Analysis of ADHD among School Students

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Attention deficit is always a confusing disease: the exact causes of this disorder is still unclear. However, the prevalent idea is that genetics is a major factor of ADHD. Based on that idea, I made this research of evaluating the importance of some potential factors. Through using logistic regression and artificial neural network in R language, I analyzed the data of 1752 school students that was collected by National Health Interview Survey(no identifiable private information). The potential variables contain: gender, origin, race, age, and parents' education levels. Resulting in different importance of each variable, I brought my evaluation back into the sample, getting a ROC(receiving operational characteristics, which reflects the accuracy of the model) of 0.71 for training set and 0.68 for testing set. From that I can conclude that it is a practical model of predicting the potential chance of ADHD. This study might be helpful in further ADHD analysis or chance prediction. The same model could also be applied into other issues with multiple variables to analyze factors' importance and predict probability.

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