Introduction to the Special Issue on Statistical Significance Testing

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The controversy about the use or misuse of statistical significance testing that has been evident in the literature for the past 10 years has become the major methodological issue of our generation. In addition to many articles and at least one book that have been written about the subject, several journals have devoted special issues to dealing with the issues surrounding its use. Because this issue has become so prevalent and it impacts on research in the schools in general and articles published in the RESEARCH IN THE SCHOOLS journal as well, James McLean and I--as co-editors of the journal--felt that a special issue that explored all sides of the controversy was in order. To me, personally, the topic is an exciting one. I have published a great many research articles during the past three decades, and often have felt that statistical significance was an imperfect tool. Why should a trivial difference in mean scores or a correlation that begins with a zero be significant simply because the sample is large? Yet, until I began reading articles that challenged the holiness of the birthright of statistical significance testing, I must confess that it never occurred to me to even ask questions such as, “Is there a better way to evaluate research hypotheses?” or “Is statistical significance testing essential to include in a research article?”

This special issue begins with three articles that explore the controversy from several perspectives (Nix and Barnette, McLean and Ernest, and Daniel). These three articles were submitted independently of each other, coincidentally at about the same time, and were peer-reviewed by our usual review process. I then asked the three sets of authors if they would be willing to have their articles serve as the stimuli for a special issue on the topic, and all readily agreed. I then solicited three respondents to the three articles (Thompson, Knapp, and Levin), researchers who seemed to represent the whole gamut of opinions on the topic of the use and possible misuse of statistical significance testing. I asked Bruce Thompson to respond to the articles, even though he had already served as a peer reviewer of these manuscripts, because of his eminence in the field. The three responses to the manuscript follow the three main articles. The special issue concludes with rejoinders from the three initial sets of authors. I believe that you will find the disagreements, none of which are vitriolic or personal, to be provocative and fascinating. Because co-editor James McLean was an author of one of the significance testing articles, he did not participate in editorial decisions with respect to this issue of the journal.

Both Jim McLean and I are very interested in your--the reader's--response to this special issue. We would like to know where our readership stands on the controversial topics debated in the pages of this special issue. We would like to invite you to send us your opinions on the use and misuse of statistical significance testing--what points you agree with and which ones you find not to be very persuasive. We intend to develop a unified policy on this topic for RESEARCH IN THE SCHOOLS, which we will base not only on the content of this special issue of the journal, but also on your opinions. We will print every letter that we receive on the topic in the same future issue of our journal that includes our policy statement.

Finally, this issue represents the completion of five years of publication of RESEARCH IN THE SCHOOLS. Both author and title indexes are included in this issue to commemorate that accomplishment and make past articles more accessible. In addition, the ERIC Clearinghouse on Assessment and Evaluation catalogs each issue, making RESEARCH IN THE SCHOOLS searchable through the ERIC database.