**Research Methods MA 2022/23**

**Assignment #3: t-tests**

The assignment is due on Saturday, December 31st , 2022, at 23:55.

General note: Throughout this assignment, when asked to report results, make sure to report the number of observations (N), the degrees of freedom, the test statistic, their significance (p-value), relevant descriptive statistics, and an explanation of the findings that relate to differences between the groups.

**Note: Do not use screenshots as answers unless you are specifically instructed to do so. Write your answers independently, and attach screenshots as attachments only.**

Please download and save the data file called “HMP\_S3\_2022-23.jmp”. This is a partial dataset from study 3 of the following article:

Yair, O. (2021). The Hostile Mediator Phenomenon: When Threatened, Rival Partisans Perceive Various Mediators as Biased Against Their Group. *Public Opinion Quarterly, 85* (3), 864–886.

Attached is a section of the abstract of the article:

“Rival partisans tend to perceive ostensibly balanced news coverage as biased against their respective sides; this is known as the “hostile media phenomenon” (HMP). Yet complaints of hostile bias are common in contexts besides the media (e.g., law enforcement and academia). Does a process similar to the HMP occur outside the context of news coverage? And do perceptions of political bias in different contexts share certain similarities? This paper proposes that the HMP is a specific case of a more general hostile mediator phenomenon, where rival partisans perceive various public institutions and organizations that are expected to be neutral as biased against their respective sides.”

The dataset was altered and now contains only the relevant variables for this assignment.

|  |  |  |  |
| --- | --- | --- | --- |
| Variable name in the dataset | What was measured | Possible responses | Scale of measurement |
| gender | Gender | 0 = Male  1 = Female | Nominal |
| facebook\_item | Facebook bias | The range of answers is between 1 to 9, with:  1 = Bias in favor of Trump  5 = Neutral  9 = Bias against Trump | Quasi-interval (Continuous) |
| partisan\_group | Partisan groups | 0 = Democrats  1 = Independents / Other  2 = Republican | Nominal |

Questions 1 and 2 pertain to this dataset:

1. The researcher wanted to know whether republicans and democrats (separately) perceive a bias in favor or against President Trump on Facebook (facebook\_item). To test his hypotheses, please execute the following six steps:
   1. Use ‘select-cases’ to exclude all non-democrats from the dataset.
   2. Test if the Facebook bias of the Democrats differs significantly from 5 (neutral).
   3. Cancel the ‘select-cases’ filter.
   4. Use ‘select-cases’ to exclude all non-republicans from the data set.
   5. Test if the Facebook bias of the Republicans differs significantly from 5 (neutral).
   6. Cancel the ‘select-cases’ filter.
2. Is the researcher’s hypothesis one tailed or two tailed? (Mark the correct answer).

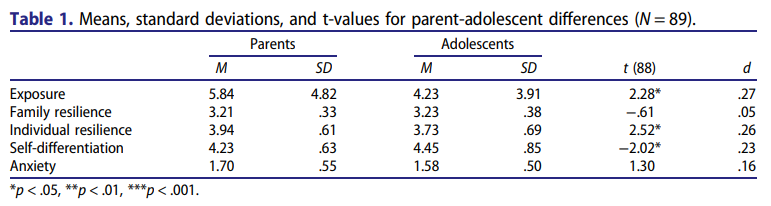
Please explain why. (5 points).

1. Which test did you conduct in stages b and e (above) in order to test the hypotheses? (5 points).
2. Present the results of the tests you performed in stages b and e regarding democrats and republicans (paste screenshots of the results tables). (10 points).

D. Report the test results for Democrats and Republicans (separately). Include in the reports all the relevant findings (means, standard deviations, sample sizes, test statistics values, degrees of freedom, and significance [p-value]) and their meaning in words. (10 points).

1. The researcher wanted to test for gender differences in perceived bias on Facebook for or against Trump (facebook\_item)
   1. Which test does the researcher need to conduct to test the hypothesis? (5 points).
   2. Please run the appropriate test. If needed, please also run Levine’s test and its following appropriate tests. Paste a screenshot of the results table. (5 points).
   3. Report the results of the statistical test you performed. Do men perceive Facebook as biased in relation to Trump more than women? Include in the report all relevant findings (means, standard deviations, sample sizes, test statistic values, degrees of freedom, and significance [p-value]) and their meaning in words. (10 points).
   4. Given that there are 2,140 observations in this database, explain why the N value reported in the previous question lower? (10 points).
2. The following table presents the results of comparisons between means of parents and their adolescent children in their experience of traumatic events.

All quantitative variables were tested on a scale of 1 (Low) to 7 (High).



* 1. Which tests did the researchers conduct? (5 points).
  2. How many significant results were found in the analysis? (2 points). Write the names of the variables for which the differences between parents and their children were significant (3 points).
  3. Report, using the table above, the results of the analysis for the variable ‘Individual resilience’ (for traumatic events). Include in the report all relevant findings (means, standard deviations, sample sizes, test statistic values, degrees of freedom and p-value significance) and their meaning in words (10 points).
  4. Report, using the table above, the results of the analysis for the variable ‘Family resilience’ (for traumatic events). Include in the report all relevant findings (means, standard deviations, sample sizes, test statistic values, degrees of freedom and p-value significance) and their meaning in words (10 points).
  5. Choose one of the variables you included in clause b, and explain, using your own words, what is the meaning of the p-value received in the hypothesis testing (please do not copy/paste from the presentation). (5 points). (10 points).