

Writing Scientific Research Paper

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General Guidelines

- Print or type using a 12 point standard font, such as Times, Geneva, Bookman, Helvetica, etc.
- Text should be double spaced on 8 1/2" x 11" paper with 1 inch margins, single sided
- Number pages consecutively
- Start each new section on a new page
- Adhere to recommended page limits

Sections of a Scientific Research Paper

The first pages:

- Title page
- List of ContentsI
- List of TablesII
- List of AppendicesIV
- List of AbbreviationsV
- AbstractVI

Sections of a Scientific Research Paper

1. Introduction

2. Methods

3. Results

4. Discussion

Title Page

- Select an informative title
- Include the name(s) and address(es) of all authors, and date submitted.

Introduction

(in 1.5 to 2 pages maximum)

- What is the phenomenon or the problem you are studying (define the problem)
- Brief history
- Previous research
- What is missing in previous research
-this will lead to your research hypothesis or research question

Literature Review

- Establish the importance of the topic and justify the choice of the research question.
- Background information to understand the study (historical overview and research literature)
- Up-to-date research relevant to the topic, internationally, regionally, and in Jordan
- Establish your study as one link in a chain of research to develop knowledge in this field (how does this study fit into what has already been done?)

Literature review

- Think about how you are going to order your discussion, and also about the **section headings** you will use.
- Writing references in the text: use the form (Author, year).

Be careful of **PLAGIARISM**: the uncredited use (both intentional and unintentional) of someone else's words or ideas.

Methods

The Methods section serves to prove and judge reproducibility and validity, also provides enough details for researcher to replicate the study) (writing in the past tense).

- Setting (when and where)
- Ethical considerations: consent form, IRB approval, confidentiality of data.
- Target population, study population, sample selection (inclusion criteria and rationale for inclusion), and sample size (# of participants)
- Study design (cross-sectional, case control, cohort, experimental)

Methods

- Study variables (independent variables and dependent variable(s))
- Data collection instrument (e.g. questionnaire, interview, preexisting records).... **(submitted with the Methods section)**
- Data collection procedure (self administered or interviewer administered questionnaire, when, how) describe in detail
- Data analysis plan (what statistical tests will be used and how data will be presented in results section)
- Use Passive Voice (past tense, third person). E.g. the questionnaires were filled

Results

The purpose of the results section is to objectively present the key results (findings) without interpreting their meaning, in an orderly and logical sequence using both illustrative materials (tables and figures) and text. Save all your interpretation for the discussion.

- Should include results relevant to the research question(s) presented in the introduction.
- Determine whether data should be presented in tables, figures or graphs. Chose the best way.

Results

- The body of the results section is a text-based presentation of the key findings which includes references to each of the tables and figures (e.g. Table 1 shows....,(see table 2).....
- Summarize your findings in text that should complement tables and figures, but not repeat all the information in them. The text is organized according to the sequence of tables and figures.
- Provide a clear description of the magnitude of the response or difference (use percentage of change) rather than exact data (number of cases).

Results

- Spell out numbers that are less than ten (five instead of 5). Spell out numbers that start sentences.
- Summarize statistical analysis and report actual P values for all primary analysis. Standard statistical procedures should only be named (no need to show calculations), and Present descriptive statistics first.
- Do report negative results, they are important!! (if you did not get the anticipated results). Your results may be important to others even though they did not support your hypothesis.
- Use past tense when you refer to your results.

Results

- Number tables and figures consecutively in the same sequence they are first mentioned in the text.
- Provide heading (title or legend) for each table and figure. Heading is located above the table, and below the figure or graph.
- A heading should include a brief description of the results presented in addition to other necessary information.
- Each table or figure must be sufficiently complete that it could stand on its own, separate from the text. The reader should be able to understand the table without reading the text.

Discussion

Discussion, including Limitations, Recommendations and Conclusions

The purpose of the discussion section is to state your interpretations of the data in relation to the original hypothesis, and also to state your opinions.

Then, relate your interpretation to the present state of knowledge, explain the implications of your findings, and make suggestions for future research.

- Organize your discussion from the specific to the general.
- Begin the discussion by restating the hypothesis or the research question, and answer the questions posed in the introduction.

Discussion

- Support your answers with the results, and explain how your results relate your expectations and to the literature. Explain if they are acceptable and whether they are consistent with the previously published literature.
- Discuss and evaluate conflicting explanations of the results.
- Identify potential **limitations** and **weaknesses** of your study, and how they may affect the validity of your findings. Suggest improvement of the methods.
- Summarize the main **implications** of your findings.

Discussion

- Provide **recommendations** for further research on the topic.
- End your discussion section with a **conclusions** paragraph.
- In writing your discussion, discuss everything, but be concise, brief, and specific.

References: A list of references (use the APA format)

Appendices: The questionnaire in Arabic and in English. In addition to any additional material related to the project to be attached (formal letters or permissions).

Abstract

- A summary of two hundred words or less.
- An abstract is a concise single paragraph summary of completed work.
- In a minute or less a reader can learn the rationale behind the study, methods used, main results, and important conclusions or new questions.
- Write your abstract only after the rest of the paper is completed.



Any Questions?