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## Hyped up? A look at promotional language in scientific and medical writing

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John Zepernick, MS

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*Note: Here at ThinkSCIENCE, we are very aware of the problems that can occur when researchers use subjective, promotional language (known as “hype”) inappropriately in their writing. Recently, an interesting research article was published by Neil Millar and colleagues about the [increasing use of hype in the abstracts of grant applications for biomedical research](#). The article shines light on this issue in a way that is interesting both for linguists and for authors. We were fortunate to have the chance to discuss the issue of hype with Professor Millar himself. In this latest featured article, alongside some specific advice offered by Professor Millar, I give some practical writing tips for authors to avoid inappropriate hype in their writing.*



When you think of scientific and medical writing, what words come to mind? Perhaps, “objective,” “informative,” “dispassionate,” “clinical,” or “neutral”? But what words did you use when writing your latest grant application or paper? Did you describe

your research as “novel,” “important,” or even “groundbreaking”?

Although we might like to think that data and evidence speak for themselves, in the real world, topics in science and medicine are communicated by researchers who must compete for funding, citations, and limited space in journals and at conferences. As such, researchers face various pressures that may lead them to adopt writing strategies that put their research in a more favorable light and make the message convincing. This is called “spin.”





One particular type of spin is **hype**, which is defined as “hyperbolic and/or subjective language...to glamorize, promote, or exaggerate aspects of research” by Professor Neil Millar of the University of Tsukuba in Ibaraki, Japan. I’ve provided an example of hype in the text box.

**Plain language:** “Researchers collect data to examine a hypothesis.”

**Hype:** “World-leading researchers collect new data to examine a groundbreaking hypothesis.”

Professor Millar studies applied linguistics, including the evolution of language in biomedicine. He recently published an article in *JAMA Network Open* about [trends in the use of hype in successful grant applications](#) for biomedical research. He and his coauthors found an increasing trend in the use of hype in successful grant applications for biomedical research over the period 1985-2020, with the largest increases occurring for terms related to importance (e.g., significant, key, and crucial) and novelty (e.g., first, novel, innovative). In addition, he previously reported on the [use of hype in randomized controlled trials](#), categorizing hype into various types and finding that it was used most frequently in the Discussion section and as a means to aggrandize the methodology.

## Why should authors care about hype?

First, a little hype is not necessarily a bad thing. During my discussion with Professor Millar, he noted that grant applications are “inherently promotional in nature,” so it’s only natural that some promotional language is used that is aspirational or intended to persuade. However, too much hype can have negative impacts. For example, overuse in grant applications could undermine funding mechanisms if salesmanship wins out over sound, robust science. In addition, he cautioned that the promotional language used in a grant application can “trickle down” into research papers and elsewhere if the text is recycled. This can have the unintended consequence of undermining the fidelity of research reporting in various ways, for example, by overstating the implications of results or obscuring the exact meaning through the use of empty buzzwords.

Avoiding hype can be challenging for all authors, whether English is their first language or not. From his interviews with authors, Professor Millar noted that some of them used elements of hype that they had read in other researchers’ papers or that was recommended to them by reviewers, journal editors, or language editors. In light of these difficulties, one point I took away from our conversation is that authors need to be aware of the many various hype words that can be used and check for them in their own writing. They can then decide whether to keep, delete,



or replace them with more neutral language that best fits the type of document being written and the level of expectation or evidence being described.

At the end of this featured article, I have included a table with some examples of common hype words and phrases that you should think carefully about using in your writing. It's also worth noting that context is important, and many of the terms listed can serve as hype or as plain language depending on how they are used. In my discussion with Professor Millar, he pointed out the example of “first,” which can be a discourse marker, an appropriate indicator of something new, or hype depending on the context in which it is used.

Professor Millar remarked, “Putting yourself outside of yourself and looking in objectively is not easy.” When I asked him for some advice for authors, he said that he hoped they would **be aware of the issue of hype** and strive to “**get the balance right**” by avoiding overuse of hype.

Based on my discussion with Professor Millar and the ThinkSCIENCE team's experience of working with scientific and academic authors for many years, here are some points to keep in mind about hype.

## Considerations about using hype in scientific writing



1. Be mindful of text recycling and document type

Although it may be tempting to reuse (i.e., copy) some text from a grant application, revise the wording as needed to make it suitable for a research paper or report by removing unnecessary hype.

2. Strive for balance and moderation

It's not always feasible to avoid some hype words, but use them in moderation and try to strike the right balance between objectivity and presenting your research plan or results too favorably.

3. Be careful with buzzwords

Despite sounding important, buzz words can convey little or no information, so avoid using them or make sure they clearly convey meaning in your paper. For example, “cutting edge” and “transformative.”



4. Look out for redundancies

Don't add hype words that are redundant with other text. For example, a "novel invention" could simply be "invention" because all inventions are inherently novel.

### Hype Adjectives by Semantic Category

<b>Importance</b>	compelling, critical, crucial, essential, foundational, fundamental, imperative, important, indispensable, invaluable, key, major, paramount, pivotal, significant, strategic, timely, ultimate, urgent, and vital
<b>Novelty</b>	creative, emerging, first, groundbreaking, innovative, latest, novel, revolutionary, unique, unparalleled, and unprecedented
<b>Rigor</b>	accurate, advanced, careful, cohesive, detailed, nuanced, powerful, quality, reproducible, rigorous, robust, scientific, sophisticated, strong, and systematic
<b>Scale</b>	ample, biggest, broad, comprehensive, considerable, deeper, diverse, enormous, expansive, extensive, fastest, greatest, huge, immediate, immense, interdisciplinary, international, interprofessional, largest, massive, multidisciplinary, myriad, overwhelming, substantial, top, transdisciplinary, tremendous, and vast
<b>Utility</b>	accessible, actionable, deployable, durable, easy, effective, efficacious, efficient, generalizable, ideal, impactful, intuitive, meaningful, productive, ready, relevant, rich, safer, scalable, seamless, sustainable, synergistic, tailored, tangible, transformative, and user-friendly
<b>Quality</b>	ambitious, collegial, dedicated, exceptional, experienced, intellectual, longstanding, motivated, premier, prestigious, promising, qualified, renowned, senior, skilled, stellar, successful, talented, and vibrant
<b>Attitude</b>	attractive, confident, exciting, incredible, interesting, intriguing, notable, outstanding, remarkable, and surprising
<b>Problem</b>	alarming, daunting, desperate, devastating, dire, dismal, elusive, stark, unanswered, and unmet

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## Closing remarks

I hope that this article introducing hype has been informative and will be helpful when you write your next grant application or research paper. I would like to thank Professor Neil Millar for graciously taking the time to talk with me about his research and offer his advice.

If you have questions or concerns about using hype in your writing, then our specialist editors will be happy to [answer your questions](#) about this.

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