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### Abstract

Obesity is a critical health problem in society and often begins early in life. The objective of the Freshmen Nutrition and Exercise Study was to assess the body fat and Body Mass Index (BMI) of high school freshmen as a function of change in fruits/vegetables intake, fiber intake, percentage of diet from fat (fat intake), and/or change in amount of exercise. The design of the study included two dietary questionnaires, one exercise survey, and measurements of weight and body fat percentages using a bioelectrical impedance scale taken at two time points- August 25, 2004 and December 8, 2004. The sample group was a sampling of students out of four freshmen health classes at my high school. There were no intervention measures introduced by the study during this time period. The outcomes measured were weight (then calculated into BMI) and body fat percentage. The outcomes reported were fruits/vegetables intake, fiber intake, percentage of diet from fat (fat intake), and amount of exercise. The correlation between increased amounts of exercise and decreased body fat percentages was significant ( $R^2 = 0.18$ ;  $P=0.011$ ) compared to the relationship between increased amounts of exercise and decreased BMI, which had an  $R^2$  value of 0.03 ( $P=0.33$ ). 88.2% of those who decreased their reported amount of exercise increased their body fat percentage. Results also showed a significant difference between the average body fat values of males and the average body fat values of females ( $P= 0.000057$ ). Results showed no significant correlation between fruits/vegetables intake or fiber intake and either body fat percentage or BMI.