**Construct Validity of the Persian Version of the Questionnaire A**

Construct validity of the Questionnaire A was examined using exploratory factor analysis. It was conducted using the method of Principal Component Analysis to reveal the underlying structure of the data. The index of goodness of fit (Kaiser-Meyer-Olkin Measure of Sampling Adequacy (KMO)) was calculated, getting a coefficient of 0.281. Further, Bartlett’s Test of Sphericity was significant with p < 0.05. That is, the R-matrix was not an identity matrix. Therefore, there were some relationships between the variables that we included in the analysis.

Table1

*KMO and Bartlett’s test-pilot study*

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| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. 0.281  Approx. Chi-Square 555.105  Bartlett*’*s Test of Sphericity df 435  Sig. 0.000 |

Then, the extraction method was set according to “Number of factors”. It was revealed that five factors meet cut-off criterion (extraction method). The first factor accounts for 10.238% of the variability, factor2 (8.989%) of variability, factor 3 (8.938%) of variability, factor4 (8.750%) of variability, and factor5 (6.980%) of variability.

Table2 shows the rotated component matrix. Principal Components Analysis was used as the extraction method and Quartimax with Kaiser Normalization rotation method was adopted. It could be said that the first seven subtests loaded strongly on factor1. That is, all these questions identified the intended relationships among the statements. Thus, the factor related to these questions was labeled as *Analysis*. Question29 loaded fairly strongly on factor2, whereas questions1, 16, 12, 9, and 27 loaded strongly on factor2. All these questions related to assess the credibility of statements. So, the factor related to these questions was labeled as *Evaluation*. Questions17 and 21 loaded strongly on factor3, whereas questions13, 14, 19, 15, 25, and 5 loaded fairly strongly on factor3. These eight questions all contain some components of generalization from the structure. Thus, the factor related to these questions was labeled as *Inductive reasoning*. Questions7, 22, 18, 28, and 26 loaded strongly on factor 4, whereas question11 loaded fairly strongly on factor 4. All these questions related to identify and secure elements needed to draw reasonable conclusions. Therefore, the factor related to these six questions was labeled as *Inference*. Questions24 and 30 loaded strongly on factor 5, whereas question3 loaded fairly strongly on factor5 .These three questions all contained some components of determining whether certain conclusions necessarily followed from information in given statements. Thus, the factor related to these questions was labeled as *Deductive reasoning*.

Table2

*The Factor loading for each variable*

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**Rotated Component Matrixa**

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| **Component** |
| **1 2 3 4 5** |
| Q23 0.738 0.117 -0.164 -0.307  Q20 0.632 0.131 -0.311 -0.313  Q10 0.556 -0.135 0.196 0.227  Q6 0.543 -0.199 -0.117 -0.115  Q2 0.531 0.320 0.195 -0.124 -0.408  Q8 0.524 -0.236 -0.123 0.195 0.329  Q4 0.368 0.113 0.257  Q1 -0.693 0.201 -0.121  Q16 0.132 -0.632 -0.138  Q12 0.104 0.609 -0.130  Q9 -0.387 0.562 -0.388 -0.119  Q27 0.558 0.363 0.301 0.211  Q29 0.328 0.424 0.165 -0.398 -0.207  Q17 -0.756  Q21 0.589 0.470  Q19 0.286 0.471 0.232  Q15 -0.103 0.457 -0.356 -0.213  Q25 0.305 -0.335 -0.430 0.166  Q5 -0.159 0.273 0.412 0.237 -0.149  Q14 0.243 -0.250 0.376 -0.195  Q7 0.202 -0.147 -0.243 -0.661 0.208  Q22 0.584 -0.313  Q18 0.385 0.159 0.554 0.155  Q28 0.537 0.436  Q26 0.155 0.513  Q11 0.100 -0.336  Q13 0.159 -0.158 -0.225  Q24 0.102 0.298 -0183 0.596  Q30 0.582  Q3 0.134 -0.184 0.368 |

Extraction Method: Principal Component Analysis.

Rotation method: Quartimax with Kaiser Normalization.

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| **a**. Rotation converged in 21 iterations. |