

SPSS Assignment - Part 2

For part 2 of the assignment, you will follow through with the plan created in part 1 (with feedback taken into account and adjustments made) and conduct your analysis in SPSS, and create a brief PowerPoint report of your results.

Instructions

1. Review your questions and plan from part 1, making sure they meet the criteria described there, and making any corrections/adjustments necessary.
2. Prepare the data in SPSS and conduct your analyses.
 - Include at least one data visualization created in SPSS for each hypothesis/question.
 - Include both descriptive methods (e.g. custom tables or descriptive table options in the tests) and hypothesis testing (parametric or nonparametric) in your analyses.
 - Keep in mind: If you don't get a significant result, that's perfectly okay as long as the hypothesis is logical and potentially interesting. An answer of no is still an answer for an interesting question!
3. Create one clean and complete output file (.spv) with all of your results.
4. Create a short, point form summary of your method and your results in PowerPoint:
 - State each hypothesis / research question.
 - Outline what statistical method you used in SPSS and why.
 - Summarize the result. Include your data visualization, which should be edited to be 'report-ready' - polished, nicely labelled, nice colours, etc.
 - Include a brief discussion on potential implications or insights the result could provide (this can include null results). This doesn't have to be practical implications, it could just be that it's interesting or unexpected or makes you wonder about something, etc.
 - Do not include hypothesis test result tables from SPSS, just report the result in text in APA style (test statistic, *p*-value) along with the data visualizations, and you can include descriptive statistics tables if the chart alone doesn't give the complete picture.
 - See Example on page 4 for a rough idea of what I'm looking for.

What to Submit

1. Your PowerPoint (.pptx) summary.
2. Your output file (.spv) containing all of your results (do not export).
3. Your SPSS file (.sav)

Rubric

Criteria	Levels of Achievement		
	Needs Improvement	Competent	Excellent
Hypothesis Choice	0 to 1 points Hypotheses do not make sense or are untestable.	1 to 1.5 points	1.5 to 2 points Hypotheses are well formed, logical, testable, and interesting.
Statistical Methodology	0 to 1.5 points Unclear explanation of why tests were conducted, what was being analyzed.	1.5 to 2.25 points	2.25 to 3 points All hypothesis tests are applied correctly to appropriate data. Nature of the question explored by each hypothesis test is always clear.
SPSS Methodology	0 to 3 points SPSS used incorrectly, steps missing, and/or proper procedures not used, leading to useless or incorrect output.	3 to 4.5 points	4.5 to 6 points Correct usage of SPSS tools, including any relevant test options, leading to useful output. Analysis is reasonably complex and shows good mastery of SPSS tools.
Results	0 to 2 points Several errors in results reporting & interpretation.	2 to 3 points	3 to 4 points All results reported in a complete and correct fashion. Results are interpreted accurately and thoughtfully discussed.
Data Visualization	0 to 1.5 points Inappropriate or erroneous visuals, or none created at all.	1.5 to 2.25 points	2.25 to 3 points Clear, visually appealing, communicative, and correctly chosen data visualizations.
Overall Impression	0 to 1 points The assignment is not coherent, appears sloppy, or has other demerits outside of the above categories.	1 to 1.5 points	1.5 to 2 points The assignment is cohesive, complete, high quality, and lacking any demerits outside the above categories.

Dependent Variable	Independent Variable	Comparison	Applicable Test(s)
Nominal (Binary)	Categorical – 2 groups	Between Subjects	Chi-Square test for independence / Binary logistic regression
		Within-Subjects	McNemar test
	Categorical – 3+ more groups	Between Subjects	Chi-Square test for independence / Binary logistic regression
		Within-Subjects	Cochran's <i>Q</i> test
Ordinal	Categorical – 2 groups	Between Subjects	Mann-Whitney <i>U</i> test
		Within-Subjects	Wilcoxon Signed-Rank test
	Categorical – 3+ more groups	Between Subjects	Kruskal-Wallis test
		Within-Subjects	Friedman test
Scale	Categorical – 2 groups	Between Subjects	Independent-samples <i>t</i> test
		Within-Subjects	Paired-samples <i>t</i> test
	Categorical – 3+ more groups	Between Subjects	One-way ANOVA
		Within-Subjects	Repeated measures ANOVA
	Ordinal	Between Subjects	One-way ANOVA / <i>t</i> test
		Within-Subjects	Spearman correlation / Linear regression
	Two categorical variables that might interact	Between Subjects	Two-way ANOVA
		Between Subjects and Within-Subjects	Mixed ANOVA
Nominal (Binary)	Scale	Correlation / Prediction	Phi / Cramer's <i>V</i> / Binary logistic regression
Ordinal			Spearman rho correlation / Ordinal logistic regression
Scale			Pearson <i>r</i> correlation / Linear regression

***Note:** For this class you can treat Likert Scale type variables as Scale data

Example PowerPoint (1 question/hypothesis)

MAJOR ASSIGNMENT: EXAMPLE POWERPOINT REPORT

GMO OPPOSITION DATA



1

HYPOTHESIS 1: Older people without any postsecondary education tend to be less opposed to genetically modified food.

This might be the case because...

2

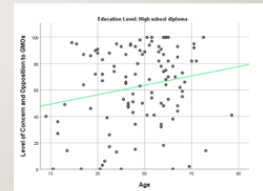
METHOD

- I first split the data by Education in order to isolate different levels of education.
- I then ran a Pearson correlation analysis between Age and GMO_opposition, because these are both scale variables.

3

RESULT

- Age and GMO opposition were significantly positively correlated for people with only a high school diploma, $r=0.195$, $p=0.042$.
- They were not correlated for any other education level.
- With a p -value below our alpha level of 0.05, we reject the null hypothesis:
 - The hypothesis that older people without any postsecondary education tend to be less opposed to genetically modified food is **supported**.



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DISCUSSION

The results support my hypothesis.

Other reasons as to why older people with less education would show less opposition... (if applicable)

Interestingly, [some data shows something surprising/interesting], and this could be an avenue for further study...

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HYPOTHESIS 2: ...

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