**Loading the Dataset**

**Check if PCA can be done: KMO test > 0.5**

Analyze🡪Dimension Reduction🡪Factor🡪Descriptives

Check “KMO and Bartlett’s test of Sphericity”

The KMO is 0.60 which is greater than 0.50 So PCA can be done.

**Calculate eigenvalues**

Analyze🡪Dimension Reduction🡪Factor🡪Extraction

Check “Scree plot” and select option “Eigen value greater than 1”

**Deciding the number of factors**

So only 1 factor is chosen which has eigen value > 1, but the communalities matrix show that extraction for VD is very small (.128) and also Component matrix very small correlation between VD and the factor.

So, we chose to include two factors instead of the one manually:

Analyze🡪Dimension Reduction🡪Factor🡪Extraction. Select the option “fixed number of factors” and set it as 2.

After including the 2nd factor the extraction is VD improves significantly as shown in “Communalities” table and the correlation between VD and factor 2 is high as well.

**Calculate the factor loading using proper rotation**

To check the orthogonality of the factors, we check the “Component Correlation Matrix”. The components are not considered if their correlation is greater 0.50.

Analyze🡪Dimension Reduction🡪Factor🡪Rotation. Select “Varimax” under “Method” and Check “Rotated Solution”

Component Correlation Matrix show small correlation between between components. VQ, VF and VU highly correlate with factor 1 and VD with factor 2.

**Check the reliability with Cronbach’s alpha**

Now to check the reliability of the result, we calculate Cronbach Alpha for VQ, VF and, VU, which comes out to be 0.830, which proves the reliability of our analysis.

Analyze🡪Scale🡪Reliability analysis.