Writing 109ST: Assignment #9
Analytic Summary of Peer-Reviewed Journal Article

Introduction

Scientific progress is driven by research and technical professionals must be accustomed to scanning and reading the research literature. Because the spectrum of literature varies from the wildly speculative to the scientifically rigorous, readers must be able to quickly evaluate an article. Are the experiments used during research well designed? Have the investigators reached logical conclusions based upon the data, or have they overstepped the data and forced their own conclusions? What kinds of statistical analysis were employed during the research? Were biases and errors avoided? This assignment will give you practice at reading and analyzing a research article.

Tasks

Select an article from a professionally reputable and peer-refereed journal. Some typical examples might include:

- *Science*
- *Nature*
- *New England Journal of Medicine*

Read and analyze your selected article, noting its content and organization. Most research articles are organized using the so-called IMRAD (Introduction, Methods, Results, and Discussion) approach. Notice that each article also contains a title and author(s). Many articles also employ keywords to aid in library and browser searches.

Using separate paragraphs, identify and summarize each of the underlined components above in the order they occur. Use subheadings (e.g., “Introduction,” “Methods,” “Interpretation,” “Conclusion,” etc.) for each paragraph. [To identify the article and author(s), you can merely list the title, author(s) and keywords.] Each paragraph should identify what was contained in that section of the article. For statistical data, it is not necessary to list all the data separately; merely identify and summarize the trends and correlates.

Finish your assignment with a 2–3 page section entitled “Article Analysis.” Select any seven of the twenty-three questions below to lead your analysis. Write the question in *italics*, and provide your analysis in normal type. Here are the questions:

- *Is the topic of the paper somewhat original?*
- *Do the authors have a solid track record?*
- *Is one of the authors a statistician, or is a statistician’s contribution acknowledged?*

- *Who sponsored the study?*
- *What was the aim of the study? What hypothesis did the researchers test? Are the conclusions reached (assuming they are valid) important to you and others (explain)?*
- *If human subjects were used, was consent to participate in the study obtained from the subjects? Was the study approved by an institutional review board? Was the assignment of patients to study groups truly random?*
- *Were enough data obtained to reach valid conclusions?*
- *Were the outcome measures (end points) appropriate?*
- *Was the statistical analysis (if used) appropriate for the study?*
- *Do the Results section and the Methods section match?*
- *How are outliers handled in the data?*
- *Were changes made in the study protocol after the trial began, to save time or money or because of untoward events?*
- *Are both P values and confidence intervals reported?*
- *Are the results plausible?*
- *Are the results consistent with those of other studies?*
- *Have the authors discussed possible limitations of the study?*
- *Do the study's findings have practical importance, regardless of whether they have statistical significance?*

Due Date: See schedule on course website.