

Reflecting on the use of persuasive communication devices in academic writing

- and how it may compromise accuracy and truth -

This collective preprint is an active document intended to encourage reflection on academic writing. It is meant to evolve as a result of continuous input from interested contributors. Everyone is welcome who wants to contribute.

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Contributions according to [Contributor Roles Taxonomy](#) (CRediT)

- Conceptualisation and writing original draft: OC
- Writing - review & editing: JH, HC, NO, HC, LDL, ELH, NPH, PL

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Description

As researchers, we use academic writing to present our results to other academics and to a wider audience. In doing so, we may be tempted to use persuasive communication devices for promoting our research. These devices may be at risk of misleading readers and reviewers when assessing our research. In this document, we identify a list of such communication devices. A precursor of this list was originally shared on Twitter by Olivier Corneille who received comments and additional examples collected in the list below. We discussed and clustered them as a result of reflections made on our own writing style, as well as observations made in research articles by other authors.

The items are organized along a tentative typology that may be reconsidered at a later stage. We focus on writing styles that apply to the presentation and interpretation of research findings, including data visualization, but excluding issues related to methods and statistical analyses.

Our intention with this document is to encourage self-reflection amongst authors (contributing researchers) as well as reviewers and editors on the use and potential misuse of persuasive communication devices in written scholarly reports, so that we as a global scholarly community can uphold highest possible standards to research rigor.

Please feel free to make suggestions in **THIS LIVE DOCUMENT**.

Misleading boosters:

1. **Overstating titles, abstracts and statements:** Using attention grabbing words and phrases that go beyond – and sometimes even contradict - the study results.
2. **Exceeding discussion:** Drawing conclusions in the general discussion that go well beyond the scope of the reported work.
3. **Coaxing:** Coaxing the narrative with suggestive adjectives (e.g., describing something as striking or important without explaining or showing why it is so).
4. **Hang heavy (or “emotional appeal”):** Appealing to the importance of one’s research question and the need to “talk more about it” to compensate for the empirical weakness of a study.

5. **Selective reporting:** Dropping hypotheses or analyses based on the nature and direction of the results.
6. **Creating “clean” narratives:** Hypothesizing after results are known (HARKing; Kerr, 1998) while presenting the study results as predicted.

Biased referencing:

7. **Willful ignorance:** Avoiding reference to past work that would decrease the perceived novelty of the research.
8. **One-sided citation:** Citing predominantly or exclusively supportive research.
9. **Reliance on weak evidence:** Referring to research that has received a lot of attention, yet has proved to be weak or wrong in the meantime (e.g., lack of successful replication; experimental confounds or important moderators identified; alternative accounts supported; or even retracted).
10. **Misleading use of references:** Citing papers that do not support the claim that is being made.
11. **Missing evidence:** No reference or access to the underlying primary evidence to be found anywhere in the manuscript that gave rise to the claims made in the article.
12. **Selective quotation:** Selectively quoting, or quoting out of context, another author to make one’s point.
13. **Knowledge misappropriation:** Not acknowledging contributions made by non-scholars, ECRs, software designers, indigenous communities, etc. to make it seem as if more work came from the listed authors. Keeping the number of contributing authors low may raise the profile of the listed authors.

Smokescreening:

14. **Pragmatic inferences:** Capitalizing on communication pragmatics to elicit flawed inferences (e.g., “Question A is of huge interest. In this paper, we do Z” ; yet, Z is empirically unrelated to A).
15. **Ambiguous concepts:** Relying on a terminology that is knowingly confusing in order to suggest A when the study really is about B.
16. **Delayed limitations:** Postponing to the limitation section major issues that would have justified not doing the study in the first place (e.g., “Admittedly, important concerns have been raised about the validity of our main measure”).

- 17. Untidy supplementals:** Overwhelming the readers with extensive (untidy) supplementary materials, part of which is problematic and should have been reported in the main text.
- 18. Inconsistent claims:** Making logically inconsistent claims across - sometimes even within - papers, so as to please any reader and prevent later critiques.
- 19. Strawman arguments:** Pretending to refute claims that no one has ever made.
- 20. "Bullshit" writing:** Making the reader feel humbled or in awe by relying on cryptic terminology or writing that sounds "smart" (see research on academic bullshit, add REFs).
- 21. Misleading visualizations:** Using visualizations that "hide" or gloss over information on purpose, not showing visualizations where one would have expected them, or moving important visualizations to 'Supplementary Materials'. Examples: using bar plots instead of visualization methods that convey more information like box or violin-like plots; not showing individual data points in small samples; misleading scaling of the y-axis especially in presentation of percentages (i.e., bars that do not start at zero leading to visual overemphasis of differences); not showing scatter-plots when performing correlation analyses in small samples, potentially omitting the fact that associations might be outlier-driven.

Use of authoritative arguments:

- 22. Celebrity authorship:** Adding the names of accomplished professors to the authors' list to increase the chances of the manuscript being accepted.
- 23. Reliance on precedent:** Suggesting that because procedures (e.g., measurement or design) have been heavily relied on in previous work, they don't need to be justified anymore.
- 24. Reliance on citations:** Pointing to large citation rates to imply quality.
- 25. Fluency effects:** Referring to famous notions, theories, or researchers to make the readers feel safe as they navigate the article, and so make the article feel "true" despite these notions being problematic or these theories and researchers having been proven wrong.

Influencing the selection of reviewers:

- 26. Influencing the inclusion of reviewers:** Suggesting reviewers personally known by the authors and sometimes telling them what review comments to write. This may happen in cases where journals ask authors to suggest reviewers for their manuscripts.

27. Influencing the exclusion of reviewers: Acknowledging feared reviewers for their input on the manuscript in the authors' note hoping that, this way, they won't be selected.

Misuse of statistical inferences:

28. Borderline p-values: Relying heavily on borderline $p < .05$ correlation.

29. Varying interpretation of non-significant p-values: Interpreting $p > .05$ as either evidence for or evidence against an effect to support argument. E.g., the same p value can be interpreted as 'marginally significant' or 'evidence of no effect'.

30. ...

31. ...

32. ... (to be continued)

Best practices

- Acknowledge all contributions made to a research project described in a manuscript, apply CRediT taxonomy, see <https://credit.niso.org/>.
- Actively seek out research that challenges or contradicts your claims, including searching for replication attempts.
- Pre-register the studies.
- Publish using Registered Reports where the decision to publish is taken before the study is conducted and is therefore results-agnostic.
- Engage in adversarial collaborations.
- Include a "constraints on generality" statement (Simons, Shoda, & Lindsay, 2017) in your discussion section, that identifies and justifies your target population, and indicates the boundaries of the effect.
- Opt into open peer review where the contents of reviews, and sometimes the identity of reviewers, are publicly available.
- Number each research question or hypothesis (e.g., H1, H2,...) and use this suffix throughout the text so that the claim can be followed through to conclusions.
- Follow reporting guidelines to ensure complete, transparent and accurate reporting.