

Abstract Art: Twelve Tips to Help You Write an Effective Abstract

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I'm sorry I wrote you such a long letter; I didn't have time to write a short one.

– Blaise Pascal

Abstract

Background: The abstract is a core component of any scientific publication. Despite its importance, the abstract is often overlooked or hastily written shortly before submission, thus thwarting the work's chances of being initially reviewed or eventually discovered.

Method: Based on my experience as editor-in-chief of the *Journal of the American Academy of Child and Adolescent Psychiatry (JAACAP)*, I: 1) Provide rates of abstract-related rejection decisions; and 2) Articulate high-yield strategies to improve the quality of abstracts submitted to scholarly journals or professional society meetings.

Results: During the five-year period ending in December 2015, 2,764 original research articles were submitted to the *Journal*. Of these, 1,680 (61%) were rejected unreviewed. Reasons behind these rejections fell into three broad categories, in similar proportions: 1) Poor content fit (32% of those submissions rejected unreviewed); 2) Methodological limitations (33%); and 3) Poor abstract quality (35%). Common problems identified in poor quality abstracts included: vague or insufficiently descriptive titles; unclear content demarcation between, or diffusion across, different subsections; insufficient or excessive methodological or numerical detail; failure to encompass core epidemiological principles; interpretation that went beyond the data; editorializing; and substantial grammatical, language usage, or typographical errors.

Conclusion: Abstracts can be enhanced by incorporating the dozen strategies described. High-quality abstracts increase the likelihood of a submission

being reviewed rather than summarily rejected, and of a published work being eventually discovered and reaching its intended audience.

Key words: Abstract, publication, scholarly journal, education, bibliometrics.

Let's begin by considering the "job description" of an abstract. An abstract is the scholarly equivalent of an elevator pitch. First, it should contain key content and take-home points. Second, it should effectively open doors: those toward publication, presentation at a conference, or discovery in a database. Third, it should provide the basic infrastructure on which to build a poster, article, or oral presentation. In this article I propose twelve practical steps to maximize the efficiency, effectiveness, and accuracy of your pitch.

1. Whatever else you do, start with your abstract

Don't ever leave your abstract to the end of your writing: by that point, it is too late to get it—and, potentially, your larger work—right. This does not mean that your abstract needs to be airtight before you set out to complete your work. Rather, it is an invitation to undergird your construction correctly from the beginning. To get into the right mindset, think of an abstract as scaffolding, not ornamentation: even while numbers and exact details are still pending, an abstract should frame the core of your story.

2. Respect the demarcation between the abstract's subsections

Lay out the formulaic subsections and fill them in with what you have on hand, not fretting (yet) about what you are missing. The *objective* makes the case for *what* you are aiming to address and *why* the question is worth asking. Consider a line or two (but no more) about context and background. Include no instruments or

details in this subsection. Under *method* describe *how* you went about addressing the question; don't include any numbers just yet. When you get to the *results*, you can tell us *how much*: quantify here, and only here, and use the right numbers (as detailed under #7). By the time you arrive at the *conclusions*, the *so what* should be clear: what is your take-home message and why does it matter? Don't reiterate what you've laid out before. If you did so effectively, readers should be able to arrive at the same conclusion on their own. As you construct your abstract, be aware of typing toward a rigid word count, typically 250.

At this stage of drafting a paper, you should also start identifying your *key words*: five terms that will help your article be discovered. These words can later morph into MeSH (Medical Subject Heading) terms, routinely used in bibliographic indexing. Finally: if you anticipate *tables* or *figures*, sketch them out now, leaving the actual values and statistics empty. By doing so, you will steer a clear course to your destination. For final measure, add a heading for *references* and start filing away those you may have on hand.

3. 'Entitlement': an often-overlooked core component

An abstract must include a well-appointed title, which in turn should serve as an effective "hook." It should turn the casual peruser into an intrigued reader. A title should be descriptive and brief (no more than 15 words). Two short phrases separated by a colon often work well. Be imaginative, but only to a point. Don't be cute or amusing, or do so in small measure only and with consideration of the specific context. Take for example the potential evolution of this article's title:

- *Abstractification* is the neologism I first used as a subject line for an email message to trainees and colleagues, encouraging them to attend my informal presentation entitled:
- "Abstract It: Otherwise No One Is Likely to Read (or Find) Your Work."
- By the time I sat down to write towards publication, I opted for something slightly playful (after all, I had the young readership of *Connect* in mind), followed

by an objective description: "Abstract Art: Twelve Tips to Help You Write an Effective Abstract."

- Were I next to prepare it for publication in a scholarly bibliometric outlet, I would settle for a staid title, such as the formal "Abstract Quality: Predictors of Preliminary Article Rejection in a Scholarly Journal."

4. An abstract is *not* a summarized article

Distilling an abstract out of an article risks missing the forest of meaning for the detail of its trees, of paying untoward attention to non-critical details. An abstract is much more closely related to a poster than to an article: both distill the "elevator pitch" of what you are aiming to convey into precious few words. Aim to *build up* from an abstract, rather than to *distill down* from an article.

5. An article is an expanded abstract

The corollary of the previous point is that the scaffolding for an article can include not only the abstract (critically), but also bibliography, tables, and figures – even well before data are available and cells filled in. As you expand on the various sections, you can (and should!) revisit your abstract iteratively. The abstract is the underlying skeletal structure of an article. But bones are constantly remodeled organs, even if they appear to be permanent structures: *ossified* is a misguided term in this context.

Consider progressing in an orderly sequence (from title to bibliography) or hopscotch across sections, so long as you keep moving forward, while keeping the demarcations intact. As you write, become well acquainted with the instructions for authors and refer to examples of articles in the periodicals (or meetings) to which you intend to submit.

6. Follow basic epidemiology principles: PECOT

Scholarly abstracts of data-based reports should address all aspects of the mnemonic, particularly in the method and results sections. Apply the PECOT rubric as a thought experiment or quality-control measure of sorts. Let's see how I fared in the example of my own abstract:

- Population: 1,680 original research articles (61% out of 2,764 submitted).

- Exposure(s) (or Intervention[s]): *Articles characterized by 1) poor content fit (32% of those submissions rejected unreviewed); 2) methodological limitations (33%); or 3) poor abstract quality (35%).*
- Control (or Comparison): *Articles considered satisfactory on all three characteristics (1,084 articles, or 39% of those submitted).*
- Outcome: *Unreviewed rejection (i.e., prior to undergoing peer review).*
- Time: *The five-year period ending in December 2015.*

7. Include the right numbers—in the right dose

Be quantitative and numerical in your results, not qualitative and descriptive. Not all numbers are created equal, and there is a hierarchy to numbers: “More” or “less” are vague adjectives; actual numbers are preferred; numbers with percentages even better. Point estimates and confidence intervals are generally better than simple indications of statistical significance, especially if lacking numbers ($p=.003$ is better than $p<.005$, and much better than a simple asterisk). Confidence intervals or measures such as number needed to treat encompass additional information in them and are clinically informative.

Don’t bog down your abstract or your reader with unnecessary numerical detail in an effort to be scientific or accurate; be selective and have a clear goal in mind. Round numbers to meaningful metrics – don’t aim to be over-precise and uber-scientific. Is a mean age of 16.32 years meaningful in any way?

8. Shed the fluff: every word counts and must do work

Spare your readers from telling them how important your study is. Let them decide for themselves. And while

you are at it, shed all unnecessary, flowery, amazing, or irrelevant adjectives and adverbs. Shed them all. Good writing is akin to topiary gardening: clipping extraneous detail away to reveal underlying content.

9. Be understated: let the abstract speak for itself

This is no infomercial; provide just the facts. You can feel confident that your abstract works if your conclusion is no more than one or two sentences long and flows logically from the previous sections.

10. Don’t editorialize

No opining. No explaining. No apologizing for your study’s limitations. Zero room for your feelings here (sorry). The discussion section comes later, so save the back-and-forths of on-the-one-hand-on-the-other until then. Show, don’t tell.

11. Typos and the little things that can undo you

A typo is like a bad ingredient that spoils the broth on contact. *Omit thm a tall kosts*. They are distracting and show poor attention to detail. If you can’t get this much right, can your contents really be trustworthy? Format per the instructions for authors. Obsessively. If necessary, contact the editorial office for clarification. This is no place to draw outside the lines.

12. Whatever else you do, finish with your abstract

Start with it, polish it along the way, finish with it. This is not redundancy: it is a wise investment of your time and energies. It is the only piece of your work that will be seen at first, and it can doom you from the get-go. Don’t overlook it or come to it the day before the submission is due: abstract it!

About the Author

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