

FRUC 21

FRUCHTER B - BASIC AIRMEN TESTED MARCH 1948 (MALES)  
 ORTHOGONAL AND OBLIQUE SOLUTIONS OF A BATTERY OF APTITUDE;  
 ACHIEVEMENT AND BACKGROUND VARIABLES  
 EDUC & PSYCHOL MEAST 1952 12 20-38  
 PEARSON R'S TABLE 2 PP.26-27

N=881

\*\*\* 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 .22G; ORDER 2												
FACTOR 2: O1;F1 VERBAL ABILITY .....V; ORDER 1												
1	+19 WORD KNOWLEDGE ... = ACTB WK .	.77	.48	-.07	-.00	.00	.02	-.02	.05	-.04	-.04	.83
2	+31 GRAY-VOTAW READING (VOcab/RC)	.78	.42	-.02	-.00	-.04	.13	.04	.14	.02	-.03	.82
3	+23 LANGUAGE USAGE I (SPELL=DAT LU1	.61	.40	.05	-.16	-.05	.08	-.03	.21	.09	.02	.62
4	+28 GRAY-VOTAW SOCIAL STUDIES ....	.79	.38	.08	-.08	-.01	.01	.01	.02	-.17	.11	.83
5	+29 GRAY-VOTAW KNOWL.LITERATURE ..	.63	.37	-.00	-.02	-.01	-.02	-.10	.02	-.07	.16	.58
6	+39 BACKGRND CURR.AFFAIRS=ACTB BCA	.78	.37	.01	.02	.00	.00	.00	-.04	-.21	.01	.79
7	+1 READING & VOCABULARY = AGCT I	.73	.36	-.01	-.02	.03	.12	.02	.13	.01	-.09	.71
8	+24 LANGUAGE USAGE II (ENG)=DAT LU2	.63	.32	-.01	-.01	.04	.02	.00	.27	.26	.02	.64
9	+16 READING COMPREHENS. = ACTB RC	.74	.32	.01	.03	-.02	.02	.11	.13	.00	-.10	.69
10	+8 AVIATION INFO = ACTB AI .....	.74	.31	-.02	.07	.02	-.03	.16	-.04	-.14	.05	.70
11	+30 GRAY-VOTAW CHOICE OF WORDS ...	.61	.31	.01	.02	-.02	-.04	-.00	.21	.19	.11	.56
12	+27 GRAW-VOTAW ELEMENTARY SCIENCE	.74	.31	.02	.05	.01	-.06	.10	.07	-.02	.09	.66
13	+34 OTIS QUICK-SCORING MENT ABIL .	.81	.26	.06	.10	.02	.05	-.04	.19	.04	-.02	.78
14	+33 IOWA HS CONTENT- COMPOSITE SCR	.72	.24	.14	-.10	.15	.01	-.02	.12	.01	.24	.71
FACTOR 3: O1;F2 NUMERICAL FACILITY .....N; ORDER 1												
15	+2 ARITHMETIC COMPUTATION =AGCT 2	.68	-.08	.36	.01	-.00	.02	-.024	.305	-.02	.02	.69
16	+25 NUMERICAL ABILITY = DAT NA ...	.70	-.05	.35	.03	.00	-.11	-.034	.305	.00	.00	.72
17	+32 GRAY-VOTAW ARITH(COMP & REAS'G	.72	.01	.34	-.04	-.03	.00	.034	.325	.00	-.03	.74
18	+15 NUMERICAL OPER'NS II = ACTB NO	.59	.01	.34	-.18	.01	.24	-.034	.325	.00	-.01	.66
19	+3 ARITHMETIC REASONING = AGCT 3.	.76	-.00	.25	.11	.00	-.02	.01	.29	.00	-.21	.77
20	+7 ARITHMETIC REASONING = ACTB AR	.76	.07	.21	.07	.02	-.03	.06	.26	.01	-.14	.72
21	+10 DIAL & TABLE READING =ACTB DTR	.75	-.01	.16	.15	.09	.19	.01	.17	-.04	-.05	.69
FACTOR 4: O1;F4 VISUALIZATION .....V2; ORDER 1												
22	+4 PATTERN ANALYSIS ....= AGCT 4	.65	-.12	.02	.52	-.01	.03	-.04	.11	.02	-.03	.72
23	+26 SPACE RELATIONS = DAT SR .....	.62	-.07	-.01	.51	-.07	-.03	.02	.07	-.00	.04	.66
24	+21 ABSTRACT REASONING = DAT AR ..	.68	.00	.05	.35	.02	.00	-.12	.12	-.03	-.12	.63
25	+13 MECH'L PRINCIPLES = ACTB MP .	.61	-.00	-.00	.34	-.02	-.094	.355	.14	.13	.01	.65
26	+14 MEM'Y FOR LANDMARKS = ACTB ML	.57	.01	.01	.27	.10	.10	-.15	.12	.03	-.11	.47
FACTOR 5: O1;F6 SES STATUS/EDUCATION .....E0; ORDER 1												
27	+35 SIMS SCORE CARD SOCIO-ECON STA	.39	.01	-.10	.12	.52	.01	-.04	-.15	-.02	-.02	.47
28	+20 BIOG INV'Y-INSTRUCTOR=ACTB BI	.19	-.11	-.01	.02	.48	-.01	.03	.01	.15	-.02	.31
29	+6 EDUCATION - NO. YRS SCHOOLING	.61	.07	.09	-.02	.35	-.00	.06	.04	.00	.06	.51

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(CONTINUED)

V#	1	2	3	4	5	6	7	8	9	10	H^2
FACTOR 6: O1;F5 PERCEPTUAL SPEED .....P; ORDER 1											
30 +22 CLERICAL SPD/ACCURACY = DAT SA	.50	.00	.02	.02	.24	.61	-.01	.08	.02	.03	.69
31 +17 SPEED/IDENTIFICATION = ACTB SI	.48	-.00	-.01	.22	.00	.39	.04	.01	-.03	.25	.49
FACTOR 7: O1;F3 MECHANICAL KNOWLEDGE .....MK; ORDER 1											
32 +18 TOOL FUNCTIONS ... = ACTB TF	.45	.00	.01	.12	-.03	.04	.67	-.01	-.04	.00	.67
33 +12 GENERAL MECHANICS = ACTB GM ..	.59	.21	-.01	.00	.00	-.04	.60	.05	.02	-.07	.76
34 +11 ELECTRICAL INFO = ACTB EI ....	.71	.25	.02	-.00	.05	.02	.35	.08	.00	.02	.71
35 +#5 AG GEN'L MECH'L APT MA-2 .....	.72	.01	.06	.26	.04	.03	.33	.10	.05	.18	.75
FACTOR 8: O2;F2 RESID. 2ND-ORDER FACTOR ..20; ORDER 1											
FACTOR 9: O1;F7 RESIDUAL .....IO; ORDER 1											
FACTOR 10: O1;F8 RESIDUAL .....IO; ORDER 1											
SMSQ:15.42 1.89 .68 1.12 .75 .71 1.28 .95 .27 .34 23.40											

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

HF #	1ST-ORD FACTOR	1	8	H^2
FACTOR 1: O2;F1 GEN'L COGNITIVE ABILITY ..2G; ORDER 2				
HF 2	O1;F1 VERBAL ABILITY .....V	.88	.13	.79
HF 3	O1;F2 NUMERICAL FACILITY .....N	.864	.355	.86
HF 4	O1;F4 VISUALIZATION .....VZ	.85	.11	.74
HF 5	O1;F6 SES STATUS/EDUCATION .....EO	.63	-.11	.40
HF 6	O1;F5 PERCEPTUAL SPEED .....P	.35	.14	.14
HF 7	O1;F3 MECHANICAL KNOWLEDGE .....MK	.32	-.03	.10
FACTOR 8: O2;F2 RESID. 2ND-ORDER FACTOR ..20; ORDER 2				
HF 9	O1;F7 RESIDUAL .....IO	-.03	.59	.35
HF10	O1;F8 RESIDUAL .....IO	-.04	-.20	.04
SMSQ: 2.86 .56 3.43				