

Supplemental Material for Psychological Methods website

SAS macro for calculating the relative fit indices with correct baseline model

```

*****
/** This macro is to calculate the relative fit indices using the chi-square          **/
/** test statistic from the hypothesized and baseline models                        **/
/** One need to run the hypothesized and baseline models using GCM compatible      **/
/** software like Mplus or Lisrel to obtain the values for following macro variables: **/
/** th: chi-square test statistic for hypothesized model                          **/
/** dfh: degrees of freedom for hypothesized model                               **/
/** tb: chi-square test statistic for baseline model                             **/
/** dfb: degrees of freedom for baseline model                                  **/
/** n: sample size                                                             **/
/** NFI = normed fit index; TLI = Tucker-Lewis index;                           **/
/** CFI = comparative fit index; PCFI = parsimony version of CFI                **/
/** The constraints, if any, on the residual variances over measurement occasions should **/
/** match in the tested model and the baseline model.                            **/
*****

%macro relativefit(th,dfh,tb,dfb,n);

data outfit;
NFI = (&tb - &th)/&tb;
TLI = (((&tb/&dfb)-(&th/&dfh))/((&tb/&dfb)-1));
db = (&tb-&dfb)/(&n-1);
dh = (&th-&dfh)/(&n-1);
if dh > 0 and db > dh then CFI = 1 - dh/db;
  else if dh>0 and db < dh then CFI = 0;
  else if dh<0 then CFI = 1;
PCFI = CFI * &dfh/&dfb;
keep NFI TLI CFI PCFI;
run;

%mend relativefit;

```

SPSS Syntax for calculating the relative fit indices with correct baseline model

```

*****
** This SPSS program is to calculate the relative fit indices using the chi-square **
** test statistics from the hypothesized and baseline model. **
** ** **
** To run this program, one needs to create a SPSS data file with the **
** following variables (th, dfh, tb, dfb and n): **
** th: chi-square test statistic for hypothesized model **
** dfh: degrees of freedom for hypothesized model **
** tb: chi-square test statistic for baseline model **
** dfb: degrees of freedom for baseline model **
** n: sample size **
** NFI = normed fit index; TLI = Tucker-Lewis index; **
** CFI = comparative fit index; PCFI = parsimony version of CFI **
** ** **
** To obtain the value for each of the variables, One needs to run the hypothesized **
** and baseline models using GCM compatible software like Mplus and Lisrel. **
** ** **
** After run the program, the calculated fit indices will be saved as new variables **
** in your created SPSS data file. **
** The constraints, if any, on the residual variances over measurement occasions **
** should match in the tested model and the baseline model. **
*****

COMPUTE TLI = ((tb/dfb)-(th/dfh))/((tb/dfb)-1) .
COMPUTE DB = (tb-dfb)/(N-1).
COMPUTE DH = (th-dfh)/(N-1).
COMPUTE NFI = (tb - th)/tb.
EXECUTE.

IF (DH>0 & DB>DH) CFI = 1-DH/DB .
IF (DH>0 & DB<DH) CFI = 0.
IF (DH<0) CFI = 1.
COMPUTE PCFI = CFI * dfh/dfb.
EXECUTE.

```