

Assignment 4

Report

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19I-1865

Note: - We'll be needing 'psych' library as we'll be performing tetrachoric correlation test for binary categorical variables

Question 1. Are diabetic peoples being more likely to have Blood Pressure?

H0: - Diabetic People and Blood Pressure are independent

Ha: - Diabetic People and Blood Pressure are not independent

Conclusion: - Fail to reject H0

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[1] "Since P value 0.922449724155098 is > alpha value 0.05 , we fail to reject H0, and conclude that the events are independent, diabetic people are not more likely to have Blood Pressure"
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Question 2. Are people having anemia are more likely to be from female?

H0: - Anemia and gender are independent

Ha: - Anemia and gender are not independent

Conclusion: - Fail to reject H0

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[1] "Since P value 0.129418611047716 is > alpha value 0.05 , we fail to reject H0, and conclude that the events are independent, hence people having anemia are not more likely to be from female"
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Question 3. Are people whose age is in between 55 and 65 having high Blood Pressure are less likely to survive?

H0: - High Blood Pressure and Death Event are independent for people in ages 55-65

Ha: - High Blood Pressure and Death Event are not independent for people in ages 55-65

Conclusion: - Reject H0. Tetrachoric correlation test shows people between ages 55-65 having high blood pressure are MORE likely to survive

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[1] "Since P value 0.0321011337571162 is < alpha value 0.05 , we reject H0, and conclude that the events are dependent. I then performed correlation test for binary categorical variables (high blood pressure and death event) using tetrachoric correlation, which gives value of -0.36911263531799 which shows a slight negative correlation between high blood pressure and death event, which shows that people having age between 55 and 65 having high Blood Pressure are MORE LIKELY to survive"
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Question 4. Are diabetic peoples who smokes are less likely to survive

H0: - Smoking and death event is independent for diabetic people

Ha: - Smoking and death event is not independent for diabetic people

Conclusion: - Fail to reject H0

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[1] "Since P value 0.393650916524469 is > alpha value 0.05 , we fail to reject H0, and conclude that the events are independent, hence diabetic people who smoke are not less likely to be survive"
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Question 5. Are male people being more likely to get diabetic?

H0: - Gender and diabetes are independent

Ha: - Gender and diabetes are not independent

Conclusion: - Reject H0. Tetrachoric correlation test shows males are less likely to have diabetes

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[1] "Since P value 0.00919861301978445 is < alpha value 0.05 , we reject H0, and conclude that the events are dependent. I then performed correlation test for binary categorical variables (gender and diabetes) using tetrachoric correlation, which gives value of -0.251605844520533 which shows a slight negative correlation between gender and diabetes, which shows that males are less likely to have diabetes"
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