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Computer Program Exchange

IPLINK: Multidimensional and Unidimensional Item Parameter Linking in Item Response Theory

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Description

Many applications of item response theory (IRT), such as test equating or differential item functioning, depend on successful linking procedures. IPLINK estimates linking coefficients that place item parameter estimates from separate calibrations onto a common trait metric for test data that are m-dimensional. The linking coefficient estimates are obtained by minimizing the differences between two sets of functions of item parameter estimates using one of the four methods described in Oshima, Davey, & Lee (1996). The four methods are: (1) the direct method, (2) the equated function method, (3) the test characteristic function method, and (4) the item characteristic function method.

IPLINK is a Windows-based program. The user creates an initial file on an edit screen by selecting options, such as the number of trait dimensions and model type. The default settings for commonly used IRT calibration output files such as those from BILOG (Mislevy & Bock, 1990) and NOHARM (Fraser, 1987) are also provided. The initial file includes a "Data File Source" button that leads the user to another screen in which data file names and an output file name are specified. More than one pair of input data files can be entered, which enables the user to stack the files for multiple runs. The program is executed by selecting "Run" from a pull-down menu. Online help is available. IPLINK is written in Turbo C++ and runs under Windows 3.1 and Windows 95.

Availability

A copy of the program and example files for unidimensional and multidimensional linking can be downloaded from the web page: http://www.gsu.edu/~gs01kkl/ under the "Item Response Theory" title (in a zip file format). Alternatively, the zip file can be obtained by e-mailing the authors (oshima@gsu.edu or gs01kkl@panther.gsu.edu) or sending a formatted 3.5-inch high density diskette and a self-addressed stamped diskette mailer to Kevin Lee or T. C. Oshima, Department of Educational Policy Studies, Georgia State University, University Plaza, Atlanta GA 30303, U.S.A.

References

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