

PREPSS Peer Reviewer Training Activity*

Instructions: Review the example paper and then complete the five worksheets with your analyses. Completing the worksheets will help you prepare for the collaborative peer review activity during which you will work with other training participants to write a mock review for the author of the example paper.

* Minor adjustments and clarifications were made to these worksheets for the purposes of this publication.

WORKSHEET 1: Introduction Peer Review Guide Worksheet

Please begin this worksheet after you have read the entire paper once through from beginning to end. Proceed with the worksheet by substantively responding to the below prompts.

1) Review the below graphic, which outlines the arguments that are typically made in the introduction section of original research papers.

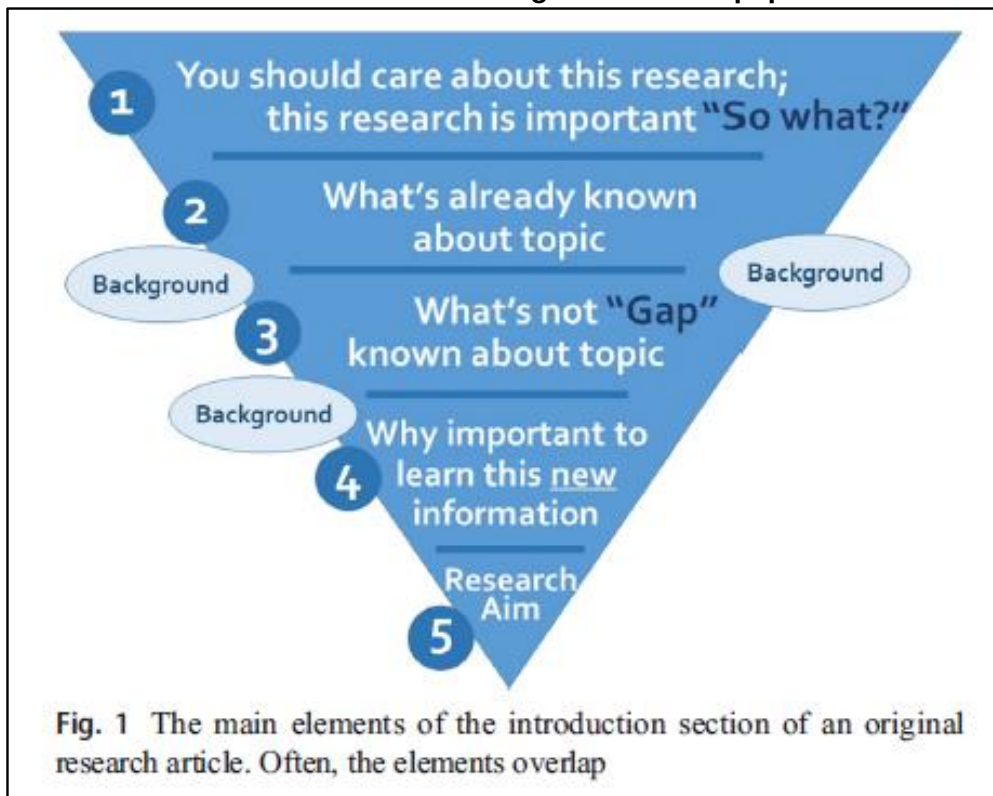


Figure from: Busse C, August E. How to Write and Publish a Research Paper for a Peer-Reviewed Journal. *Journal of Cancer Education*. <https://doi.org/10.1007/s13187-020-01751-z>

2) Comment on the introduction section by completing the below table.

| Introduction element | Comment on whether the author included this element; if so, was it clear, convincing and well supported? |
|--|--|
| You should care about this research; this research is important (“so what”) | |
| What is already known about topic | |
| What is not known about topic | |
| Why is it important to learn this new information | |
| Justification of doing research in specific population or location (if applicable) | |
| Research question / objective/ aim/ hypothesis | |
| Additional elements | |
| Does the introduction provide enough background to help the audience (core readership of the target journal?) understand the paper? | |
| Are statements appropriately cited? | |
| Does the introduction address information relevant to the research question? For example, if the paper aims to evaluate effect modification of a particular relationship, has that been adequately set up/justified in the introduction? | |
| Is the introduction well organized? | |
| Are there too many abbreviations to keep track of? | |

| | |
|--|--|
| Is the length appropriate? Most introductions are between 3-6 paragraphs long. | |
| Additional comments | |

WORKSHEET 2: Methods Peer Review Guide Worksheet

Please begin this worksheet after you have read the entire paper after completing worksheet 1. Proceed with the worksheet by substantively responding to the below prompts.

1) Note the research question / aim/ objective from the example paper below.

| | |
|--|--|
| Research question/ aim/ objectives / hypothesis | |
|--|--|

2) Comment on the methods section by completing the below table. NOTE: The below criteria are based on “Strengthening the Reporting of Observational Studies” (STROBE) guidelines (<http://www.equator-network.org/>) as this is an observational study.

| Methods element | For each element, comment on how well it is described and justified with explanatory text and references |
|--|---|
| Setting | |
| Population | |
| Study design | |
| Recruitment | |
| Sample and sample size | |
| Data <ul style="list-style-type: none"> • How data were collected (questionnaire, chart review, etc.)? • Variables: how defined and measured? • Variables: identify the outcome, the exposures and covariates; identify which are potential confounders and effect modifiers • Justify methods of measurement (e.g. provide citation showing that your | |

| | |
|---|--|
| <p>questionnaire is valid in your study population)</p> <ul style="list-style-type: none"> • Describe efforts to address potential sources of bias | |
| Laboratory analyses | |
| <p>Statistical analyses</p> <ul style="list-style-type: none"> • Describe statistical methods, and connect them to research question/ aim • Describe and justify statistical approaches for confounding, identify effect modification, describe stratified analysis • Explain how missing data were handled • <i>Cohort study</i>—If applicable, explain how loss to follow-up was addressed • <i>Case-control study</i>—If applicable, explain how matching of cases and controls was addressed • <i>Cross-sectional study</i>—If applicable, describe analytical methods taking account of sampling strategy • Describe any sensitivity analyses | |
| Ethical approval (is it confirmed in the paper?) | |
| Additional elements | |
| Is the information presented in a logical order? | |
| Have the authors 1) described , 2) justified , and 3) cited each method? | |
| Have the authors clearly connected the statistical analysis with their research question/ aim rather than providing a generic description of analysis that doesn't feel connected? | |
| Are the methods for EVERY result described? | |
| Is there enough information to permit replication? | |
| Methods tables and figures | |

| | |
|--|--|
| <p>Comment separately on each figure or table (only those that appear in the methods)</p> <ul style="list-style-type: none">• Is the message clear?• Does the table/figure stand on its own (the reader can understand it without referring to the text)?• Is the N consistent with methods/ other results?• Is the title or legend clear?• Is color and/or shading used effectively? | |
| Additional comments | |

WORKSHEET 3: Results Peer Review Guide Worksheet

Please begin this worksheet after you have read the entire paper after completing worksheets 1-2. Proceed with the worksheet by substantively responding to the below prompts.

1) Note the research question / aim/ objective from the example paper below.

| | |
|--|--|
| Research question/ aim/ objectives / hypothesis | |
|--|--|

2) Comment on the results section by completing the below table.

| Tables | Comment here |
|---|---------------------|
| For each results table: <ul style="list-style-type: none"> ● Is the message clear? ● Does the table/figure stand on its own (the reader can understand it without referring to the text)? ● Is the N consistent with methods/ other results? ● Is the title clear? ● Is color and/or shading used effectively? ● If applicable, is it clear what statistical tests were performed? ● Are footnotes included where necessary (e.g., for abbreviations) and are they clear? ● Other comments? | |
| Figures | Comment here |
| For each results figure: <ul style="list-style-type: none"> ● Is the message clear? | |

| <ul style="list-style-type: none"> • Does the table/figure stand on its own (the reader can understand it without referring to the text)? • Is the N consistent with methods/ other results? • Is the legend clear? • Is color and/or shading used effectively? • If applicable, is it clear what statistical tests were performed? • Are footnotes included where necessary (e.g., for abbreviations) and are they clear? • Other comments? | |
|---|---------------------|
| Text | Comment here |
| Are figures and tables each described adequately in the text? Are figures and tables described in the appropriate order? | |
| Does the results text repeat rather than highlight information in the tables and figures? | |
| Do the results include data addressing all research aims posed in the introduction? | |
| Are the results described “directionally” (e.g. as X increased, y decreased rather than x was significantly related to y)? | |
| Are the results presented appropriately given the study design (e.g. do the authors avoid inappropriate causal language)? | |
| Are results organized logically? Are sub-sections used or necessary? | |
| Are methods or discussion points inappropriately included in this section? | |
| Additional comments | |

WORKSHEET 4: Discussion Peer Review Guide Worksheet

Please begin this worksheet after you have read the entire paper after completing worksheets 1-3. Proceed with the worksheet by substantively responding to the below prompts.

1) Review the below list of elements that can be included in the discussion section of original research papers.

Discussion Section Elements

- **Mini synopsis (optional)**
- **Recap main findings**
- **Discuss significance of results and interpret meaning**
- **Do results agree with other research? Why or why not?**
- **Biological / social / mechanistic/ other pathways that might explain results**
- **Strengths of study**
- **Limitations of study**
- **Impact and applications of research**
- **Suggestions for future work**

2) Note the research question / aim/ objective from the example paper below.

| | |
|--|--|
| Research question/ aim/ objectives / hypothesis | |
|--|--|

3) Comment on the discussion section by responding to the below prompts.

| Discussion element | Comment on whether the author included this element; if so, was it clear, convincing and well supported? |
|---------------------------|---|
| Recap main findings | |

| | |
|---|--|
| Discuss significance of results and interpret meaning | |
| Do results agree with other research? Why or why not? | |
| Describe biological, mechanistic, social (or other) pathways that might explain results | |
| Strengths of study | |
| Limitations of study | |
| Impact and applications of research | |
| Suggestions for future work | |
| Additional elements | |
| Is the discussion well organized? | |
| Are statements appropriately cited? | |
| Clarity and appropriateness of discussion points including directionality, presentation of values, and causal language. | |
| Additional comments | |

WORKSHEET 5: Abstract and Title Peer Review Guide

Worksheet (complete this worksheet last)

Please begin this worksheet after you have completed worksheets 1-4. Proceed with the worksheet by substantively responding to the below prompts.

1) Note the research question / aim/ objective from the example paper below.

| | |
|--|--|
| Research question/ aim/ objectives / hypothesis | |
|--|--|

2) Comment on the abstract section by completing the below table.

| Abstract element | Comment on whether the author included this element; if so, was it clear, convincing and well supported? |
|--|---|
| Background: Context, importance, brief definitions or background (enough to help the reader understand the rest of the abstract) | |
| Background: Research aim or question | |
| Methods: How study was done | |
| Results: Highlight main findings | |
| Conclusions: Summarize what the study contributes and applications | |
| Additional elements | |
| Can you get a sense of the paper's main message from reading the abstract? | |
| Does the abstract inappropriately include details | |

| | |
|---|--|
| like the software type and version that would more appropriately be placed in the main paper? | |
| Additional comments | |

3) Comment on the title by completing the below table.

| Title element <i>NOTE: Every study is different and title styles vary. Every element below does not need to be included in the title. The prompts are for your consideration, and we will discuss this topic more in the main training session.</i> | Comment on whether the author included this element; if so, was it clear, convincing and well supported? |
|---|---|
| Is the title an invitation to read further? Is it interesting? | |
| Does the title give you a sense of what the study is about? | |
| Are the dependent and independent variables included? | |
| Is the study design apparent from the title? | |
| The timing of the study (e.g. if it was a prospective study, did it take place over 2 months or 2 decades?) | |
| Population and setting? | |
| The main study finding? | |
| Does the title inappropriately use abbreviations? | |
| Does the title mention the name of a specific hospital or region that may not be familiar to the readers of the | |

| | |
|---|--|
| journal? | |
| Do the keywords repeat any title words? | |
| Other comments on the title? | |