

# What is Peer Review?

Scholarly peer review is a process in which experts in a field read articles before they are published.

The process is designed to ensure that academic publications make substantial contributions to the state of knowledge about a subject and meet minimum standards of reliability.

Knowing whether an article has been peer reviewed is important when it comes to evaluating it for reliability.

## **What will I learn by reading this guide?**

This guide answers a series of common questions asked about the peer review process. It is designed to help you understand peer review's strengths and limitations.

# Fundamentals

**Q:** Is it worth it to do the extra work to find peer reviewed sources?

**A:** When undertaking research, you will usually want to look at articles recently published in top tier peer reviewed or refereed journals to understand what scholars are currently learning about your topic. This ensures that you are at the cutting edge of the knowledge in a field while also making it more likely that you are in contact with reliable and credible sources of information.

**Q:** How can I tell if an article is peer reviewed?

**A:** Follow these steps:

- Check the *UlrichsWeb* database for the journal (not article) title. First see if it indicates that your periodical is refereed. Then, see if it lists the **Content Type** as **Academic/Scholarly**.
- If the article does not appear in *UlrichsWeb*, try googling the journal title. On the publisher's website, look at the **About** page or submission guidelines for information about the peer review or refereeing process. These pages will usually explicitly say whether a journal is peer reviewed or refereed and often will give you insight into the particulars of how this is done.

## Keep in Mind

Many scholarly journals only peer review original research. The standards of peer review for editorials, literature review/survey articles, and book reviews may be less stringent (or non-existent) even if they are published in refereed journals.

# The Process

**Q:** What is “blind” peer review?

**A:** Usually the refereeing process involves what is called blind peer review. When the process is "blind," this means reviewers do not know who wrote the article they are reviewing.

Blind peer review encourages reviewers to evaluate the source according to the norms of their scholarly community rather than according to the reputation of the author.

**Q:** What happens if an article is not accepted for publication?

**A:** Reviewers often make recommendations to the editor of a journal to ask the author for revisions. The feedback provided by the reviewers helps the author improve the article and ensure that it makes a contribution to the field before re-submitting or submitting it to another journal.

## Keep in Mind

Different journals have different acceptance rates. Many top tier journals reject most submissions and suggest resubmission with revisions to only a small number of high-quality submissions. Of course, sometimes articles are accepted without revision.

# The Reviewers/Referees

**Q:** How are they selected?

**A:** Reviewers or referees are selected by an editor or editorial board on the basis of their expertise and reputations. This work is generally an unpaid service scholars do for their academic communities.

**Q:** What do they look for when reviewing?

**A:** While there are significant disciplinary differences in the peer review process, reviewers generally check to be sure that an article does the following:

- adheres to the norms of a discipline or field
- makes a substantial contribution to the scholarly knowledge about a topic
- engages the relevant scholarly literature in a meaningful way
- appears to be methodologically or theoretically sound

## Keep in Mind

The quality of peer reviewers can vary considerably from one publication to another. Generally, leading journals will be reviewed by qualified experts, but some journals have a hard time finding qualified reviewers.

# Quality and Reputability

**Q:** Will every high quality article make it through the peer review process?

**A:** Unfortunately, no. When an article uses innovative methods, has findings that differ significantly from the prevailing consensus or norms, is asking a question that has not previously been asked (or which is not currently considered important), or requires understanding of more than one field, referees may not recognize its value. In the history of almost every scholarly field, there are examples of findings, methods, theories, or questions that were initially ignored or rejected, but later became the scholarly consensus.

**Q:** Are journals with a high acceptance rate disreputable?

**A:** Not necessarily. Many top-rated journals have extremely low acceptance rates, but many "open access" journals have high acceptance rates. Some of these are quite important in their fields. For instance, *Nature* and *Science* have very low acceptance rates, while *PLOS One* has a high acceptance rate. All three journals are very important in the hard sciences.

## Keep in Mind

A high acceptance rate may signal disrepute, but it may also indicate a different philosophy about scholarly gatekeeping. According to this philosophy, the number of citations to - and comments on - an article are better measures of quality than the ability of reviewers to assess importance before publication.

The identification of high quality research is always fraught and sometimes mistakes are made. Even so, the peer review process remains one of the most important institutions for vetting scholarship.

# The Method

**Q:** Is peer review a fool-proof method for ensuring reliable and credible results?

**A:** No.

Referees rarely replicate the experiment or study, due to the material expense and effort involved in replication. Instead, they look at the methods and evidence to ensure that the research design makes sense and follows the best practices or norms in the field.

Occasionally this means that erroneous or fraudulent data are published in scholarly journals.

Moreover, you will sometimes find the analysis or inferences drawn from the evidence to be suspect, biased, or faulty.

In addition, even good scholarly articles often represent a relatively narrow perspective on the topic they study, so you need to think about how scholars with different perspectives might approach similar questions.

Finally, it is well-established that there is a correlation between funding and research outcomes in published scholarly work, especially in medicine. Besides the remote but present possibility of academic dishonesty or malfeasance, a variety of mechanisms may account for this correlation. The important thing is that you approach each article critically and try to put it into context.

## Keep in Mind

It is important to know whether an article has been peer reviewed when doing research because this is one of the ways you will be able to determine the reliability of the source. However, there are instances in which high quality articles do not make it through this process and instances in which false, fraudulent, or biased information does make it through to publication. This is an important tool, then, but it should not replace your own critical eye as a researcher or your ability to contextualize your sources.