



[Ethical Guidelines for Statistical Practice: Report of the Ad Hoc Committee on Professional Ethics]: Comment

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There is a need for the American Statistical Association to develop and promote a set of standards for statisticians, and the current version of the "Guidelines for Statistical Practice" is a good first step in that direction. That this document is a beginning and is open to improvement is acknowledged by Statement IV.A: that "these guidelines must be allowed to grow and mature through active use." I am, therefore, inclined to suggest several points on which the guidelines are somewhat deficient and could be enhanced.

1. It is clear that competence of the statistician in a particular substantive context must always be under question. For example, only a small proportion of stat-

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isticians have the necessary background to react properly to a biological genetic situation. I am not competent in time series. I am not a real expert in sampling. I could go on and on (Section II.D.1).

2. With the developed controversies on statistical inference, the statistician has an obligation to declare his or her "statistical religion." There is an obligation to refer to "my probability," to declare clearly "I am using a certain prior," and so on (Section II.C.5).

3. There is a deep and true obligation to convey to clients, the courts, and the public the unavoidable fact that inference is uncertain; it is based on assumptions and on the outlook of the statistician. There is a deep obligation to lay out clearly the assumptions used and the processes that the statistician has followed to validate these assumptions (Sections II.C.1,3).

I think much more mention and warning on all of these problems is necessary.

Comment

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Professions are increasingly called upon to be accountable, self-critical, and responsible to society for their behavior. In the wake of the Watergate disclosures, for example, many lawyers, dismayed by clear breaches of ethical standards by members of their profession, called for renewed definition of and commitment to such standards. The medical profession has, both by organized internal action and by responding to external pressure, increased its efforts to detect unethical practice. Thus, it is appropriate and timely that the profession of statistics should develop ethical guidelines.

But statistics, a discipline as well as a profession, faces special problems in developing standards of ethics. The discipline of statistics, which emphasizes the development of new methodology and new theoretical structures, is perhaps comparable to its parent discipline, mathematics, and probably should be guided by the accepted standards of all academic disciplines. These include, among other features, open publication of findings, peer review, and avoidance of plagiarism.

The practice of statistics on the other hand, is a profession, involving at every stage judgment and informed choice. Presumably, the subject guidelines refer primarily or even exclusively to the profession rather than to the discipline of statistics. The title suggests that the focus is on practice rather than on methodology. Cer-

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tainly, no clear demarcation can be made between these two facets of statistics, but it may be helpful for committees and individuals charged with implementing and modifying the guidelines to consider the structural complexities of the field. The guidelines themselves give only slight notice to a central feature of professional practice of any type—professional judgment. This occurs in Statement II.C.5 and only with the somewhat apologetic clause "... the selection of a statistical procedure may to some extent be a matter of judgment. . . ." Yet, without the application of judgment at virtually every stage of study design, data collection, and analysis, there surely could not be either a practice or a profession of statistics.

Perhaps a case study from statistical history would provide a useful point of departure for considering other aspects of the guidelines. W.S. Gossett, brewer, agricultural chemist, boat designer, and statistician is the subject. Gossett was employed for most of his working lifetime by Messrs. Guinness in Dublin. His loyalty to his employer was rewarded by steady advancement, and when the company decided to open a London brewery, Gossett was appointed brewmaster. Gossett's statistical publications were, of course, published under the pseudonym, Student. But why? Although the record is not absolutely clear, it seems likely that, at least in part, Gossett wished to deny competitors information that could be used to improve their product. Such behavior by a manager of a major commercial enterprise seems completely understandable. The arti-