Item analysis

1. Data cleaning: by facet. No reverse coding or anything when nothing is sure.
2. Obtain in SPSS response frequencies and the histograms of the frequencies in order to detect any abnormal distribution. Normal distribution should have low frequencies for extreme response categories, but higher frequencies for more neutral ones.
3. After obtaining the frequencies distributions, put all items in GGUM and obtain the item parameters (using GGUM instead of MULTILOG because in GGUM, we don’t need to recode any responses, but in to use MULTILOG, the dominance model in other words, you need to first reversely code the items that require reverse coding).
4. After obtaining the item parameters, put them as well as item response into the excel MACRO called MODFIT, and with the fit plots and stats obtained, try to detect any abnormal items.
5. Mean chi^2/df – rule of thumb: 3
6. Plot: if discriminating, then item is fine; otherwise, not fine.
7. In DIF study, delete items based on plot that are problematic. If one item is not good in one group, delete it in both groups even though it works fine in the other group.
8. Use the remaining items that exist in both groups to run a DIF analysis under GGUM, using Wei’s R code.

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1. Before running DIF analysis for dominance model, items need to be all reversely coded.
2. To decide which items to be reversely coded, refer to GGUM model fit plots, FLs came along with the scale, and single item fit statistic.
3. If item performs well in one sample but not the other, then almost definitely this items has DIF, so don’t delete the item, but instead reverse (or not) the item based on the sample where it works fine.
4. For intermediate items, plots may indicate that the item does not perform poorly, but is not clear if the item should be reversed. In this situation, just keep the item without reversing it.