

Format, Style, and Suggested Topics for Neuroscience Term Paper

W. Jeffrey Wilson
Albion College

A term paper on any topic concerning the neural bases of behavior is required in Neuroscience. The paper should adhere to the editorial style guidelines of the American Psychological Association. The writing style must be clear, concise, and grammatical, and the work that you turn in must be your own. You may select a topic from the list provided, or choose your own, but please clear it with me before you begin. A timetable of important dates is included. This paper conforms to the guidelines that you should follow; use it as an example.

As stated on the course syllabus, a term paper is required in this course. Its purpose is to allow you to take a more in-depth approach to some area of neuroscience than is possible in the context of class time. This handout provides information regarding format, style, and other "mechanical" aspects of the paper, as well as some suggested topics.

Format

Scientific writing usually follows a strict stylistic format. This allows the reader to focus on the content of the paper rather than on how the material is presented. Your paper is no exception. The paper should adhere to the editorial style of the American Psychological Association, as outlined in the *Publication Manual of the American Psychological Association*, (5th edition, 2001). This book is in the library, and is available in the bookstore. The following list summarizes some of the major requirements of APA style.

1. Type all parts of the manuscript double-spaced on non-eraseable paper. Do not right-justify the text. Follow each period with a single space, not two spaces. In the top right corner of every page provide the first few words of the title, and beneath that a page number.

2. Include a numbered title page, giving the title, author's name, and author's affiliation (in this case, Albion College). A condensed title, labeled "Running Head," should be typed in all capital letters, flush left at the top of the title page.

3. Page 2 should consist of an abstract providing a brief overview of your paper. It should be labeled "Abstract," and should not exceed 960 characters, including punctuation marks and spaces. The abstract should be typed as a single, non-indented paragraph.

4. The body of the paper follows, beginning on Page 3. As this is not a research report, there is no need for sections such as Method, Results, etc. The text can be one uninterrupted section, or can be broken down into subsections, as you deem necessary.

5. Citations of source material in the body of the text should take the form of the name(s) of the author(s) followed by the date of publication; for example, Authorone (1968), Authorone and Authortwo (1984). When there are three or more authors, the names of all authors are required only at the first citation (Firstauthor, Secondauthor, Thirdauthor, &

Fourthauthor, 1982); subsequent citations should be shortened (Firstauthor et al., 1982). If there are more than five authors, shorten the citation always, even the first time. Citation information that is not part of the sentence is placed within parentheses: "In 1984, Authorone and Authortwo replicated the important early finding by Authorone (1968) that chocolate facilitates migratory behavior in yaks; others (Firstauthor et al., 1982) have demonstrated this as well."

6. Following the body of the text, and starting on a separate page, come the References. This is not a bibliography. It should contain only those papers to which you refer in the body of the text, not everything you have read. Arrange the references alphabetically by author, and chronologically when two or more papers have the same authors in the same order (unless the papers are identified as parts of a series, in which case use the series order). The format required for various types of reference materials appears in the Reference section of this paper. Be sure to include all of the papers that you cite. Accuracy in citing your references is crucial! NOTE: This deviates from APA style, but you must provide a photocopy of the first page of every paper that you cite. This provides some assurance that you had the opportunity to read the papers, rather than relying on someone else's description of the research (see discussion of primary sources, below). There is an automatic loss of 5% of the total possible value of the paper for each instance in which a photocopy is not provided. Please append the photocopies to the end of the original copy of the paper.

7. Any Tables or Figures appear after the References. Tables come immediately after the References, and should be double spaced on numbered pages. Figure Captions follow the Tables, and Figures come last. (It is unlikely that Tables and Figures will be required, but if they are, please follow this format.)

Please submit two copies of the paper. One will be returned to you, one will be filed in the Psychology Department. The paper should be about 8 pages long, excluding title page, abstract, and references. Consult the APA Publication Manual regarding the desired style for items not discussed above, such as numbers, abbreviations, seriation, etc. Your grade will reflect in part the degree to which you comply with APA style guidelines.

Writing Style

Scientific writing requires clarity and accuracy. Please write grammatically; do not include sentence fragments, verbs that do not agree with their subjects, dangling participles, or split infinitives. If you need assistance with your writing, contact any grammar or composition text, or a reference book such as Hacker (1998) or Strunk and White (1979). (Note: Do not rely on any source other than the APA Publication Manual for information about APA style.)

To ensure that you have presented material clearly, it is very good practice to write the paper, then put it aside for a day or two. If upon your rereading of it the paper still makes sense to you, it is probably fairly clear. If not, do some rewriting. Please be sure to proofread the paper before turning it in. As I have said often in marginal comments on students' papers, "If you do not care enough to read this paper, why should I?" Please take the time to proofread.

I will read and comment on a typewritten draft of the paper if you give it to me no later than the date specified below. This will in no way guarantee you any particular grade on the paper, but will allow you to find out if there are some serious oversights that need to be corrected.

Appropriate References

Please realize that you are writing an academic paper, and as such must rely on academic references. This means that the papers to which you refer should appear in scientific journals such as *Psychobiology*, *Brain Research*, or *Behavioral Neuroscience* (there are many others). These are all refereed journals, meaning that papers are reviewed by others knowledgeable in the field before they are published. They are also primary sources, meaning that the papers you read in these journals are written by the scientists who did the research leading to the papers. All of your references should be primary sources, and most should be drawn from refereed journals (although books or book chapters that are primary works are also acceptable).

Magazines such as *Psychology Today*, *Scientific American*, or *Newsweek* are usually not appropriate as references in a scientific paper. Your textbook is also inappropriate. These works are secondary, not primary, sources; they report experiments that were done by others. However, such sources are often good leads, suggesting avenues of investigation into the scientific literature. If *Newsweek* describes Dr. Smith's work on drugs that reduce fear, do not cite *Newsweek*. Instead, find Dr. Smith's work in scientific journals.

If you rely on electronic services in order to receive articles, you must have access to the entire article, not the abstract alone. In the case of electronically accessed articles, you must provide with your paper the page containing the title and citation information, and at least one page of text indicating that the actual text of the article, rather than simply the abstract, was available to you.

The most important reason for citing the primary source is accuracy. Relying on a secondary source means accepting someone else's interpretation of the original work. Often

this is fine, but equally often you will discover that the author of the secondary source is biased or inaccurate in his or her interpretation. Thus, your understanding of the original experiment will also be inaccurate or biased.

Academic Honesty

It is unfortunate that this section must be included, but experience suggests that it is necessary.

The work that you turn in must be your own. It is acceptable, in fact it is essential, that your paper be based on the work of other people; their contributions must be acknowledged. It is appropriate to read a paper, take notes on it in your own words, and refer to the findings of that paper in your own words, with proper citation, when you write your paper. It is entirely inappropriate to quote directly without citation, or even to paraphrase with or without citation. Substituting synonyms into someone else's text and then retyping it is not acceptable. Plagiarism is defined by Guralnik (1970) as the act of taking (ideas, writings, etc.) from (another) and passing them off as one's own. Pages 349-350 of the APA Publication Manual provide a very good discussion of this issue. Some good web-based sources regarding plagiarism are available through the psychology department's web page (<http://www.albion.edu/psychology>). Consult these sources or see me if you have any questions about academic honesty. I chair the Academic Infractions division of the Judicial Board, and would much rather talk with you about these matters before you turn in a paper than afterwards.

Suggested Topics

Your paper may address any topic concerning the nervous system and behavior. If you choose your own topic, be sure that it is not too broad. Although a paper on "The Biology of Emotions" might seem like a good idea, this is a topic to be dealt with in several volumes, not an 8-page paper. Perhaps "Control of Fear by Anti-Anxiety Drugs" would be more appropriate.

Whether you choose one of my suggested topics, or come up with one of your own, please clear the topic with me by the date specified below. If by then you have decided on a topic, you will have plenty of time to review the literature, and to see me for assistance if you feel you have reached a dead end.

Here are some possible topics, in no particular order:

- What does the habenulla do?
- Examine drugs that are supposed to enhance learning or memory. Do they work, and if so, how?
- Explain the historical basis for the "reticular" notion of the nervous system that Cajal disproved,
- Discuss the mechanism(s) of reuptake of neurotransmitters.
- Where does the initiation of movement occur in the brain?
- Examine "motion blindness" that results from cortical damage.

- Compare Ramachandran's view of consciousness with that of another neurophilosopher (Daniel Dennet, Patricia Churchland, Rudolfo Llinas, etc.).
- Review the evidence suggesting that planaria can attain the memories of their conspecifics by eating them.
- Discuss how the neurotransmitter defects seen in Alzheimer's disease might contribute to dementia.
- What neural mechanisms are involved in attention?
- Is a balance between serotonin and norepinephrine (and perhaps other neurotransmitters) necessary to emotional health?
- Discuss the evolution of neurotransmission.
- What role does the cerebellum play in motor control?
- Address the role of a neurotransmitter or brain area in the etiology and/or treatment of a psychopathology.
- What is the neural basis of infatuation, sexual attraction, and love?
- Compare the roles of dopamine and the endorphins in pleasure.
- Discuss the functional significance of a single axon terminal releasing multiple neurotransmitters.
- Design an experiment to answer some as yet unanswered question related to the nervous system and behavior. (This topic will probably require considerable creative thought, and will therefore be highly regarded by me.)

Strunk, W., Jr., & White, E. B. (1979). *The elements of style* (3rd ed.). New York: Macmillan.

Time Table

1. By October 2: Choose a topic and inform me, in writing, of your choice. Provide at least two references that you expect to use in writing the paper. This is worth 10% of the value of the paper.
2. By October 30: Give me a typewritten draft of the paper for comment (OPTIONAL).
3. Friday November 10, in class: Final version of the paper, plus a copy, must be handed in no later than this. Late papers will be penalized at a rate of 10% per day. There will be no exceptions to this policy.

References

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- Authorone, A. B., & Authortwo, C. D. (1984). Chapter by two authors in a book. In E. F. Bookeditor (Ed.), *Name of the book: Italicized but not all capitalized* (pp. 123-178). Albion, MI: Name of Publisher.
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- Guralnik, D. B. (Ed.). (1970). *Webster's new world dictionary of the American language*. New York: World.
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