

AIR FORCE



**H
U
M
A
N

R
E
S
O
U
R
C
E
S**

**ESTIMATING THE GENERAL COGNITIVE COMPONENT
OF THE ARMED SERVICES VOCATIONAL APTITUDE
BATTERY (ASVAB): THREE FACES OF g**

**Malcolm James Ree
James A. Earles**

**MANPOWER AND PERSONNEL DIVISION
Brooks Air Force Base, Texas 78235-5601**

September 1990

Interim Technical Report for Period July 1989 to March 1990

Approved for public release; distribution is unlimited.

LABORATORY

REPORT DOCUMENTATION PAGE

Form Approved
OMB No. 0704-0188

Public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503.

1. AGENCY USE ONLY (Leave blank)		2. REPORT DATE September 1990	3. REPORT TYPE AND DATES COVERED Interim Report - July 1989 - March 1990	
4. TITLE AND SUBTITLE Estimating the General Cognitive Component of the Armed Services Vocational Aptitude Battery (ASVAB): Three Faces of g			5. FUNDING NUMBERS PR - 7719 TA - 18 WU - 67	
6. AUTHOR(S) Malcolm James Ree James A. Earles				
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Manpower and Personnel Division Air Force Human Resources Laboratory Brooks Air Force Base, Texas 78235-5601			8. PERFORMING ORGANIZATION REPORT NUMBER AFHRL-TR-90-38	
9. SPONSORING/MONITORING AGENCY NAMES(S) AND ADDRESS(ES)			10. SPONSORING/MONITORING AGENCY REPORT NUMBER	
11. SUPPLEMENTARY NOTES AFHRL/SC Study Number 9806				
12a. DISTRIBUTION/AVAILABILITY STATEMENT Approved for public release; distribution is unlimited.			12b. DISTRIBUTION CODE	
13. ABSTRACT (Maximum 200 words) Multiple methods were used to estimate g (general cognitive ability) from a representative multiple-aptitude test--the Armed Services Vocational Aptitude Battery (ASVAB). These methods were unrotated principal components, unrotated principal factors, and hierarchical factor analysis. By using these methods, estimates of g were made in the ASVAB normative sample and intercorrelated. The intercorrelations were high, ranging from .930 to .999. For the ASVAB, and other sets of variables which display positive manifold, it is argued that the methods are equivalent.				
14. SUBJECT TERMS factor analysis general cognitive ability multiple-aptitude test			15. NUMBER OF PAGES 26	16. PRICE CODE
17. SECURITY CLASSIFICATION OF REPORT Unclassified	18. SECURITY CLASSIFICATION OF THIS PAGE Unclassified	19. SECURITY CLASSIFICATION OF ABSTRACT Unclassified	20. LIMITATION OF ABSTRACT UL	