Approximately two million scientific research articles are published in journals worldwide each year (Altbach & De Wit, 2018). As a result, identifying relevant and high-quality journal articles can be an overwhelming task. Journal impact factors are one metric for assessing the quality of research journals and articles. To help you become a more informed research consumer, this article will explore some common questions about journal impact factors. We begin with an explanation of journal impact factors and their origins, followed by some critiques of journal impact factors, alternative ways of assessing publication quality, and the applications of this information to your work in psychology.

What Are Journal Impact Factors?
Journal impact factors are the gold standard for assessing the impact of a given research journal (Amin & Mabe, 2000; Garfield, 2003; Greenwood, 2007). Other metrics, such as the ScImago Journal Rank Indicator, are also used (Falagas et al., 2008). However, journal impact factors remain the primary quantitative metric of journal quality (Amin & Mabe, 2000).

A journal impact factor tells you how many times per year, on average, articles in a given journal are cited. A journal impact factor of three, for instance, means that the articles published in that journal over the previous two years have been cited, on average, three times in a year. The formula to calculate a journal impact factor is illustrated in Figure 1, using Psi Chi Journal for the year 2019 as an example (Garfield, 2006; Kurmis, 2003; University of Michigan Library, 2019b).

What Is a “Good” Journal Impact Factor?
Unfortunately, there are no clear guidelines for what counts as a “good” journal impact factor. Within most fields, an impact factor of 10 or greater is considered “excellent” (Tetzner, 2019). In many fields, an impact factor of three or greater is considered “good” (Tetzner, 2019). However, it is important to remember that journal impact factors vary considerably across fields. Although no official guidance exists for the field of psychology, psychology journals with an impact factor higher than 2 are considered to have high impact (Wikia.org, 2020). Overall, the one core rule of thumb is as follows: the higher the journal impact factor, the higher the likelihood that articles in that journal are cited and read.

What Are the Origins of Journal Impact Factors?
Journal impact factors were initially conceptualized by two U.S. university librarians, Gross and Gross, in 1927 to determine what journals would be the most useful to keep in a college library (Archambault & Larivière, 2009). Their methodology was published and quickly spread among U.S. librarians and information scientists (Archambault & Larivière, 2009). It evolved with each subsequent iteration, until it became the basis for a formal metric for evaluating journals (Archambault & Larivière, 2009). Finally, in 1955, the journal impact factor formula was formally introduced by Garfield and Sher to enable a comparison of journals of any size and scope within a given field (Falagas et al., 2008; Garfield, 2006; Kurmis, 2003).

Garfield and Sher saw the original formula by Gross and Gross as an incomplete comparative measure because it relied solely on publication count to determine the journal impact factor (Garfield, 2006). To illustrate the shortcomings of this original formula, imagine that you want to compare a psychology journal that has published 10,000 articles in the past two years with a psychology journal that has published 2,000 articles in the same time period. The amount of publications...
certainly tells you information about the size of the journal. However, how can you determine the reach and impact of each journal? Garfield and Sher addressed this by incorporating the number of article citations into the formula. They argued that an average number of article citations in a given year is a more accurate measure of journal impact than the total number of articles published (Garfield, 2006). Their journal impact factor formula therefore took into consideration both the number of published articles and the number of times those articles were cited (Garfield, 2006).

Over time, journal impact factors, using Garfield and Sher’s formula, have become the gold standard for evaluating journal impact (Amin & Mabe, 2000). The Science Citation Index (created by Garfield and Sher) has become the basis for the annually updated Journal Citation Reports, a website run by Clarivate Analytics that publishes journal impact factors and other related metrics. This website can be accessed at http://jcr.clarivate.com/.

Unfortunately, access to these reports is by subscription only. However, some colleges pay an institutional access fee for their faculty and student body. If you are able to access the website, you can search by journal of interest and browse its journal impact factor reports. This is the process that researchers usually engage in when deciding where to submit their research findings for publication. This information can also help you decide which journals you might want to subscribe to.

What Are the Critiques of Journal Impact Factors?
Despite the value of journal impact factors in assessing journal quality, several critiques of this metric are worth considering. To restate their importance, journal impact factors are widely used by researchers, funding bodies, and consumers of research as a metric for assessing journal and publication quality (Greenwood, 2007). Journal impact factors serve as a standardized criteria for evaluating individual, institutional, and journal performance (Amin & Mabe, 2000). However, many scholars question whether journal impact factors are truly objective. The answer, it turns out, is not a unanimous “yes.” A consideration of the following critiques is therefore essential to interpreting journal impact factors.

Potential for Artificial Inflation
The current journal impact factor formula has loopholes that people can exploit to artificially increase the journal impact factor. One loophole is journal self-citations (i.e., asking authors to cite articles published by the journal they are submitting to; Falagas et al., 2008; Kurmis, 2003). Two other major ways of artificially increasing a journal impact factor include (a) publishing a larger proportion of nonsource items (e.g., letters to editor), which do not count toward the total number of articles published (i.e., the denominator of the formula) but do count toward articles cited (i.e., the numerator of the formula), and (b) prioritizing articles for publication that have a higher likelihood of being cited (e.g., literature reviews; Kurmis, 2003). The formula for calculating journal impact factor is therefore susceptible to artificial inflation.

Other Limitations of the Metric
In addition to being vulnerable to artificial inflation, the journal impact factor formula has several further limitations that are important to consider. One of these limitations is the inability to compare journals across fields due to varying journal impact factor standards. The journal impact factor formula was created to compare the impact of journals within the same field (Garfield, 2006). It would be impossible to use this formula to compare journals across different subjects. Different fields have different publication and citation rates, both of which affect the journal impact factor (Amin & Mabe, 2000; Kurmis, 2003). For instance, the mean number of citations in the field of biochemistry is three times the mean citation number in the field of mathematics (Kurmis, 2003). Therefore, if we were to compare the journal impact factor of a biochemistry journal to that of a mathematics journal, we would likely find that the biochemistry journal has a higher journal impact factor. However, in this instance the metric can no longer indicate journal quality. It simply reflects the discrepancy in the mean number of citations between the two fields. Because of this, journal impact factors cannot be used to compare journals from different fields.

Other limitations to keep in mind when interpreting a journal impact factor include bias toward articles published in English, the availability and access of journals, the lack of precision of journal impact factor calculations, and the limited time span within which journal citations are analyzed (Amin & Mabe, 2000; Archambault & Larivière, 2009; Greenwood, 2007; Kurmis, 2003). Articles written in English and those published in easily accessible journals are cited more often (Kurmis, 2003). This higher rate of citations increases a journal’s impact factor. However, rather than indicating...
true journal impact or quality, the resulting higher journal impact factor reflects the higher accessibility of these articles (Kurmis, 2003). Furthermore, calculations of journal impact are often imprecise due to sampling error (Amin & Mabe, 2000; Greenwood, 2007), as well as the artificially chosen 2-year citation window (Archambault & Larivière, 2009). Given these limitations and the potential for artificial inflation, journal impact factors should always be interpreted through a critical lens.

**Alternatives to Journal Impact Factors**

Although widely used, journal impact factors are not infallible. They are also not always applicable to what you may be looking for. Below, we discuss two scenarios in which you might find alternate methods of assessing journal quality more applicable.

**Identify Top Journals**

Journal impact factors can guide your understanding of a journal’s impact within its field. However, they do not offer the most efficient way of searching for high-quality journals within a given area. To efficiently find high-quality journals in your specific area of interest, you can explore the American Psychological Association (APA) division that you are interested in and find a list of the division’s journals. For example, if you are interested in pediatric psychology, Division 54 is the Pediatric Psychology Division of APA. On Division 54’s homepage, they list the journals that Division 54 publishes: *Journal of Pediatric Psychology* and *Clinical Practice in Pediatric Psychology* (APA, 2020). Journals of a given APA Division are the journals that members of that division receive. As such, these are typically the journals that division members choose to publish in. Therefore, these journals are able to pick and choose high-quality research for publication from all of their member submissions.

**Identify Expert Authors**

Another way to efficiently find high-quality journals within a given area is by doing a reverse search of authors in that area. Authors who produce high-quality research publications in an area are usually well-respected and highly cited. They tend to submit to, and have their research published in, high-quality journals. Usually, these journals are their go-to’s for publishing research. Therefore, if you know which authors are well-respected or most-cited in a given area, you can search by their names to see which journals they publish in. These journals will likely include some of the high-quality journals in your area of interest.

There are two main metrics that evaluate an individual author’s impact. One measure is the *h-index*, which tells you the number of articles published by a given author that have been cited at least *h* times (University of Michigan Library, 2019a). For example, if an author has an *h*-index of 6, it means that 6 of the author’s papers were cited at least 6 times. Keep in mind that this does not mean that the author has only published 6 papers, nor that all of the author’s papers were cited at least 6 times. Overall, the higher the *h*-index, the higher the rate of author citation. As such, the *h*-index provides useful information about the rate at which an author’s publications are cited.

The other measure of individual author impact is the *author impact factor*. This metric measures the average number of times an article published by a given author was cited in a given year (Icahn School of Medicine at Mount Sinai, 2020). The formula for calculating it is essentially the same as that for calculating the journal impact factor: you divide the total number of author citations in a year by the total number of articles the author published in the previous two years (Icahn School of Medicine at Mount Sinai, 2020). For instance, to calculate your own Author Impact Factor for the year 2019, you would use the formula in Figure 2.

**How Can You Apply This Information in Your Work?**

Despite ongoing debates about their utility, journal impact factors remain the gold standard for evaluating research and academic journals. As a consumer of research, it is recommended that you use journal impact factors to assess how well-respected a journal is in the field. However, it is also important to consider journal impact factors in light of their limitations. They are not infallible, objective measures of journal quality and are not always applicable to what you are looking for. In instances where you want to find high-quality journals in a specific area within psychology, for example, you may be better served by identifying the journals of the relevant APA Division or...
by reverse searching well-respected and -cited authors in a given area. You can also consult several author metrics to help you identify authors who are experts in a particular area. It is important to keep in mind that journal impact factors, like all metrics, have strengths and weaknesses and are best interpreted through a critical lens.

References

Author Note. Barbora Hoskova © https://orcid.org/0000-0002-8741-9626
Courtney A. Colgan © https://orcid.org/0000-0003-3649-2855
Betty S. Lai © https://orcid.org/0000-0003-4701-2706
We have no known conflict of interest to disclose.
Research time for this article was supported by funds from the Buehler Sesquicentennial Assistant Professor Chair position at Boston College, and an early career research grant from the Gulf Research Program of the National Academies of Sciences, Engineering, and Medicine. Special thanks to Psi Chi Journal reviewers and editors for their support.
Correspondence concerning this article should be addressed to Barbora Hoskova, Department of Counseling, Developmental, and Educational Psychology, Lynch School of Education and Human Development, Boston College, 140 Commonwealth Ave, Chestnut Hill, MA, 02467. Email: hoskova@bc.edu
Ball State University practices equal opportunity in education and employment and is strongly and actively committed to diversity within its community. Ball State wants its programs and services to be accessible to all people. For information about access and accommodations, please call the Office of Disability Services at 765-285-5293; go through Relay Indiana for deaf or hard-of-hearing individuals (relayindiana.com or 877-446-8772); or visit bsu.edu/disabilityservices.  

**Find your career.**

Eight graduate degree programs and four certificates in Educational Psychology

**PhD in Educational Psychology**
Engage in the science of learning. Prepare for a career where you can use your knowledge of human learning and development to help shape the school environment and public policy. Core program areas include learning, motivation, and research design.

**MS or MA in Educational Psychology**
Broaden your ability to apply psychological principles to a variety of professional contexts or prepare for your future doctorate in social science.

**MS in Quantitative Psychology**
Do you like numbers, statistics, and social science? Prepare for a career in research, assessment, and data analysis. Develop proficiency in advanced statistical techniques, measurement theory, and data analytics.

**PhD in School Psychology** (five-year program)
Prepare for a career as a licensed psychologist. Gain competencies in health service psychology to work in schools, private practice, or hospital settings. Accredited by the American Psychological Association (APA)** and approved by the National Association of School Psychologists (NASP). Scientist-practitioner model with advocacy elements. Specializations available.

**MA/EdS in School Psychology** (three-year program)
Be immersed in community engaged, real-world field experiences and intervention opportunities in our scientist-practitioner-advocate program. Leads to licensure as a school psychologist. Approved by NASP and the National Council for Accreditation of Teacher Education (NCATE).

**MA in School Counseling** (two-year program)
Be a leader and advocate for educational equity for all students in PK-12 schools. Leads to licensure as a school counselor. The program adheres to the Council for Accreditation of Counseling and Related Educational Programs (CACREP) standards and is nationally recognized by The Education Trust as a Transforming School Counseling program.

**Certificates**
- High Ability/Gifted Studies,* Human Development and Learning,* Identity and Leadership Development for Counselors,* Neuropsychology*
- Graduate assistantships and tuition waivers are available.

bsu.edu/edpsy

*Online programs are available.

**Questions related to the PhD in school psychology’s accreditation status should be directed to the Office of Program Consultation and Accreditation, American Psychological Association, 750 First St. NE, Washington, D.C. 20002; (202) 336-5979; apaaccred@apa.org; or apa.org/ed/accreditation.**
Publish Your Research in *Psi Chi Journal*

Undergraduate, graduate, and faculty submissions are welcome year round. Only one author (either first author or coauthor) is required to be a Psi Chi member. All submissions are free. Reasons to submit include

- a unique, doctoral-level, peer-review process
- indexing in PsycINFO, EBSCO, and Crossref databases
- free access of all articles at psichi.org
- our efficient online submissions portal

View Submission Guidelines and submit your research at [www.psichi.org/?page=JN_Submissions](http://www.psichi.org/?page=JN_Submissions)

---

**Become a Journal Reviewer**

Doctoral-level faculty in psychology and related fields who are passionate about educating others on conducting and reporting quality empirical research are invited to become reviewers for *Psi Chi Journal*. Our editorial team is uniquely dedicated to mentorship and promoting professional development of our authors—Please join us!

To become a reviewer, visit [www.psichi.org/page/JN_BecomeAReviewer](http://www.psichi.org/page/JN_BecomeAReviewer)

---

**Resources for Student Research**

Looking for solid examples of student manuscripts and educational editorials about conducting psychological research? Download as many free articles to share in your classrooms as you would like.

Search past issues, or articles by subject area or author at [www.psichi.org/journal_past](http://www.psichi.org/journal_past)

---

**Add Our Journal to Your Library**

Ask your librarian to store *Psi Chi Journal* issues in a database at your local institution. Librarians may also e-mail to request notifications when new issues are released.

Contact [PsiChiJournal@psichi.org](mailto:PsiChiJournal@psichi.org) for more information.

---

Register an account:
[http://pcj.msubmit.net/cgi-bin/main.plex](http://pcj.msubmit.net/cgi-bin/main.plex)