



From the Editors: A Guide for Peer Review in the Field of Exercise Science

WHITLEY J. STONE^{#1}, JAMES W. NAVALTA^{#2}, T. SCOTT LYONS^{#3}, and MARK A. SCHAFER^{#3}

¹Department of Nutrition, Kinesiology, and Psychological Sciences, University of Central Missouri, Warrensburg, MO, USA; ²Department of Kinesiology and Nutrition Sciences, University of Nevada, Las Vegas, Las Vegas, NV, USA; ³School of Kinesiology, Recreation, and Sport, Western Kentucky University, Bowling Green, KY, USA.

[#]Denotes professional author

ABSTRACT

International Journal of Exercise Science 11(1): 1112-1119, 2018. Since its inception, the mission of the International Journal of Exercise Science (IJES) has been to engage student researchers, to provide an outlet for peer-review and possible publication of their work, and to grant an opportunity for them to gain experience as peer-reviewers. The Editors of IJES take pride in providing these opportunities for student involvement, and we are constantly seeking new and innovative ways to enhance students' professional development. As our readership has expanded across the globe and our scope has broadened to cross many Kinesiology related disciplines, we believe it is timely to revisit the purpose of peer-review, give advice on best practices, and provide a template for reviews. Presenting these guiding principles should simplify and streamline both the review and the revision processes for students and professionals alike.

KEY WORDS: Student reviewer, kinesiology, research methods, publication review

INTRODUCTION

The International Journal of Exercise Science (IJES) is in its eleventh year. Since 2007, IJES has published over 500 manuscripts, which have been downloaded collectively over 600,000 times. Due to the growing readership and visibility of IJES, the editors are dedicated to continue serving the next generation of professionals in the field. Providing experiential learning through peer-review enables students to deepen their understanding in Exercise Science and supports their integration into the profession. However, the practice of providing thoughtful and critical peer review is a learned skill that requires experience in reading literature, a foundational knowledge base related to the respective article, and an understanding of the process of peer review. In our first volume and second issue, Kathy Simpson published a wonderful guide for those reviewing for IJES (1). The editors continue to refer to

that publication, however, we felt the need to abridge the previous publication with a condensed document focused on the purpose of peer review, best practices, and a template that fits the current IJES model. As such, the editors have created an easy to follow guide for both first time and seasoned reviewers. This uniform process will provide structure to the fundamental components of a review, allowing for a more critical analysis of the specialized content.

PROCESS CHECKLIST

- Step 1:** You have accepted our invitation to review the submission because you believe you have expertise in the respective topic. Prior to beginning your critique, read the manuscript from start to finish without making comments or asking questions. You will draw your initial impression of the work from this preliminary review.

Writing up the Review: A peer review template will be provided to reviewers for each submission. When applicable, please use the template to streamline the revision process.

- Step 2:** Next, re-read the work with the intent of asking questions, providing corrections, and evaluating the quality of the study design and conclusions reached. Below is a general checklist to use when writing your review. *Note that you are welcome to provide comments that extend beyond the checklist provided below.*
- General Comments:** This section is dedicated to a “global” view of the submission. What are the strengths and weaknesses you see? You are expected to provide a fair and impartial review of the work. Professional honesty and objective critique improve both the authors’ work and the field as a whole (this section is usually 1-2 paragraphs). Within this section, consider addressing the following points:

Potential Impact of the Research

- Do you believe the project adds to the literature in a meaningful way?
- Are the data and results presented different from those already available in the literature?
Will the readers’ time be well spent reviewing the work?

Relationship between Research Question(s) to Methods and Results

- Does the introduction easily lead the reader to the research question and hypothesis?
- Are the methods and statistical analyses designed to answer the research question(s)?
- Were there any fatal flaws with the methodology? Fatal flaw may be described as an error that could not be remedied through a writing revision.

Discussion and Overall Writing Quality

- Do the authors make sound judgments based on the data available?
- If speculations are made, are they reasonable?
- Did the authors compare and refute the current data to previously published works?
- Note any major issues with writing mechanics, length of the submission (too brief or verbose), and readability.

Decision: Based on your general comments, suggest a decision for the section editor. Below are descriptions of each decision you may register.

- Reject:** Fatally flawed. Revisions needed and/or questions posed would require more than a single revision process. Too difficult to read (requires complete rewrite). You may suggest to the Editor to allow the authors to revise and resubmit. It is more kind to reject outright than to require the authors to undergo many rounds of revisions.
 - Major Revisions:** No fatal flaws, but you have significant concerns/questions to be addressed. Many errors, but could be addressed in a substantial revision.
 - Minor Revisions:** Very few changes are needed to be publishable. Minor questions and revisions to be addressed. No errors in methodology, analysis, or interpretation. Introduction provides justification for the submitted work. Discussion section is well thought out and presents new insights.
- Step 3:** Provide detailed comments and questions related to the submission. Please consider making these recommendations regardless of your suggested decision. Your comments should be geared toward improving and strengthening the paper. *Again, the list is not all encompassing, but directed so that there is a minimum standard. Please feel free to expand your review beyond the list.*

Comments Specific to Sections:

Abstract

- The abstract accurately reflects the content of the study. The context of the study should be presented with a statement of the purpose of the study, basic procedures, main findings, and principal conclusions. Includes at least one passage relating to the importance of the submission. The abstract should be limited to 250 words.

Introduction

- This section explains the context or background for the study. Reviews relevant, timely literature. Tested research problem is original (not duplication of previous work). If results are unoriginal or trivial, this may lead to an immediate rejection decision. Concise, but thorough. Includes a statement of purpose or statement of hypothesis.

Methods

- Participants: Provides a description of inclusion and exclusion criteria used with participants.
- Protocol: This section should include the methodology, equipment, or apparatus (provide manufacturer name and address in parentheses), and procedures in adequate detail to allow other investigators to replicate the results. Were testing procedures used to minimize potential bias?
- Statistical Analysis: Statistical methods should be described in enough detail to allow a knowledgeable reader with access the original data to verify the reported results. Included the computer software used, and the alpha-level used for the determination of significance. Considering all points, is it reasonable to accept that the data produced are both valid and reliable? Were the correct statistical tests conducted?

Results

- The results should be reported in a logical sequence, giving the main findings first. Enough information is provided for the reader to interpret the statistics (F-values, p-values, measures of effect $\{\tau, \eta, D\}$, confidence intervals, etc). The use of descriptive text, tables, and figures should be unique

and not repeat information. Tables and figures should be restricted to those needed to explain the argument of the paper. Graphs should be used as an alternative to tables with many entries.

Discussion

- This section emphasizes new and important aspects generated from the study. Authors do not simply repeat information previously given in the Introduction and/or the Results sections. Section begins with a summary of the main findings of the study, and then suggests potential mechanisms or explanations, compare and/or contrast the results with previous research, and provide the implications of the findings for future research. Authors do not make unqualified statements that are not adequately supported by the study data

□ **Step 4: Submit your decision and Re-review**

You are to complete two documents. The first is the completion of the Peer Review Template that will be sent to the authors. Please remain anonymous in your comments. The second is a cover letter to the Editor; this document is not seen by the authors. Feel free to communicate professionally, but openly. The cover letter should briefly detail what characteristics of the submission persuaded you to make the decision registered. You may identify parts of the manuscript you feel the editor should investigate for improvement, provide praise, and advise the editors in the decision-making process.

If invited, authors typically have 30 days in which to complete revisions to the manuscript (extensions may be granted by the section editor). Once the authors have revised their manuscript, they will submit an updated document that addresses each of the points that you and another reviewer raised during the initial review. When reevaluating the manuscript, you only need to check that the issues you raised were adequately addressed (you do not need to complete an exhaustive review of the document again). If you are satisfied that the issues you raised were addressed, you can submit an “accept” decision. If not, relay this to the section editor who may decide to send it out for review again (done on rare occasions) or reject the manuscript. As editors, we do not want to exhaust reviewer time with an endless loop of revisions between authors and reviewers. Upon completion, the section editor will either decide to accept the work, or submit a rejection decision.

We hope this content will be beneficial for both first time and seasoned reviewers. Components of this guide can be utilized when invitations come from other journals seeking your expertise. We encourage evaluators to refer to this document and accompanying template often when asked to provide peer reviews for the International Journal of Exercise Science.

REFERENCE

1. Simpson KJ. Reviewing an original research manuscript for the International Journal of Exercise Science: A guide for students and professionals. *Int J Exer Sci* 1(2): 43-49, 2008.



International Journal of EXERCISE SCIENCE

Peer Review Template

General Comments: Step 2 – please reference the editorial for Step 2 specifics

Potential Impact of the Research:

▪

Relationship between Research Question(s) to Methods and Results:

▪

Discussion and Overall Writing Quality:

▪

Comments Specific to Individual Sections: Step 3

- Provide detailed comments and questions related to the submission. Please consider making these recommendations regardless of your suggested decision. Your comments should be geared toward improving and strengthening the paper. *Again, the list is not all encompassing, but directed so that there is a minimum standard. Please feel free to expand your review beyond the list.*

ABSTRACT

The abstract accurately reflects the content of the study. The context of the study should be presented with a statement of the purpose of the study, basic procedures, main findings, and principal conclusions. It should include at least one passage relating to the importance of the submission. The abstract should be limited to 250 words.

Comments for Authors:

▪

Component – Maximum Points	Point Values	Score
Abstract – 2	1 – Accurately reflects the content of the study & limited to 250 words 1 – Importance of submission/investigation clearly presented	

INTRODUCTION

This section explains the context or background for the study. Reviews relevant, timely literature. Tested research problem is original (not duplication of previous work). If results are unoriginal or trivial, this may lead to an immediate rejection decision. Concise, but thorough. Includes a statement of purpose or statement of hypothesis.

Comments for Authors:

▪

Component - Maximum Points	Point Values	Score
Introduction - 6	1 - Appropriately explains context or background for study 1 to 2 - Provides enough of a review of literature that readers understand the reason for conducting the investigation 1 - Novelty/originality of the work is clearly presented 1 - Adequate statement of purpose included 1 - Appropriate statement of hypothesis included	<input style="width: 50px; height: 30px;" type="text"/>

METHODS

Participants

Provides a description of inclusion and exclusion criteria used with participants.

Comments for Authors

-

Protocol

This section should include the methodology, equipment or apparatus (provide manufacturer name and address in parentheses), and procedures in adequate detail to allow other investigators to replicate the results. Were testing procedures used to minimize potential bias?

Comments for Authors:

-

Statistical Analysis

Statistical methods should be described in enough detail to allow a knowledgeable reader with access the original data to verify the reported results. Included the computer software used, and the alpha-level used for the determination of significance. Does the sample size preclude the opportunity for drawing conclusions? Considering all points, is it reasonable to accept that the data produced are both valid and reliable? Were the correct statistical tests conducted?

Comments for Authors:

-

Component - Maximum Points	Point Values	Score
Methodology - 8	Statements of institutional review board approval and participant informed consent is required. *note: automatic rejection if investigation does not have IRB approval 1 - Detailed description of inclusion and exclusion criteria used with participants, as well as subject characteristics 1 - Description of power analysis or effect size calculation 1 to 2 - Protocol provided in sufficient detail to allow for replication of results, includes equipment or apparatus 1 - Statistical methodology described in enough detail to allow knowledgeable reader with access the original data to verify the reported results 1 - Appropriate statistical methodology and alpha-level used 1 to 2 - Reasonably acceptable to assume validity and reliability of data	<input style="width: 50px; height: 30px;" type="text"/>

RESULTS

The results should be reported in a logical sequence, giving the main findings first. Enough information is provided for the reader to interpret the statistics (F-values, p-values, measures of effect {r, η, D}, confidence intervals, etc). The use of descriptive text, tables, and figures should be unique and not repeat information. Tables and figures should be restricted to those needed to explain the argument of the paper. Graphs should be used as an alternative to tables with many entries.

Comments for Authors:

▪

Component - Maximum Points	Point Values	Score
Results - 5	1 to 2 - Results reported in a logical sequence 1 - The use of descriptive text, tables, and figures are unique and do not repeat information 1 - Tables and figures restricted to those needed to explain the argument of the paper 1 - Statistics are thorough enough for reader interpretation	<input style="width: 50px; height: 50px;" type="text"/>

DISCUSSION

This section emphasizes new and important aspects generated from the study. Authors do not simply repeat information previously given in the Introduction and/or the Results sections. Section begins with a summary of the main findings of the study, and then suggests potential mechanisms or explanations, compares and/or contrasts the results with previous research, and provides the implications of the findings for future research. Authors do not make unqualified statements that are not adequately supported by the study data.

Comments for Authors:

▪

Component - Maximum Points	Point Values	Score
Discussion - 6	1 - Emphasizes new and important aspects generated from the study 1 - Does not simply repeat information previously given in the Introduction and/or the Results sections 1 to 2 - Suggests potential mechanisms or explanations, compares and/or contrasts the results with previous research adequately 1 - Provides appropriate implications of the findings for future research 1 - Provides appropriate limitations identified during the investigation	<input style="width: 50px; height: 50px;" type="text"/>

REFERENCES

Readers should be provided with primary references to original research. Avoid using review articles, abstracts, and “personal communication” as references. References should be numbered and listed alphabetically. Journal titles should be abbreviated in the style used in Index Medicus. Uses most relevant, up to date literature available.

Comments for Authors:

▪

Component - Maximum Points	Point Values	Score
References - 2	1 - Citations are timely, relevant, and formatted according to journal guidelines 1 - Includes all primary references to original work	

Examples:

1. Lyons S, Richardson M, Bishop P, Smith J, Giesen J. Excess post-exercise oxygen consumption in untrained males: effects of intermittent durations of arm ergometry. *Appl Physiol Nutr Metab* 31(3): 196-201, 2006.
2. McFarlin BK, Mitchell JB. Exercise in hot and cold environments: Differential effects on leukocyte number and NK cell activity. *Aviat Space Environ Med* 74: 1231-1236, 2003.

Books if absolutely necessary to be utilized should follow the format below:

3. Prestes J, Foschini D, Marchetti P, Charro M. Prescription and periodization of strength training. Tamboré: Manole Publisher; 2010.

****You should not include the decision rubric in your comments to the authors. Please consider pasting your scoring sheet into your cover letter to the Editor.****

Decision Rubric- DO NOT include this in comments to authors

Total Score	Decision
28 - 29	Strong Accept
26 - 27	Probable Accept (Minor Revisions)
24 - 25	Possible Accept (Major Revisions)
14 - 23	Probable Deny
0 - 13	Deny

Re-Review

If you are asked to re-review a manuscript, consider referencing your original review to determine if your questions/comments were adequately addressed. If your comments/concerns were sufficiently addressed and you have no further concerns, your decision will likely be “accept/minor revisions required.” If the authors failed to correct your requests, without cause or justification, or your concerns could not be addressed based on methodological concerns, your decision will likely be “reject.”