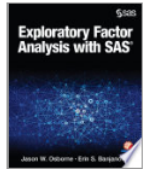


Örneklem büyüklüğü

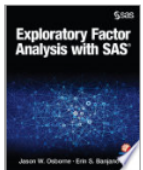
BASILI KİTABI EDİNİN



★★★★★  
0 Eleştiriler  
Eleştiri yazın

Exploratory Factor Analysis with  
SAS

BASILI KİTABI EDİNİN



★★★★★  
0 Eleştiriler  
Eleştiri yazın

Exploratory Factor Analysis with  
SAS

Yazar: Jason W. Osborne, PhD, Erin S. Banjanovic

accurate. Only 10% of samples in the smallest (2:1) sample produced correct solutions (identical to the population parameters), but 70% in the largest (20:1) produced correct solutions. Further, the number of misclassified items was also significantly affected by sample size. Almost two of thirteen items on average were misclassified on the wrong factor in the smallest samples, whereas just over one item in every two analyses was misclassified in the largest samples. Finally, two indicators of trouble—the presence of factor loadings greater than 1.0, or failure to converge, or both, were both exclusively observed in the smaller samples, with almost one-third of analyses in the smallest sample size category failing to produce a solution.

As we discussed above, Osborne et al. (2008) found that the majority of recent papers have subject to item ratios in the lower ranges. (See Table 5.1 on page 86.) Costello & Osborne's analyses demonstrate that the error rates for these ranges are extraordinarily high. Specifically, approximately two-thirds of published EFA studies have subject to item ratios of less than 10:1; at the same time, this ratio is associated with an error rate of approximately 40%. Even the samples with ratios of 20:1 have error rates well above the field standard alpha = .05 level!

**Table 5.2** The effects of subject to item ratio on exploratory factor analysis

Variable	2:1	5:1	10:1	20:1	$F_{(3,76)}$
% samples with correct structure	10%	40%	60%	70%	13.64*** (.21)
Average number of items misclassified on wrong factor	1.93	1.20	0.70	0.60	9.25*** (.16)
Average error in eigenvalues	.41	.33	.20	.16	25.36*** (.33)
Average error in factor loadings	.15	.12	.09	.07	36.38*** (.43)
% fail to converge after 250 iterations	30%	0%	0%	0%	8.14*** (.24)
% with loadings >1	15%	20%	0%	0%	2.81* (.10)

Note:  $\eta^2$  reported in parentheses for significant effects, \*  $p < .05$ , \*\*\*  $p < .0001$ .