
Editorial: Scholarly Activity at Chiropractic Institutions: Are We Making Positive Progress?

This issue of *The Journal of Chiropractic Education* contains the proceedings of the March 2004 ACC conference. The abstracts here represent a total of 110 scholarly works, nearly all of which were produced through the efforts of faculty at chiropractic colleges.

Given that this represents the efforts of a relatively small community, and that most of those producing such works have done so in spite of teaching loads that would be considered excessive in other fields of higher education, and in institutional cultures where scholarship is often poorly supported, this is an impressive quantity of research activity. If one were to use the amount of material here as an indication of the health of scholarship in chiropractic education, the impression would be very positive.

However, this is only one aspect of the current state of our collective scientific maturity. We must also look critically at the quality of the material. In the process of preparing these proceedings, I examined each of the offerings for this year's conference in detail. While some appeared to be of relatively high quality, there were a disturbing number that failed to meet the most basic standards of modern scientific endeavor. I also became aware of some "behind the scenes" issues that were extremely disturbing.

The call for papers for this conference stated that "concept proposals and incomplete works will be refused." Those who served as peer reviewers were instructed to recommend rejection for such works without exception. This seems to me a very basic standard; incomplete works, by definition, cannot be meaningfully evaluated for quality and suitability for presentation at a meeting such as this. In spite of this, there were nine research projects submitted to this conference for which absolutely no data had been collected at the time of the submission deadline. Some of the authors of these works had already drawn and written firm conclusions, even though they had not even started their experiments! Surprisingly, all nine of these incomplete works survived the peer review process. What does this indicate about our collective attention to the other critical aspects of scholarly authorship and of the peer review process?

Our collective understanding of the acquisition, reporting, and interpretation of data is extremely underdeveloped. Several authors had projects involving a very small number of subjects, but reported average data values with many significant figures (implying measurement precision several orders of magnitude greater than was actually possible). Thirteen presentations described the methods of experimental measurement in adequate detail, and then failed to report any of the actual

results. A lack of understanding, and even veneration, of the infamous p value was apparent. Six authors reported p values, without ever reporting any of the results associated with those p values. Four reported p values equal to or greater than zero (an impossibility). It was common to see authors conclude that larger studies were needed, based on the failure to achieve statistical significance, when the results had actually indicated that no meaningful change of any kind had been measured.

Perhaps more disturbing than the lapses in technical awareness were the lapses in ethical awareness. There were two instances of multiple presentations based on a single investigatory effort. There were three clear instances of misattribution of authorship, and these came to light without any effort to detect them; there are potentially many more. One presentation was withdrawn, in part because the results of the study were “politically incorrect” [author’s language], suggesting that free and open scientific inquiry is not a universal quality of our institutional cultures. There were 12 experiments involving human subjects for which there were no statements of IRB approval. Such statements were eventually collected for all but one (which was withdrawn). However, a well-respected member of the research community took umbrage at the request for such a statement, and commented that studies involving human subjects could be exempted from IRB review on the basis of “funding source, type of study and interventions used.” In other words, IRB review could be exempted based on issues that are to be determined by the IRB.

These and similar problems are not unique to the 2004 conference, or to any particular institutions. Most of these problems and issues are perennial. Examples of nearly all of these types of technical or ethical lapses have emerged from each of the colleges. Some have even included authors who have served as research directors at their respective institutions.

It is not my intention to cast a pall over the enthusiasm for scholarship that some are beginning to develop, or to imply that the body of work presented here is without value. I am pleased and inspired by the scope of inquiry and the sincerity. However, the problems noted above must be addressed and corrected if we are to produce research data that will have practical implications for the future of the profession and that will be taken seriously by those outside the profession. Additionally, unless and until faculty acquire those skills, it is doubtful that we will produce chiropractic graduates with the ability to critically evaluate scholarly literature.

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