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WOTHKE W/BOCK RD/CURRAN LT/FAIRBANK BA/AUGUSTIN JW/GILLET AH/GUERRERO C JR
A FACTOR ANALYTIC EXAMINATION OF THE ARMED SERVICES VOCATIONAL APTITUDE
BATTERY (ASVAB) AND THE KIT OF FACTOR-REFERENCED TESTS
SAN ANTONIO TX:OPERATIONAL TECHNOLOGIES CORPORATION
TECH RPT MAY 1991 - ESTIMATED PEARSON R'S (MATRIX SAMPLING) - APPENDIX B

N= 230

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

V#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	H^2
FACTOR 1: O3;F1 GEN'L COGNITIVE ABILITY...3G; ORDER 3																	
FACTOR 2: O2;F2 FLUID INTELLIGENCE .....2F; ORDER 2																	
FACTOR 3: O1;F4 IDEATIONAL FLUENCY .....FI; ORDER 1																	
1 +22 FI1 TOPICS (ETS KIT) .....	.26	.26	.51	.05	.03	-.06	-.01	.01	-.06	-.09	.09	.03	-.01	-.084	.345	.04	.55
2 +46 FI3 THING CATEGORIES (ETS KIT)	.24	.22	.47	-.00	-.02	.07	-.04	.05	.06	.07	-.07	.08	.00	.094	.305	.04	.45
3 +44 FE2 ARRANGING WORDS (ETS KIT)..	.27	.19	.44	-.20	.06	.18	.04	.13	.06	-.02	.04	.06	.10	.04	.23	-.09	.48
4 +16 XU3 MAKING GROUPS (ETS KIT) ..	.34	.24	.42	.07	-.06	.09	.06	.08	-.09	-.06	.04	.27	.11	.00	.17	-.19	.54
5 +54 FA1 CONTROLLED ASSOC'NS (KIT)	.38	.21	.38	-.01	-.02	-.05	.17	.234	.325	-.02	.06	.12	-.01	.02	.18	.00	.57
6 +39 XU1 COMBINING OBJECTS (ETS KIT)	.17	.11	.34	-.00	-.09	-.00	.01	.14	.02	.08	-.094	.325	.11	.12	.20	.04	.37
7 +13 FA2 OPPOSITES (ETS KIT) .....	.36	.23	.33	-.03	.08	-.014	.335	.11	.04	.03	.01	.08	.04	-.13	.13	-.03	.46
8 +28 FE1 MAKING SENTENCES (ETS KIT)	.33	.20	.27	-.06	.04	.16	.19	.21	.18	.03	-.02	.06	.09	-.06	.22	.06	.43
FACTOR 4: O1;F5 QUANTITATIVE REASONING ...RQ; ORDER 1																	
9 + 2 AR ARITHMETIC REASONING (ASVAB)	.46	.27	-.00	.59	-.03	-.06	-.04	.15	-.02	.21	-.004	.465	.02	.06	.02	-.01	.92
10 +11 RG1 ARITHMETIC APTITUDE (KIT)	.47	.31	-.01	.57	.01	.07	.03	.08	.07	-.09	-.054	.405	.02	.03	.08	.02	.84
11 +19 RG3 NECESS.ARITH.OPER'NS (KIT)	.35	.18	-.06	.36	-.04	.02	.14	.20	.14	-.10	.044	.385	.09	-.02	.08	.10	.55
12 + 8 MK MATHEMATICS KNOWLEDGE (ASVAB)	.46	.24	-.01	.31	.01	.09	.09	.23	.17	.03	.15	.28	.04	.03	.05	-.01	.57
13 + 4 PC PARAGRAPH COMPREH. (ASVAB)..	.36	.25	.04	.28	.08	-.02	.22	-.01	-.12	.14	.09	.19	-.04	.00	-.00	-.03	.41
14 +23 I1 LETTER SETS (ETS KIT) .....	.41	.15	.06	.25	.05	-.02	-.104	.375	.18	.09	.06	.22	.14	-.16	.05	-.06	.56
15 +40 IP2 FOLLOWING DIRECTIONS (KIT)	.40	.20	.04	.24	.15	-.07	.19	.16	.00	.01	-.034	.375	.13	-.08	-.04	-.06	.51
16 +31 RL2 DIAGRAM'G RELATNSHIPS (KIT)	.35	.12	.02	.23	-.04	-.07	.08	.28	.15	.02	.064	.415	.11	.01	-.03	-.06	.50
17 +47 IPI CALENDAR (ETS KIT) .....	.41	.22	.05	.20	.09	.09	.14	.14	.08	-.04	.014	.365	.09	.07	-.05	-.16	.49
FACTOR 5: O1;F7 MEMORY SPAN .....MS; ORDER 1																	
18 +14 MS1 AUDITORY NUMBER SPAN (KIT)	.47	.35	-.01	.05	.74	.08	-.00	-.04	.02	.03	.01	-.07	-.01	.05	.00	.03	.91
19 +53 MS3 AUDITORY LETTER SPAN (KIT)	.36	.22	.01	-.00	.54	-.07	.05	.12	.22	-.06	.02	.01	.03	-.02	.07	.17	.59
FACTOR 6: O1;F3 PERCEPTUAL SPEED .....P; ORDER 1																	
20 + 6 CS CODING SPEED (ASVAB) .....	.26	.18	-.05	.03	-.03	.56	.03	.14	-.02	-.01	.23	-.07	.12	-.06	.21	-.00	.57
21 +41 N3 SUBTRAC'N & MULTIPL'N (KIT)	.33	.25	.01	.20	.04	.55	-.17	.09	.22	-.01	-.04	-.24	-.02	-.05	.22	.00	.72
22 + 5 NO NUMERICAL OPERATIONS (ASVAB)	.29	.21	.02	.11	-.13	.55	-.05	.14	.16	-.02	.18	-.09	.02	.05	.25	.01	.62
23 +12 N1 ADDITION (ETS KIT) .....	.38	.30	.024	.305	.02	.48	-.06	.01	.02	.06	.02	-.15	-.03	-.07	.20	-.01	.63
24 +34 P2 NUMBER COMPARISON (ETS KIT)	.16	.08	-.09	.02	-.00	.40	.03	.16	-.02	-.01	.03	-.07	.18	-.23	.15	.04	.34
25 +25 P1 FINDING A'S (ETS KIT)20	.09	-.01	.00	-.01	.34	-.02	.20	.10	.12	.04	-.14	.10	-.15	.14	.02	.30

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V#	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	H^2
FACTOR 7: O1;F2 LEXICAL KNOWL. & INFO. ...VL; ORDER 1																	
26 + 3 WK WORD KNOWLEDGE (ASVAB).....	.34	.24	.02	.13	.05	-.02	.67	-.05	-.04	.00	.02	.28	-.04	.04	-.09	-.00	.73
27 +33 V1 VOCABULARY I (ETS KIT) ....	.30	.16	.06	.01	.02	-.04	.66	.05	.03	.07	-.08	.25	.02	-.04	-.12	-.05	.65
28 +18 V2 VOCABULARY II (ETS KIT) ...	.34	.16	-.01	.03	-.02	.05	.63	.13	.23	-.02	.01	.23	-.01	.04	-.10	-.01	.68
29 + 1 GS GENERAL SCIENCE (ASVAB)....	.24	.16	-.03	.15	-.05	-.01	.50	-.02	-.02	-.02	.014	.485	.02	.22	-.07	.04	.64
FACTOR 8: O2;F3 UNINTERPRETED .....20; ORDER 2																	
FACTOR 9: O1;F11 WORD FLUENCY .....FW; ORDER 1																	
30 +27 FW1 WORD ENDINGS (ETS KIT) ...	.38	.17	.24	-.01	.03	.09	.04	.29	.44	.07	-.03	-.03	-.01	-.01	.12	-.01	.54
31 +55 CV1 SCRAMBLED WORDS (ETS KIT)	.38	.13	.02	.04	.15	.14	-.05	.34	.25	.28	.00	-.00	.09	-.08	-.02	-.08	.49
FACTOR 10: O1;F8 VERBAL CLOSURE SPEED .....VU; ORDER 1																	
32 +15 CV3 INCOMPLETE WORDS (ETS KIT)	.42	.21	.02	.20	.04	.19	.10	.21	-.01	.64	-.02	-.12	-.00	-.17	.02	-.02	.82
33 +52 CS2 CONCEALED WORDS (ETS KIT).	.22	.01	-.04	.01	.01	.02	.01	.34	.06	.51	.04	.17	.14	-.00	-.03	.03	.48
FACTOR 11: O1;F6 ASSOCIATIVE MEMORY .....MA; ORDER 1																	
34 +20 MA1 PICTURE-NUMBER (ETS KIT) .	.27	.11	.04	.01	-.04	.00	-.00	.30	.09	-.03	.64	-.04	.02	-.13	.16	-.01	.64
35 +29 MA2 OBJECT-NUMBER (ETS KIT) ..	.26	.12	-.01	.04	.04	-.05	.00	.24	.04	.04	.62	-.00	-.00	-.06	.14	.06	.56
36 +30 MV2 BUILDING MEMORY (ETS KIT).	.23	.04	-.15	-.05	.16	.02	-.03	.30	-.06	.02	.55	.26	.19	.03	.01	-.01	.61
37 +45 MV3 MAP MEMORY (ETS KIT) .....	.22	.12	.04	.01	.02	.08	.13	.08	-.25	.04	.32	.25	.13	.01	-.01	-.17	.37
FACTOR 12: O2;F1 BROAD VISUAL PERCEPTION...2V; ORDER 2																	
FACTOR 13: O1;F1 SPATIAL RELATIONS .....SR; ORDER 1																	
38 +37 S1 CARD ROTATIONS (ETS KIT) ..	.16	.08	-.04	-.02	.27	.18	.01	.12	-.29	-.02	-.07	.44	.36	-.02	.08	.04	.57
39 +50 CF3 COPYING (ETS KIT) .....	.18	.02	-.01	-.02	.01	.19	.034	.345	.02	.03	-.09	.43	.36	-.05	.14	.11	.55
40 +48 VZ3 SURFACE DEVELOPMENT (KIT) .	.20	.02	-.02	.06	-.01	.02	.084	.305	-.08	-.03	.01	.65	.35	.04	-.01	-.04	.69
41 +51 SS1 MAZE TRACING SPEED (KIT) .	.06	-.04	.07	-.28	.01	.29	-.044	.315	.05	-.06	.05	.30	.34	.07	.18	.05	.53
42 +21 S2 CUBE COMPARISONS (ETS KIT).	.20	.04	.07	.13	.01	-.04	-.084	.305	-.03	.03	-.06	.49	.30	-.06	.08	.02	.51
43 +24 VZ2 PAPER FOLDING (ETS KIT) ..	.17	-.01	-.04	.16	-.02	-.14	-.084	.325	.04	.07	.02	.58	.25	.07	-.00	.05	.60
44 +43 CF2 HIDDEN PATTERNS (ETS KIT).	.21	.08	.05	-.04	-.01	.24	.03	.23	-.04	.02	.08	.35	.24	.07	.08	-.07	.37
45 +26 SS3 MAP PLANNING (ETS KIT) ...	.29	.13	.05	-.01	.14	.24	-.11	.21	-.05	.05	.07	.35	.24	.12	.04	-.14	.46
46 +32 XF3 STORAGE (ETS KIT) .....	.16	-.01	-.08	.00	.03	-.01	.05	.26	.07	-.02	.03	.57	.23	.20	-.08	-.03	.53
47 +56 XF1 TOOTHPICKS (ETS KIT) .....	.17	.00	-.02	.06	.01	-.01	-.03	.28	.05	-.02	-.01	.38	.23	-.04	-.02	-.05	.32
48 +38 I3 FIGURE CLASSIFICATION (KIT)	.10	.05	.11	-.04	-.01	.20	-.03	.11	-.08	-.10	-.08	.25	.22	-.02	.11	-.05	.23
49 +42 CS1 GESTALT COMPLETION (KIT) .	.07	-.03	-.06	-.03	-.08	.02	.21	.17	-.194	.305	.04	.33	.20	-.00	-.05	.00	.37
50 +17 RL1 NONSENSE SYLLOGISMS (KIT)	.20	.11	.01	.08	.08	.05	.10	.08	.04	.01	-.03	.21	.07	.06	.00	.00	.14

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FACTOR 14: O1;F10 TECHNICAL KNOWLEDGEMK; ORDER 1																	
51 + 7 AS AUTO/SHOP INFO. (ASVAB)....	-.01	.00	-.00	-.02	.04	-.07	.00	-.07	-.04	.01	-.00	.55	.04	.56	-.09	.01	.65
52 +10 EI ELECTRONICS INFO. (ASVAB) .	.12	.08	.02	.06	-.03	-.01	.19	-.05	.03	-.00	-.03	.55	.01	.52	-.07	.01	.64
53 + 9 MC MECHANICAL COMPREH. (ASVAB)	.14	.03	.01	.05	.03	-.11	.05	.14	.01	.00	.01	.65	.16	.36	-.07	-.01	.64
54 +36 FW2 WORD BEGINNINGS (ETS KIT)	.38	.21	.26	.17	-.06	-.024	.315	.22	.18	.23	-.21	-.00	.02	-.29	.15	.09	.68
FACTOR 15: O2;F4 BROAD RETRIEVAL ABILITY...2R; ORDER 2																	
FACTOR 16: O1;F9 FIGURAL FLUENCY .....FF; ORDER 1																	
55 +35 FF1 ORNAMENTATION (ETS KIT) ..	-.00	.15	.05	.16	.04	.07	-.00	-.03	-.01	-.00	.06	-.02	-.02	.02	.59	.74	.96
56 +49 FF2 ELABORATION (ETS KIT)	-.02	.10	.06	.01	-.02	.23	-.00	-.02	-.04	.21	-.01	-.03	.01	.14	.45	.54	.63
SMSQ:	4.78	1.61	1.52	1.69	1.10	2.04	2.15	2.18	1.00	1.12	1.46	5.48	1.25	1.20	1.47	1.08	31.14

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

HF #	1ST-ORD	FACTOR	1	2	8	12	15	H^2
FACTOR 1: O3;F1 GEN'L COGNITIVE ABILITY...3G; ORDER 3								
FACTOR 2: O2;F2 FLUID INTELLIGENCE .....2F; ORDER 2								
HF 3	O1;F4	IDEATIONAL FLUENCY .....FI	.38	.34	.05	.084	.415	.44
HF 4	O1;F5	QUANTITATIVE REASONING ...RQ	.51	.33	.084	.425	.06	.55
HF 5	O1;F7	MEMORY SPAN .....MS	.46	.33	-.05	-.09	-.04	.33
HF 6	O1;F3	PERCEPTUAL SPEED .....P	.22	.24	-.074	-.365	.27	.31
HF 7	O1;F2	LEXICAL KNOWL. & INFO. ...VL	.30	.19	-.01	.29	-.12	.23
FACTOR 8: O2;F3 UNINTERPRETED .....20; ORDER 2								
HF 9	O1;F11	WORD FLUENCY .....FW	.33	.04	.47	.01	-.03	.33
HF10	O1;F8	VERBAL CLOSURE SPEED .....VU	.21	.02	.26	-.08	-.08	.12
HF11	O1;F6	ASSOCIATIVE MEMORY .....MA	.30	.14	.25	.02	.16	.19
FACTOR 12: O2;F1 BROAD VISUAL PERCEPTION...2V; ORDER 2								
HF13	O1;F1	SPATIAL RELATIONS .....SR	.20	-.034	.435	.73	.03	.75
HF14	O1;F10	TECHNICAL KNOWLEDGE .....MK	.02	.03	-.11	.64	-.08	.42
FACTOR 15: O2;F4 BROAD RETRIEVAL ABILITY...2R; ORDER 2								
HF16	O1;F9	FIGURAL FLUENCY .....FF	-.20	.00	-.04	-.08	.53	.33
SMSQ:			1.06	.45	.56	1.35	.59	4.01

*** HIERARCHICAL FACTOR MATRIX, ORDER 3 ***

HF #	2ND-ORD	FACTOR	1	H^2
FACTOR 1: O3;F1 GEN'L COGNITIVE ABILITY...3G; ORDER 3				
HF 2	O2;F2	FLUID INTELLIGENCE .....2F	.82	.68
HF 8	O2;F3	UNINTERPRETED .....20	.50	.25
HF12	O2;F1	BROAD VISUAL PERCEPTION...2V	.00	.00
HF15	O2;F4	BROAD RETRIEVAL ABILITY...2R	-.32	.10
SMSQ:			1.02	1.02