Regression Analysis

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Model Interpretation for Allergies and Diabetes Outcomes in the Model

**Diabetes Model Outcomes Results**

\[ \text{BMI} = 1.3 + 2.3 \text{ (family history diabetes)} + 3.4 \text{ (height)} + 2.4 \text{ (diabetes)} + 1.7 \text{ (race)} + 1.4 \text{ (age)} + 2.6 \text{ (income)} + 1.7 \text{ (gender)}, p<0.05 \]

The model data results for diabetes provide a dependent variable of body mass index, which is associated with various predictor variables in the research process. Predictors variables involve diabetes, gender, age, income, family history diabetes, race, and height. The summary model results are used to interpret the effects of independent variables on the outcome of the body mass index. For instance, the model indicates that diabetes has a coefficient of 2.4, which implies that an increase of one unit on diabetes will result from increasing of 2.4 units to the dependent variable of body mass index. The potential outcomes of the body mass index are associated with test results of diabetes (Cruyff et al., 2016). This means that predictor or independent variables create a regression with the dependent variables. The regression analysis shows a statistically significant difference for the outcome of the body mass index based on the standard value of p-value, \( P < 0.05 \).

The meaning of confound is illustrated as a variable that has some impact on the outcomes of the dependent and independent variable. Confounding variables in the model involves heights, gender, age, race and income (Maioli, 2018). Confounding variables are used together with matching variables such as age, race, and gender. These variables are important to the research study because they provide alternative explanations. They help in improving model relationships between dependent variables and others. Height has a higher impact on diabetes because it has a higher coefficient than other variables.
**Allergies Outcomes Model Results**

Allergies $= 4.5 + 2.1 \, \text{(gender)} + 3.8 \, \text{(Allergies on Family History)} + 1.5 \, \text{(weight)} + 0.8 \, \text{(race)} + 1.4 \, \text{(age)}$, $p < 0.05$

In this model, there are outcomes for allergies as a dependent variable to other factors. The research study is developed to assess the causal effect of allergies through regression analysis. There is a higher dependency of the dependent variable on other explanatory variables. Example of explanatory variables in the studies involves family history allergies, weight, gender, age, and race (Castro & Pereira-Filho, 2016). The model is used to assess the individual influence from independent variables to the outcomes of the allergies. For instance, taking the coefficient value 3.8 for family history allergies and increase it with one unit, the outcomes of allergies will increase with 3.8 units based on the provision of the model. Values for the independent variable determines the outcome of allergies. This means that an increase or decrease of the independent variable will result in the same change based on coefficient value. There is a significant difference in the change of dependent in the regression analysis when the value of $p < 0.05$.

The confounding aspect in the regression analysis is defined as effects caused by a change of dependent or independent variable in the research study. The core model generates weight, age,
age, and gender as confounding variables. Confounding variables are supported by matching variables to increase its relevance in the study. Matching variables involve age, sex, and gender. The existence of the matching variables helps in increasing the regression explanation between two scenarios (van den Berg, Hoeve, & Eichelsheim, 2018). The relationship between dependent variables and indepedence is supported by an alternative explanation on the level of involvement.

Gender has more impact on the allergies because it has a higher coefficient.

References


