

Detection of deviating loadings

To determine whether misspecifications are present in the model we used a procedure developed by Saris, Satorra and Van der Veld (2009) which tests directly for misspecifications in the model while taking into account the power of the test for each misspecification. A misspecification occurs if a parameter has been given a fixed value (mostly zero), which is incorrect in the population studied (Hu and Bentler, 1998). The misspecification test combines knowledge of: (a) the size of the misspecification (Expected Parameter Change, EPC); (b) the impact on the fit if the parameter were included (Modification Index, MI); and (c) the sensitivity of the test in detecting the misspecification (power of the test). Both (a) and (b) are present in the output files of SEM software; (c) can be calculated based on the noncentrality parameter. The program JRULE (Judgment Rule), developed by Van der Veld, Saris and Satorra (2009), facilitates the procedure.

So we first used SEM software (LISREL) to analyze the model with constrained loadings and then we used JRULE program to identify if there exists any misspecifications.

In JRULE program user can choose different settings for analysis. We used standard specification (Alpha=0.05; Beta=0.20; High Power=0.80; Delta1=0.4; Delta2=0.1; Delta3=0.1), except for Delta4 (0.1).

With these specifications JRULE didn't refer to any deviations concerning loadings.

An example of LISREL input file for metric invariance test:

```
Austria1
datang=97 ni=3 no=2257 ma=cm
km
*
1
.185 1
.156 .096 1
me
*
.4616 .4143 .6737
sd
*
.3198 .35399 .37611
mony=3 ne=1ly=fu,fite=di,frps=di,fr
le
IPIM
lables
IPIMtvIPIMrdIPIMnwsp
fips 2 2
va 1 ly 1 1
frly 2 1 ly 3 1
ou admin=of ns mi scnd=3 iter=300
```

```
Austria2
dani=3 no=2256 ma=cm
km
*
1
.203 1
.164 .109 1
me
*
0.4106 0.3935 0.6478
sd
*
0.31503 0.35692 0.3797
mony=3 ne=1ly=in te=di,frps=di,fr
ou admin=of ns mi sciter=300
```

...