

Cerebrals Society Examination

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Introduction. This questionnaire is an adapted version of the Jouve's EPC published by the Applied Psychology Center Eds (Les Editions du Centre de Psychologie Appliquée), the French branch of *Pearson Assessment, Inc.* It aims at measuring fluid reasoning through nonverbal sequential problems. Item analyses were conducted with data from 1,764 examinees. Reliability of scores as calculated with Spearman-Brown corrected split-half coefficient was .94 which is excellent and ensures an acceptable error of measurement. Multidimensional scaling analysis for items of the questionnaire has validated the existence of a continuum from the easiest to the hardest (cf. Figure 1). A principal components factor analysis on a group gathering 95 scores showed a $g\theta$ loading of .83 for this questionnaire while both the SAT-I M and the SAT-I V correlating at .82 and .75 respectively with the first unrotated axis. Correlation studies have shown appropriate validity for the scores of this revised EPC with Pearson's formula values of .82 with the Raven's APM in a sample of 134 test takers and of .81 with Cattell's CFIT-3A in a sample of 156 test takers. Furthermore, a correlation of .85 was observed with the Wechsler's WAIS in a highly selective sample of 23 examinees with an average FSIQ of 131.70 (SD=24.35).

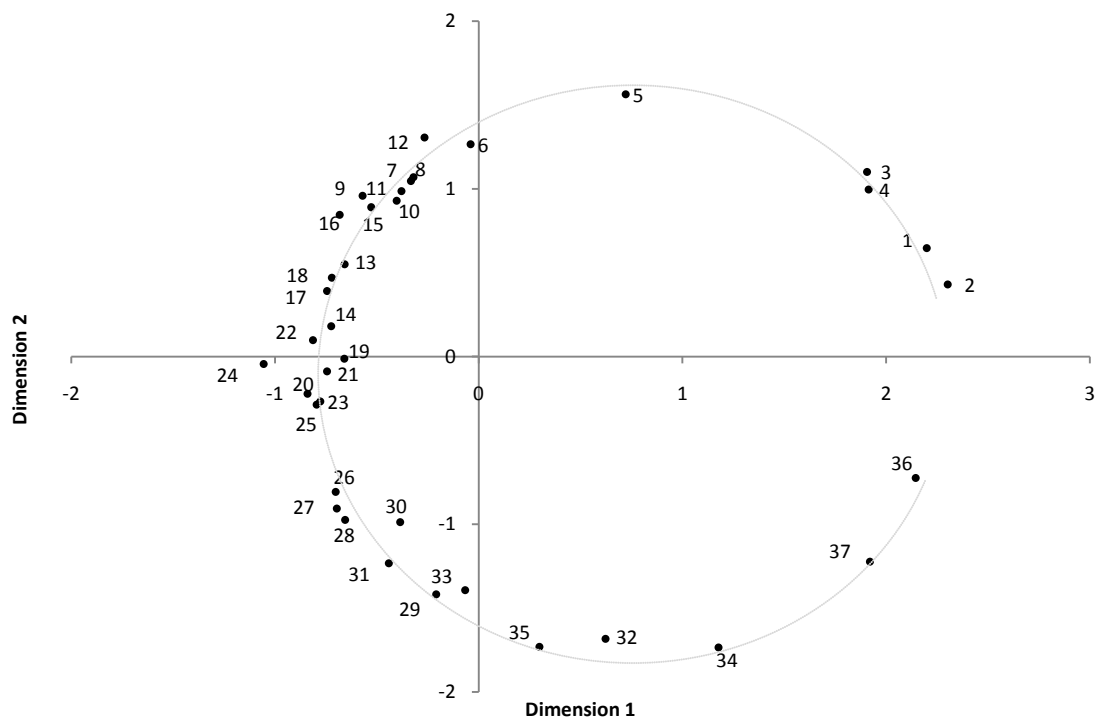


Figure 1. Two-dimensional scaling: a typical horseshoe figure that shows the continuum in items of the revised EPC. An inappropriate set of items would have produced a cloud figure rather than a horseshoe. Inadequacy values supported the two-dimensional solution, with a Stress of .14 and a RSQ of .92. ($N = 1,764$)

Questionnaire

Only contestants ranked among the top 50 in the Contest 2009 are allowed to take this questionnaire. Thanks for your comprehension.

Send your answers to testing@cerebrals.org

1. 11, 101, 1001, ?, ?
2. 111, 333, 555, ?, ?
3. 12, 24, 13, 26, ?, ?
4. 35, 44, 53, 62, ?, ?
5. 3, 9, 27, 81, ?, ?
6. Z, X, U, Q, ?, ?
7. 1437, 1549, 16511, ?, ?
8. PAS, 16119, ILE, ?, BOL, ?
9. 3025, 55, 2916, 54, 2809, 53, ?, ?
10. 1236, 2338, 34310, ?, ?
11. 12, 12, 1.44, 11, 11, 1.21, 10, ?, 1, 9, 9, ?
12. 13, 91, 20, 84, 27, 77, 34, ?, ?
13. ?, 9, 1, 0, 1, 3, 5
14. 17, 1118, 21119, ?, 41111111
15. 131214, 4131, 14, 0, 5, 9, 12, ?, ?
16. 35297, 24386, 79253, 68342, 39257, 28346, ?, ?
17. 2, 5, 27, 30, 2757, 2760, ?, ?
18. 99, 9, 1818, 17.5, 9999, 26, ?, ?
19. 57, 179, 236, 12, 17, 29, ?, ?, ?
20. 48, 28, 36, 20, 24, 14, ?, ?, 12
21. -482, ?, -468, 461, 0, 922, -234, 950, ?

22. 31012, 63123, 95234, ?

✓ Where's the disequilibrium in the elements that continue this sequence?

23. FF, 2, CC, 2, AF.E, 1.5, ?, ?, E.E

24. 7108119, 7018119, 9108117, ?, ?

25. 7, 54, 10203, 9.5, 64, 31513, 12, 55, 82823, 14.5, 65, ?, ?, ?

26. 56, 1.20, 6565, 1.00, 565656, 1.16, ?, ?

27. 78, 141615, 28521272106, ?

28. 86, 284, 1488, -1082, 2190, -1180, 1292, ?, ?

29. 31119, ?, 71523, 91725, ?

✓ Is this sequence self-sufficient? Is it more or is it less logical to add a fifth element?

30. 2814, 28164, 83256, ?

31. -3, ?, ?, 109, 1, 88, 2, 66, 5, 43, 4

32. 1234567, 777

✓ Which number is an intruder that needs to be removed in order to correct the sequence? Once corrected, propose your own theorem that appropriately describes the functioning of such sequences.

33. 17, 145.5, 291, 15546, 31092, ?, ?

34. 2704, 2702, 6708, 6705, 107048, 107044, 947008, 947003, ?, ?

35. -3, ?, -12, -1, -3, -7, -2, -1, ?, ?, 0, ?, -1, ?, 2, 1, 3, 7, 0, 5, 9, 2, 8, 14, ?

36. 123456789, 214365879, ?, ?

✓ How many cake-parts are there? Which number is a static one?

37. 8751, 3624, ?, 63, 72, 126

✓ Are there any elements that can logically precede or continue this sequence?