INDIAN FOOD-TIMES HYPOTHESIS TESTING

1. Hypothesis
2. Preparation time for vegetarian dishes is NOT similar to that for non-vegetarian main course dishes
3. Cooking time for vegetarian dishes is NOT similar to that for non-vegetarian main course dishes
4. Data
5. Data source

https://www.kaggle.com/nehaprabhavalkar/indian-food-101

1. Data description

The Indian food dataset contains a range of dishes. There are two categorical variables (i) Type of diet – vegetarian and nonvegetarian (ii) course – snacks, starters, main course, desserts. All dishes also have a preparation time and cooking time recorded. Other variables, for each dish, like ingredients and which state it belongs to are also recorded.

1. Study Data

The complete dataset contains 255 dishes. Within these dishes, there are 129 main course entries (102 – vegetarian + 27 nonvegetarian). 9 dishes were removed from the vegetarian subset due to missing preparation time and/or cooking time. 10 dishes were removed from the nonvegetarian subset due to the same reason.

Then, two datasets were made. One dataset was based on preparation time and the other was based on cooking time. Each dataset had 110 dishes (93 vegetarian + 17 nonvegetarian).

1. Analysis

2 analysis were performed; each on the preparation time and cook time datasets

Categorical variables: veg v/s non veg ; continuous variable: preparation & cooking time

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| --- | --- | --- |
| Parameter | Preparation Time  (veg v/s nonveg) | Cooking Time  (veg v/s nonveg) |
| Normality Testing | K-S Test Significant (for veg & nonveg readings) | K-S Test Significant (for veg & nonveg readings) |
| Test Applicable | Mann-Whitney Test (Wilcoxon Rank sum test) | Mann-Whitney Test (Wilcoxon Rank sum test) |
| Test Statistic value | -1.576 | 1.307 |
| p-value | 0.115 | 0.191 |
| Significance level | 0.05 | 0.05 |
| decision | Retain null hypothesis | Retain null hypothesis |

1. Conclusion
2. The median preparation time is NOT STATISTICALLY SIGNIFICANTLY (or statistically similar) different amongst vegetarian and nonvegetarian dishes (*p=0.115 at alpha = 0.05)*
3. The median cooking time is NOT STATISTICALLY SIGNIFICANTLY (or statistically similar) different amongst vegetarian and nonvegetarian dishes (*p=0.191 at alpha = 0.05)*

PS Note: all times are in minutes