

Guidelines for critically evaluating a scientific article

Abstract

- Does the abstract reflect what is presented?

Introduction

- What is the main question addressed by the research?
- Is the problem and/or hypothesis clear?
- Are the aims stated?
- Is the problem addressed relevant and interesting? Is the topic original?

Methods

- Is the methodology sound? Replicable and robust?
- Do methods and experiments follow best practices?
- Are methods suitable to address question?
- Are appropriate statistical analyses used?

Results

- Is reporting of results transparent? Consistent with statistical results?
- Are data clearly presented?
- Do data answer research questions posed?
- Are results stated in simple terms and explained to a wider understanding?

Discussion

- Are arguments supported by findings?
- Is there any alternative explanation that the authors have not considered? Is there an angle the authors have overlooked?
- Are incongruent results acknowledged and discussed?
- If authors are disagreeing with academic consensus, do they have a substantial case? If not, what would they need to make their case?
- Are results discussed in context of current literature and state of field?
- Are weaknesses and gaps addressed?

Conclusions

- Are conclusions consistent with evidence and arguments presented?
- Are conclusions justified?
- Do conclusions address main question posed?
- Impact – what does it add to the field?