Revision comments

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# Revision comments

## 1. Fit statistics.

1. SPSS does not provide fit statistics for exploratory factor analysis. In order to convince me of the structure of your measure, you have to provide fit statistics. For example, M plus provides fit statistics for such analyses (also see reviewer 3; and M plus will provide geomin rotation), besides chi-squared, RMSEA (and confidence interval), also report at least CFI and TLI.

Response:

Here are the fit statistics for factor analytic solution in table and graphic format.

Factors Cum.Eigen Chi-Square Df p.value RMSEA.Pt RMSEA.Lo RMSEA.Hi  
 [1,] 1 15.54644 14390.417 1127 0 0.13539363 0.13342391 0.13737263  
 [2,] 2 21.61655 10789.396 1079 0 0.11839687 0.11637184 0.12043263  
 [3,] 3 24.63805 7965.640 1032 0 0.10229945 0.10021106 0.10440020  
 [4,] 4 26.64605 5796.907 986 0 0.08717812 0.08501450 0.08935580  
 [5,] 5 28.41399 4959.072 941 0 0.08155423 0.07932515 0.08379840  
 [6,] 6 29.87331 4332.693 897 0 0.07724020 0.07494366 0.07955277  
 [7,] 7 31.25113 3712.555 854 0 0.07220659 0.06983360 0.07459650  
 [8,] 8 32.46623 2923.307 812 0 0.06364000 0.06116116 0.06613606  
 [9,] 9 33.47568 2448.905 771 0 0.05822225 0.05563812 0.06082320  
[10,] 10 34.47393 2092.926 731 0 0.05387044 0.05117417 0.05658229  
[11,] 11 35.28305 1766.844 692 0 0.04918721 0.04635593 0.05203071  
[12,] 12 36.07588 1549.766 654 0 0.04618925 0.04322740 0.04915953  
[13,] 13 36.82597 1318.401 617 0 0.04207975 0.03894254 0.04521586  
[14,] 14 37.54288 1176.173 581 0 0.03994533 0.03665421 0.04322725  
[15,] 15 38.21977 1014.674 546 0 0.03656552 0.03305376 0.04004819  
[16,] 16 38.85704 891.419 512 0 0.03397481 0.03023079 0.03766446

## 2. Number of factors

Using the standard scree plot is an outdated approach to select the number of factors. So please follow his advice and apply a more advanced method such as parallel analysis or the MAP test or if you use a scree plot, do this on basis of fit statistics like for example the Hull method described by Lorenzo-Seva, Timmerman and Kiers (2011).

### PA with psych

Using psych package conduct Parallel analysis

library(psych)  
foc <- ds %>% dplyr::select\_(.dots = items\_phase\_0)  
foc <- matrix(as.numeric(unlist(foc)), nrow=nrow(foc), ncol=ncol(foc)) # turn it into a matrix  
  
pa\_result <- psych::fa.parallel(  
 foc,   
 fm = "uls",  
 fa = "both",  
 se.bars = TRUE  
) # "Parallel analysis suggests that the number of factors = 9" (from "psych" package)

Parallel analysis suggests that the number of factors = 9 and the number of components = 7

### Velicer's MAP Test

Velicer's Minimum Average Partial Test   
  
  
 The entered data is a correlation matrix.  
  
  
Eigenvalues:  
  
 root eigenvalue  
 1 15.54644  
 2 6.07010  
 3 3.02150  
 4 2.00800  
 5 1.76794  
 6 1.45933  
 7 1.37782  
 8 1.21510  
 9 1.00945  
 10 0.99825  
 11 0.80912  
 12 0.79283  
 13 0.75008  
 14 0.71691  
 15 0.67689  
 16 0.63728  
 17 0.60318  
 18 0.58449  
 19 0.55647  
 20 0.54794  
 21 0.53050  
 22 0.51603  
 23 0.48164  
 24 0.43361  
 25 0.42004  
 26 0.40015  
 27 0.38280  
 28 0.37340  
 29 0.35209  
 30 0.34443  
 31 0.33339  
 32 0.32565  
 33 0.30469  
 34 0.27707  
 35 0.27190  
 36 0.24842  
 37 0.23798  
 38 0.22132  
 39 0.19746  
 40 0.18598  
 41 0.17356  
 42 0.15938  
 43 0.14708  
 44 0.13535  
 45 0.12146  
 46 0.10595  
 47 0.06085  
 48 0.05601  
 49 0.05266  
  
  
Velicer's Average Squared Correlations  
  
 root Avg.Corr.Sq. Avg.Corr.power4  
 0 0.11078 0.02640  
 1 0.03678 0.00709  
 2 0.02336 0.00437  
 3 0.01848 0.00250  
 4 0.01474 0.00127  
 5 0.01357 0.00105  
 6 0.01327 0.00097  
 7 0.01291 0.00087  
 8 0.01257 0.00074  
 9 0.01220 0.00079  
 10 0.01229 0.00077  
 11 0.01292 0.00081  
 12 0.01351 0.00086  
 13 0.01427 0.00092  
 14 0.01496 0.00103  
 15 0.01573 0.00124  
 16 0.01659 0.00151  
 17 0.01814 0.00190  
 18 0.01931 0.00235  
 19 0.02064 0.00256  
 20 0.02222 0.00308  
 21 0.02393 0.00350  
 22 0.02606 0.00402  
 23 0.02870 0.00458  
 24 0.03110 0.00517  
 25 0.03513 0.00637  
 26 0.03846 0.00762  
 27 0.04089 0.00885  
 28 0.04423 0.01004  
 29 0.04756 0.01121  
 30 0.05378 0.01316  
 31 0.05752 0.01474  
 32 0.06685 0.01793  
 33 0.06915 0.01924  
 34 0.07595 0.02189  
 35 0.08841 0.02843  
 36 0.09652 0.03152  
 37 0.11042 0.03773  
 38 0.12215 0.04425  
 39 0.14644 0.05905  
 40 0.15439 0.06775  
 41 0.18216 0.08709  
 42 0.19538 0.09707  
 43 0.22050 0.10756  
 44 0.24770 0.12921  
 45 0.36678 0.22800  
 46 0.34261 0.20812  
 47 0.50826 0.38111  
 48 1.00000 1.00000  
  
  
The smallest average squared correlation is 0.0122  
  
The smallest average 4rth power correlation is 0.00074  
  
The Number of Factors According to the Original (1976) MAP Test is = 9  
  
The Number of Factors According to the Revised (2000) MAP Test is = 8

## 3. PA of Interference Scale

Using 7 items of the Interference Scale

name\_new label label\_graph  
1 itf\_1 Interference 1 - My relationship with my partner/spouse. relations-spouse  
2 itf\_2 Interference 2 - My relationships with family members relations-family  
3 itf\_3 Interference 3 - Other relationships in my life relations-other  
4 itf\_4 Interference 4 - My relationships with my prenatal caregivers relations-parents  
5 itf\_5 Interference 5 - My work life work-life  
6 itf\_6 Interference 6 - My leisure activities leisure  
7 itf\_7 Interference 7 - Getting ready for the new baby baby-ready

itf\_1 itf\_2 itf\_3 itf\_4 itf\_5 itf\_6 itf\_7  
Not at all 457 485 530 481 498 494 454  
Slightly 113 106 82 93 92 93 128  
Moderately 49 28 21 45 30 35 38  
Quite a bit 15 20 6 20 16 18 19  
Extremely 9 4 4 4 7 3 4

Scree.Plot(Ritf,main="SCREE Plot\nFear of Interference Scale (n=643)")

library(psych)  
itf <- ds %>% dplyr::select\_(.dots = items\_int)  
itf <- matrix(as.numeric(unlist(itf)), nrow=nrow(itf), ncol=ncol(itf)) # turn it into a matrix  
  
pa\_result <- psych::fa.parallel(  
 itf,   
 fm = "uls",  
 fa = "both",  
 se.bars = TRUE  
)

Parallel analysis suggests that the number of factors = 2 and the number of components = 1

## Reproducibility Information

sessionInfo()

R version 3.2.3 (2015-12-10)  
Platform: x86\_64-w64-mingw32/x64 (64-bit)  
Running under: Windows 7 x64 (build 7601) Service Pack 1  
  
locale:  
[1] LC\_COLLATE=English\_United Kingdom.1252 LC\_CTYPE=English\_United Kingdom.1252   
[3] LC\_MONETARY=English\_United Kingdom.1252 LC\_NUMERIC=C   
[5] LC\_TIME=English\_United Kingdom.1252   
  
attached base packages:  
[1] stats graphics grDevices utils datasets methods base   
  
other attached packages:  
 [1] paramap\_1.1 polycor\_0.7-8 sfsmisc\_1.1-0 mvtnorm\_1.0-5 GPArotation\_2014.11-1  
 [6] sem\_3.1-7 plotrix\_3.6-2 psych\_1.5.8 ggplot2\_2.0.0 magrittr\_1.5   
[11] knitr\_1.11   
  
loaded via a namespace (and not attached):  
 [1] splines\_3.2.3 lattice\_0.20-33 colorspace\_1.2-6 htmltools\_0.2.6 stats4\_3.2.3 yaml\_2.1.13   
 [7] nloptr\_1.0.4 DBI\_0.4-1 RColorBrewer\_1.1-2 plyr\_1.8.2 stringr\_1.0.0 munsell\_0.4.2   
[13] gtable\_0.1.2 coda\_0.18-1 evaluate\_0.8 mi\_1.0 extrafont\_0.17 parallel\_3.2.3   
[19] Rttf2pt1\_1.3.3 Rcpp\_0.12.6 readr\_0.2.2 scales\_0.3.0 arm\_1.8-6 formatR\_1.2   
[25] abind\_1.4-3 lme4\_1.1-10 mnormt\_1.5-3 testit\_0.4 digest\_0.6.8 stringi\_0.4-1   
[31] dplyr\_0.5.0 grid\_3.2.3 tools\_3.2.3 lazyeval\_0.1.10 tibble\_1.1 dichromat\_2.0-0   
[37] tidyr\_0.4.1 extrafontdb\_1.0 MASS\_7.3-45 Matrix\_1.2-3 matrixcalc\_1.0-3 assertthat\_0.1   
[43] minqa\_1.2.4 rmarkdown\_0.9.2 R6\_2.0.1 boot\_1.3-17 nlme\_3.1-122