



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

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OSCAR KEMPTHORNE*

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

RICHARD D. REMINGTON*

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-

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-

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cles by Student were a part of the discipline of statistics and Gossett was here evidently following standard academic practice concerning dissemination of scholarly findings. The application of statistics to, say, improving the yield of malting barley was a different matter, and here perhaps Gossett's motives were primarily those of a statistical practitioner advancing his employer's profit-making objectives.

Would Gossett's behavior, assuming the motives ascribed to him here, be consistent with these guidelines, particularly those in Section II.A? Did "private interests . . . inappropriately affect (Gossett's) development or application of statistical knowledge"? Did Gossett

"disclose any financial or other interests that may (have affected his) professional statements"? This is unclear. Certainly, the Student publications included no such disclosure. Must methodologic work in statistics include such statements for ethical reasons? Do the discipline and the profession of statistics involve slightly different considerations with respect to ethical standards?

In general, the guidelines as currently evolving appear to be helpful. Statistics, the profession, needs behavioral standards that reflect its willingness to be held accountable; it is most appropriate that our profession is moving to do so.

Comment

HERBERT SOLOMON*

I believe it is a mistake to have "Ethical Guidelines for Statistical Practice," and a committee to administer it. The American Statistical Association would do well to let existing institutions of society handle our behavior without creating another bureaucracy. There are already enough constraints—economic, social, and legal—that operate to keep us responsible in our efforts. The abuses of such a system would far outweigh any gains.

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During the McCarthy era when I was program chairman for an annual meeting, I offered to resign because the ASA office was making it difficult for a politically unpopular speaker to appear at a session. Some ASA officials thought it would be best to bar him and I can see an ethics committee responding in similar fashion. In our zeal to do right we can do some awful things. Fortunately this did not occur.

I think the ASA should keep on doing what it does well: publish journals, organize meetings, develop chapters, develop educational activities, and render statistical advice to government agencies. The notion of having a court available to resolve matters of individual behavior in statistics is anathema to me.

Comment

SAMUEL W. GREENHOUSE*

A scientific or professional society may proclaim in broad generalities the ethical standards required of its members. One would have hoped that such a declaration would be unnecessary, that such external reminders of the need for honesty and integrity in a sense degrade the individual's moral character. However, recent experience in science and in other fields of human activity clearly indicates that an individual's unacceptable conduct is apparently not outside the bounds of that individual's ethical norm. Clearly the individual's own norms were wanting. Therefore there is a justification for the ASA to establish ethical guidelines for statistical practice. Although the published guidelines emphasize practice, that area of statistical work relating to data collection, analysis, and reporting and also to

consulting, it is noticeable that no reference is made to statistical research proper. Are there no guidelines needed for theoretical research and its reporting? I wonder.

In my view, the broad statement of ethical guidelines should be separate from specific references to rules of conduct. Thus I would have a preamble and a statement of general guidelines. I would follow this with an appendix, so to speak, of rules or principles of conduct, such as are given in Sections II.B, C, and D. I suggest this because although the statement on general guidelines may constitute a completed entity and may be non-controversial and acceptable to all members, the specification of rules of conduct may not be. Furthermore, the rules as given are questionable and require more work.

However, whatever form this document takes, I do believe it requires very careful wording and should reflect precisely the rule of acceptable behavior and its

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