEN	1	.165*	.210**	.122	-.067
JB1YR	.165*	1	.171**	-.100	.180**
FTIME	.210**	.171**	1	.041	.044
UNI	.122	-.100	.041	1	-.502**
SFL	-.067	.180**	.044	-.502**	1

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

The Pearson zero-order correlation test is carried out the alternative regression model *(Table 1)* after replacing the RACE, FBORN, and LANG with SFL. The result shows a weak correlation between the independent variables since all of the scores are less than |0.4|. The only exception is SFL - UNI that scores between |0.4| and |0.8|. Thus, a VIF test is required to further investigate the relationship between SFL and UNI.

Variance Inflation Factor (VIF)

Table 2: Variance Inflation Factor (VIF) for Alternative Regression Model

Variables	VIF	Interpretation
UNI	1.344	Moderately correlated
SFL	1.371	Moderately correlated

Table 2 shows UNI and SFL are moderately correlated with other independent variables in the alternative regression model.

Determine OLS Estimating equation:

$$\hat{y} = 0.078 + 0.172 \text{ x } _{JB1YR} + 0.233\text{x } _{FTIME} + 0.120 \text{ x } _{UNI} - 0.052 \text{ x } _{SFL}$$

Table 4: Regression Results

	Dependent variable:			
	HBEN			
	OLS			
	(1)		(2)	
Independent variables	*Unstandardized coefficients*	*Beta*	*Unstandardized coefficients*	*Beta*
JB1YR	0.179*	0.160	0.172**	.154
	(0.075)		(0.074)	
FTIME	0.227**	0.178	0.233*	.182
	(0.084)		(0.083)	
UNI	0.130	0.113	0.12	.104
	(0.087)		(0.085)	
FBORN	-0.045	-0.041		
	(0.132)			
RACE	0.119	0.095		
	(0.136)			
LANG	-0.090	-0.086		
	(0.110)			
SFL			-0.052	-.051
			(0.077)	
Constant	0.038		0.078	
	(0.116)		(0.1)	
Observations	233		233	
R2	.083		0.08	
Adjusted R2	.059		0.063	
F statistics	3.411***		4.911***	
Note:			**p< 0.1;**p<0.05;***p<0.01*	

Statistical Test:

1. *Overall Goodness of Fit:*

$H_0 = \beta_1 = \beta_2 = \beta_3 = \beta_4 = 0$

$H_1 \neq \beta_1 \neq \beta_2 = \beta_3 \neq \beta_4 \neq 0$

According to *Table 4*, we reject null hypothesis since $F_{\text{Calculated}} > F_{0.01}$ (F (4,227) = 4.911, p> .01) and conclude that overall model is useful in explaining the variation in HBEN.

2. *Coefficient of determination, R^2 and Adjusted R^2:*

The alternative regression model shows a lower R^2 than the main regression model with only 8 % of the total variation in HBEN is explained by the combined linear influence of JB1YR, FTIME, UNI, and SFL. However, the alternative regression model shows a slightly increase in Adjusted R^2 than the main regression model with 6.3% of the total variation in HBEN is explained by the combined linear influence of JB1YR, FTIME, UNI, and SFL.

3. *Significance level of partial coefficients in explaining the variation in HBEN*

Compared to main regression model, JB1YR in the alternative regression model is more useful in explaining the variation in HBEN at a significance level of 5%. However, FTIME in the alternative regression model is less significant in explaining the variation in HBEN at a significance level of 10%. Moreover, UNI and SFL are not significant in explaining the variation in HBEN after removing FBORN, RACE, and and LANG from the regression model.

Interpretation:

1. *Unstandardized coefficients:*

a. b_1 = 0.172, holding FTIME, UNI, and SFL constant, if the employee had at least one job for at least one year, the chances of the employee to receive health benefit increased by 17.2%. The chances

b. b_2 = 0.233, holding JB1YR, UNI, and SFL constant, if the employee has at least one job with 30 or more working hours per week, the chances of the employee to receive health benefit will increased by 23.3%

c. b_3 = 0.12, holding JB1YR, FTIME, and SFL constant, we can conclude that if the employee has at least university level of education, the chances of the employee getting health benefit will improved by 12%.

d. Since b_4 is not statistically significant, holding JB1YR, FTIME, and UNI constant, we can conclude whether the employee is foreign born, speaking Spanish as primary language, and a Hispanic or Latino will not affect his or her chance of getting health benefit.

2. *Standardized coefficient (β*)*

a. β^*_1 = 0.154. The standardized coefficient of JB1YR is equal to 0.154 which means one standard deviation change in JB1YR will result in a 0.160 standard deviation increase in HBEN.

b. β^*_2 = 0.182. The standardized coefficient of is FTIME equal to 0.182 which means one standard deviation change in FTIME will result in a 0.178 standard deviation increase in HBEN.

c. Since UNI and SFL are not significant, there is no relationship between standard change in UNI and SFL with the standard deviation change in HBEN.