The Youth Risk Behavior Survey (YRBSS) is a national survey monitoring health behavior among youth and young adults. It is administered by the Centers for Disease Control and Prevention (CDC). For this assignment, use the "Youth Risk Behavior Surveillance System Dataset" provided to practice calculating and interpreting the t-test. Refer to the instructional videos in the topic Resources and the Using and Interpreting Statistics: A Practical Text for the Behavioral, Social, and Health Sciences textbook as a guide.

**Part 1**

**Refer to the topic Resources to review the documentation, questionnaires, and general information pertaining to the YRBS. Then use the 2019 "Youth Risk Behavior Surveillance System Dataset" and conduct a two-sample t-test to determine if weight (in kg) differs by sex**.

I choose the Mann–Whitney U test this is because the assumptions were not met to conduct an independent two sample test. The data provided above was not normally distributed hence the need to choose a non-parametric test. The Mann–Whitney U test, it is used to compare two independent populations, in our case that is the whether the distribution of weights is the same or different across males and females.

The following assumptions were met to carry out a Mann–Whitney U test: each sample was a random sample from its population, this assumption was robust, there was independence of observation, in that cases in weigh are not influenced by the cases within sex and the data was measured using a ratio scale.

Null Hypothesis (H0): The distributions of weight are the same across all groups.

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Alternative Hypothesis (H1): The distributions of weight are not the same across all groups.

H1: The distributions of weight are not the same across all groups.

If the p-value < 0.05, we reject the null hypothesis.

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| --- | --- | --- | --- | --- |
| **Ranks** | | | | |
|  | 1=Female, 2=Male | N | Mean Rank | Sum of Ranks |
| Weight in kilograms | Female | 7507 | 5730.74 | 43020671.00 |
| Male | 7393 | 9196.78 | 67991779.00 |
| Total | 14900 |  |  |

|  |  |
| --- | --- |
| **Test Statisticsa** | |
|  | Weight in kilograms |
| Mann-Whitney U | 14839393.000 |
| Wilcoxon W | 43020671.000 |
| Z | -49.193 |
| Asymp. Sig. (2-tailed) | .000 |
| a. Grouping Variable: 1=Female, 2=Male | |

The Mann-Whitney U test was carried out to determine if there is a significant difference in weight (in kilograms) between males and females. Since the p-value is less than 0.05, we reject the null hypothesis and conclude that the distributions of weight (in kilograms) are not the same across all groups.

The mean rank for males is 9196.78 which is higher than that for females at 5730.74, suggesting that males tend to have higher weights compared to females.

**Suggestions for the Creation of a Health Promotion Intervention:**

**I would recommend creation of awareness and education campaigns aimed about maintaining a healthy weight and its benefits, and also provide weight management and healthy lifestyle programs for men aimed at reducing their weights. For females I would address nutritional education and physical activity to o address the lower mean weights and potential underweight issues.**

Part 2

Create an 8-10-slide PowerPoint presentation to discuss the findings for either the chi-square or correlation.