**Step 1: Write Section 1 of the DAA**

* Provide a context of the grades.sav data set.
* Include a definition of the specified variables (predictor, outcome) and corresponding scales of measurement.
* Specify the sample size of the data set.

**Step 2: Write Section 2 of the DAA**

Task: Analyze the assumptions of the *t* test.

|  |
| --- |
|  **Case Processing Summary** |
|  | Cases |
| Valid | Missing | Total |
| N | Percent | N | Percent | N | Percent |
| gender | 105 | 100.0% | 0 | 0.0% | 105 | 100.0% |
| gpa | 105 | 100.0% | 0 | 0.0% | 105 | 100.0% |

Answer:

* 

Task: Discuss your visual interpretations the SPSS histogram output for gpa.

Answer:

|  |
| --- |
| **Tests of Normality** |
|  | Kolmogorov-Smirnova | Shapiro-Wilk |
| Statistic | df | Sig. | Statistic | df | Sig. |
| gender | .397 | 105 | .000 | .619 | 105 | .000 |
| gpa | .225 | 105 | .000 | .854 | 105 | .000 |
| a. Lilliefors Significance Correction |

**Task:** Paste SPSS output for the Shapiro-Wilk test of gpa and interpret it.

**Answer:**

|  |
| --- |
| **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 |
| gender | Equal variances assumed | 10.619 | .002 | -1.271 | 103 | .207 | -.149 | .117 | -.381 | .083 |
| Equal variances not assumed |  |  | -1.337 | 35.408 | .190 | -.149 | .111 | -.375 | .077 |
| gpa | Equal variances assumed | .154 | .695 | .831 | 103 | .408 | .698 | .840 | -.968 | 2.364 |
| Equal variances not assumed |  |  | .848 | 33.961 | .402 | .698 | .823 | -.974 | 2.369 |

 **Task:** Report the results of the Levene test and interpret it.

 **Answer:**

**Task**: Summarize whether or not the assumptions of the *t* test are met.

**Answer:**

**Step 3: Write Section 3 of the DAA**

* Specify a research question related to gender and gpa.
* Articulate the null hypothesis and alternative hypothesis.
* Specify the alpha level.

**Step 4: Write Section 4 of the DAA**

|  |
| --- |
| **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 |
| gender | Equal variances assumed | 10.619 | .002 | -1.271 | 103 | .207 | -.149 | .117 | -.381 | .083 |
| Equal variances not assumed |  |  | -1.337 | 35.408 | .190 | -.149 | .111 | -.375 | .077 |
| gpa | Equal variances assumed | .154 | .695 | .831 | 103 | .408 | .698 | .840 | -.968 | 2.364 |
| Equal variances not assumed |  |  | .848 | 33.961 | .402 | .698 | .823 | -.974 | 2.369 |

* + Report the results of the SPSS output using proper APA guidelines .
	+ Include:
		- *t*.
		- Degrees of freedom.
		- *t* value.
		- *p* value.
		- Effect size.
		- Interpretation of effect size.
		- Means and standard deviations for each group.
		- Mean difference.
		- 95% confidence interval of the difference of sample means.
* Interpret the results against the null hypothesis.

**Step 5: Write Section 5 of the DAA**

* Discuss the implications of this *t* test as it relates to the research question.
* Conclude with an analysis of the strengths and limitations of *t* test analysis.