

## **Supplementary Material**

Title: Further specifying the cognitive model of depression: Situational expectations and global cognitions as predictors of depressive symptoms

Journal name: Clinical Psychology in Europe

## **Factor analysis: Method**

After a previous study revealed four underlying factors of the DES using a convenience sample (Kube, D'Astolfo, Glombiewski, Doering, & Rief, 2017), we used baseline data from the clinical sample ( $N = 91$ ) to determine the factor structure of the DES among individuals suffering from MDD. A maximum likelihood factor analysis was computed (Lawley & Maxwell, 1962). Though this technique is a subtype of an exploratory factor analysis, it can be useful for a cross-validation using confirmatory factor analyses in future analyses (Tabachnick & Fidell, 2014). Preconditions of factor analysis were carefully examined, and sample adequacy was examined by inspecting the following coefficients: Kaiser-Meyer-Olkin coefficient, measure of sample adequacy (MSA) coefficients and Bartlett's test of sphericity. According to the recommendations by Bühner (2011), the minimum average partial correlation (MAP) test (Velicer, 1976) was chosen to determine the number of factors. An oblique rotation technique, i.e. the Promax rotation, was chosen because of the intercorrelations of the factors as revealed in a previous study (Kube et al., 2018). According to Gorsuch (1983), items with factor loadings  $>.30$  can be interpreted as loading on a single factor, while Comrey and Lee (1992) have recommended to use factor loadings of  $\geq .32$  as a cut-off for the interpretation. We followed the more conservative suggestions made by Comrey and Lee (1992) to ensure an unambiguous interpretation of the factor structure. Additionally, the factors were interpreted in the light of replicability, utility, and complexity (Tabachnick & Fidell, 2014).

## **Factor analysis: Results**

The Kaiser-Meyer-Olkin coefficient of sampling adequacy yielded a score of .73, MSA coefficients were all clearly above the lower limit of .50 and the Bartlett's test of sphericity was significant indicating an overall moderate adequacy of the sample. All preconditions of factor analysis were fulfilled. The MAP-test revealed five underlying factors of the 25-item

DES. Table 4 shows the factor loadings and communality measures of the 25 items for the five-factor solution. Four factors were in line with the factors revealed by a previous study (Kube et al., 2017), namely “social rejection” (item no. 7, 10, 13, 14, 22, 24, 25), “social support” (item no. 5, 8, 9, 11), “mood regulation” (item no. 1, 2, 3, 4, 6, 15, 16) and “ability to perform” (item no. 17, 18, 19). In this sample, an additional fifth factor was found, and it was labelled “approval by others” (item no. 12, 20, 21). This factor was associated with items expressing anticipated negative reactions by others if, for instance, one does something imperfectly or takes time for one self. The overall variance explained by the five-factor model before rotation was 46.72%.

Table 4

*Factor loadings and communalities for the clinical sample (N=91): pattern matrix.*

Item no.	Factor					Communality
	Social rejection	Social support	Mood regulation	Ability to perform	Approval by others	
1			.64			.48
2			.49			.40
3			.86			.66
4			.32			.15
5		.58				.35
6			.51			.47
7	.43					.39
8		.92				.84
9		.54				.36
10	.41					.30
11		.35				.39
12					.56	.33
13	.93				-.35	.77
14	.70					.50
15			.39			.27
16			.63			.53
17				.46		.41
18				.77		.63
19				.95		.88
20					.74	.61
21					.80	.63
22	.40					.40
23	.34			.43		.38
24	.38					.19
25	.55					.36

*Note.* Extraction method: maximum likelihood factor analysis with Promax rotation. Only factor loadings of  $\geq .30$  are reported.

## **Factor analysis: Discussion**

Results of the factor analysis using the data from the clinical sample stressed the factorial validity of the DES. In comparison to a previous study (Kube et al., 2017), the present study revealed five underlying factors of the DES, of which four factors are equivalent to the factors revealed by the previous study (social rejection, social support, mood regulation, ability to perform), and one additional factor, labelled “approval by others”. It is conceivable that this additional factor could not be found in the previous study, because the convenience sample used in the previous study was more heterogeneous compared to the clinical sample from the present study, resulting in a less unambiguous factor structure with less substantial factor loadings on a single factor and more cross-loadings compared to the present study.

Future studies with sufficient sample size are urgently needed to replicate the factor structure of the DES with adequate statistical features, i.e., confirmatory factor analysis. Relatedly, it would be worthwhile to compare the factor structure of the DES in a clinical and a healthy sample to examine, for instance, in how far the fifth factor ‘approval by others’ is specific to a clinical sample. Unfortunately, this was not possible in the present study due to the too small sample size in the healthy sample.