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A study was conducted to determine how well Bone Mass Index (BMI) can be predicted by a set of variables. The variables in question were: amount of soft drink drank in liters (Pop), amount of sugar consumed in grams (Sugar), amount of carbohydrates consumed in grams (Carbo), amount of saturated fats consumed (SFat), amount of health food consumed in grams (HFood), marital status (Married) and income level (Income). Income was divided into four levels: low, medium, medium high and high.

Prior to analysis, violations of normality were checked for using the Shapiro-Wilks test. It was found that Pop violated normality conditions, SW(200) = .983, p < .015. However, due to the large number of subjects (n=200) and analysis of Q-Q, this violation was not deemed significant enough to prevent further analysis.

A standard regression was conducted using BMI as the dependent variable and Pop, Sugar, Carbo, SFat and HFood, R = .985. The total amount of shared variance was $R^2 = .971$. The unique variance in BMI due each predictor was: $R_{Pop} = .726$, $R_{Sugar} = .700$, $R_{Carbo} = .607$, $R_{SFat} = .408$, $R_{HFood} = -.231$. The unstandardized equation for the correlation was: BMI = -10.378 + 3.295(Pop) + .076(Sugar) + .006(Carbo) + .234(SFat) +.032(HFood). The standardized equation for the correlation was: $Z_{BMI} = .577Z_{Pop} + .286Z_{Sugar} + .359Z_{Carbo} + .554Z_{SFat} + .401Z_{HFood}$. An ANOVA was conducted on the regression line, $F_{(5,194)} = 1297.368$, $P < .001$, $\eta^2 = 2473.719$.

A hierarchical regression was conducted using BMI as the dependant variable and the following order of predictors: Pop, Sugar, Carbo, SFat and HFood. For model 1, $R^2 = .526$ with an unstandardized equation of BMI = 24.423 + 4.139(Pop) and a standardized equation of $Z_{BMI} = .726Z_{Pop.}$ For model 2, $R^2 = .773$, with an unstandardized equation of BMI = 13.375+ 3.194(Pop) + .140(Sugar) and a standardized equation of $Z_{BMI} = .560Z_{Pop} + .523Z_{Sugar.}$. For model 3, $R^2 = .851$, with an unstandardized equation of BMI = 11.576+ 3.334(Pop) + .082(Sugar) + .006(Carbo) and a standardized equation of $Z_{BMI} = .584Z_{Pop} + .306Z_{Sugar} + .350Z_{Carbo}$. For model 4, $R^2 = .934$, with an unstandardized equation of BMI = 7.090 + 3.295(Pop) + .117(Sugar) + .002(Carbo) + .143(SFat) and a standardized equation of $Z_{BMI} = .569Z_{Pop} + .437Z_{Sugar} + .129Z_{Carbo} + .339Z_{SFat}$. For model 5, all values were the same as initial standard correlation as were unique variances.

Using a Dummy-code for Income, a standard regression was conducted using BMI as the dependent variable, the same five previously used independent variables plus four dummy codes (D1, D2, D3, D4) as predictors, R = .986. The total amount of variance shared was $R^2 = .971$. The unstandardized equation for the regression was: : BMI = -10.248 + 3.290(Pop) + .077(Sugar) + .006(Carbo) + .234(SFat) +.032(HFood) + -.416(D1) + .016(D3) + -.005(D4).