Final Project DSC530

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Does Age and Gender/Ethnicity play a factor in Suicide Numbers?

In this analysis, I was able to delve into a dataset to investigate the relationship between age, gender/ethnicity, and suicides. The idea was to gain insights into the statistical aspects of these relationships, identify any missing elements, and explore potential variables that could have enhanced the possibility of answering the question: Does Age and Gender/Ethnicity play a factor in Suicide Numbers?

During the exploratory data analysis (EDA), I examined the dataset and performed various statistical analyses. I found a weak linear relationship between age and suicides, with age explaining only a small proportion of the variation in mortality rates. Additionally, I explored the relationship between gender/ethnicity and suicides, which revealed a similarly weak correlation. Both age and gender/ethnicity alone seemed to have limited explanatory power for mortality rates. While the analysis yielded valuable insights, I acknowledge that there may have been missed opportunities. For instance, I did not consider other potential explanatory variables, such as socioeconomic factors, geographical location, or underlying health conditions. Including these variables could have provided a more comprehensive understanding of the complex factors influencing mortality rates.

Throughout the analysis, I made certain assumptions that may not have been entirely accurate. One assumption was the linearity of the relationship between age and suicide, as well as gender/ethnicity and suicide. It is possible that nonlinear relationships exist, and alternative regression models or nonparametric methods might have captured these relationships more effectively. During the analysis, I encountered several challenges. The availability of limited data presented a constraint, potentially impacting the robustness of the conclusions. Additionally, the interpretation of statistical results and model diagnostics required a solid understanding of regression analysis, which may have presented difficulties for those not familiar with the topic.

In summary, the analysis explored the relationships between age, gender, and suicides, revealing weak linear correlations for both variables. However, age and gender/ethnicity alone appeared to have limited explanatory power for mortality rates. Moving forward, a more comprehensive analysis incorporating a wider range of variables, including socioeconomic factors and nonlinear relationships, would be valuable in further understanding the multifaceted influences on mortality rates.

**Resources:**

Centers for Disease Control and Prevention. (2022, August 12). *Suicide - health, United States*. Centers for Disease Control and Prevention. https://www.cdc.gov/nchs/hus/topics/suicide.htm#definitions

Dataset - catalog. (n.d.). https://catalog.data.gov/dataset?q=&sort=views\_recent+desc