

Psychology

How scientists communicate

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ABSTRACT

Generic language emphasizes broad, timeless conclusions and glosses over variability. We found that generic language was widely used in a large sample of psychology journal articles and was interpreted as more important by readers than more specific language.



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In this project, we found that authors of psychology journal articles tended to make broad generalizations when describing their research findings. Examples include: "Whites and Blacks disagree about how well Whites understand racial experiences," "Animal, but not human, faces engage the distributed face network in adolescents with autism," or "Women view high-level positions as equally attainable as men do, but less desirable." While these examples may clearly convey a study's findings, they gloss over variability and ignore that the research was conducted with a specific and limited group of people. These statements include what is known as "generic language," which emphasizes broad, timeless conclusions and ignores

exceptions and variability. For example, adults and children tend to endorse statements like "lions have manes" and "birds fly" as true, even though many counterexamples are available (penguins do not fly, and female lions do not have manes). Moreover, people often draw more robust conclusions from generic language than other forms of expression. In addition to its ubiquity in everyday speech, generic language is often recommended as "good writing," as it follows recommendations for using active, concise, and compact language. The authors of this project are psychology researchers interested in diversity in psychological phenomena, who are concerned with both describing their findings with precision and disseminating those findings to broad

audiences. Therefore, we wondered if the widespread use of generic language in everyday speech would be mirrored in scientific writing by psychologists. We also asked if generic language would be interpreted differently by readers than more specific statements.

To investigate this question, we conducted four studies. The first study was an analysis of 1,149 published papers in top psychology journals in 2015 and 2016. We examined whether authors used generic language in the paper's title, abstract (a short summary of the study and findings), and research highlights and significance statements (an even shorter summary that many journals now require, including all 11 journals we selected). We found that 79% of the articles included at least one generic statement about the results of the study. We observed more generic language in shorter formats - on average, 16% of codable sentences in abstracts were generic, and shorter formats had even higher proportions of generic language (highlights: 40%; abstracts: 87%). We also examined whether generic language was related to the number of participants in the study or the diversity of the sample. We did this to test whether studies that recruited larger or more diverse samples were more likely to make broader, more general claims. We found no association between sample size and generic language. The majority of studies did not report detailed demographic information about participants. Those studies that did describe the racial background of participants were less likely to include generic language than studies that did not report this information.

Given how common generic language was in the 1,000+ articles we reviewed, we examined whether readers would interpret research findings differently depending on the language used to describe those

findings. For example, would readers view research summarized using generic language (such as, "People with dysphoria are less sensitive to positive information in the environment") as more important than research findings described in more specific terms that might more clearly reflect that the data came from a limited sample of participants (such as, "Some people with dysphoria were less sensitive to positive information in the environment, under certain circumstances")? In three experiments with online participants and college students ($N = 1,578$), we found that readers in our experiments judged research findings with generic language as more important than studies that used more specific language. Virtually all research studies include some level of variability: Some or most participants demonstrate the reported effect, but some do not. Even if all participants demonstrate the reported effect, they often do so to different extents. Nonetheless, studies that were summarized using generic language, as if they applied broadly beyond the research context, were viewed as more important than findings summarized using a more specific language.

These results are especially interesting because generic language relies on subtle cues, such as using present tense verbs ("People with dysphoria are less sensitive to positive information in the environment" versus "People with dysphoria were less sensitive to positive information in the environment") or avoiding modifiers that would indicate uncertainty or variability (such as "some people" or "under certain circumstances"), yet these subtle cues influenced readers' judgments of the importance of the research findings. These subtle variations in language may lead many readers to draw exaggerated conclusions from individual research studies.