

COOMBS

COOMBS CH - M&F? H.S. SENIORS VOLUNTEERS  
 A FACTORIAL STUDY OF NUMBER ABILITY  
 PSYCHOMETRIKA 1941 6 161-189  
 PEARSON R'S TABLE 3 P.175

N=223

\*\*\* HIERARCHICAL FACTOR MATRIX, ORDER 1 \*\*\*

V#	1	2	3	4	5	6	7	8	9	10	H^2
FACTOR 1: O2;F1 GEN'L COGNITIVE ABILITY .2G; ORDER 2											
FACTOR 2: O1;F2 ALPHABET TASKS (SPEC.) .8S; ORDER 1											
1 +#9 ALPHABET III	.73	.62	.02	-.01	-.01	-.02	-.01	.00	-.00	.00	.91
2 +#8 ALPHABET II	.72	.61	.01	-.03	-.01	-.02	-.01	.00	.02	.06	.90
3 +#7 ALPHABET I	.72	.59	-.01	-.02	-.02	.03	.01	.02	.01	.05	.88
4 +#6 FORMS	.59	.36	-.02	.15	.01	.04	.07	-.01	.044	-.385	.65
5 +#5 ABC	.62	.32	.12	.05	.13	.07	.06	-.09	-.06	-.17	.57
6 +#4 AB	.66	.30	.13	.04	.14	.03	-.02	.12	.05	-.19	.62
FACTOR 3: O1;F1 NUMERICAL FACILITY .....N; ORDER 1											
7 +#1 TWO DIGIT ADDITION	.55	-.03	.73	-.11	.02	.06	.01	.00	-.06	-.03	.86
8 +#2 THREE DIGIT ADDITION	.64	.01	.70	.05	-.00	.01	-.03	-.03	-.01	.05	.91
9 +#3 FOUR DIGIT ADDITION	.63	.04	.65	.07	-.03	-.05	.01	-.02	-.03	.09	.83
10 +22 MULTIPLICATION	.49	-.01	.58	.00	-.05	.02	-.02	.00	.06	-.01	.59
11 +21 ADDITION	.51	-.05	.40	.27	-.04	-.08	.00	.10	.08	-.02	.52
12 +14 HIGHEST NUMBER	.50	.12	.20	.06	.03	.03	.09	.19	-.05	-.09	.36
FACTOR 4: O1;F8 INDUCTIVE REASONING .....I; ORDER 1											
13 +30 MARKS	.52	.27	-.19	.43	.01	-.00	.06	.03	-.12	-.01	.59
14 +31 NUMBER PATTERNS	.38	.03	.04	.42	-.23	.08	-.06	.21	-.02	.03	.43
FACTOR 5: O1;F4 VERBAL ABILITY .....V; ORDER 1											
15 +24 SAME-OPPOSITE	.51	.15	-.03	.04	.63	-.06	-.07	-.06	.02	.06	.70
16 +23 COMPLETION	.42	.08	-.05	-.03	.56	.04	-.05	-.01	-.00	.23	.56
17 +15 SIZE COMPARISON	.54	-.01	.06	-.02	.54	.07	.11	.11	.00	.11	.63
18 +20 VERBAL ENUMERATION	.46	-.03	.06	.04	.47	-.00	-.04	.28	.03	-.08	.52
FACTOR 6: O1;F5 SPATIAL RELATIONS .....SR; ORDER 1											
19 +26 FIGURES	.50	-.01	.03	-.05	.04	.80	.02	.00	-.03	.03	.91
20 +25 CARDS	.52	.07	-.03	.09	-.07	.64	-.02	.02	.07	.02	.70
21 +19 IDENTICAL FORMS	.43	.00	-.02	.01	.04	.39	.034	.365	.01	-.10	.48
FACTOR 7: O1;F3 SUBSTITUTION TASKS(SPEC.) .S&; ORDER 1											
22 +17 SUBSTITUTION II	.40	.00	-.03	.00	.01	-.01	.88	-.01	-.04	-.02	.94
23 +18 SUBSTITUTION III	.42	-.00	.04	-.04	-.01	.00	.84	.00	.02	-.03	.88
24 +16 SUBSTITUTION I	.50	.04	.01	.05	-.04	.03	.72	.03	.10	.06	.79

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(CONTINUED)

V#	1	2	3	4	5	6	7	8	9	10	H^2
FACTOR 8: O1;F6 PERCEPTUAL SPEED .....P; ORDER 1											
25 +11 SCATTERED X'S (ROWED) ..	.31	-.05	.03	-.01	-.02	.08	.01	.75	-.01	.10	.68
26 +12 SCATTERED X'S (PIED) ...	.19	-.01	-.02	.00	-.06	-.04	.01	.61	-.024	.365	.53
27 +10 DIGIT CANCELLATION .....	.44	.08	.22	-.04	.04	-.03	-.02	.46	-.01	-.01	.47
28 +13 IDENTICAL NUMBERS .....	.47	.07	.26	-.01	.13	-.14	.09	.33	.01	-.09	.46
29 +29 LETTER GROUPING .....	.45	.24	-.04	.18	-.05	-.01	-.08	.27	.05	-.00	.37
FACTOR 9: O1;F9 ASSOCIATIVE MEMORY .....MA; ORDER 1											
30 +27 INITIALS .....	.28	.03	.02	-.02	.02	.06	-.05	.04	.58	.04	.42
31 +28 WORD-NUMBER .....	.20	-.01	-.00	.01	.00	-.04	.11	-.02	.55	-.05	.35
FACTOR 10: O1;F7 QUANTITATIVE REASONING ...RQ; ORDER 1											
32 +33 NUMBER SERIES .....	.49	.06	.054	.315	.06	.00	-.01	.02	.06	.48	.57
33 +32 ARITHMETIC .....	.43	-.02	.034	.315	.06	.05	.06	-.12	.20	.45	.55
34 +34 MECHANICAL MOVEMENTS ...	.38	-.03	-.02	.10	.11	.16	.16	.17	-.03	.31	.34
SMSQ: 8.67 1.63 2.20 .74 1.37 1.30 2.11 1.71 .74 1.01 21.48											

\*\*\* HIERARCHICAL FACTOR MATRIX, ORDER 2 \*\*\*

HF #	1ST-ORD FACTOR	1	H^2
FACTOR 1: O2;F1 GEN'L COGNITIVE ABILITY ..2G; ORDER 2			
HF 2	O1;F2 ALPHABET TASKS (SPEC.) ...S&	.77	.59
HF 3	O1;F1 NUMERICAL FACILITY .....	.66	.44
HF 4	O1;F8 INDUCTIVE REASONING .....	.65	.42
HF 5	O1;F4 VERBAL ABILITY .....	.55	.30
HF 6	O1;F5 SPATIAL RELATIONS .....	.54	.29
HF 7	O1;F3 SUBSTITUTION TASKS(SPEC.) .S&	.45	.20
HF 8	O1;F6 PERCEPTUAL SPEED .....	.38	.14
HF 9	O1;F9 ASSOCIATIVE MEMORY .....	.32	.10
HF10	O1;F7 QUANTITATIVE REASONING ...RQ	.09	.01

SMSQ: 2.50 2.50