

Guidelines for Reducing Language Bias in the Computing Sciences: Language Lessons Learned from a Sister Science

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Abstract

This article describes the need for researchers and practitioners in the computing sciences to have codified guidelines for the responsible use of language. Guidelines from the American Psychological Association concerning language related to gender, age, sexual orientation, disability, and racial and ethnic identity are summarized.

1 Introduction

Having worked as a language reviewer in the computing sciences for some time now, it has become clear to me that there is a need for unified writing guidelines in the field, especially when it comes to dealing with language bias. Many of the papers I review have language bias flaws; however, to the credit of the authors of these papers, they clearly are attempting to write without bias. The mistakes they make are systematic and illustrate an effort to use culturally competent language. For example, in a first draft of a thesis that I recently reviewed, the author wrote

By combining *her* knowledge about the birds flying, the physics of aerodynamics, and the engineering skills of construction and propulsion, *a man can overcome her natural limitations* and fly with the help of an airplane. (italics mine, reprinted with permission)

The use of *her*, twice, to refer to a *man* shows sensitivity and even a strong commitment to using nonbiased language, even to the point of absurdity. Because I have seen similar examples of this many times, I hypothesize that the cause of this problem is not a lack of commitment to reducing language bias in the computing sciences. Rather, I suggest that these language bias errors are the result of a lack of codified rules for language use.

If there were guidelines for responsible language use in the computer sciences, it is reasonable to assume that they would be included in the ACM digital library (The Association for Computing Machinery, 2004). However, a search of the ACM digital library using the keywords *style guide*, *publication manual*, and *language bias* yielded no search results that led to a unified style guide or publication.

If we are to be ethical practitioners and researchers in the computing sciences, we are obligated to be aware and responsible language users. We should ensure that we use language that is not biased in terms of gender, sexual orientation, disability, or racial and ethnic identities. However, since the rules governing the responsible use of language in the tradition of the computer sciences are at best implicit, it might benefit us to adopt those rules from other sciences, particularly the social sciences, which have already cut their teeth developing the rules for the responsible use of language.

In my opinion, the most reasonable solution to the problem, at least for the time being, is to adopt the guidelines that the American Psychological Association (APA) uses for reducing language bias. The APA publication manual (American Psychological Association, 2001) is now the accepted style guide for over 1,000 journals in a number of fields including psychology, the behavioral sciences, nursing, and personnel administration. In terms of reducing language bias, it has a well-established set of rules that emphasize sensitivity, specificity, and acknowledgement of participation.

I acknowledge that adopting APA guidelines, because they inherently promote U.S. scientific values and the U.S. variety of English, is in some way replacing one set of biases for another. However, with all things considered, the added value of adopting guidelines for reducing language bias that are of U.S. origin, over having no standards at all, seems to be well worth the effort, at least until a set of field-specific guidelines are formalized.

The rest of this paper gives an overview of the guidelines for reducing language bias that are presented in the fifth edition of the *Publication Manual of the American Psychological Association*. With hope, adopting these guidelines will enable us to share a common voice and solidify our commitment to culturally competent communication.

2 Gender Bias in Language

Guidelines for reducing gender bias in language include avoiding gendered pronouns, nouns, and verbs and using parallel forms in languages.

2.1 Gendered Pronouns

Avoid using a gendered pronoun (e.g., *he, him, his, himself; she, her, her(s), herself*) or a gendered pronoun combination (e.g., *he/she, him/her, his/her(s), himself/herself*) when the pronoun can logically refer to either gender. It is best to revise these types of biased sentence so that the gendered pronoun can be replaced by a plural pronoun such as *they, them, their(s) themselves* or so that the gendered pronoun can be avoided altogether. For example, instead of writing

The user should then enter his password at this time.

one should write

The user should then enter the password at this time.

or

Users should then enter their passwords at this time.

2.2 Gendered Nouns, Verbs, and Adjectives

Gendered nouns and verbs should be avoided. For example the whole class of *man*-based nouns and verbs, such as *mankind, manpower, man-machine interface, and to man*, should not be used. Some appropriate alternatives for these words, respectively, are *humankind, workforce, and user-system interface*. Additionally, one should be cautious when using gendered professional labels. For example, it is appropriate to use *police officer* rather than *policeman*. Avoid using *males* and *females* as nouns unless referring to a broad range of ages. Instead, use *male* and *female* as adjectives or use more specific nouns such as *boy, girl, man, or woman*.

3 Age Bias in Language

Use *boy* or *girl* to refer to people who are high school age or younger. For people over 18 years old, *men* or *women* is appropriate. Avoid using *the elderly* as a noun or *elderly* as an adjective. Use the phrases *older people* or *older* instead.

4 Sexual Orientation in Language

Instead of *homosexuals* use *gay men* or *lesbians*, depending on the context. Use *heterosexual* and *bisexual* as adjectives instead of using *heterosexuals* and *bisexuals* as nouns.

5 Disability in Language

Put the person first and the disability second. For example, write *children with disabilities* instead of *disabled children*. Also, avoid words with negative associations such as *victim* or *suffer* as used in *trauma victim* or *a person who suffered a stroke*.

6 Racial and Ethnic Identity in Language

Since preferred designations for racial and ethnic identities are complex and change often, one should ask stakeholders how they prefer to be referred to. In the United States, the currently preferred designations for the largest racial and ethnic groups are European American or White; African American or Black; Hispanic, Latino, or Chicano; Asian, Asian American, or Pacific Asian American; and American Indian or Native American.

7 Conclusion

By adopting these guidelines borrowed from a sister science we can become more responsible language users and, thus, we can also become more ethical researchers and practitioners in the computing sciences.

References

American Psychological Association, 2001. The Publication Manual of the American Psychological Association. Washington DC, 5th Edition.

The Association for Computing Machinery, 2004. The ACM Digital Library. WWW-page, <http://portal.acm.org/df.cfm> (Accessed 2004-08-26).