P131 - Reliability of the Emotion Thermometers Screening Tool:

Principal Component and Cronbach Alpha Results from the first 700 Cases

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OBJECTIVES We recently developed the Emotions Thermometer screening tool (Psycho-oncology 2009), a simple five domain patient-rated visual-analogue scale that can be applied by specialists and non-specialists. Its completion time is less than 2mins. Although we previously reported validity data we hereby report reliability data from the first 716 screened cases.

METHODS Principal components analysis (PCA) is based upon correlation or covariance, and Cronbach's coefficient alpha for scale reliability or internal consistency. Interpretation an alpha > 0.7 = reasonable, > 0.8 = good > 0.9 = excellent internal consistency. If the deletion of an element causes a considerable increase in alpha then one subscale may be redundant..

RESULTS The overall scale reliability was given by an alpha = 0.909 (95% lower confidence limit = 0.900). Dropping any of the domains had an insignificant change (change score -0.02 to 0.01) suggesting all subscales should be preserved. In terms of principal components (covariance) the eigenvalue of distress was largest accounting for 73% of variance and that of help the least (4%).

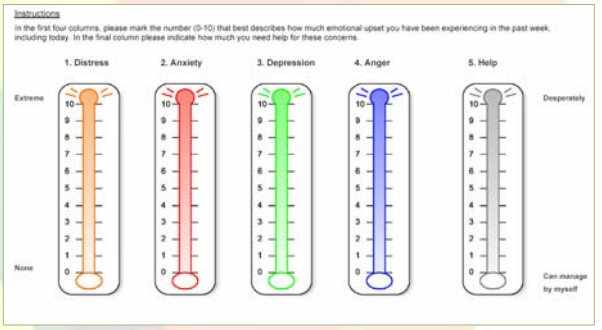
$$\alpha = \frac{N}{N-1}\left(1 - \frac{\sum_{i=1}^{N}\sigma_{Y_i}^2}{\sigma_X^2}\right)$$

Principal components (covariance)

Component	Eigenvalue (SVD)	Proportion
1 34.347746	73.46%	73.46%
2 4.681354	10.01%	83.47%
3 3.432625	7.34%	90.82%
4 2.231463	4.77%	95.59%
5 2.06286	4.41%	100%

Scale reliability alpha = 0.909482 (95% lower confidence limit = 0.900355)

Variable dropped	Alpha	Change
DT	0.887063	-0.022419
AxT	0.887274	-0.022208
DpT	0.879647	-0.029834
AgT	0.898497	-0.010985
HpT	0.894185	-0.015297



CONCLUSIONS The Emotion thermometers scale in its original five domain format appears to offer excellent reliability and all five domains should where possible be retained. The alpha reliability was = 0.909

CLINICAL IMPLICATIONS We recommend clinicians and researchers evaluate the value and reliability of the ET in their local practice.

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