Appendix I

Table S1.

*Rotated structure matrix of the 3-factor and 2-factor solution using Principal Axis Factoring with oblique rotation*

|  |  |  |
| --- | --- | --- |
|  | **Three-factor solution** | **Two-factor solution** |
| **Paradigm** | **Measure** | **Factor 1** | **Factor 2** | **Factor 3** | **Factor 1** | **Factor 2** |
| 1 | HG Cost (VM) | **.662** | .026 | .290 | **.665****.703****.679****.657****.564****.533****-.050****.264** | .198 |
| 2 | The PRP effect | **.633** | **.338** | .135 | **.609** | **.368** |
| 1 | HG Cost (AV) | **.603** | .070 | .137 | **.611** | .159 |
| Dual-task cost (VM) | **.578** | .137 | .089 | **.574** | .189 |
| Dual-task cost (AV) | **.505** | .205 | .215 | **.507** | .290 |
| 6 | PD (subtraction) | **.406** | .105 | .052 | **.404** | .129 |
| 5 | Cue-switch cost | .100 | **.746** | .163 | .078 | **.553** |
| 4 | Mixing cost | **.371** | **.524** | **.329** | **.352** | **.623** |
| 5 | Task-switch cost | .100 | .142 | **.735** | .125 | **.338** |
| 4 | Switch cost | .293 | **.351** | **.467** | .289 | **.508** |

*Note*. The variables were sorted by their values of factor loadings and the factor loadings larger than 0.3 are presented in boldface. Paradigm 1 = Equal Priority Dual-task paradigm, Paradigm 2 = The PRP paradigm, Paradigm 4 = Task-switching paradigm with 1:1 cue-task mapping, Paradigm 5 = Task-switching paradigm with 2:1 cue-task mapping, Paradigm 6 = Task-switching paradigm with a problem state requirement.

Table S2.

*Results of initial eigenvalues and explained variance of each component/factor of both PCA and PAF.*

|  |  |  |  |
| --- | --- | --- | --- |
| Component/Factor | Initial Eigenvalues | Explained variance (PCA) | Explained variance (PAF) |
| 1 | 2.981 | 29.81% | 23.55% |
| 2 | 1.460 | 14.60% | 9.095% |
| 3 | 1.058 | 10.58% | 5.69% |

Appendix II

“[insert Figure S1.]"

*Figure S1*. The 3-factor and 2-factor models examined in the CFA.



Appendix III

Table S3.

*Rotated structure matrix of the factor solution using only a subset of variables*

|  |  |  |
| --- | --- | --- |
|  | **Cue-switch cost included** | **Task-switch cost included** |
| **Paradigm** | **Measure** | **Factor 1** | **Factor2** | **Factor 1** | **Factor 2** |
| 2 | The PRP effect | **.759** | .274 | **.773** | .160 |
| 1 | Dual-task cost (VM) | **.752** | .098 | **.740** | .088 |
| 6 | PD (subtraction) | **.629** | .019 | **.616** | -.009 |
| 1 | Dual-task cost (AV) | **.580** | **.385** | **.593** | **.343** |
| 5 | Cue/Task-switch cost | .052 | **.827** | -.014 | **.839** |
| 4 | Switch cost | **.304** | **.706** | **.313** | **.761** |

*Note*. The variables were sorted by their values of factor loadings and the factor loadings larger than 0.3 are presented in boldface. Paradigm 1 = Equal Priority Dual-task paradigm, Paradigm 2 = The PRP paradigm, Paradigm 4 = Task-switching paradigm with 1:1 cue-task mapping, Paradigm 5 = Task-switching paradigm with 2:1 cue-task mapping, Paradigm 6 = Task-switching paradigm with a problem state requirement.