SPSS Interpretation Assignment

In this assignment you will be writing up and interpreting SPSS output. This assignment is open book and open notes. It is not open internet or friend/acquaintance/enemy, though, so make sure you don’t talk to anyone about the content of the exam until you are both finished. You can use any of the resources/keys/lectures on Moodle, though. There are videos on Moodle of how to write up and interpret different kinds of tests.

If you are having trouble with this assignment, please email me! We can set up a meeting and walk through how to interpret and write up different analyses (I’ll use different variables than those here, so I won’t tell you the answer but show you how to find the answer yourself).

You can submit your exam on Moodle by uploading a Word document or a PDF. Please write up each analysis as its own paragraph (instead of one big paragraph) and please report them in the order they are listed here.

For each statistical test, you should include the following in your write up:

* The type of statistical test/analysis.
* The independent variable, when appropriate (some tests do not have independent variables).
* The dependent variable(s) / whatever it is you are measuring.
* Whether there was a significant effect.
* An interpretation of the results – what does the significant or non-significant results mean in terms of the variables analyzed?
* Descriptive statistics, when appropriate (some tests do not require descriptive statistics).
* Inferential statistics.

Below is a description of the experiment. This includes descriptions of the independent variables and the dependent variables (including the exact wording of the questions participants answered). If you do not understand the variables, please let me know and I can explain them in a different way.

If the SPSS output looks weird (like the cells have shifted to the right or something) let me know.

**Description of experiment:**

Participants in this experiment were acting as mock jurors for a homicide trial. Participants read a trial transcript, which included testimony about an interrogation where the defendant confessed. Participants then answered questions regarding their perceptions of the case.

Independent variables:

* Interrogation\_pressure: participants read testimony about one of three interrogation that varied in the level of pressure.
  + In the **low pressure** interrogation, the interrogator did not put any pressure on the suspect to confess.
  + In the **medium pressure** interrogation, the interrogator used psychologically manipulative techniques to try to get the suspect to confess.
  + In the **high pressure** interrogation, the interrogator was coercive: he threatened the suspect with the death penalty, yelled at the suspect, and interrogated him overnight without letting him take a break for the bathroom or to eat anything.
* Sample\_type: two groups of participants were recruited to participate in the study
  + Participants in the **community** sample were recruited from Amazon Mechanical Turk, which is a website where people from all over the world can participate in research
  + Participants in the **student** sample were recruited from a university.

Dependent variables:

* **Sentence\_if\_convicted**: Participants only answered this question if they decided to convict the defendant (say that he was guilty). A higher number indicates a longer sentence in jail or prison.

Between 5 and 99 years, how many years of incarceration do you recommend? \_\_\_\_\_\_.

* **Likelihood\_defendant\_committed\_crime**

Between 0 and 100%, what is the likelihood that the defendant, Bradley Martin, committed the crime? \_\_\_\_\_\_\_.

* **Age**: Participants responded with how old they are.

Age: \_\_\_\_\_\_\_

* **Confidence\_in\_verdict**: This was for participants’ decision to convict (“guilty”) or acquit (“not guilty”) the defendant.

How confident are you in your verdict?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1  not at all confident | 2 | 3 | 4 | 5 | 6 | 7  extremely confident |

* **Education\_level**: participants responded with how educated they are.

What is the highest level of education you have completed?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 1  Less than high school | 2  High school or GED | 3  Some college | 4  2-year college degree (Associates) | 5  4-year college degree (BA, BS) | 6  Professional degree (MD, JD) | 7  Master’s degree | 8  Doctoral degree |

* **Prosecution\_strength**

How strong was the Prosecution’s (Mr. Turner) case against Bradley Martin?

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1  not at all strong | 2 | 3 | 4 | 5 | 6 | 7  extremely strong |

These data are from experiment 1 of the following publication, if you feel like reading it (the analyses here are not in the publication, though):

Woestehoff, S. A., & Meissner, C. A. (2016). Juror sensitivity to false confession risk factors: Dispositional vs. situational attributions for a confession. *Law and Human Behavior, 40,* 564-579. doi: 10.1037/lhb0000201

DATASET NAME DataSet1 WINDOW=FRONT.

DATASET ACTIVATE DataSet0.

DATASET CLOSE DataSet1.

T-TEST GROUPS=Sample\_type(1 2)

/MISSING=ANALYSIS

/VARIABLES=Sentence\_if\_convicted

/CRITERIA=CI(.95).

**T-Test**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Group Statistics** | | | | | |
|  | Sample\_type | N | Mean | Std. Deviation | Std. Error Mean |
| Sentence\_if\_convicted | Community | 82 | 59.34 | 31.838 | 3.516 |
| Students | 176 | 47.92 | 30.099 | 2.269 |

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Independent Samples Test** | | | | | | | | | | | |
|  | | Levene's Test for Equality of Variances | | t-test for Equality of Means | | | | | | | |
| F | Sig. | t | df | Sig. (2-tailed) | Mean Difference | Std. Error Difference | 95% Confidence Interval of the Difference | |
| Lower | Upper |
| Sentence\_if\_convicted | Equal variances assumed | 3.810 | .052 | 2.786 | 256 | .006 | 11.421 | 4.099 | 3.348 | 19.494 |
| Equal variances not assumed |  |  | 2.729 | 150.429 | .007 | 11.421 | 4.184 | 3.153 | 19.689 |

ONEWAY Likelihood\_defendant\_committed\_crime BY Interrogation\_pressure

/STATISTICS DESCRIPTIVES

/MISSING ANALYSIS

/POSTHOC=SCHEFFE ALPHA(0.05).

**Oneway**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Descriptives** | | | | | | | | |
| Likelihood\_defendant\_committed\_crime | | | | | | | | |
|  | N | Mean | Std. Deviation | Std. Error | 95% Confidence Interval for Mean | | Minimum | Maximum |
| Lower Bound | Upper Bound |
| low pressure | 190 | 68.72 | 29.449 | 2.136 | 64.51 | 72.93 | 0 | 100 |
| medium pressure | 192 | 56.78 | 34.298 | 2.475 | 51.89 | 61.66 | 0 | 100 |
| high pressure | 186 | 53.14 | 32.367 | 2.373 | 48.46 | 57.82 | 0 | 100 |
| Total | 568 | 59.58 | 32.733 | 1.373 | 56.88 | 62.28 | 0 | 100 |

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **ANOVA** | | | | | |
| Likelihood\_defendant\_committed\_crime | | | | | |
|  | Sum of Squares | df | Mean Square | F | Sig. |
| Between Groups | 25102.943 | 2 | 12551.471 | 12.177 | .000 |
| Within Groups | 582396.761 | 565 | 1030.791 |  |  |
| Total | 607499.703 | 567 |  |  |  |

*Note: the ANOVA is continued on the next page with post hoc tests.*

**Post Hoc Tests**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Multiple Comparisons** | | | | | | |
| Dependent Variable: Likelihood\_defendant\_committed\_crime | | | | | | |
| Scheffe | | | | | | |
| (I) Conf 1 = LP 2 = MP 3 = HP | (J) Conf 1 = LP 2 = MP 3 = HP | Mean Difference (I-J) | Std. Error | Sig. | 95% Confidence Interval | |
| Lower Bound | Upper Bound |
| low pressure | medium pressure | 11.945\* | 3.285 | .001 | 3.88 | 20.01 |
| high pressure | 15.582\* | 3.312 | .000 | 7.45 | 23.71 |
| medium pressure | low pressure | -11.945\* | 3.285 | .001 | -20.01 | -3.88 |
| high pressure | 3.637 | 3.303 | .546 | -4.47 | 11.74 |
| high pressure | low pressure | -15.582\* | 3.312 | .000 | -23.71 | -7.45 |
| medium pressure | -3.637 | 3.303 | .546 | -11.74 | 4.47 |
| \*. The mean difference is significant at the 0.05 level. | | | | | | |

CORRELATIONS

/VARIABLES=Age Confidence\_in\_verdict

/PRINT=TWOTAIL NOSIG

/MISSING=PAIRWISE.

**Correlations**

|  |  |  |  |
| --- | --- | --- | --- |
| **Correlations** | | | |
|  | | Age | Confidence\_in\_verdict |
| Age | Pearson Correlation | 1 | .062 |
| Sig. (2-tailed) |  | .125 |
| N | 604 | 604 |
| Confidence\_in\_verdict | Pearson Correlation | .062 | 1 |
| Sig. (2-tailed) | .125 |  |
| N | 604 | 604 |

REGRESSION

/MISSING LISTWISE

/STATISTICS COEFF OUTS R ANOVA

/CRITERIA=PIN(.05) POUT(.10)

/NOORIGIN

/DEPENDENT Prosecution\_strength

/METHOD=ENTER Education\_level.

**Regression**

|  |  |  |  |
| --- | --- | --- | --- |
| **Variables Entered/Removeda** | | | |
| Model | Variables Entered | Variables Removed | Method |
| 1 | Education\_levelb | . | Enter |
| a. Dependent Variable: Prosecution\_strength | | | |
| b. All requested variables entered. | | | |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Model Summary** | | | | |
| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
| 1 | .196a | .038 | .037 | 1.733 |
| a. Predictors: (Constant), Education\_level | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **ANOVAa** | | | | | | |
| Model | | Sum of Squares | df | Mean Square | F | Sig. |
| 1 | Regression | 72.045 | 1 | 72.045 | 23.995 | .000b |
| Residual | 1804.515 | 601 | 3.003 |  |  |
| Total | 1876.561 | 602 |  |  |  |
| a. Dependent Variable: Prosecution\_strength | | | | | | |
| b. Predictors: (Constant), Education\_level | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Coefficientsa** | | | | | | |
| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
| B | Std. Error | Beta |
| 1 | (Constant) | 5.355 | .218 |  | 24.612 | .000 |
| Education\_level | -.294 | .060 | -.196 | -4.898 | .000 |
| a. Dependent Variable: Prosecution\_strength | | | | | | |