**Assignment Guide 1: Critique on Statistical Techniques and Data Analysis**

##### Instructions:

Read the attached journal carefully then make your critical appraisal using the guide questions below. Justify your answer to the questions by citing or referring to what is in the article.

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| ***Adequacy of sample in quantitative studies*** | ***Comments*** |
| 1. Did the researcher define the target population for the study? What is the target population? |  |
| 1. Are the sampling inclusion criteria, sampling exclusion criteria, or both clearly identified and appropriate for the study? What are these? |  |
| 1. Is the sample size identified? Is a power analysis reported? Was sample size appropriate as indicated by the power analysis? If groups were included in the study, is the sample size for each group discussed? |  |
| 1. Are the refusal or acceptance rates identified? Are the sample attrition or retention rates addressed? Are reasons provided for the refusal and attrition rates? Discuss. |  |
| 1. Is the sampling method probability or nonprobability? Identify the specific sampling method used in the study to obtain the sample. |  |
| 1. Is the sampling method adequate to achieve a representative sample? Is the sample representative of the accessible and target populations? Justify. |  |
| 1. Are the potential biases in the sample discussed? Discuss these briefly. |  |
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| ***Describing the Sample*** |  |
| 1. What variables were used to describe the sample? State here the description of the sample. |  |
| 1. What statistical procedures were used to describe the sample? Justify the use of these statistics. |  |
| 1. Was the sample representative of the study target population? Why? or why not? |  |
| 1. If the sample is divided into groups for data analyses, was the equivalence of the groups discussed? |  |
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| ***Level of Significance*** |  |
| 1. What level of significance or α was set prior to the conduct of the study? |  |
| 1. Did the findings show statistically significant differences? What are these? |  |
| 1. If significant differences were found, what was the p value? Describe and interpret these findings. |  |
| 1. What was the risk of a Type I error in the study? |  |
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| ***Type I and Type II Errors*** |  |
| 1. What element(s) of the study could have resulted in the risk of a Type I error? |  |
| 1. What element(s) of the study could have resulted in the risk of a Type II error? |  |
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| ***Power Level*** |  |
| 1. Were the effect size and the power level identified in the study? If not, why is this so? |  |
| 1. Was a power analysis conducted to determine sample size? If not, what is the implication? |  |
| 1. Was the sample size adequate for the study conducted? What is the implication of this? |  |
| 1. Was the design validity strong? What is the implication of this? |  |
| 1. Were the measurement methods in the study valid and reliable? What is the implication of this? |  |
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| ***Findings and Significance of Findings*** |  |
| 1. What are the study findings? Did the study include significant and nonsignificant findings? |  |
| 1. Were the findings appropriate based on the statistical results? |  |
| 1. Were the study findings linked to previous research findings? |  |
| 1. Were the findings clinically important? |  |
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| \*Adapted from **Burns**, N., **Grove**, S., & Gray, J. (**2011**). Understanding Nursing Research Building an Evidence-Based Practice (5th ed.). St Louis, MO Elsevier Saunders. |  |