

**Statistics 467/567: Applied Multivariate Methods – Project No. 1**  
**Summary Comments: Monday, August 3, 2020**

**Common Omissions—Mistakes Resulting in Point Reduction by Section**  
**Checklist for Project No. 2**

**Cover Page**

- (1) Title of Project - Use key words to explain the relationship of the variables
- (2) Need Name of Author (i.e. student submitting the paper) and Date of Submission

**Introduction**

- (1) Background justifying the relevance of the thesis or research topic requires references to literature – need Citations within the text either the author, year (Smith, 2020) or numbered [1] (if using sequential reference list – number according to citation as appears in text).
- (2) Separate paragraphs when citing a different study than the previous paragraph.
- (3) Include clearly stated specific hypotheses/research questions at end of introduction section.

**Methods – Data Source, Year and Description of variables which includes:**

- (1) List of variables used in the analysis (for example one paragraph to describe each variable).
- (2) How measured – i.e. unit of measure (years, kilos, Celsius, etc. and where obtained).
- (3) Coding scheme—define the numerical values.
- (4) Range – i.e. minimum and maximum.
- (5) Type of variables –
  - a. Categorical (also binary or dichotomous or dummy coded)
  - b. Discrete (can include Likert Scale rating – as hierarchical numerical increase)
  - c. Continuous

**Results**

- (1) Explain (in full sentences) key findings as displayed in tables and figures.
- (2) Enlarge Tables and Figure titles font size – for legibility and readability.
- (3) Title of Table, and Table (or Figure)—complete table or figure need to be on one page – Not separated into two portions.
- (4) Tables and Figures either inserted into the Results section or at the end—all contained in one document, not two separate documents.
- (5) Include ALL required analysis results from outline, in Results Section (not in Discussion Section)
  - a. One example of each univariate plot
  - b. One transformation (at least) displayed—before and after
  - c. variance-covariance matrix
  - d. eigenvectors, eigenvalues
  - e. Hotelling's T-Squared
  - f. maximum likelihood estimates

## Discussion

- (1) Interpret or analyze meaning of the significant findings – explain why.
- (2) Tables and figures – all belong in Results section (not in the Discussion Section).
- (3) Description of tables and figures belongs in Results section.
- (4) Include limitations of the current analysis

Example: If data set pertains to only one geographic area (not representative and random for all 50 US states as an example), the results are not generalizable (not externally valid) to US national data. However, what can these data and the final model contribute to the field of study, even though the sample is not random and representative.

- (5) Provide suggestions for future research – such as other data sets; additional variables or methods to employ (example: identify future multivariate analysis methods – such as application of factor analysis to incorporate into a multivariate model).

## Reference List/Bibliography

- (1) Full Citation needed. Be consistent with format.
  - a. Citation Format: Author Last Name, First Initial (Year). Article title. Journal or Newspaper Title, Vol, No.
  - b. Some citations were partially complete, followed by the URL (link to the article).
- (2) Always include page numbers.
- (3) EXAMPLE (REMINDER) of published scientific article: Underline or italicize the journal, serial or book title:

Pickett, K.E., Wilkinson, R.G. (2015). Income inequality and health: a causal review. Social Science and Medicine, 128, 316-326.

- (4) Overall Formatting: If single spaced within paragraph, then double space between paragraphs.

**Thank you!**