

To: Professor of Clinical Psychology at a Major University
From: Clifton Chow
Date: February, 2005 (Revised July 2005)
Topic of Request: Statistical Analysis Software & Multicultural Issues

Request:

The Evaluation Center (TEC) received a request for feedback on a software package, Comprehensive Meta-Analysis, that was used by TEC in its meta-analysis on ethnic matching (Shin, Chow, Camacho-Gonsalves, Levy Allen, & Leff, 2005).

General:

Recently, there has been an increasing number of statistical software packages devoted to Meta-Analysis. Some of these are stand-alone packages, while others are general statistical packages that have incorporated meta-analytic procedures. Although this consultation addresses a specific commercial software package that was used by TEC in its meta-analysis on ethnic matching, there are at least 5 additional commercial software packages available and at least 3 meta-analytic programs in the public domain. Information about these programs and meta-analysis are cited below for reference.

Specific Technical Assistance:

We are pleased to give you our feedback on using Comprehensive Meta-Analysis.

Strengths. The software's chief strength, in our opinion, remains its ability to perform random effects and fixed effects analyses with relative ease. In addition, it is also very useful for comparing means between the experimental and control groups. We found that when studies reported results with mean and standard deviation it was very easy to input the study level data. Absent mean and standard deviation, the program also accepted t-stat and exact p-values and odds-ratios.

Limitations. If you encounter studies that report only chi-squared analyses, your options would be limited. In such cases you would need to obtain (as we had done in several instances) exact cell counts from the authors. Also it does not allow you the flexibility of manually inputting effect sizes from research syntheses or from effect sizes from chi-square analysis that were manually computed. Given these limitations, we frequently had to contact authors to obtain statistics reported in the format allowable by the software.

Biostat has just released Comprehensive Meta-Analysis, version 2.0., which hopefully will correct some of these limitations we found using 1.0. According to the website, version 2.0 includes a rewritten data-entry module to facilitate the enhancement of a user interface. In addition, whereas version 1 allowed the user to enter data in one of only ten formats, version 2 allows the user to enter data in more than 100 formats, including 20 indices, including some for one-armed studies and survival studies. Biostat also indicated that version 2 allows the researcher to combine data from studies with (a) binary outcomes, (b) continuous outcomes, and (c) correlations, *in the same analysis* by converting effect sizes and variances when appropriate.

References

Borenstein, M., & Rothstein, H. (1999). *Comprehensive meta-analysis*. Englewood, NJ: Biostat, Inc.

Egger, M, Sterne, JAC & Smith, GD (1998). Meta-Analysis Software. *BMJ* 7126 Vol 316. URL: <http://bmj.bmjournals.com/archive/7126/7126ed9.htm>

More Recent Reviews of Meta-Analysis software provided by The Meta-Analysis Unit, Universidad de Murcia, Spain. URL in English:

<http://www.um.es/facpsi/metaanalysis/software.php>

Shin, S, Chow, C, Camacho-Gonsalves, Levy, RT, Allen, I. E, Leff, HS. (2005). A Meta-Analytic Review of Racial-Ethnic Matching for AfricanAmerican and Caucasian American Clients and Clinicians. *Journal of Counseling Psychology*, 52(1),45-56.

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