Dear All,

A while ago I had sent a query about free DIF software.

Several colleagues responded and provided information, tips,

directions and links.

I have summarized the information I received below.

1. Ordinal and Logistic regression DIF by Bruno Zumbo

The code for ordinal and binary logistic regression can be obtained

form the link below

http://educ.ubc.ca/faculty/zumbo/DIF/index.html

2. using R

http://www.r-project.org/

DIF using R-package might be a good choice.
http://cran.r-project.org/web/packages/difR/

Manual:
http://cran.r-project.org/web/packages/difR/difR.pdf

Paper:
http://ppw.kuleuven.be/okp/_pdf/Magis2010AGFAA.pdf

3. DIFAS

DIFAS (differential item functioning analysis software). This software

computes observed score DIF analyses for dichotomous and polytomous

items. For dichotomous items, it conducts the MH chi-square, MH log-

odds ratio estimator and associated z-test, the Breslow-Day test of

trend in odds ratio heterogeneity (for nonuniform DIF), and the ETS

classification scheme. For polytomous items, it conducts the Liu-Agresti cummulative common log-odds ratio (polytomous extension of the MH for dichotomous items), Mantel's chi-square, Cox's hypergeometric noncentrality parameter estimator, and differential step functioning (DSF) effect estimators.

DDFS (differential distractor functioning software). This software computes odds ratio estimators of the DDF effects, as described by Penfield (2008, Journal of Educational Measurement). It also computes MH log-odds ratio and the Breslow-Day trend in odds ratio heterogeneity.

These two programs are described in the following references:

Penfield, R. D. (2005). DIFAS: Differential item functioning analysis system. Applied
Psychological Measurement, 29, 150-151.

Penfield, R. D. (in press). DDFS: Differential Distractor Functioning Software. Applied
Psychological Measurement, 34, 646-647.

4. JMetric

 jMetrik does DIF analysis using the Mantel-Haenszel and nonparametric item characteristic curves methods. It works with both binary and polytomous items. The statistics include the Mantel-Haenszel chi-square, ETS delta and common odds ratio, confidence intervals, and ETS DIF classifications. For polytomous items, the effect size is the standardized mean difference. You can download the software for free from www.ItemAnalysis.com.

5. A collection based on R

DifR:

Description: The difR package contains several traditional methods to detect DIF in dichotomously
scored items. Both uniform and non-uniform DIF effects can be detected, with methods relying
upon item response models or not. Some methods deal with more than one focal group.

http://cran.r-project.org/web/packages/difR/difR.pdf

There is also the R package lorddif

Description: Analysis of Differential Item Functioning (DIF) for
dichotomous and polytomous items
using an iterative hybrid of (ordinal) logistic regression and item
response theory (IRT)

http://cran.r-project.org/web/packages/lordif/lordif.pdf

Brian Habing (U of S. Carolina) also has an R function for Mantel-
Haenszel DIF here:
http://www.stat.sc.edu/~habing/courses/778rS06.html#mhdif

 6. BIGSTEPS
The DIF Analysis in BIGSTEPS (the free version of Winsteps) in
addition to providing a Rasch based DIF, it provides the Mantel
Hanszel values as well.

Many thanks to all for providing the information and to those who
developed the software and so generously made it available to all of us.

Best wishes,
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