The Importance of Reliability

Zach Kunicki & Rich Jones

9/17/2019

Literature Review

Loevinger (1954) shows the attentuation paradox means classical test theory (CTT) reliability is bad. Item response theory (IRT) reliability, on the other hand, is good (Cheng, Yuan, and Liu 2012).

Methods

We used some R packages to do these analyses (R Core Team 2019). The MASS package was used to simulate data (Venables and Ripley 2002).

Results

Our results are there best there is, plain and simple.

Discussion

You should use the reliability coefficients we suggest.

Some notes:

the _bookdown.yml file lets you pick which .Rmds are compiled within a directory and in which order. If you do not create this file, all .Rmds will be compiled in alphabetical order.

The "master" file MUST be named index.Rmd

A separate references .Rmd is not needed. Just place the header at the end of the discussion for the same effect.

References

Cheng, Ying, Ke-Hai Yuan, and Cheng Liu. 2012. "Comparison of Reliability Measures Under Factor Analysis and Item Response Theory." *Educational and Psychological Measurement* 72 (1): 52–67.

Loevinger, Jane. 1954. "The Attenuation Paradox in Test Theory." *Psychological Bulletin* 51 (5): 493–504.

R Core Team. 2019. *R: A Language and Environment for Statistical Computing*. Vienna, Austria: R Foundation for Statistical Computing. https://www.R-project.org/.

Venables, W. N., and B. D. Ripley. 2002. *Modern Applied Statistics with S*. Fourth. New York: Springer. http://www.stats.ox.ac.uk/pub/MASS4.