Project Submission

Are marriages made in heaven?

DCS 530

By: Aniruddha Joshi

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A few months ago, one of my friends got engaged, and we celebrated with an engagement party at a nice restaurant. "It looks like your marriage is created in heaven," said one of my friends. This sentence made me wonder: Why do people say things like that? Are marriage truly created in heaven? If so, why do relationships end in divorce? Is it possible to foresee whether a couple will be happy together forever? I choose to conduct some data analysis to find out. The link to the General Social Survey information found at <https://gssdataexplorer.norc.org/adfdsf>.

The statistical question that I asked is there any relationship between the dependent variable divorce and independent variables like number of hours worked in a week, number of children, age, education, income in USD and other category variables like race, marital status, work status etc.

After cleaning the database and exploratory analysis I found that the logistic regression model can accurately (87%) predict the outcome (divorce /not divorce); however r-square is 0.115 that is around 11.5% of data can be explained by the model. The model also shows the correlation with education, number of children, income and age.

The data being used from gss is a bit old and for analysis purpose the income is important parameter; the data needs to be adjusted for inflation.

The other variables that could helped analysis are location, number of friends, the number of common friends between spouse, number of years married, time spent before marriage etc. could have helped for additional analysis.

I faced the challenges in cleaning up the data, fillingup unavailable data with NaNs, converting the data to category data, running the logistic regression. Faced many errors on category data being NaN. I faced problems on plotting the graphs and plotting the mean and mode. I had to check the data category before plotting the trends.

In the future, I would like to conduct a more comprehensive study of the factors that contribute to divorce. I would like to include data from a variety of sources, such as the GSS, and the National Center for Health Statistics. I would also like to use more advanced statistical techniques, such as structural equation modeling, to better understand the relationships between the different factors.

I believe that this research has the potential to help couples make informed decisions about their relationships. By understanding the factors that contribute to divorce, couples can make choices that will help them to stay together.