

Crafting a (Quantitative) Academic Journal Article

1. The Abstract (100-200 words, depends on journal)

- The purpose of an abstract is to provide readers with essential information about the purpose, methods, results, and conclusions of a study. One to two sentences is devoted to each of these four things.
- In addition, most if not all journals require that authors list just below the abstract a number of keywords for indexing and search purposes.

2. The Introduction Section (1.5 - 2.5 double-spaced pages)

- The introduction section of a paper should accomplish three things: 1) Briefly introduce the topic of the current investigation and establish its importance, 2) Briefly summarize what is generally known about the topic, and pivot to what is not yet known or not well understood about the topic, and 3) identify how the current investigation is going to add clarity or understanding on the topic.
- The introduction of a paper is not an appropriate place to provide in-depth discussion of particular studies that have been done in the past. The “literature review” section(s) would be the more appropriate place to discuss individual studies.
- By the end of the introduction, it should be clear to readers (or, initially, reviewers) what the overall goal of the current investigation is and how the current investigation is going to provide an advancement over past studies that have been conducted. The goal is to “hook” the reader (or reviewer). You want readers to leave the introduction having bought what you are selling. If they are not convinced the topic is important, or that what your investigation will contribute is meaningful, then why should the paper be published? As much as we all say that replication is an important part of social science, a paper that is a pure replication of past work is rarely conducted or published. There always is a new angle that gets investigated. The more original the idea, the more likely the paper will get published.
- I prefer to provide readers with a “roadmap” or guide of where the paper is going to go. I often end the introduction saying something to the effect of, “Prior to describing the methods and results of this study, research on X, Y, and/or Z will be reviewed in greater detail. Specific attention will be given to discussing...” In this manner, I am foreshadowing what is to come to make it easier for readers to follow along.

3. The Literature Review Section(s) (4 - 8 double-spaced pages, varies widely)

- A literature review should accomplish two things: 1) provide readers with an overview of past theorizing and/or research related to the current investigation, and 2) provide the framework for establishing the importance of the current investigation.
- A literature review will draw on primary sources (peer-reviewed academic journal articles, books, and reports). Personal opinions are *not* part of a literature review, *ever*.
- In *developing* a literature review (the information gathering phase), the goal is to inform *yourself* as to what is known and not known about the topic of the current investigation. You must have a firm understanding of what is known and not known in order to provide justification for a new study – you are the *authority* on the subject.
- In *writing* the literature review (the information presenting phase), the goal is to inform *readers* of what is known, as well as what is not known. Readers should leave the literature review section feeling the author(s) knows what (s)he is talking about and that there is a clear need for additional research on the topic.
- The focus of a literature review will depend on the nature of the current investigation. For example, is the current investigation a test of a theory focused on a particular behavior that has been previously unexamined or understudied? Or, is it a methodological paper, where a new method or measure is being advanced? The focus of the investigation should always guide the literature review.
- A literature review should move from the discussion of *general* themes to *specific* issues. It is not an endless listing of what each and every past study has found on the subject at hand (Study A found...Study B found...Study C found...etc.). Rather, it is an integration of existing research that draws the attention of readers to overall conclusions that have been established through past research.
- After a literature review has informed readers of what is known about a subject, it will then draw the attention of readers to weaknesses of past research, or what many refer to as the “gaps” in past research. Simply summarizing for readers what is known and then providing a blanket statement such as, “Additional research needs to be done to better establish what has been observed in past research,” is not a sufficient justification for a new study. It is your task to convince readers there are *specific* weaknesses or omissions in past research that limit our understanding, prompting the need for new research.

- By identifying and bringing to the attention of readers the “gaps” in current knowledge, this sets the stage for the current investigation. I particularly like the phrase, “These observations [my discussion of gaps that just took place] call attention to the purpose of the current study.”

4. The Current Study Section (1 - 1.5 double-spaced pages)

- You have presented readers with information on what past research tells us about the subject of the current investigation. Likewise, you have made clear to readers the omissions and/or weaknesses of the existing literature.
- The “Current Study” section is where you will describe to readers the purpose of the current investigation. It is within this section where you remind readers of what you briefly alluded to in the introduction with regard to the purpose of the study.
- Assuming you are testing a hypothesis or multiple hypotheses, it would be within the current study section where you state your hypotheses.
- Some writers will take the opportunity to restate for readers why the current investigation is important, both from the standpoint of the topic (it helps to fill “gap” X), as well as the importance of the investigation for policy-makers. Such discussion can further legitimate the need for the current investigation.

5. Methods Section (length can vary, but between 4 - 8 double spaced pages is common)

- The primary goal of the methods section is to describe for readers the components of the current investigation. This includes information on 1) the participants (context, location), 2) the procedure(s) used to collect data (sampling method, response/participation rate, recruitment strategy, protocols for assignment to groups if experimental, etc.), 3) measurement of variables (scoring procedures, information on reliability and validity, etc.), and 4) the analytic methods (bivariate analysis, regression, time-series, etc.)
- You should be able to provide enough information to readers that they can 1) judge the validity of your study, and 2) replicate your study either by collecting new data or by obtaining a copy of the data you used.
- Typically, the data collection procedures and participants are described first. Some journals require subheadings within the methods sections entitled “participants” and “procedure,” whereas other journal do not require such subheadings.

- If the current investigation is based on the use of experimental methods, then additional information would need to be presented outlining how assignment to experimental and control conditions was achieved.
- Once the participants and procedures that were used to collect/obtain the data have been described, it is common for a subheading entitled, “Measures” to be presented. It is within this sub-section that authors describe the measurement of the primary variables (i.e., independent, mediating, moderating, dependent, control).
- Following a discussion of the manner in which key variables were measured and operationalized, a “Analytic Method” or “Data Analysis” sub-section is often presented. It is here where the author(s) describe and defend the choice of statistical methods used to test the hypotheses. It is also here where a brief “roadmap” or guide can be provided that describes how the results will be presented and discussed in the following section.

6. Results Section (length can vary widely)

- The primary goal of the results section is to display (usually in tables and/or figures) and discuss the results of the data analyses that were performed.
- Results sections usually begin with the presentation of descriptive statistics in a table (means, standard deviations, min and max values), though many authors will present the table with descriptive statistics near the end of the “Methods” section. The descriptive statistics should only be presented for those variables that are included in the analyses.
- Interpretation of the results should be kept to a minimum. You are simply presenting what you found within this section. Discussion of the implications the results hold should be discussed in a later section of the paper (the “Discussion” section.)
- It is important to describe for readers the results that are presented in the tables and figures. Advanced readers will be able to look at tables and figures and know what the results mean without reading a description of the results. However, not all readers are advanced. Thus, a well structured results section will provide a clear narrative account of the results so that someone could read the results and know what was revealed without having to refer to the tables/figures.
- If there are multiple hypotheses being tested, it is traditional that the results will be presented and discussed in the same order in which the hypotheses were stated.

- If there are multiple components to the analyses, some researchers will break the results section out into sub-sections corresponding with results pertaining to particular hypotheses or analytic methods.
- All tables and graphs should be numbered in the order in which they are discussed within the “Results” section. It is common practice when a paper is submitted to a journal that tables and figures are presented at the very end of the paper, rather than within the written “results” section. Instead, once a particular table or figure has been referred to in the text, at the end of that paragraph insert on a new line the phrase “Table X about here” and then move on to the start of the next paragraph.

7. Discussion Section (3 -5 double-spaced pages)

- You are nearing the end of your paper. By now you have introduced the topic; noted its importance; reviewed what is known; highlighted what is not known; stated the purpose of your study; clarified how your study will help shed light on what is not known; stated hypotheses; described the methods; and presented the results. In the “Discussion” section you now have the opportunity to elaborate on your findings.
- Were your hypotheses supported? What are the theoretical and practical implications of your findings? Do not restate the results, as this contributes to needless redundancy. Rather, discuss how what you have found informs our understanding of the topic and how your findings can be used to inform theory and practice.
- Once you have discussed your findings and the implications they hold, it is also traditional to discuss the limitations of your study and to suggest directions for future research. This, assuming you don’t feel your study is flawless and that no additional research is needed. If you believe each of these things to be true, you are kidding yourself.
- Limitations may pertain to a flawed sampling strategy, the use of measures with questionable reliability and validity, concerns over temporal ordering and spuriousness, etc. By identifying limitations you are not only being transparent, you are also guiding future researchers by describing things that could potentially be overcome by conducting additional research. The limitations section often dovetails into a discussion of suggestions for future research.
- The discussion section typically ends with some type of concluding remarks that reiterate the importance of the topic and the need to continue to investigate it. Some authors will simply have a final concluding paragraph, while others will actually create a sub-heading at the end called “Conclusion.”

8. References (length depends entirely on the number of citations contained within your paper)

- For every citation you insert into any of the above sections of your paper, you must list the complete corresponding reference at the end of the manuscript. For example, let's say within my literature review section I cite a study focused on low self-control (e.g., Meldrum and Hay, 2012). I would then need to list the complete reference within the "references" section:

Meldrum, R. C., & Hay, C. (2012). Do peers matter in the development of self-control? Evidence from a longitudinal study of youth. *Journal of Youth and Adolescence*, 41(6), 691-703.

- A complete reference will include all of the following information: author names; date/year; title of journal article/book/report; title of journal; and information on the volume and page numbers. Books also require the listing of the publisher of the book.
- Most journals require that references be alphabetized according to the first author's last name, though some require references be listed according to the order in which they are cited in the body of the paper.
- Different journals often have different formatting requirements. Some journals require full author name, whereas others require initials for first and middle name. Some journals require that the first letter of each word of the title of article or book be capitalized, whereas others only want to first letter of the first word capitalized. Some journals want both the volume and issue number listed, whereas others only require the volume number. The point is that you must refer to each journal's requirements for the formatting of references.

Additional Reading:

Hahn Fox, B., & Jennings, W. G. (2014). How to write a methodology and results section for empirical research. *Journal of Criminal Justice Education*, 25(2), 137-156.

Denney, A. S., & Tewksbury, R. (2013). How to write a literature review. *Journal of Criminal Justice Education*, 24(2), 218-234.