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|  | * Conclusion: * While comparing the data between how the twin/sibling responded to the questions verses how they think their twin/sibling will respond, the data in Figure 1 shows that 47.92% of the answers from identical twins are the same, 47.69% of the answers from fraternal twins are the same, and 34.38% of the answers from the siblings are the same. In order to see whether the relationship between the 3 groups (identical, fraternal, and sibling) and the percentage of having the same answers is significant, a chi-square test is performed. Statistics from the first chi-square test showed that there *is* a relationship between the 3 groups (identical, fraternal, and sibling) and the percentage of having the same answers. Thus, we can conclude that the data is significant. It shows that the percent of the same answers among identical twins and fraternal twins is rather high, whereas the percent of having the same answers among siblings is significantly lower. Thus, the data supports the hypothesis that genes have an effect on the similarities in thoughts between twins. When comparing the answers between how one twin/sibling responded to the survey regarding him/herself verses how the other twin/sibling responded, the data in Figure 2 shows that 43.75% of the answers are the same among identical twins, 38.89% of the answers among fraternal, and 34.38% of the answers are the same among siblings. In order to see whether such relationship is significant, a chi-square test is performed. Statistics from the second chi-square test showed that there is *no* such relationship and that the results shown in Figure 2 are not statistically significant. Since the comparison between the "Self� verses "Self" shows the personality characteristics among identical twins, fraternal twins, and siblings, we can conclude that genes do not play a primary role in a person�s personality and psychological characteristics. In addition to genes, other factors such as environment, culture, and personal experiences may also have an effect. In conclusion, we believe that genes *do* play a role on the similarity in twins� thoughts, especially about each other, but not necessarily on their personality and other psychological characteristics. Because of the difficulty in finding sets of twins, our sample used in this experiment was not a simple random sample. Therefore, the results should be viewed with caution even though all other assumptions in the statistical analysis are met. Overall, the tests and data gathered showed that genes do have an effect on twins and the way they think between each other. * Recommendations: * As we conducted our survey we realized there were ways we could have improved in our project. The following is a list of ways for improvement:  1. Obtain a *large* sample size. The more sets of twins and siblings, the more conclusive and accurate the results will be. Our goal was to have 10 sets of identical twins, 10 sets of fraternal twins, and 10 sets of siblings, but due to the difficulties in finding sets of twins, we obtained less than expected.  2. The sample obtained should be a simple random sample. This would show more accuracy in the data as well as stronger representative of the entire population.  3. One of the problems encountered was that many of the twins we found were unable or unwilling to participate in the survey, so we had to look for more sets of twins. In addition, it was hard to control the actual environment the twins took the survey in. We tried to have each set separated in two separate rooms do the survey at the same time of the day and in similar environments. However, due to many factors this was not achieved.  4. The fact that male and female have different personality traits despite or regardless of the environment they are in this serves as a confounding1 variable that effects the accuracy of our data.  5. To minimize the variables, the subjects taking the survey would have to be raised in the same environment.  1confounding: When the effects of two or more variables are mixed together and you cannot tell the effects apart. | |
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