**Practice Assignment 8: African American Mothers and the Birth Weight of Their Babies**

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**RE: Linear Regression**

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**Table 1:Descriptive and Frequency Statistics (n=787)**

|  |  |  |
| --- | --- | --- |
| **Variables** | **Mean or Count** | **SD or %** |
| **Perceived Racism Scale Score** | 2.5127 | 0.39712 |
| **Medical Mistrust Index Score** | 2.4691 | 0.41270 |
| **Birth weight in grams** | 3250.0000 | 500.00015 |
| **Received adequate prenatal care** | 615 | 78.1 |
| **Has health insurance** | 704 | 89.5 |
| **Level of Education completed** |  |  |
| **Less than High School** | 17 | 2.2 |
| **High school graduate** | 145 | 18.4 |
| **Some college or technical school** | 385 | 48.9 |
| **College graduate** | 155 | 19.7 |
| **Some education beyond college** | 85 | 10.8 |

As shown in Table 1, most participants were insured and educated, and a significant number received prenatal care. There is also a moderate result among participants who perceived racism and medical mistrust, which we examined further to see if this impacts birth weight.

**Table 2:Regression Results**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variable** | **Model 1: Birthweight vs Prenatal Care** | **Model 2: Medical Mistrust (Control)** | **Model 3: Insurance and Education Dummy Variables, and Perceived Racism** |
| **Received Prenatal Care** | B=156.514 (p=0.000) | B=116.078(P=0.005) | B=86.179 (p=0.037) |
| **Medical Mistrust** |  | B=-379.448 (p=0.000) | B=-333.286 (p=0.000) |
| **Has Health Insurance** |  |  | B=75.459 (p=0.177) |
| **Less HS** |  |  | B=-33.153 (p=0.783) |
| **Some College** |  |  | B=66.374 (p=0.155) |
| **College Grad** |  |  | B=100.147 (p=0.074) |
| **Beyond College** |  |  | B=137.404 (p=0.044) |
| **Perceived Racism Scale score** |  |  | B=-206.559 (p=0.000) |
| **Intercept** | B=3127.692 (p=0.000) | B=4096.167 (p=0.000) | B=4390.753 (0.000) |
| **R2** | 0.017 | 0.114 | 0.141 |
| **F-value (significance)** | 13.378  (p=<.001) | 50.303 (p= <.001) | 15.957 (p= <0.001) |

Based on Table 2, we reject the null hypothesis that prenatal care has no effect on birth weight with sufficient evidence that there is a positive effect across all models. Medical mistrust has a significant negative impact, which also decreases birthweight in African American women. We fail to reject the null hypothesis that health insurance has no effect on birth weight with insufficient evidence. Regarding education, Beyond college has a significant positive impact on birth weight, while we fail to reject the null hypothesis for the other education levels. Lastly, perceived racism has a significant negative effect on birth weight, in which we reject the null hypothesis.