SELECTING EFFECTIVE LAW ENFORCEMENT OFFICERS

The Florida Police Standards Research Project

by

CHARLES D. SPIELBERGER
HARRY C. SPAULDING
JOHN C. WARD, JR.

HUMAN RESOURCES INSTITUTE

Monograph Series Three: No. 1

COLLEGE OF SOCIAL AND
BEHAVIORAL SCIENCES
UNIVERSITY OF SOUTH FLORIDA
TAMPA, FLORIDA 33620

ubmitted to:
nent Assista ce Administration
Department of Justice

SELECTING EFFECTIVE LAW ENFORCEMENT OFFICERS

The Florida Police Standards Research Project

by

CHARLES D. SPIELBERGER
HARRY C. SPAULDING
JOHN C. WARD, JR.

HUMAN RESOURCES INSTITUTE

Monograph Series Three: No. 1

COLLEGE OF SOCIAL AND
BEHAVIORAL SCIENCES
UNIVERSITY OF SOUTH FLORIDA
TAMPA, FLORIDA 33620

Final Report submitted to:

Law Enforcement Assistance Administration
United States Department of Justice
May, 1978

FOREWARD

The Human Resources Institute was founded in 1976 to serve as a support organization for applied and basic research, and to provide assistance for training programs undertaken by the faculty and staff of the College of Social and Behavioral Sciences of the University of South Florida. The goals of the Institute are to serve as an important link in facilitating the cooperation of the College and University in fulfilling its teaching, research, and service responsibilities to students, faculty and the general community.

One of the major services of the Institute is to disseminate research and training materials that will be useful to academicians and practitioners in their professional work. Through workshops, meetings, conferences, and publications, the Institute endeavors to overcome persistent difficulties and time delays in communicating new findings, techniques, and practices to the scholarly and lay public. In the publications area, we have initiated several general monograph series, and we also publish an occasional paper series on specific topics, when brevity and the necessity for quick dissemination are of prime importance.

This monograph on Selecting Effective Law Enforcement Officers initiates a new series that is concerned with the development of valid selection procedures to screen law enforcement applicants in the State of Florida. The work reported in the monograph was carried out by the Florida Police Standards Research Project under the supervision of Professor Charles D. Spielberger, Director

of the Human Resources Institute's Center for Research in Community Psychology. The monograph reports the results of the first three phases of a research and development project sponsored by the Florida Police Standards and Training Commission and the Law Enforcement Assistance Administration of the United States Department of Justice.

The Human Resources Institute is happy to have this opportunity to serve as a clearinghouse for coordinating and distributing this report. The views expressed in the monograph are, of course, those of its authors, and do not necessarily represent the viewpoints of the agencies which have made this project possible, nor those of the University.

Travis J. Northcutt, Jr.,
Acting Director, Human
Resources Institute and
Dean, College of Social and
Behavioral Sciences

Tampa, Florida
May, 1978

Preface

In June of 1973, the Florida Association of Chiefs of Police requested assistance from the Florida Police Standards and Training Commission in developing a program for the selection of well-qualified candidates for positions in law enforcement. In responding to this request, the Commission sought consultation and assistance from the Florida Board of Regents to determine the feasibility of developing a statewide program for the selection of police officers. In October, 1973 the Board of Regents awarded a small grant to the College of Social and Behavioral Sciences of the University of South Florida to survey the research literature on police selection and to initiate planning activities with the Florida Bureau of Police Standards and Training in Tallahassee. This work was carried out under the supervision of Professor C.D. Spielberger, who was then Director of the USF Doctoral Program in Clinical and Community Psychology.

On the basis of the literature survey and planning activities, a proposal for a research and development grant was submitted to the Law Enforcement Assistance Administration. In April, 1975, a LEAA Discretionary Grant (75-DF-04-0026) was awarded to Professor Spielberger to develop and validate procedures for the screening and selection of candidates for entry-level positions with Florida law enforcement agencies. The research and development program is referred to as the Florida Police Standards Research Project (FPSRP). This Monograph, which describes the work conducted by the

FPSRP between April 1, 1975 and September 30, 1977 supported by the LEAA Discretionary Grant, has been submitted to the Law Enforcement Assistance Administration as the Final Report for the Discretionary Grant. A brief description of a National Working Conference on the Selection of Law Enforcement Officers which grew out of the FPSRP is included in Appendix A of the monograph.

The FPSRP was divided into four major phases. Phase I consisted of the completion of the critical review and evaluation of the research literature on the selection of law enforcement officers. Although this phase was essentially completed in August, 1976, we are continuing to update our Bibliography of Research on Police Selection. An extensive review of the research literature on the selection of law enforcement officers and the comprehensive bibliography that has been compiled by FPSRP staff will be reported as the second monograph in the current series.

In Phase II of the FPSRP, the instruments to be included in the test battery were selected on the basis of the literature review and field tested with police recruits. The research design for the FPSRP involved administering an experimental test battery to police recruits at the beginning of their academy training, following these recruits through the academy and their service as probationary officers, and obtaining performance evaluations during both of these periods. Phase III of the FPSRP consisted of testing recruit classes at selected police training academies and obtaining criterion data on the performance of these recruits at the academy and during the probationary period. The work carried out in Phase II and III of the FPSRP is reported in this

monograph. In the fourth and final phase of the FPSRP, which is continuing with support from a Special Grant (P-78-A2-21-CA01) from the Florida Bureau of Criminal Justice Planning and Assistance, additional recruits are being tested to permit cross-validation of the findings. A long-term follow-up over a three year period of the performance of officers who were initially tested in Phase III is also planned in Phase IV.

The research and development activities reported in this monograph were carried out in close cooperation with the Director and staff of the Florida Division of Police Standards and Training. Without frequent consultation and the strong support and cooperation of Division staff, this research would not have been possible. We are greatly indebted to Donald Fish who served as Director of the Division of Police Standards and Training when the project was initiated, to his successor, Neil Chamelin, and to James Trunzo, George McMullen, and, especially, to Joel Pate, who served as the principal liaison between the Division and project staff.

We would also like to acknowledge our deep appreciation to the Directors and instructors of the police academies where the recruits were tested, to the Police Chiefs, Sheriffs, and patrol supervisors associated with the Florida law enforcement agencies who provided us with performance evaluations, and to the police recruits who volunteered to participate in the study. For their guidance and encouragement in initiating and monitoring this research program, we are grateful to Charles F. Rinkevich, Regional Administrator of the LEAA Atlanta office, and to J. Price Foster, Carol Blair, and Dale Beerbower of the Regional Office staff.

A number of persons have worked with us during the past three years and have made important contributions to the FPSRP and this monograph. Margie Jolley served as the first coordinator of the FPSRP and played a significant role in planning, organizing and implementing the research. Benjamin Algaze and Robert Archer contributed to the literature review. Peter Vagg, Cynthia Taylor and Kenneth Grier provided invaluable assistance in the collection and statistical analyses of the data. Finally, we are especially indebted to Linda Fry, Jean Goltermann, Ruth Hinckle, Diane Ludington and Peggy McPherson for their invaluable technical and clerical assistance in the operation and administration of the FPSRP and in the preparation of this monograph.

C.D. Spielberger

H.C. Spaulding

J.C. Ward

May, 1978

CONTENTS

SELECTING EFFECTIVE LAW ENFORCEMENT OFFICERS

Introduction

A major responsibility of every police administrator is the selection of recruits who have the potential to become effective law enforcement officers. This is a difficult job because of the multifaceted nature of police work. In order to deal with problems ranging from minor traffic accidents to crimes of violence, an effective officer must possess a variety of professional skills, in addition to being emotionally stable, compassionate, and sensitive to the needs of people.

The selection of qualified police officers has always been a demanding responsibility for the law enforcement administrator, but there are now additional pressures that require police administrators to expend even more time and energy on selection. In 1973, the National Advisory Commission on Criminal Justice Standards and Goals recommended that every police agency: "...employ a formal process for the selection of qualified police applicants. This process should include a written test on mental ability or aptitude, an oral interview, a physical examination, a psychological examination, and an in-depth background investigation".

The presence of even a few undesirable officers in a police agency has enormous social and financial consequences. The excessive or injudicious use of force by an emotionally unstable officer can result in tragic consequences, and an officer who becomes involved in illegal activities causes an erosion of the public's confidence in the agency. A major goal in police selection is screening out such "misfits" from positions in law enforcement.

Each new officer who terminates employment due to misconduct or incompetence costs the agency thousands of dollars. Most law enforcement agencies provide 8 to 16 weeks of academy training for new recruits. In addition to the cost of this training, most academy cadets receive salaries even though they are not providing any direct services to the community. The concern of police administrators with the high cost of ineffective selection procedures is summed up by Allan Rush, Assistant Superintendent of the Kansas Highway Patrol, who stated "The hiring of 'mistakes' with approximately $10,000 invested in recruiting, training, equipping and a minimum amount of experience, is a luxury we cannot afford..." (1963).

The situation in police selection is further complicated by difficulties encountered in the implementation of Equal Employment Opportunity (EEOC) Guidelines. While the Federal government recommends the use of psychological tests in police selection, recent decisions in state and federal courts have criticized standardized tests because of evidence that they unfairly discriminate against women and minority groups. Consequently, the assessment and testing procedures that are used to identify applicants with the requisite qualifications to become successful law enforcement officers must also conform to EEOC guidelines with regard to the employment of minorities and women.

Many different psychological assessment techniques are currently used in the screening and selection of law enforcement officers, but relatively little objective evidence is available with respect to the validity of these procedures as predictors of effective on-the-job performance in carrying out the diverse

duties of a police officer. Over the past decade, however, the Law Enforcement Assistance Administration, the International Association of Chiefs of Police, the Police Foundation, and other agencies concerned with law enforcement have funded a number of research projects in which procedures for selecting police officers and criteria for evaluating officer performance have been investigated. Consequently, there is now emerging a great deal of information with regard to the predictive validity of specific assessment procedures in police selection.

The diverse and changing duties of police officers, increasing demands for the employment of minority group members and women, and the range of complex methodological problems encountered in police selection research all contribute to a widely perceived need among police administrators for carefully validated selection procedures.

Growing awareness of these issues led law enforcement administrators and police officials in the State of Florida to request assistance from the Division of Police Standards and Training in the validation of a flexible battery of psychological tests to screen applicants for positions in Florida law enforcement agencies. Thus, through a series of events that will be described later in this report, the Florida Police Standards research project was begun in 1973. An early task for FPSRP staff was a review of the previous research literature on the selection of law enforcement officers . Attempts to organize this literature led to the development of a theoretical model which provided the conceptual framework for the design of the FPSRP.

A second outgrowth of the literature review was the recognition that many of the police selection research findings were buried in technical reports that are not always readily accessible. This discovery led to some concerns for the communication and coordination of research efforts between researchers in the field. Plans were made to bring leading researchers in the field of police selection and concerned police administrators together in a working conference to provide a forum for the exchange of ideas. Thus, the "National Working Conference on the Selection of Law Enforcement Officers" was held at the FBI National Academy, Quantico, Virginia, on October 26-29 in 1976. This conference was jointly sponsored by the Law Enforcement Assistance Administration and the Federal Bureau of Investigation. The goals, agenda, and list of conference speakers and participants are included as Appendix A to this report.

The major goal of this report is to describe the development and some preliminary findings of the Florida Police Standards Research project. First, however, the "Model for the Selection of Law Enforcement Officers" will be described and certain issues leading to its development will be presented along with specific research examples from the police selection literature.

I. A MODEL FOR THE SELECTION OF LAW ENFORCEMENT OFFICERS

The importance to American society of selecting effective law enforcement officers has been increasingly recognized. A major goal in police selection is to screen out "misfits" from positions in law enforcement. Examples of police misconduct cited by the President's Commission on Law Enforcement (1967) include instances in which police officers were involved in criminal activities ranging from "rolling drunks" and accepting bribes, to participation in large-scale burglary rings. Unfortunately, the findings of the President's Commission may come as no surprise to the average citizen who is likely to encounter similar stories in any newspaper.

In recent years, personnel selection procedures have come under critical review because of alleged unfair or discriminatory employment practices. The Equal Employment Opportunity Commission (EEOC) Report of 1970 delineated specific cautions and guidelines for validating selection procedures for particular employment positions or fields (Boyer & Griggs, 1974). On the basis of these guidelines, court decisions during the past five years have mandated equal employment opportunities for minority group members and women, and have given added importance to job-related validation.[1]

Many different assessment techniques and screening procedures are currently used in the selection of police officers. Yet, relatively little objective evidence is available with respect to the

validity of these procedures. The prediction of effective performance is difficult because of the diverse and complex duties of a police officer. Furthermore, selection methods must be adaptable to changing conditions, but not so involved or costly that their use becomes prohibitive when applied to increasing numbers of candidates.

The usefulness of any selection procedure must be determined through empirical investigations that evaluate the relationship between initial selection standards (predictors) and the actual job performance of police officers. The report of the Police Task Force of the President's Commission on Law Enforcement states:

> Standards set for selection must not only be realistic, but should correlate positively with on-the-job performance. In other words, if a characteristic makes absolutely no difference as to whether or not a man would make a good patrolman, it should not be used as a criterion for selection (1967, p. 7).

The process of establishing the relationship between initial selection standards and job performance is termed "validation". In one approach to validation, which is called "concurrent validity", the skills and personal characteristics of police officers who are already employed are assessed. A more rigorous validation procedure, referred to as "predictive validity', requires determining how well initial standards predict a candidate's success (or failure) as a police officer.

During the past five years, the LEAA, the IACP, the Police Foundation and other agencies concerned with law enforcement have supported a number of validation research projects in which

procedures for selecting police officers and criteria for assessing officer performance have been investigated (Cruse & Rubin, 1973; Eisenberg, Kent, & Wall, 1973; Landy & Farr, 1975; Dunnette & Motowidlo, 1976). Consequently, there is now emerging a great deal of knowledge with regard to specific selection procedures, but it is difficult for decision makers in law enforcement agencies to evaluate and utilize these research findings in selecting new police officers.

The major goal of this section is to present a model to guide the validation efforts of researchers and administrators involved in the selection of law enforcement officers. Prior to describing this model, three general categories of predictor variables will be defined and examples of research using specific predictor measures within each of these categories will be described. In addition, the criteria for successful performance that are most often employed in police selection research will be examined and specific research examples of how these criteria have been assessed will be reported.

Predictor Variables in Police Selection

In research on the selection of law enforcement officers, a variety of predictor measures have been employed, both singly and in combination. These selection devices may be grouped into the following three general categories: (1) physical, biographic, and demographic characteristics of applicants; (2) psychological tests, including civil service examinations, measures of intelligence and aptitude, measure of values, attitudes and interests, and tests of personality and motivation; and (3) situational tests, in which

selected job functions are simulated or the candidates' behavior is observed in "test" situations, such as oral interviews and polygraph examinations. Each of these categories is examined below and the findings of representative studies of specific predictor measures are described.

Physical, Biographic and Demographic Predictor Variables

Height requirements have been traditionally used in police selection, but researchers who have examined the validity of height as a predictor of successful performance have reported inconsistent and/or equivocal results (Nolting, 1929; O'Conner, 1962; Marsh, 1962; Spencer & Jewell, 1963; Hoobler & McQueeny, 1973; Dempsey, 1974; Archuleta, 1974; Halling, 1974; Goldstein, 1974; Prelutsky, 1974; Kollender & McQueeney, 1977). While height requirements have not been found to be an occupational necessity, Eisenberg and Reinke (1973) recommend that these requirements should be maintained until more definitive research results are available. However, some agencies, such as the FBI (Yates, 1977), have abolished height as a selection standard.

Since police selection standards based on height and weight potentially discriminate unfairly against female applicants, it has been suggested that measures of physical agility can be better justified as standards for selecting police officers (Learned, 1976; Osborne, 1976; McGhee, 1976; Byrd, 1976; Tolbert, 1976; Stamford, Kley, Thomas & Nevin, 1977). Because the results in studies of physical agility have not been replicated, the generalizability of these findings are questionable. Thus, there is little empirical support for the use of physical agility tests in police

selection at this time.

The biographical characteristics of applicants for positions in law enforcement have been traditionally considered as important factors in determing fitness for police work (Terman, 1917; Thurstone, 1922; Kates, 1950; Matarazzo, Allen, Saslow, & Wiens, 1964; Goldstein, 1972). The biodata used in police selection has included: education, previous military and employment experience, financial status, and criminal and accident history. In general, the background of applicants accepted for employment as police officers differs from those who have been rejected (Goldstein, 1972), but the results of descriptive studies have not established the validity of biodata in predicting successful performance in police work.

Empirical studies have investigated the predictive validity of a number of biographic variables such as: marital status, number of dependents, highest salary previously attained, education, hobbies, previous employment, length and type of military experience, records of traffic violations, and birth place (Cross & Hammond, 1951; Levy, 1967, 1971; McAllister, 1970; Azen, Montgomery, Snibbe, Fabricatore, & Earle, 1974). Of these, only previous military experience appears to predict the performance of police officers in a reasonably consistent manner. Unfortunately, most researchers have used large numbers of biographical predictors with too few subjects, which has resulted in significant correlations occurring by chance (Monte Carlo effects). The criterion of success has also varied considerably from study to study. Thus, more research is needed to determine whether or not the

biographical characteristics of applicants can contribute to the prediction of police officer performance.

A subcategory of biodata predictor variables, generally referred to as demographic characteristics, includes the age, race, and sex of applicants. While minimum and maximum age limits have been traditional considerations in the selection of law enforcement officers, there are inconsistencies in the research findings on the validity of age requirements (Cross & Hammond, 1951; Levy, 1967, 1971). Until more definitive research is available, the usefulness of an applicant's age as a predictor of his later performance as a police officer cannot be determined.

Federal equal employment opportunity guidelines make it illegal to use race or sex as standards for the selection of police officers, and compliance with these guidelines requires researchers to examine their procedures in order to prevent potential discrimination against minority groups or females. Accordingly, in recent studies, the data have been separately analyzed as a function of race (Baehr, Saunders, Froemel, & Furcon, 1971; Spencer & Nichols, 1971; Cohen & Chaiken, 1972; Snibbe, Fabricatore, Azen, & Snibbe, 1975). On the basis of their findings, Baehr et al. (1971) concluded that race must be separately examined in the validation of police selection techniques, but Snibbe et al. (1975) contend that this may not be necessary for all sections of the country.

The sex of applicants has also received a great deal of attention as related to police selection practices, and recent research

findings have indicated that physical agility requirements may discriminate unfairly against female applicants (Osborne, 1976). It should be noted that most previous studies of police selection were conducted at a time when there were relatively few female officers. As the number of women employed in law enforcement positions increases, research will be needed in which relationships between predictor measures and criterion variables are analyzed separately for male and female police officers. Only then can compliance with federal guidelines and court rulings be insured.

Psychological Assessment in Police Selection

In one of the earliest studies of police selection, Terman (1917) considered intelligence to be an important factor in fitness for police work, and recommended a cut-off I.Q. of 80 for employment as a police officer. Intellectual ability is even more important in police selection today, and studies indicate that at least average intelligence is required of police officers (Thurstone, 1922; Merrill, 1927; Kole, 1962; Matarazzo, Allen, Saslow, & Wiens, 1964; Gordon, 1969). In general, intelligence and ability tests have proved useful as predictors of police academy performance (Dubois & Watson, 1950; Mullineaux, 1955; Pounian, 1959), but are less able to predict job performance as measured by supervisor ratings. Furthermore, measures of intelligence do not appear to differentiate between police officers who perform poorly, and average or superior officers (Martin, 1923; Dubois & Watson, 1950; Pounian, 1959; Hess, 1973).

In many police departments, to be eligible for employment, a candidate must pass a Civil Service screening examination and scores

on Civil Service tests are highly correlated with measures of aptitude and intelligence (Blum, 1961; Blum, Goggin, & Whitmore 1961; Abbatiello, 1969; Spencer & Nichols, 1971). Since adverse racial impact may result from Civil Service testing (Cohen & Chaiken, 1972), compliance with EEOC guidelines may require examination of the Civil Service pre-selection process as well as the tests that are actually used in screening law enforcement applicants.

Psychological tests are often used in police selection to assess values, attitudes and interests. Police applicants' values and attitudes have been measured with the Allport-Vernon-Lindzey Study of Values (Rush, 1963; Colarelli & Siegel, 1964; Hooke & Krauss, 1971), the Niederhoffer (1967) Cynicism Scale, and the Rokeach Terminal Value Survey (Rokeach, Miller, & Snyder, 1971). The Kuder Preference Record (Spaulding, 1948; Sterne, 1960; Marsh, 1962; Azen, Snibbe, & Montgomery, 1973) and the Strong Vocational Interest Blank (Kates, 1950; Dubois & Watson, 1950; Blum, 1961 & 1964; Barnabas, 1976) have been widely used to assess the interest patterns of candidates for law enforcement positions.

The value, attitude and interest profiles of police officers differ from those of the general population (Rokeach, Miller, & Snyder, 1971; Niederhoffer, 1967; McNamara, 1967, Tift, 1974; Bennett & Greenstein, 1975), and this so-called "value gap" has been investigated in various ways. Some researchers have examined police officers' values and attitudes as these are related to education and training (Guller, 1972; Bennett & Greenstein, 1975; Zacker, 1971; Sherrid & Beech, 1976; Sparling, 1975; Weiner, 1976; Smith, Locke, & Walker, 1967), while others have investigated the influence of the "organizational climate" of a department on the values

and attitudes of police recruits (Balch, 1972; Meyer, 1973; Miller & Fry, 1975).

Most studies of the values, attitudes and interests of police officers have been largely descriptive, and the few criterion-related validity studies have not been cross-validated or replicated. Thus, the usefulness of value, attitude and interest measures in the prediction of the success of law enforcement officers is difficult to evaluate, and much more research on the predictive validity of these measures is needed. The use of the Strong-Campbell test to assess attitudes and interest patterns of law enforcement officers is described by Flint (1978) and Sherrid (1978) discusses changes in the values of police officers.

The personality characteristics of recruits and tenured officers have been the subject of extensive research (e.g., Gallati, 1960a,b), and the use of psychiatrists and psychologists in screening police applicants is on the increase (Oglesby, 1957; Wolfe, 1970; Murphy, 1972; Eisenberg, Kent, & Wall, 1973) The personality assessment devices most often employed in police selection research are the Rorschach Inkblots (Kates, 1950; Rankin, 1957; Matarazzo, Allen, Saslow, & Wiens, 1964; Blum, 1964), the Minnesota Multiphasic Personality Inventory (Rankin, 1957; Marsh, 1962; Rush, 1963; Blum, 1964; Colarelli & Seigel, 1964; Matarazzo et al., 1964; Nowicki, 1966; Hooke & Krauss, 1971; Gottesman, 1975; Shealy, 1977; Barnabas, 1976), the California Psychological Inventory (Hogan, 1971; Parker & Roth, 1973) and the Eysenck Personality Inventory (Fenster & Locke, 1973). In most concurrent validity

studies in which the MMPI, the CPI and the EPI were employed, the profiles of successful police officers were not different from those of the general population. In police selection research with the MMPI and the Rorschach, a higher incidence of pathology was observed in the profiles of terminated or poorly performing officers (Shealy, 1978).

Gottesman (1975) contends that the use of the MMPI in police selection is questionable. Since this test was standardized on relatives of hospitalized medical patients, Gottesman concludes that the MMPI norms are not appropriate for applicants for law enforcement positions. The CPI (often referred to as the "sane man's MMPI") may provide a more useful personality assessment device for use in research on police selection. Data on the predictive validity of the CPI in police selection research are presented in Part II of this report.

The importance of considering the effects of stress and anxiety on police officer performance has been suggested by a number of investigators (Symonds, 1970; Cruse & Rubin, 1973; Kroes, Margolis & Hurrell, 1974; Reiser, 1976). In a concurrent validity study of successful police applicants, Matarazzo et al. (1964) reported that candidates for positions in law enforcement scored in the "healthy" range for anxiety. However, the predictive validity of anxiety measures in police selection remains to be investigated.

Saunders (1977) has recently suggested that the relationship between an applicant's anxiety and his/her performance as a police officer may be very complex. He observes that anxiety may enhance

the relationship between some predictor and criterion measures, but the direction of this relationship may actually be reversed when other predictors and criteria are examined. In essence, Saunders posits that anxiety acts as a "moderator variable" in police selection research in improving the predictive validity of other variables, but anxiety measures cannot stand alone as predictors of successful police performance. In order to examine the contribution of anxiety measures to police selection, it may be necessary to employ highly sophisticated statistical procedures.

The Use of Situational Tests in Police Selection

Situational tests are being increasingly used to supplement other procedures in selecting applicants for law enforcement positions (Shavelson, Beckum, & Brown, 1974). Chenoweth (1961), who was among the first to advocate these procedures in assessing police applicants, describes situational testing as a technique for evaluating the reactions of candidates to structured stimuli as predictors of future job-related behavior. While research on the validity of situational testing in police selection shows promising results (e.g., Dillman, 1963; Mills, McDevitt, & Tonkin, 1966; Mills, 1976), the cost and complexity of constructing and administering situational tests limits the feasibility of including such procedures in the initial screening of recruits (Chenoweth, 1961).

The use of polygraphs in examining police applicants may be considered as a special type of situational test. In polygraph testing, a trained examiner evaluates applicants' responses to specific questions designed to assess personal qualities that are

critical in the performance of the duties of a police officer. Since polygraph examinations are expensive and the findings of predictive validity studies in police selection have produced equivocal results (Blum, 1967; Arther; 1967; Stephens, 1969; Swank & Haley, 1972; Territo, 1974), the use of the polygraph by individual police agencies in making selection decisions would seem difficult to justify at this time.

During the past decade, situational testing procedures have been incorporated into "Assessment Centers" for the selection and promotion of law enforcment officers. Research on the contributions of the Assessment Center approach in police selection has been encouraging (D'Arcy, 1974; Kent, Wall, & Bailey, 1974; Gavin & Hamilton, 1975; Dunnette & Motowidlo, 1976). Typically, Assessment Centers use inexpensive screening methods to reduce the number of applicants who are evaluated by more expensive and time-consuming situational tests. Several police agencies may also combine resources in the operation of Assessment Centers to further reduce costs. An application of the Assessment Center approach in the evaluation of law enforcement officers is described by Filer (1978).

With few exceptions, research on the selection of law enforcement officers has focused upon the concurrent and predictive validity of the variables employed in the selection process. In this research, successful performance as a police officer has been defined in many different ways, and there is little consistency from one study to another. On the basis of their review of ten years of research in police selection, Kent and Eisenberg

(1972) concluded that "a usefully valid and unbiased procedure for selecting police officers has not been demonstrated as yet ...The criterion problem stands out as one of the major stumbling blocks to improved police selection and promotion procedures" (1972, p. 28).

Further progress in the development of valid and cost-effective procedures for the selection of law enforcement officers will require clarification of the criteria for successful performance. The performance criteria traditionally used in police selection research are reviewed in the next section of this report.

Performance Criteria in Police Selection Research

In research on the selection of law enforcement officers, performance criteria have been assessed in a number of ways. While the specific criteria have varied from study to study, most investigators have obtained measures of: (1) Performance at the police academy; or (2) Performance on the job during the probationary period and/or as tenured patrol officers. Police academy performance criteria have included academic achievement (grades, class rank, etc.), and instructor and peer (classmate) ratings. Measures of the performance of probationary and tenured patrol officers have included supervisor and peer ratings, objective indices (commendations/reprimands, etc.), and employment status (employed vs. terminated or resigned). For tenured patrol officers, promotion in rank has been examined as an important criterion of success.

In order to be certified as law enforcement officers, recruits are generally required to successfully complete a police academy

training program. Measures of ability and intelligence are generally good predictors of academic achievement at police academies (Dubois & Watson, 1950; Mullineaux, 1955; Morman, Hankey, Kennedy, & Jones, 1966; Abbatiello, 1969; Shealy, 1972). In contrast, the interests and personality characteristics of applicants have generally not been found to be related to academy grades (Morman et al., 1966; Morman, Hankey, Heywood, & Liddle, 1966). On the other hand, interest and personality measures are positively correlated with instructor and peer evaluations of general suitability for police work (Azen, Montgomery, Snibbe, Fabricatore, & Earle, 1974; Chiaramonte, 1974). Since peers may observe behaviors at the police academy that are often hidden from instructors, Azen et al. (1974) suggest that peer ratings may also be useful as predictors of later job performance.

While the training program at the police academy is designed to prepare the recruit to carry out the complex duties and responsibilities of a police officer, there is little opportunity for the recruits to demonstrate that they can apply the principles that are learned at the academy. Nevertheless, as has been noted by McCreedy (1974): "There is almost an implied bias in law enforcement agencies that those who have completed the academy training have received the 'stamp of approval'" (p. 42). During the probationary period, however, officers are continually observed as they actually perform on the job, and a decision must be made on whether or not each officer will be retained or terminated. Thus, measures of performance during the probationary period would seem to provide better criteria for validating selection

procedures than performance at the police training academy.

During the probationary period, supervisor ratings provide the major basis for evaluating performance, and personality measures appear to be better predictors of these ratings than measures of intellectual ability (Blum, Goggin, & Whitmore, 1961). Since it is not always possible for working supervisors to observe closely the performance of each probationary officer, many departments have established Field Training Officer (FTO) positions (Fabricatore, 1977; Roberts, 1977). The FTO's are typically experienced, well-trained officers who are assigned full-time to ride with probationary officers, and to observe and evaluate them in the day-to-day performance of their duties. Although the cost of obtaining FTO ratings may be relatively high, such ratings provide especially valuable criteria for validating initial selection standards.

Evaluations of actual performance on the job are generally considered to be the most meaningful criteria for validating police selection procedures. In evaluating probationary officers and tenured patrolmen, the same types of supervisor and peer ratings have been employed (Azen, Snibbe, & Montgomery, 1973; Baehr, Saunders, Froemel, & Furcon, 1971; Hooke & Krauss, 1971). These ratings have been criticized because they are often based on subjective, arbitrary judgments and are low in reliability (Dudycha, 1956). In response to such criticisms, sophisticated behaviorally-anchored rating scales have been developed that appear to provide more objective and reliable scaling procedures for assessing police performance (Dunnette & Motowidlo, 1976;

Landy & Farr, 1975). Dunnette's scales consist of behavioral statements that describe specific police duties related to: Crime prevention; traffic maintenance and control; detecting and investigating criminal activities, etc. Landy and Farr developed similar rating scales, which are being utilized by FPSRP staff and are described in the final section of this report.

Commendations, reprimands and citizens' complaints recorded in a police officer's personnel file may also provide objective information that is useful in evaluating performance. Specific indices that have been used as performance criterion measures for probationary and tenured police officers include: (1) absenteeism or time lost from sickness or injury, (2) formal recognition of outstanding performance, (3) disciplinary charges, (4) arrests, (5) services rendered, and (6) allegations of criminal misconduct (e.g., Collarelli & Seigel, 1964; Cohen & Chaiken, 1972, McAllister, 1970). Since most of these measures generally occur with low frequency, their usefulness as performance criteria is limited. In addition, such measures have been criticized because they may not be "...relevant 'yardsticks' as far as community/human relations and social interactions are concerned" (Badalamente, George, Halterlein, Jackson, Moore, & Rio, 1973, p. 452).

A potentially important performance criterion in the evaluation of probationary police officers is whether the officer is retained, or was terminated on or before completion of the probationary period (Blum, 1964). For those who were terminated, it is essential to determine if the officer was involuntarily dismissed, or was performing satisfactorily, and resigned for personal reasons,

or was disqualified because of medical problems.

Employment status has also been used as one of the criteria for evaluating the performance of tenured patrol officers (Blum, 1964). A major contributor to this area, Ruth Levy (1971), has defined three categories of employment status which she labeled "currents", "failures", and "non-failures". "Currents" are employed police officers who are performing satisfactorily. "Failures" are officers who were terminated because of unsatisfactory performance. "Non-failures" are terminated officers who were considered rehirable by their departments at the time Levy's study was conducted. These criteria appear to be useful in police selection research, and are further discussed in Part II of this Report.

Supervisor ratings, objective indices of performance, and employment status have been used to evaluate both probationary and tenured officers. Advancement in rank provides a unique measure of success in the evaluation of the performance of tenured law enforcement officers. While advancement has been used as a criterion for validating initial selection procedures (Blum, 1964; Cohen & Chaiken, 1972), it should be noted that some officers who function adequately as patrolmen do not possess the leadership qualities generally required for promotion. Therefore, the use of advancement as a criterion for validating initial selection procedures may screen out officers who perform patrol duties in a highly satisfactory manner.

On the basis of the preceding review of the police selection literature, we came to the unhappy conclusion that Kent and Eisenberg (1972) were essentially correct. The methodology in many police selection studies was faulty, the statistical analyses were often

inappropriate, cross-validation of research findings was rare, and, with a few exceptions, programmatic research was lacking. To provide a conceptual framework for evaluating police selection studies and planning future research in this field, a predictive model for the selection of law enforcement officers was formulated. This model is discussed in the next section of this report.

A Model for the Selection of Law Enforcement Officers

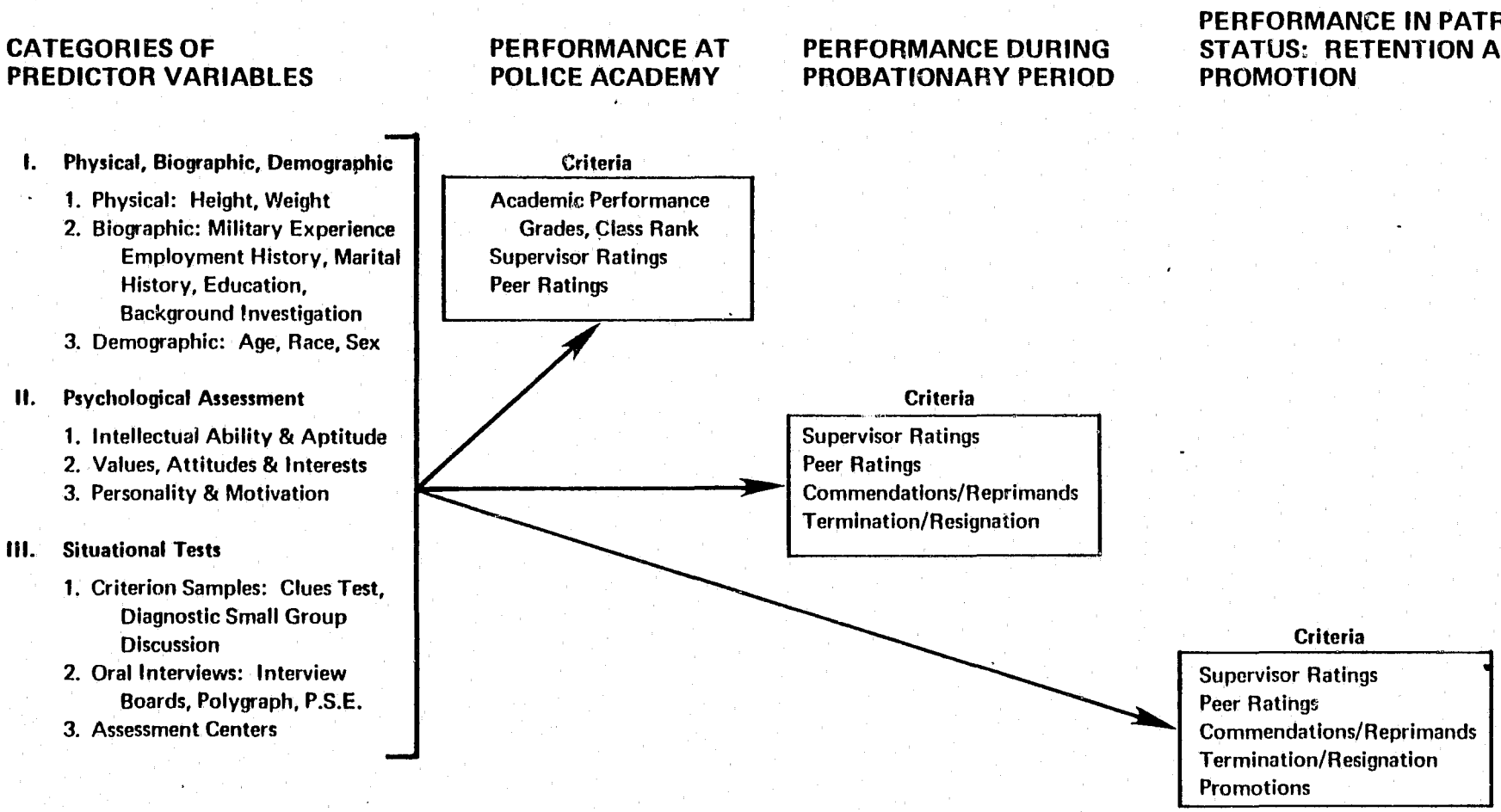
In research on the selection of law enforcement officers, a variety of predictor and criterion measures have been employed. Since the predictor and criterion measures have varied from one study to another, a meaningful comparison of the research findings on police selection is extremely difficult. A tentative model for evaluating and classifying previous research on the selection of law enforcement officers is proposed in Figure 1.

see Figure 1, page 23

The model groups the predictor variables used in police selection research into three major categories or classes, each with several subclasses. These categories, which are listed in the left hand column of the model are: physical, biographic and demographic characteristics; psychological assessment procedures; and situational tests. Specific variables relating to physical, biographical or demographic characteristics are height, weight, age, educational level, maritial status, and type and amount of previous employment experience (Cascio and Real, 1978).

FIGURE 1

A MODEL FOR THE SELECTION OF LAW ENFORCEMENT OFFICERS



The second general category of predictor variables consists of psychological tests for assessing: intellectual ability and aptitude; values, attitudes and interests; and personality and motivational factors. The third major category is comprised of situational tests, including observations of performance in situations analogous to those in which police officers must function (criterion samples) and instruments used to evaluate physiological changes, such as the polygraph and the psychological stress evaluator (PSE). Some departments have developed "Assessment Centers" in which combinations of situational tests and other assessment procedures are employed in a "multiple hurdles" technique (Blum, 1964).

Critical employment decisions are generally made by law enforcement agencies on the basis of performance at the police academy or during a specified probationary period. These practices are recognized in the proposed police selection model by dividing the criteria for successful performance into the three major groupings which are listed in Figure 1, from left to right, as column headings: performance at police academy; performance during probationary period; and performance in patrol status. The police selection literature suggests that different predictor variables may be required to predict performance during each of these periods.

Most agencies require candidates for law enforcement positions to pass physical examinations and background investigations as part of their employment screening procedures, but the validity of physical, biographic and demographic predictors of police performance have yet to be established. Furthermore, court decisions and EEOC

guidelines make it illegal for police selection procedures to unfairly discriminate against minority groups and women. Therefore, in investigating the potential contribution of physical, biographical and demographic variables in predicting performance during each of the employment periods specified by the model, police selection researchers should develop separate prediction equations for women and minorities.

In the psychological assessment of applicants for positions in law enforcement, intellectual ability and aptitude have proved useful in predicting success or failure at police academies, but these measures are not good predictors of performance on the job. Recently, the International Association of Chiefs of Police (IACP) has developed a police aptitude test on the basis of an in-depth analysis of the job of a police patrol officer. The IACP test shows great promise and is described in detail by Crosby, Rosenfeld, and Thornton (1978).

As previously noted, the usefulness of measures of values, attitudes and interests in police selection is difficult to evaluate, and more research on the predictive validity of these measures is needed. The use of the Strong-Campbell Interest Inventory (SCII) in police selection is discussed by a police psychologist (Flint, 1978). The use of the SCII in the FPSRP as a predictor of performance at police academies and during the probationary period, is described in Section II of this Report.

In research on the personality and motivational characteristics of candidates for positions in law enforcement, the Rorschach Inkblots Test and the MMPI have been most widely used. The Rorschach

lacks objectivity, and it is expensive to administer and score. The MMPI has demonstrated predictive validity in identifying the characteristics of police officers who perform poorly on the job, but this test has been criticized as inappropriate for evaluating police applicants (Gottesman, 1975). The use of the California Psychological Inventory (CPI) in police selection research is discussed in some detail in Part II of this report.

Research on the validity of situational tests has shown encouraging results, and these tests are becoming more popular in police selection and promotion programs (Filer, 1978). However, situational tests are expensive to construct and administer, and cost-effectiveness considerations must be taken into account in decisions to include situational tests in research on the initial selection of candidates in law enforcement positions.

The model for the selection of law enforcement officers described in Figure 1 provides a general framework for evaluating research on police selection that may also prove useful in planning future investigations. It is recommended that one or more variables from the first two general predictor categories specified by the model be included in future investigations of the selection of law enforcement officers. A predictive validity research design that examines specific performance criteria for each of the three employment periods is also recommended. Of course, cross-validation of results is an essential requirement in law enforcement selection research.

Summary

In Section I of this Report, a predictive model was proposed to guide the validation efforts of researchers and administrators involved in the selection of law enforcement officers. Three general categories of predictor variables were defined and examples of research using specific predictor measures within each of these categories was described. The criteria for successful performance that are most often employed in police selection research were also examined, and specific research examples of how these criteria have been assessed were reported.

The next section of this report will describe the application of the predictive model to the development of the Florida Police Standards Research Project (FPSRP). The FPSRP is an ongoing longitudinal study of police officers that was designed to provide a flexible selection battery to screen law enforcement applicants in the State of Florida. The historical development and preliminary findings of the FPSRP are presented in Section II of this Report.

II. THE FLORIDA POLICE STANDARDS RESEARCH PROJECT

The major goal of the Florida Police Standards Research Project (FPSRP) is to develop and validate a flexible battery of assessment procedures for use by law enforcement agencies on a state-wide basis. First, historical factors that provided the impetus for the FPSRP will be reviewed, and the experimental design for this research and development project will be outlined. Next, the selection of the predictor variables and criterion measures for the FPSRP will be discussed, and the subject population and data collection methods employed in the project are described. Some preliminary findings of this on-going longitudinal study are reported in the final section.

Development of the Florida Police Standards Research Project

The "jetstreams of change" that have generally influenced police selection techniques in the United States (Furcon, 1978) have also been active in Florida. Human rights legislation, judicial and administrative decisions, and the increasing complexity of police work have all contributed to a growing awareness among Florida law enforcement officials that police selection procedures needed to be improved. This recognition of a need for a more sophisticated approach to the selection of law enforcement officers stimulated the initiation of a statewide research effort that has involved an unusual degree of cooperation between university researchers and the law enforcement community.

In describing the context in which the FPSRP developed, several important recent events relating to the police profession in Florida should be noted. In 1967, the Florida legislature passed a new Police Standards Act that was designed to improve law enforcement. The expressed intent of this Act was stated as follows in the Florida Statutes (1967):

> (1) It is the intent of the legislature to strengthen and upgrade law enforcement in Florida by attracting competent, highly qualified young people for professional careers in this field and to retain well qualified and experienced officers for the purpose of providing maximum protection and safety to the citizens of, and visitors to, this state.
>
> (2) It is the further intent of the legislature to establish a minimum foundation program for law enforcement officers which will provide a state-wide minimum salary for all such officers, to provide a state monetary supplement to effectuate an upgrading of compensation for all law enforcement officers, and to upgrade the education and training standards of such officers.

The Florida Police Standards Board was formed to carry out the provisions of this legislation, and an early action of this Board was to create the Bureau of Police Standards and Training. One of the first achievements of this agency was the establishment of minimum recruit training standards. It is interesting to note that these standards were later selected as guidelines for national law enforcement standards by the International Association of Chiefs of Police. The Police Standards Board also took an early interest in assisting local agencies in the selection of well-qualified recruits.

In 1973, the Florida Association of Chiefs of Police requested technical assistance from the Florida Police Standards Board in developing psychological testing procedures for the selection of well-qualified candidates. In responding to this request, the Board directed the staff of the Division of Police Standards and Training to determine the feasibility of developing a statewide program for the psychological screening of police applicants. As a first step, assistance was requested from the Regents of the State University System of Florida, and the Regents awarded a small grant to the University of South Florida to support surveys of the research literature on police selection. In completing this feasibility study, a proposal for a more substantial research and development grant was submitted to the Law Enforcement Assistance Administration (LEAA).

An LEAA Discretionary Grant was awarded to the University of South Florida in April, 1975, to initiate the FPSRP. This research and development project is now being carried out in close consultation and collaboration with the Director and staff of the Florida Division of Police Standards and Training. The goals of the project are to construct and validate procedures for screening and selecting candidates for Florida law enforcement agencies.

The design of the FPSRP involves the administration of an experimental test battery to police recruits at the beginning of their academy training. Upon completion of the academy training program, grades and intructor ratings of performance and suitability for police work are obtained for each recruit. The officers are then followed through their probationary year, and job performance ratings are obtained from first-line supervisors at the end of

this period. Similar ratings will also be obtained when the officers complete their first year in full patrol status. Statistical analysis of the data will determine how well test scores predict performance at the police academy and on-the-job during the probationary year and in patrol status.

The FPSRP is being conducted in four major phases. The first three phases have been completed and the fourth is still in progress. Phase I was concerned with a critical evaluation of the current status of research on police selection measures. The instruments that are included in the test battery were selected and field tested in Phase II. Selection and refinement of criterion measures also took place in this phase. In Phase III, recruit classes were tested at selected police academies and criterion data on academy and probationary period performance were subsequently obtained for these officers. In Phase IV, additional subjects are being tested to permit cross-validation. Additional follow-up data are also being obtained on the original subjects.

The literature review conducted in Phase I of the FPSRP was briefly summarized in Section I of this report. The model for selection of law enforcement officers that provided the conceptual framework for this project was also described in Section I. In the section that follows, the methods and procedures employed in Phase II of the FPSRP are discussed along with the results that have been obtained to date in Phase III.

Predictor Variables and Criterion Measures

The first step in Phase II of the FPSRP was the selection of predictor variables on the basis of the model that was previously described. This model identifies three major categories of predictor variables:

1) Physical, biographic and demographic variables; 2) Psychological assessment; and 3) Situational tests. It was initially intended that the predictor battery would include measures from each of these categories, but it soon became apparent that inclusion of situational testing, while desirable, would be extremely expensive and time-consuming. Accordingly, the final battery was made up of measures from the first two categories. The list of predictor and criterion variables employed in the FPSRP are included in Appendix B. to this report.

For the physical-biographic-demographic category, physical factors such as height and weight are usually measured directly, and biographic and demographic factors are generally obtained by means of questionnaires or information requested in application forms. The psychological assessment category is divided into three subcategories: 1) Intellectual ability and aptitude; 2) Values, attitudes and interests; and 3) Personality and motivation. Psychological characteristics are generally measured by standardized tests, but some departments also utilize assessment interviews conducted by a psychologist or psychiatrist in the later stages of the selection process. The considerations leading to the selection of the specific biodata and psychological measures that were used in the FPSRP are discussed below.

Physical, Biographic and Demographic Variables

Physical, biographic and demographic variables (biodata) are widely used in police selection. Most law enforcement agencies inquire into a candidate's physical characteristics, personal background, level of education, and previous job experience. While the predictive validity of biodata has not been firmly

established, it was considered essential to include representative biodata measures in the FPSRP test battery because of the widespread use of such measures in police selection (Cascio & Real, 1978).

Fortunately, at the time that test instruments were being selected for the FPSRP, a validation study of biodata predictors of police performance was being completed in the Dade County, Florida Public Safety Department (Cascio & Real, 1978). From the 184-item questionnaire employed by the Dade County investigators, the 60 items that showed the best concurrent validity in their study were selected to comprise the "Personal History Questionnaire" that was used in the FPSRP Test Battery. The items in this questionnaire covered the entire range of biodata. A copy of the "Personal History Questionnaire" is included in Appendix B to this report. The other FPSRP predictor tests are not included since they are published tests and may be obtained from the publishing companies.

Intellectual Ability and Aptitude Variables

The intellectual ability/aptitude measure originally chosen for the FPSRP Test Battery was an instrument developed by the Educational Testing Service (ETS) for the International Association of Chiefs of Police (IACP). The rationale for the construction of this test is described by Crosby, Rosenfeld and Thornton (1978). Unfortunately, the ETS/IACP test was not completed in time for it to be available for inclusion in the FPRSP Test Battery. Therefore, a replacement had to be found.

In searching for a substitute intellectual ability/aptitude measure, we discovered that the Nelson-Denny Reading Test (ND)

had been used for a number of years at Florida's largest police training academy. The Academy director and staff commented favorably on this test, and analyses of data from previous classes showed that N-D scores were good predictors of academy grades. These facts led us to include the N-D in the FPSRP Test Battery, and subsequent analyses have demonstrated that scores on the N-D are highly correlated with I.Q. scores on the California Test of Mental Maturity, a standard intelligence test.

The Nelson-Denny Reading Test is an objective test of reading skills and general intellectual ability. It was standardized in 1972 on large high school and college samples, and has excellent test-retest reliability (Brown, Nelson, & Denny, 1973). There are subscales for measuring vocabulary and comprehension, and an additional score may be calculated by summing these scores. The vocabulary and comprehension scores reflect important reading subskills and the combined score provides a measure of overall reading ability. It is also possible to assess reading rate with the N-D, but there is relatively little evidence of the validity of this measure.

Values, Attitudes and Interest Variables

In a recent paper, Flint (1978) strongly recommends that interest measures be employed in the selection of law enforcement officers. On the basis of his research and practical experience in police selection, Flint notes that information about an individual's interests can often answer important questions about the applicant's motivation and potential enjoyment of police work, and whether his interests are compatible with the needs of the department.

The Strong-Campbell Interest Inventory (SCII) is used to assess values, attitudes and interests in the FPSRP. The SCII (Campbell, 1974) is an objective, self-report inventory consisting of 325 items grouped into seven parts. For the first five parts of the SCII, the subject is asked to respond "Like", "Indifferent", or "Dislike" to interest items falling into the following categories; (1) Occupation, (2) School Subjects, (3) Activities, (4) Amusements, and (5) Day-to-day contact with different Types of People. The final two parts inquire about specific Activity Preferences and Your (personal) Characteristics.

Five types of information are provided in the SCII computer-scored profile. These are: (1) General occupational orientation (6 themes); (2) Administrative indexes (used to detect test-taking response bias); (3) Special scales (academic orientation, introversion-extraversion), (4) Basic interests (23 scales); and (5) Occupational interests (124 scales). The SCII scales are described in some detail by Flint (1978).

Personality and Motivation Variables

Measures of personality and motivation are widely employed to screen-out applicants who are unsuitable for employment in law enforcement work (Shealy, 1978). In all, four different measures of personality and motivation were included in the FPSRP Test Battery. These are: the California Psychological Inventory (CPI) (Gough, 1957), the State-Trait Anxiety Inventory (STAI) (Spielberger, Gorsuch, & Lushene, 1970), the "Lie" scale of the Minnesota Multiphasic Personality Inventory (MMPI) (Dahlstrom, Welsh, & Dahlstrom, 1972), and an experimental measure of sociopathy,

called the SPY Scale (Spielberger, Kling, & O'Hagan, 1978). Each of these instruments is discussed in more detail below.

An objective multidimensional personality test was considered essential for inclusion in the FPSRP Test Battery to provide an efficient means of collecting information on a broad range of individual personality characteristics. On the basis of the review of the literature on police selection, as discussed in Section I, two tests appeared suitable for this purpose: The MMPI and the CPI. Both of these tests are empirically based, and have been used successfully in previous police selection research. Since both require considerable time for administration, a choice had to be made between them. A pilot study conducted during Phase II of the FPSRP led to the selection of the CPI, primarily because a number of subjects objected to the wording of MMPI items. Furthermore, Gottesman (1975) has recently suggested that the MMPI is inappropriate for screening police applicants because the published norms for the MMPI are not representative for this population.

The CPI is a 480-item, true-false inventory that yields scores on 18 scales. Three of these scales measure test-taking attitudes, and the remaining 15 scales provide measures of personality dimensions such as Achievement-via-conformance, Dominance, Responsibility, and Sociability.

The 15-item MMPI "Lie" scale and an experimental Sociopathy (SPY) scale developed from the MMPI were included in the FPSRP Test Battery. The "Lie" scale was constructed to identify persons deliberately attempting to deny their faults in order to make a favorable impression. The SPY scale consists of 20 items empiri-

cally associated with sociopathic personality in prison inmates who displayed amoral and impulsive behavior without being constrained by anxiety or guilt.

As we have noted earlier in this report, there is considerable recent evidence that the personality trait of anxiety is importantly involved in a police officer's adaptation to job-related stress. It has also been suggested that differing levels of anxiety may affect the relationship between predictor and criterion variables in police selection validity research. The State-Trait Anxiety Inventory was included in the FPSRP Test Battery to measure individual differences in anxiety. The STAI is a 40-item scale which measures anxiety proneness or "trait anxiety" as well as emotional reactions to stress or state anxiety, that is, how the subject feels "at the moment" (Spielberger, Gorsuch, & Lushene, 1970).

Selection of Criterion Measures for the FPSRP

The choice of criterion measures for the FPSRP was guided by the model for the selection of law enforcement officers described in Section I of this Report. This model identifies three periods during which performance is usually evaluated in police selection research: 1) at the police academy, 2) during the probationary period, and 3) in patrol status after the probationary period. The FPSRP research design will eventually include performance measures from all three periods.

Two main considerations determined the selection of the specific criterion measures that were used in the FPSRP. First, we wished to choose criteria that were reliable, valid, and job-

related. Secondly, it was important to establish performance criteria that reflected the special requirements and concerns of the ultimate users of the FPSRP Test Battery, namely, Florida law enforcement agencies.

The literature review conducted in Phase I of the FPSRP provided information on the criterion measures that have been used with some success by other investigators in police selection research. In order to determine the factors that were considered important in performance evaluation by Florida law enforcement personnel, surveys were conducted in which the respondents were police chiefs and sheriffs, police officers in middle-management supervisory positions, first-line supervisors (sergeants and lieutenants), and police academy directors and instructors. A list of criterion measures was compiled from the published literature, and respondents were asked to indicate which, if any, of these measures were used at their agency. They were also asked to give their opinion of the usefulness of each procedure. Analysis of the survey responses revealed considerable agreement on the criteria that were considered most important in the evaluation of the performance of law enforcement officers. Moreover, agreement extended across supervisory levels and the size of the respondent's department.

In research on the prediction of performance at the police academy, grades are the most widely used criterion measures. While peer and supervisor ratings have also been employed in some studies, grades continue to be the primary criterion. In addition, successful completion of the training course versus

failure (e.g., dismissal, resignation) is also used as a criterion measure. While it is generally assumed that academy performance is related to how well the graduate will perform on the job, this relationship has not been well-established empirically.

On the basis of the literature review, and the surveys of law enforcement personnel, ten measures of performance at the police academy were selected as criterion measures for the FPSRP. Four of these were related to academic performance: 1) Final Average; 2) Final Test Score; 3) Interim Test Score; and 4) Notebook Score. These measures are currently used at all Florida police training academies and were readily available to project staff.

Four other academy criterion measures were based on personal traits that had been rated as "very useful" for the evaluation of academy trainees by more than 65% of the survey respondents. These traits were: 1) General Suitability for Police Work; 2) Honesty and Integrity; 3) Quality of Work; and 4) Relations with Others. Each academy trainee was rated on these traits by academy instructors, using the Personal Appraisal and Evaluation Form (PAEF), a paired-comparison rating scale procedure developed by FPSRP staff. Two additional academy criterion measures were: 1) successful completion of the recruit training course; and 2) weapons firing scores.

For the probationary and patrol status periods, the model for the selection of law enforcement officers described in Section I lists five types of criterion assessments. These are: 1) supervisor ratings; 2) peer ratings; 3) commendations/reprimands;

4) termination/resignation; and 5) promotions. The two criteria that were used in the validation of the FPSRP predictor variables were supervisor ratings of job performance and personal traits, and termination/resignation.

Supervisor ratings are more subjective than the termination/resignation criterion, and such ratings are generally used by most police agencies in the evaluation of job performance. The importance of supervisor ratings of performance during the probationary period is emphasized by Wilson and McClaren (1977). In their influential book on police administration, Wilson and McClaren state: "...it becomes obvious that one of the great supervisory training needs in the police service is to convince first-line and middle-level supervisors that one of their major responsibilities is to separate borderline and unfit candidates who are able to get into the department despite the formal testing procedure and entrance requirements" (p. 270).

The survey responses of Florida law enforcement administrators were compared with behaviorally-anchored police-rating scales in selecting a specific supervisor rating scale to be used for evaluating performance in the FPSRP. This comparison showed that the Landy-Farr rating scales encompassed most of the performance dimensions considered important by the survey respondents. The only important factor not covered by these scales was "Integrity". Dunnette and Motowidlo (1976) had constructed a similar instrument that included a rating of "Integrity", and a modification of this scale was included, along with the Landy-Farr scales, in the final FPSRP job performance rating instrument.

A major goal of the FPSRP was to assist police agencies in screening out unfit or unsuitable candidates. The termination of an officer because of inadequate performance or inappropriate behavior is perhaps the clearest indication that mistakes were made in the selection process. In applying this criterion, careful distinction must be made between those officers who are discharged or whose resignation is requested, and officers who were performing satisfactorily and were physically disqualified or resigned for personal reasons. Although the latter group may contain some individuals who lacked sufficient motivation and interest in police work, there is no satisfactory way to distinguish these officers from officers who resign to accept better positions elsewhere.

In a police selection study described in Section I of this report, Levy (1971) grouped police officers into three categories: "currents", "failures", and "non-failures". These categories were based on statements by each officer's department of the reason for termination and whether or not the terminated officer was considered rehireable. A similar classification was made in the FPSRP study. For each officer who terminated employment during the probationary period, the employing department was asked to state whether the officer was considered rehireable. Terminated officers who were not considered rehireable and officers who failed at the academy comprised the "failure" group. Officers who were performing their duties satisfactorily, and those terminated during the probationary period who were considered rehireable, comprised the "success" group. In the analyses described in the following section, "failures" were contrasted with "successes" in an attempt to

identify the characteristics of officers not suited for police work.[2]

Subjects and Data Collection

In the FPSRP, successive classes of police recruits enrolled in Basic Law Enforcement courses at seven Florida police academies were tested. The Florida Division of Police Standards and Training assisted in the selection of these academies to insure that representative samples of police recruits were tested. A major consideration in the choice of police academies for the study was the size and the type of law enforcement agency that assigned recruits to these training centers. To facilitate the generalizability of the results, it was desired that the sample include a wide cross section of large and small, and rural and urban departments, and substantial numbers of women and minority officers.

The seven testing sites were: (1) Hillsborough Community College, Tampa; (2) Lewis M. Lively Vocational Technical Institute, Tallahassee; (3) Pinellas Police Academy, Clearwater; (4) Southeast Florida Criminal Justice Institute, Miami; (5) J. C. Stone Memorial Police Academy, Orlando; (6) Tampa Police Academy, Tampa, and (7) Withlacoochee Vocational Technical Center, Inverness. Table 1 shows the number of recruits tested at each of these academies. A total of 317 recruits volunteered to participate in the study, and signed consent forms that permitted project staff to obtain academy grades and other necessary performance information.[3] The number of caucasian males, minority males, and females,

and the employment status of each subject in these groups, is also reported in Table 1.

See Table 1, page 45

The FPSRP Test Battery was administered at each Training Center usually during a four-hour morning session on the second or third day of the course. The purpose of the Project was explained to the recruit classes, and the subjects were assured that the test results would be kept strictly confidential and used only for research purposes. In order to determine minority status, the recruits were asked to identify themselves as Black, Caucasian or Hispanic. Black and Hispanic males were combined to comprise the Minority Males Group (N=56) because there were not enough subjects for separate analyses of these subgroups. Similarly, the relatively small number of females (N=53) prevented further subdivision of this group.

The employment status of each subject was closely monitored by project staff. As each academy class graduated, course grades for each officer were obtained from the official records of the Florida Division of Police Standards and Training. Within two weeks of graduation, project staff returned to the training academies to conduct rating sessions in which two or more instructors evaluated the academic performance and personal characteristics of each recruit.

Approximately nine months after graduation from the police academy, information on the current employment status of each officer was obtained from the Florida Division of Police Standards

Table 1

Subject Attrition at the Police Academies and During the First Year of Employment

	Caucasian Males	Minority Males	Females	Total*
Total Recruits Tested at the Training Academies	208	56	53	317
Academy Terminations**	5	1	6	12
Graduated from Academy	203	55	47	305
Never Hired by Police Agency	40	1	10	51
Retained After Successful Completion of Probation	142	52	30	224
Terminations During Probationary Period	21	2	7	30
Considered Rehireable by Department***	5	1	3	9
Department Would Not Rehire**	16	1	4	21
Total Number of Failures**	21	2	10	33
Total Successful Officers***	147	53	33	233

*A sample of 35 Florida Highway Patrol recruits was also tested. Since the training and job requirements for these subjects were substantially different from those of other entry-level law enforcement officers, the data analyses for the highway patrolmen are not presented in this report.

**Academy terminations and officers terminated during the probation period who could not be rehired by their Departments were defined as FAILURES.

***Successful officers were defined as officers who were retained after successfully completing the probationary period and officers terminated during the probationary period who were considered rehireable by their Departments.

and Training. The law enforcement agency where each officer was currently employed was contacted to determine if the officer had completed the probationary period, and rating sessions were arranged in which first-line supervisors evaluated the officer's performance.

Prior to completing the rating scales, the supervisors were briefed on the goals and procedures of the FPSRP, the rating procedure was explained, and each supervisor was asked to evaluate only those officers under his direct supervision. Performance ratings for each officer were obtained from at least two supervisors. This process will be repeated when the officers complete their first full year in tenured patrol status.

Preliminary Findings in the FPSRP

Of the 317 recruits who were tested in the FPSRP, 224 successfully completed the probationary period and nine of the officers who terminated during probation were considered rehireable by their departments (See Table 1). These 233 officers were considered as SUCCESSES. A total of 33 officers who were terminated were considered FAILURES; 12 officers were terminated at the training academy, and 21 officers were terminated during the probationary period and were not considered rehireable by their departments. The 51 officers who completed academy training, but were never hired by a police agency, were eliminated from further consideration.

In this section, SUCCESSES and FAILURES will be compared to determine the predictive validity of each predictor measure for screening out failures. Discriminant function analyses to establish

the best combination of test variables for predicting success or failure will also be reported. Additional analyses of the relationships between subjects' scores on each predictor variable and performance at the police academy and on-the-job have also been carried out, including multiple-regression analyses to determine the predictive validity of various combinations of predictors. The results of these more complex analyses will be reported elsewhere after cross-validation with a new sample in Phase IV of the FPSRP.

The results of the Success/Failure comparisons will be presented in three sections. First, the means and the predictive validity of the biodata items and the Nelson-Denny Ability measures will be presented. Next, the results for the comparisons of SUCCESSES and FAILURES on the interest and personality measures will be reported. Finally, the predictive validity of various combinations of predictor measures will be examined and evaluated.

Biodata and Ability Measures

The means and standard deviations for the six biodata items that significantly discriminated ($p \leq .05$) between SUCCESSES and FAILURES in either the Caucasian Male or Female groups are reported in Table 2, along with values for the *t*-tests of the differences between the means for these groups. Means and standard deviations for SUCCESSES and FAILURES in the Minority Male sample are also reported in Table 2, but *t*-tests were not computed because the number of failures in this group was too small to permit statistical analysis.

See Table 2, page 48

Table 2

Biographical Inventory Items that Discriminated Between Successful and Failed Caucasian Male and Female Officers

	Caucasian Males					Females					Minority Males[1]				
	Successes N=147		Failures N=21			Successes N=33		Failures N=10			Successes N=53		Failures N=2		
	M	SD	M	SD	t^2	M	SD	M	SD	t^2	M	SD	M	SD	
Athletic Participation in High School	1.4	.5	1.2	.4	2.1**	1.2	.4	1.3	.5	1.2	1.5	.5	1.5	.7	
Family Moved Less Often	2.5	1.6	3.4	1.5	2.2**	2.2	1.4	2.0	1.5	1	2.1	1.4	3.0	2.8	
Less Need for Job Encouragement	1.2	.4	1.4	.5	2.2**	1.1	.3	1.0	.0	1	1.2	.4	1.0	.0	
Important to Achieve and Make Contribution	1.8	.4	1.5	.5	2.3**	1.3	.5	1.3	.5	1	1.2	.4	1.0	.0	
Married, Widowed, Separated or Divorced	1.6	.5	1.5	.5	1.1	1.5	.5	1.1	.3	2.1**	1.7	.5	1.5	.7	
Not Bothered by Bragging Co-Workers	1.8	.4	1.8	.4	1	1.8	.4	1.4	.5	2.4**	1.6	.5	1.5	.7	

1. t-tests were not calculated for minority males because of small size of terminated group.

2. t-test significance: *$p \leq .10$; **$p \leq .05$. All probabilities that are reported were based on two-tailed tests of significance.

The Caucasian Male SUCCESS and FAILURE groups were significantly different on four of the 60 biodata items. The successful officers were more likely than unsuccessful officers to report that they had participated in high school athletics, their families moved less frequently, they felt less need for job encouragement, and they placed higher value on achievement and the "ability to contribute something to society." Successful female officers differed from female failures on only two biodata items. The successful officers were more likely to report they were now or had previously been married, and that they were not particularly bothered by bragging co-workers.

The means and standard deviations of the four Nelson-Denny (N-D) subscales are presented in Table 3 along with *t*-tests of the differences between the means for successes and failures in the Caucasian Male and the Female groups. All of the N-D subscales significantly discriminated between SUCCESSES and FAILURES for the Caucasian Males, as can be noted in Table 3. Only the N-D Comprehension scale significantly discriminated between female SUCCESSES and FAILURES, but differences between these groups in N-D Total scores approached statistical significance ($p \leq .10$). Although *t*-tests could not be computed for the Minority Males, it can be noted in Table 3 that the successful Minority Males had substantially higher N-D scores than the FAILURES.

See Table 3, page 50

Interest and Personality Measures

Means and standard deviations for the Strong-Campbell

Table 3

Nelson-Denny Reading Test Scores for Successful and Failed Caucasian Males, Females and Minority Males

	Caucasian Males					Females					Minority Males[1]			
	Successes N=147		Failures N=21			Successes N=33		Failures N=10			Successes N=53		Failures[3] N=2	
	M	SD	M	SD	t[2]	M	SD	M	SD	t	M	SD	M	SD
Vocabulary	43.0	15.8	35.3	15.0	2.1**	44.1	12.8	32.0	19.4	1.8	28.8	12.6	11.5	2.1
Comprehension	29.7	13.9	25.1	8.7	2.1**	34.5	15.4	21.7	7.5	3.6**	26.6	11.9	19.0	9.9
Total (V+C)	72.7	25.4	60.4	17.3	2.8**	75.7	27.1	53.7	23.5	2.2*	51.6	20.0	30.5	12.0
Reading Rate	256.4	114.6	210.0	46.7	3.3**	268.8	97.4	281.1	153.1	<1	206.2	68.5		

1. t-tests not calculated for the minority male sample because of small size of terminated group.
2. t-test significance: *$p \leq .10$; **$p \leq .05$.
3. These two subjects did not report Reading Rate scores.

Interest Inventory (SCII) scales that discriminated between SUCCESSES and FAILURES in the Caucasian Male and the Female groups are reported in Table 4. For the Caucasian Males, the successful officers reported greater interest in business management and office practices than the failures. On the occupational scales, the expressed interests of the successful male caucasians were more like those of Army officers (both male and female) than were the failures. In addition, differences between the male caucasian SUCCESS and FAILURE groups approached significance ($p \leq .10$) on scales reflecting conventional attitudes, interest in military activities, and interests similar to those of Navy officers.

The SCII showed little potential for discriminating between female officers who were classified as SUCCESSES and FAILURES. There were no significant differences on any scale. The only scale that even approached significance was Academic Orientation on which successful females had higher scores.

It may be noted in Table 4 that there were no significant differences between successes and failures for either male caucasians or females on the Police Officer or Highway Patrolman scales. This was unexpected since these scales were constructed on the basis of the responses of experienced and successful police officers. Examination of Table 4 shows that the caucasian males and the minority males scored very near the SCII mean for police officers, indicating that their interests were similar to those of the officers in the scale construction sample.

The means and standard deviations for the personality measures that discriminated between SUCCESSES and FAILURES in the

Table 4

Strong-Campbell Interest Inventory Scales that Discriminated Between Successful and Failed Caucasian Male and Female Officers

	Caucasian Males					Females					Minority Males[1]			
	Successes N=147		Failures N=21			Successes N=33		Failures N=10			Successes N=53		Failures N=2	
	M	SD	M	SD	t[2]	M	SD	M	SD	t[2]	M	SD	M	SD
General Interests														
Conventional	50.9	9.0	47.0	8.2	1.8*	50.9	9.2	53.0	10.5	<1	53.0	10.9	54.0	2.8
Academic Orientation	38.5	15.2	36.4	14.2	<1	45.2	12.3	34.6	15.2	2.1*	39.4	15.5	41.0	11.3
Military Activities	64.2	10.4	59.6	12.0	1.8*	62.8	10.3	61.3	11.5	<1	68.2	8.2	69.0	9.9
Business Management	51.2	9.5	46.8	8.0	2.0**	52.1	10.4	48.8	9.4	<1	55.8	9.3	56.0	5.7
Office Practices	47.2	7.6	44.7	5.5	1.8**	50.2	10.5	55.9	10.5	<1	51.6	9.9	52.0	1.4
Occupational Scales														
Police Officer (Male)[3]	48.4	10.8	45.0	10.4	<1	40.3	12.4	36.1	15.5	<1	50.4	10.4	48.0	9.9
Highway Patrol (Male)[3]	44.2	10.4	43.2	11.4	<1	31.1	11.6	29.7	8.3	<1	43.9	9.2	40.5	4.9
Army Officer (Female)	48.0	9.5	41.2	11.9	3.0**	38.8	7.6	35.3	8.6	1.2	47.3	9.4	39.0	7.1
Navy Officer (Male)	36.9	12.7	31.8	11.5	1.7*	30.1	12.4	23.0	17.1	1.4	38.7	13.6	38.0	5.7
Army Officer (Male)	36.7	10.9	31.0	11.7	2.1**	33.7	9.7	25.9	12.9	1.9	39.7	10.8	34.5	4.9

1. t-tests were not calculated for minority males because of small sample size of terminated group.
2. t-test significance: *$p \leq .10$; **$p \leq .05$.
3. Although these scales failed to discriminate, they are included in this Table because they are based on normative samples of police officers and highway patrolmen.

Caucasian Male and Female groups are reported in Table 5. Successful caucasian male officers scored significantly higher than failures on the CPI Dominance, Capacity for Status, Sociability, Achievement via Conformance, and Intellectual Efficiency scales. The successful officers also tended to score higher on the CPI Tolerance scale than failures ($p \leq .10$).

See Table 5, page 54

Successful female officers were significantly higher than failures on scales that measured Capacity for Status, Sense of Well-Being, Responsibility, Self-Control, Tolerance, Good-Impression, Achievement via Independence, Intellectual Efficiency, and Psychological Mindedness. The successful female officers also tended to score higher than unsuccessful officers on the CPI Dominance, Sociability, and Communality (common sense) scales, and lower in anxiety proneness as measured by the STAI A-Trait scale.

Discriminant Function Analyses

In the preceding analyses, SUCCESSES and FAILURES were compared to determine the predictive validity of individual predictor measures. Although no single measure did well in discriminating between the groups, this was not unexpected. The rationale behind the employment of multiple measures in the FPSRP Test Battery was that the police officer's job is complex and multifaceted, and that a combination of predictors, including biodata, ability, interest and personality measures would be required to predict this complex criterion. In this section, the predictive validity

Table 5

Personality Measures that Disciminated Between

Successful and Failed Caucasian Male and Female Officers

	Caucasian Males					Females					Minority Males[1]			
	Successes N=147		Failures N=21			Successes N=33		Failures N=10			Successes N=53		Failures N=2	
	M	SD	M	SD	t^2	M	SD	M	SD	t^2	M	SD	M	SD
California Psychological Inventory														
Dominance	57.3	10.4	51.1	8.9	2.5**	58.9	11.5	51.7	9.7	1.7*	54.2	10.1	52.0	11.3
Capacity for Status	48.1	9.6	43.1	10.2	2.2**	49.7	11.6	39.6	12.6	2.3**	47.3	7.3	47.5	2.1
Sociability	52.4	9.4	45.4	9.2	3.2**	54.5	11.2	46.9	14.1	1.8*	48.4	7.8	51.0	8.5
Sense of Well-Being	47.0	14.0	43.9	17.8	<1	51.0	8.5	32.4	13.0	4.1**	44.4	14.3	27.5	33.2
Responsibility	44.8	9.9	39.6	13.5	1.7	48.3	7.0	37.7	11.4	2.6**	43.8	9.7	40.0	8.5
Self-Control	47.2	9.6	46.8	12.5	1	49.8	10.2	40.2	12.6	2.4**	50.5	9.9	46.5	4.9
Tolerance	45.6	10.6	40.5	11.5	2.0*	50.1	10.4	30.0	7.0	5.4**	43.6	9.8	38.5	7.8
Good Impression	48.8	11.0	47.2	9.8	<1	51.8	11.4	39.9	8.1	2.9**	54.1	11.3	49.0	1.4
Communality	49.8	15.4	47.2	17.6	<1	50.6	11.2	42.6	11.6	1.9*	42.2	17.6	26.5	26.1
Achievement via Conformance	51.4	11.0	45.2	11.4	2.4**	53.5	9.0	41.4	16.8	3.3	51.1	10.4	47.0	15.6
Achievement via Independence	48.2	9.9	45.8	11.5	1.0	53.8	11.2	39.9	7.6	3.5**	45.8	8.8	42.5	12.0
Intellectual Efficiency	46.2	13.0	39.7	12.6	2.1**	51.3	8.8	34.6	10.3	4.5**	41.0	11.2	36.0	18.4
Psychological-Mindedness	53.5	8.9	50.5	11.6	1.1	57.5	7.5	49.6	7.6	2.8**	52.4	8.6	41.0	7.1
State-Trait Anxiety Inventory														
A-Trait	32.5	7.4	31.4	9.5	<1	32.4	7.7	37.6	7.5	-1.8*	33.4	7.7	37.0	2.8

1. t-tests not calculated for minority males because of small sample size of terminated group.
2. t-tests significance: *$p \leq .10$; **$p \leq .05$.

obtained for the best combination of FPSRP measures will be described.

Discriminant function analysis was employed in this study to evaluate the effectiveness of different combinations of measures in predicting success or failure. Mathematically, this technique consists of combining and weighting the predictor variables into a "discriminant function" equation that best separates the two groups. Ideally, this procedure would result in a single dimension on which SUCCESSES were clustered at one end and FAILURES at the other. In real life situations, of course, complete separation between criterion groups is rarely achieved and there is generally some degree of overlap between groups.

The best combination of variables for male caucasians included items and scales from all three predictor categories. Four biodata items were included together with the A-Trait scale of the STAI, the Sociability scale of the CPI, the total score from the N-D, and the Army Officer (f) scale of the SCII. The variables which entered the discriminant function for females included two biodata items, the STAI A-Trait scale, four CPI scales (Capacity for Status, Tolerance, Intellectual Efficiency and Psychological Mindedness), and the Army Officer and Nature scales of the SCII.

The results of the discriminant function analyses of the FPSRP are reported in Table 6. For the caucasian males, it can be seen that the discriminant function correctly identified 71% of the failures and 84% of the successes, while incorrectly identifying 29% of the failures, and 16% of the successes. For

Table 6

Percentage of Successes and Failures Correctly and Incorrectly Predicted by the Discriminant Function Analyses

	TOTAL	CORRECT PREDICTION		INCORRECT PREDICTION	
		Number	%	Number	%
CAUCASIAN-MALE SUCCESSES	145	122	84%	23	16%
CAUCASIAN-MALE FAILURES	21	15	71%	6	29%
FEMALE SUCCESSES	33	33	100%	0	0%
FEMALE FAILURES	9	7	78%	2	22%

the female group, 78% of the failures were correctly identified by the discriminant function and 22% of the failures were incorrectly identified as successes. Of the actual successes, 100% were correctly identified. The efficiency of the two discriminant function equations, expressed as the overall proportion of correctly identified cases,was 82.5% for the male caucasians and 95.2% for the females.

Summary and Conclusions

In this Section, we have described the first three phases of the Florida Police Standards Research Project, a longitudinal predictive-validity study designed to develop and validate a flexible assessment battery for state-wide use in the selection of law enforcement officers. Our goal has been to clarify and describe how such projects are developed, to discuss important considerations that are involved in the selection of predictor variables and criterion measures, and to present some preliminary findings from the study.

The validity of the FPSRP predictor measures was examined in terms of the ability of these measures, taken singly and together, to discriminate between officers who were SUCCESSES and FAILURES. SUCCESSES were defined as officers performing satisfactorily at the end of a one-year probationary period or previously employed officers considered as rehireable by their departments. FAILURES consisted of the recruits who failed at the Police Academy and

officers who were discharged or resigned and were not considered rehireable by their department. These criteria were applied to the male caucasian and female groups, but could not be used for minority males because of the small number of FAILURES.

Four biodata items discriminated between SUCCESSES and FAILURES for the caucasian males. The successful officers were more likely to report: (1) participation in high school athletics; (2) fewer family moves; (3) less need for job encouragement; and, (4) higher values for achievement and societal contributions. Successful females differed from failures on only two biodata items. They were less likely to be single and in addition, they more often reported that they were not bothered by bragging co-workers.

All four N-D scales significantly discriminated between SUCCESSES and FAILURES for caucasian males, with the successful officers scoring higher on these scales. Successful caucasian males also scored higher on the SCII Army Officer, Business Management and Office Practices scales than did the failures. The N-D Comprehension Scale discriminated significantly between female SUCCESSES and FAILURES, but these groups did not differ on any of the SCII interest scales.

A number of personality variables significantly discriminated between SUCCESSES and FAILURES for both the caucasian males and the female groups. The successful caucasian males scored higher than the failures on the CPI Capacity for Status, Intellectual Efficiency, Sociability, Dominance, and Achievement via Conformance scales. Successful females scored significantly higher on the following

CPI scales: Capacity for Status, Intellectual Efficiency, Sense of Well-Being, Responsibility, Self-Control, Tolerance, Good Impression, Achievement via Independence, and Psychological Mindedness.

The choice of appropriate criterion measures is critical in police selection studies. Given the goal of screening out unfit or unsuitable officers, the SUCCESS vs FAILURE criterion employed in the FPSRP seems especially appropriate. Early identification of potential failures can reduce the human and financial costs generally associated with incorrect selection decisions. Combining variables from all three predictor categories in the discriminant function analyses correctly identified 82.5% of the male caucasians and 95.2% of the females as either SUCCESSES or FAILURES.

The preliminary results of the FPSRP provide encouraging evidence of the predictive validity of demographic variables and psychological tests in police selection. However, final conclusions must await cross-validation of the present results with a large new sample. This is scheduled to take place in Phase IV of the FPSRP, in which we also plan to follow the original subjects for up to three years. In examining the performance of these officers as they gain experience and become eligible for promotion, supervisors' ratings will be used in addition to the SUCCESS-FAILURE criterion. Some preliminary data on the relationships between the FPSRP predictive battery and supervisor ratings of probationary performance are included in Appendix C to this Report.

REFERENCES

Abbatiello, A. A study of police candidate selection. Paper presented at the seventy-seventh annual convention of the American Psychological Association, Washington, D.C., 1969.

Archuleta, A.O. Comment on "A question of height" (by R.I. Hoobler & J.A. McQueeney in The Police Chief, 1973). The Police Chief, 1974, 41, 12.

Arther, R.O. Polygraph picks potential policemen. The Journal of Polygraph Studies, 1967, 2.

Azen, S.P., Montgomery, H.R., Snibbe, H.M., Fabricatore, J., & Earle, H.H. Predictors of resignation and performance in law enforcement officers. American Journal of Community Psychology, 1974, 2, 79-86.

Azen, S.P., Snibbe, H.M., & Montgomery, H.R. A longitudinal predictive study of success and performance of law enforcement officers. Journal of Applied Psychology, 1973, 57, 190-192.

Badalamente, R.V., George, C.E., Halterlein, P.J., Jackson, T.T., Moore, S.A., & Rio, R. Training police for their social role. Journal of Police Science and Administration, 1973, 1, 440-453.

Baehr, M.E. Impact of Civil Rights Legislation and Court Actions on Personnel Procedures and Practice. In C.D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978.

Baehr, M.E., Saunders, D.R., Froemel, E.C., & Furcon, J.E. The prediction of performance for black and for white police patrolmen. Professional Psychology, 1971, 2, 46-57.

Balch, R.W. The police personality: Fact or fiction. Journal of Criminal Law, Criminology, and Police Science, 1972, 63, 106-119.

Barnabas, B. Profile of a good police officer. Law and Order, 1976, 24, 32-44.

Bennett, R.R., & Greenstein, T. The police personality: A test of the predispositional model. Journal of Police Science and Administration, 1975, 3, 334-339.

Blum, R.H. A further study of deputy sheriff selection procedures. Unpublished manuscript, 1961.

Blum, R.H. Police selection. Springfield, Illinois: Charles C. Thomas, 1964.

Blum, R.H. The polygraph examination in law enforcement personnel selection. Police, 1967, 12, 60-75.

Blum, R.H., Goggin, W.L., & Whitmore, E. A study of deputy sheriff selection procedures. Police, 1961, 6, 59-63.

Boyer, J.K., & Griggs, E. Equal employment opportunity program development manual. U.S. Department of Justice, Law Enforcement Assistance Administration, Office of Civil Rights Compliance, 1974.

Brown, J.J., Nelson, M.J., & Denny, E.C. Examiner's manual, the Nelson-Denny Reading Test. Boston, MA: Houghton Mifflin, 1973.

Byrd, D.A. Impact of physical fitness on police performance. The Police Chief, 1976, 43, 30-32.

Campbell, D.P. Manual for the Strong-Campbell Interest Inventory. Stanford, CA: Stanford University Press, 1974.

Cascio, W.F., & Real, L. The Civil Service Exam Has Been Passed: Now What? In C.D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978.

Chenoweth, J.H. Situational tests - A new attempt at assessing police candidates. Journal of Criminal Law, Criminology, and Police Science, 1961, 52, 232-238.

Chiaramonte, R.M. Applicant screening. The Police Chief, 1974, 41, 49-50.

Cohen, B., & Chaiken, J. Police background characteristics and performance: New York: Rand Institute, 1972. No. R-999-DOJ.

Colarelli, N.J., & Siegel, M. A method of police personnel selection. Journal of Criminal Law, Criminology, and Police Science, 1964, 55, 287-289.

Crosby, A., Rosenfeld, M., & Thornton, R. The Development of a Written Test for Police Applicant Selection. In C.D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978.

Cross, A.C., & Hammond, K.R. Social differences between "successful" and "unsuccessful" state highway patrolmen. Public Personnel Review, 12, 159-161.

Cruse, D., & Rubin, J. Determinants of police behavior: A summary. (Criminal Justice Monograph, U.S. Department of Justice, Stock: #2700-00215). Washington, D.C.: U.S. Government Printing Office, 1973.

Dahlstrom, W.G., Welsh, G.S., & Dahlstrom, L.E. An MMPI Handbook. Volume 1. Clinical interpretation. Minneapolis, MN: University of Minnesota Press, 1972.

Dempsey, C.A. A study of police height requirements. The Police Chief, 1974, 41, 34-35.

Dillman, E.G. Role-playing as a technique in police selection. Public Personnel Review, 1963, 24, 116-118.

Dubois, P.H., & Watson, R.K. The selection of patrolmen. Journal of Applied Psychology, 1950, 34, 90-95.

Dudycha, G.J. Rating and testing policemen. Police, 1956, 1, 37-49.

Dunnette, M.D., & Motowidlo, S.J. Police selection and career assessment. National Institute of Law Enforcement and Criminal Justice, Law Enforcement Assistance Administration, U.S. Department of Justice, Grant No. 73-N1-99-0018-G and 74-N1-99-0001-G. November, 1976.

D'Arcy, P.F. In New York City assessment center program helps test managerial competence. The Police Chief, 1974, 41, 52.

Eisenberg, T., & Reinke, R.W. The use of written examinations in selecting police officers: Coping with the dilema. The Police Chief, 1973, 40, 24-26.

Eisenberg, T., Kent, D.A., & Wall, C.R. Police personnel practices in state and local governments. International Association of Chiefs of Police Foundation in cooperation with Educational Testing Service, December, 1973.

Fabricatore, J.M. Performance Evaluation at the Police Academy. In C.D. Spielberger & H.C. Spaulding (Eds.), Proceedings of the National Working Conference on the Selection of Law Enforcement Officers, F.B.I./L.E.A.A., 1977, 51-57.

Fenster, C.A., & Locke, B. Neuroticism among policemen: An examination of police personality. Journal of Applied Psychology, 1973, 57, 358-359.

Filer, R.J. The Assessment Center Method in the Selection of Law Enforcement Officers. In C.D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978.

Flint, R.T. Using the Strong-Campbell Interest Test in Police Selection. In C. D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978.

Fox, G. Some Implications of EEO Procedures: A Practitioner's Point of View. In C.D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978.

Furcon, J.E. An Overview of Police Selection: Some Issues, Questions and Challenges. In C.D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978

Gallati, R.R.J. Police personnel testing experience of the New York City Police Department. Police, 1960, 5, 76-77.

Gallati, R.R.J. Police personnel testing experience of the New York City Police Department. Police, 1960, 5, 23-25.

Gavin, J.F., & Hamilton, J.W. Selecting police using assessment center methodology. Journal of Police Science and Administration, 1975, 3, 166-176.

Goldstein, L.S. Characteristics of police applicants. The Police Chief, 1972, 39, 58-60.

Goldstein, L.S. Comment on "A question of height" (by R.I. Hoobler, & J.A. McQueeney in The Police Chief, 1973). The Police Chief, 1974, 41, 11.

Gordon, G.C. Perspectives on law enforcement: I. Characteristics of police applicants. Princeton, NJ: Educational Testing Service, 1969.

Gottesman, J. The Utility of the MMPI in Assessing the Personality Patterns of Urban Police Applicants. Stevens Institute of Technology: Hoboken, NJ, 1975.

Gough, H.C. Manual, California Psychological Inventory. Palo Alto, CA: Consulting Psychologists Press, 1957.

Guller, I.B. Higher education and policemen. Attitudinal differences between freshmen and senior police college students. The Journal of Criminal Law, Criminology, and Police Selection, 1972, 63, 396-401.

Halling, B.E. Comment on "A question of height" (by R.I. Hoobler & J.A. McQueeney in The Police Chief, 1973). The Police Chief, 1974, 41, 10-11.

Hess, L.R. Police entry tests and their predictability of score in police academy and subsequent job performance. Dissertation Abstracts International, 1973, 33-B, 5552.

Hogan, R. Personality characteristics of highly rated policemen. Personnel Psychology, 1971, 24, 679-686.

Hoobler, R.I., & McQueeney, J.A. A question of height. The Police Chief, 1973, 40, 43-48.

Hooke, J.F., & Krauss, H.H. Personality characteristics of successful police sergeant candidates. Journal of Criminal Law, Criminology, and Police Science, 1971, 62, 104-106.

Kates, S.L. Rorschach responses. Strong blank scales, and job satisfaction among policemen. Journal of Applied Psychology, 1950, 34, 249-254.

Kent, D.A., & Eisenberg, T. The selection and promotion of police officers: A selected review of recent literature. The Police Chief, 1972, 39, 20-29.

Kent, D.A., Wall, C.R., & Bailey, R.L. A new approach to police personnel decisions. The Police Chief, 1974, 41, 72-77.

Kole, D.M. A study of intellectual and personality characteristics of medical students. Unpublished Master's Thesis, University of Oregon, 1962.

Kollender, W.B., & McQueeney, J.A. A question of height - Additional thoughts. The Police Chief, 1977, 44, 56-58.

Kroes, W. H., Margolis, B.L., & Hurrell, J.J. Job stress in policemen. Journal of Police Science and Administration, 1974, 2, 145-155.

Landy, F.J., & Farr, J.L. Police performance appraisal. University Park, PA: Pennsylvania State University, Department of Psychology, 1975.

Learned, K.E. Police selection procedures. Law and Order, 1976, 24, 68-72.

Levy, R.J. Predicting police failures. The Journal of Criminal Law, Criminology, Police Science, 1967, 58, 265-276.

Levy, R.J. Investigation of a method for identification of the high risk police applicant. Berkeley, CA: Institute for Local Self Government, 1971.

Marsh, S.H. Validating the selection of deputy sheriffs. Public Personnel Review, 1962, 23, 41-44.

Martin, E.M. An aptitude test for policemen. Journal of Criminal Law, 1923, 14, 376-404.

Matarazzo, J.D., Allen, B.V., Saslow, G., & Weins, A.N. Characteristics of successful policemen and firemen applicants. Journal of Applied Psychology, 1964, 48, 123-133.

McAllister, J.A. A study of the prediction and measurement of police performance. Police, 1970, 15, 58-64.

McCreedy, K.R. Selection practices and the police role. The Police Chief, 1974, 41, 41-43.

McGhee, G.L. Job-related pre-employment physical agility tests. The Police Chief, 1976, 43, 42-43.

McNamara, R. Uncertainties in police work: The relevance of police recruits' backgrounds and training. In D. Bordua (Ed.), The Police: Six Sociological Essays, 1967.

Merrill, M.A. Intelligence of policemen. J. Personnel Research, 1927, 5, 511-515.

Meyer, J.C. Police attitudes and performance appraisal: The forest and some trees. Journal of Police Science and Administration, 1973, 1, 201-208.

Miller, J., & Fry, L. Re-examing assumptions about education and professionalism in law enforcement. Journal of Police Science and Administration, 1975, 4, 189-1976.

Mills, R.B. Use of diagnostic small groups in police recruit selection and training. Journal of Criminal Law, Criminology, and Police Science, 1969, 60, 238-241.

Mills, R.B., McDevitt, R.J., & Tonkin, S. Situational tests in metropolitan police recruit selection. Journal of Criminal Law, Criminology, and Police Science, 1966, 57, 99-104.

Morman, R.R., Hankey, R.O., Heywood, H.L., & Liddle, L.R. Predicting state traffic officer cadet academic performance from theoretical TAV selection system scores. Police, 1966, 11, 54-58.

Morman, R.R., Hankey, R.O., Kennedy, P.K., & Jones, E.M. Academy achievement of state traffic officer cadets related to TAV selection system plus other variables. Police, 1966, 11, 30-34.

Mullineaux, J.E. An evaluation of the predictors used to select patrolmen. Public Personnel Review, 1955, 16, 84-86.

Murphy, J.J. Current practices in the use of psychological testing by police agencies. Journal of Criminal Law, Criminology, and Police Science, 1972, 63, 570-576.

Niederhoffer, A. Behind the shield: The police in urban society. Garden City, NY: Doubleday & Co., Inc., 1967.

Nolting, O.F. Important considerations in the selection of patrolmen. The American City, 1929, 40, 124-125.

Nowicki, S. A study of the personality characteristics of successful policemen. Police, 1966, 11, 39-41.

O'Connor, G.W. Survey of selection methods. The Police Chief, 1962, 31, 8.

Oglesby, T.W. Use of emotional screening in the selection of police applicants. Public Personnel Review, 1957, 18, 228-231, 235.

Osborne, G.D. Validating physical agility tests. The Police Chief, 1976, 9, 43-46.

Parker, L.C., & Roth, M.C. The relationship between self-disclosure, personality, and a dimension of job performance of policemen. Journal of Police Science and Administration, 1973, 1, 282-287.

Pounian, C.A. Selection, assessment, and performance of Chicago police officers. Proceedings of the American Psychological Association Convention, 1959, 956-957.

Prelutsky, B. Second thoughts. Human Behavior, 1974, 3, 9-10.

Rankin, J.H. Psychiatric screening of police selection recruits. Public Personnel Review, 1957, 18, 191-196.

Reiser, M. Stress, distress, and adaptation in police work. The Police Chief, 1976, 43, 24-27.

Rhead, C., Abrams, A., Grosman, H., & Margolis, P. The psychological assessment of police candidates. American Journal of Psychiatry, 1968, 124, 1575-1580.

Roberts, M.D. Post-employment Probationary Selection: The San Jose Model of Field Training and Evaluation. In C.D. Spielberger & H.C. Spaulding (Eds.), Proceedings of the National Working Conference on the Selection of Law Enforcement Officers, F.B.I./L.E.A.A., 1977, 58-60.

Rokeach, M., Miller, M., & Snyder, J. The value gap between police and policed. Journal of Social Issues, 1971, 27, 155-171.

Rotter, J.B. Generalized expectancies for internal versus external control of reinforcement. Psychological Monographs, 1966, 80, (1, Whole No. 609).

Rush, A.C. Better police personnel selection. The Police Chief, 1963, 30, 18-26.

Saunders, D. Moderator Variables and Police Selection. In C.D. Spielberger & H.C. Spaulding (Eds.), Proceedings of the National Working Conference on the Selection of Law Enforcement Officers, F.B.I./L.E.A.A., 1977, 111-116.

Shavelson, R.J., Beckum, L.C., & Brown, B. Criterion sampling approach to selecting patrolmen. The Police Chief, 1974, 41, 55-61.

Shealy, A.E. Psychological Screening of policemen. Paper presented at the 80th Annual Convention of the American Psychological Association, Honolulu, September, 1972.

Shealy, A.E. The MMPI and the Meyer-Briggs Type Indicator in Police Selection. In C.D. Spielberger & H.C. Spaulding (Eds.), Proceedings of the National Working Conference on the Selection of Law Enforcement Officers, F.B.I./ L.E.A.A., 1977, 95-102.

Shealy, A.E. Police Corruption: Screening Out High-Risk Applicants. In C.D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978.

Sherrid, S.D., & Beech, R.P. Self-dissatisfaction as a determinant of change in police values. Journal of Applied Psychology, 1976, 61, 273-278.

Sherrid, S.D. Changes in Police Values. In C.D. Spielberger (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/ Wiley, 1978.

Smith, A.B., Locke, B., & Walker, W.F. Authoritarianism in college and non-college oriented police. The Journal of Criminal Law, Criminology, and Police Science, 1967, 58, 128-132.

Snibbe, H.M., Fabricatore, J., Azen, S.P., & Snibbe, J.R. Race differences in police patrolmen: A failure to replicate the Chicago study. American Journal of Community Psychology, 1975, 3, 155-160.

Sparling, C.L. The use of education standards as selection criteria in police agencies: A review. Journal of Police Science and Administration, 1975, 3, 332-334.

Spaulding, V.V. A study of nurse and police applicants. Delaware State Medical Journal, 1948, 177-178.

Spencer, G., & Jewell, K. Police leadership: A research study. The Police Chief, 1963, 32, 40-45.

Spencer, G., & Nichols, R. A study of Chicago police recruits: Validation of selection procedures. The Police Chief, 1971, 38, 50-55.

Spielberger, C.D. (Ed.), Police Selection and Evaluation: Issues and Problems. New York: Hemisphere/Wiley, 1978.

Spielberger, C.D., Gorsuch, R.L., & Lushene, R.E. Test manual for the State-Trait Anxiety Inventory (STAI). Palo Alto, CA: Consulting Psychologists Press, 1970.

Spielberger, C.D., Kling, J.K., & O'Hagan, S.E. Dimensions of psychopathic personality: Anxiety and sociopathy, in R. Hare and D. Schalling (Eds.), Psychopathy and behavior. New York: Wiley, 1978.

Spielberger, C.D., & Spaulding, H.C. (Eds.), Proceedings of the National Working Conference on the Selection of Law Enforcement Officers, F.B.I./ L.E.A.A., 1977.

Stamford, B.A., Kley, J., Thomas, D., & Nevin, J. Physical fitness criteria: An avant-garde approach. The Police Chief, 1977, 44, 59.

Stephens, E.C. The value of pre-employment polygraph examinations. The Journal of Polygraph Studies, 1969, 3.

Sterne, D.M. Use of the Kuder Preference Record, Personal; with police officers. Journal of Applied Psychology, 1960, 44, 323-324.

Swank, C.J., & Haley, K.N. The objections of polygraph screening of police applicants. The Police Chief, 1972, 39, 73-76.

Symonds, M. Emotional hazards of police work. American Journal of Psychoanalysis, 1970, 30, 155-160.

Terman, L.M. A trial of mental and pedagogical tests in a Civil Service Examinations for policemen and firemen. Journal of Applied Psychology, 1917, 1, 17-19.

Territo, L. The use of the polygraph in the pre-employment screening process. The Police Chief, 1974, 41, 51-53.

Thurstone, L.L. The intelligence of policemen. Journal of Personnel Research, 1922, 1, 64-74.

Tift, L.L. The "cop" personality reconsidered. Journal of Police Science and Administration, 1974, 2, 266-278.

Tolbert, C.C. Physical fitness: A number one priority. The Police Chief, 1976, 43, 36-37.

U.S. President's Commission on Law Enforcement. Task Force Report: The Police. Washington, D.C.: U.S. Government Printing Office, 1967.

U.S. President's Commission on Law Enforcement. Task Force Report: The Police. Washington, D.C.: U.S. Government Printing Office, 1973.

Weiner, N.L. The educated policeman. Journal of Police Science and Administration, 1976, 4, 450-457.

Wilson, D.W., & McLaren, R.C. Police Administration. New York: McGraw-Hill, 1977.

Wolfe, J.B. Some psychological characteristics of American policemen: A critical review of the literature. Proceedings of the Annual Convention of the American Psychological Association, 1970, 5, 453-454.

Yates, R.A. Job Analysis of the F.B.I. Special Agent Position. In C.D. Spielberger & H.C. Spaulding (Eds.), Proceedings of the National Working Conference on the Selection of Law Enforcement Officers, F.B.I./L.E.A.A. 1977, 29-41.

Zacker, J.W. The effects of experiential training upon empathy, interpersonal sensitivity, cynicism and alienation in police recruits. Dissertation Abstracts International, 1971, 31-A, 7615-7616.

FOOTNOTES

[1]For a detailed analysis of the impact of Civil Rights legislation and court actions on personnel practices, see Baehr (1978). Fox (1978) examines some practical implications of the EEOC guidelines for police administrators.

[2]Ideally, it would have been desirable to conduct a job analysis of the performance requirements for patrol officers; however, this was not possible in the FPSRP because the officers were working in different departments and requirements differed from department to department. By using the Success-Failure criterion, the prevailing standards for each department were implicitly adopted as the performance criterion.

[3]It should be noted that the recruits had already been selected by their respective departments and most of them were being paid while attending the academy. Since many unsuitable candidates had already been screened out, the findings that will be reported for this study may be considered to provide a conservative estimate of the true relationship between the predictors and the Success-Failure criterion.

APPENDIX A

The National Working Conference on the Selection of Law Enforcement Officers

Appendix A

The National Working Conference on the Selection of Law Enforcement Officers

A National Working Conference on the Selection of Law Enforcement Officers was held at the FBI National Academy in Quantico, Virginia, October 26-29, 1976. This Conference was sponsored by the Federal Bureau of Investigation and the Law Enforcement Assistance Administration. Clerical support for planning and conducting the Conference was provided by the Florida Police Standards Research Project.

The general purpose of the Working Conference was to provide a forum for the exchange of information among researchers and law enforcement officials concerned with police selection. The Conference had four major goals: (1) to evaluate the present state of knowledge on police selection; (2) to identify methodological and practical problems in research on police selection; (3) to consider special problems that are encountered in the development of valid assessment procedures for the selection of candidates from minority groups and women; and (4) to facilitate the communication of research findings among behavioral scientists and police administrators currently involved in research on the selection of law enforcement officers.

The speakers at the Working Conference were leading researchers in the field of police selection, and behavioral scientists, police officials and legal experts who were knowledgeable about

fair employment practices and civil rights compliance issues. The invited participants included representatives of the sponsoring agencies, researchers in the field of police selection, and officials associated with major national agencies concerned with police selection issues. A common denominator among those attending the Working Conference was a vital interest in the selection of effective law enforcement officers. Rosters of the Conference speakers and invited participants are included in this Appendix.

The Conference was organized and planned by a committee that consisted of representatives of the sponsoring agencies. The members of the Planning Committee were: Ronald D. Branch, LEAA Office of Civil Rights Compliance; Sidney Epstein, National Institute of Law Enforcement and Criminal Justice; Donald Fish, Florida Police Standards and Training Commission; John W. Pfaff, FBI National Academy staff; J. Price Foster, LEAA Office of Criminal Justice Education and Training; Charles F. Rinkevich, Regional Administrator, LEAA Atlanta Office, and Charles D. Spielberger, Florida Police Standards Research Project, who served as Chairman of the Planning Committee. Lawrence Monroe, FBI National Academy staff, and Harry Spaulding, Florida Police Standards Research Project, were responsible for local Conference arrangements.

The Planning Committee was responsible for developing the Conference agenda, identifying the researchers and law enforcement officials invited to present papers, and developing the policy and procedures for inviting participants to attend the

Conference. These responsibilities were carried out in consultation with the sponsoring organizations and other agencies and officials concerned with the selection of law enforcement officers.

The three-day Working Conference was organized into five sessions. The general format for the Conference was designed to stimulate open discussion and the exchange of information and ideas among the researchers and participants. Individual sessions consisted of authoritative formal presentations, question and answer periods, and panel discussions. The first four sessions focused upon current concepts, research methodology and empirical findings pertaining to job analysis, performance appraisal, and the selection of law enforcement officers. In the final session, issues relating to fair employment practices and civil rights compliance were considered. The major topics covered during each session are listed below and the complete program for the Conference is included in this appendix.

Session I: General Problems in the Selection of Law Enforcement Officers

Session II: Evaluating the Performance of Law Enforcement Officers

Session III: Biographic, Aptitude and Interest Factors in Police Selection

Session IV: The Use of Personality Tests in Police Selection

Session V: Fair Employment Practices and Civil Rights Compliance Issues in Police Selection

The Proceedings of the Working Conference on police selection provides summaries of all of the papers that were presented at the conference (Spielberger & Spaulding, 1977).

Agenda for The National Working Conference

Wednesday, October 27, 1976

Session I: General Problems in the Selection of Law Enforcement Officers

C.D. Spielberger, Chair.

8:30 C.D. SPIELBERGER -- A model for the selection of law enforcement officers

9:00 Discussion

9:15 JOHN E. FURCON -- General overview of police selection research

9:45 Discussion

10:15 MELANY E. BAEHR -- Occupational analysis in police selection research

10:45 Discussion

11:00 ROBERT YATES -- Job analysis of the FBI Special Agent position

11:30 Discussion

Session II: Evaluating the Performance of Law Enforcement Officers

Sid Epstein, Chair.

2:00 TERRY EISENBERG -- Performance evaluation: The criterion problem in police selection

2:30 Discussion

2:45 JAMES L. FARR -- Evaluation of police officer performance: The development of peer and supervisory rating scales

3:15 Discussion

3:45 JOSEPH FABRICATORE -- Performance evaluation at the police academy

4:15 Discussion

4:30 MIKE D. ROBERTS -- Performance evaluation of police officers in the field during the probationary period

5:00 Discussion

CONTINUED

1 OF 2

Agenda for The National Working Conference - continued

Thursday, October 28, 1976

Session III: Biographic, aptitude and interest factors in police selection

Donald Fish, Chair.

8:30 WAYNE CASCIO -- Biographical predictors of police performance

9:00 Discussion

9:15 ANDREW CROSBY -- The Multijurisdictional Police Officer examination

10:15 ROBERT T. FLINT -- The use of the Strong-Campbell Interest Inventory in police selection

10:45 Discussion

11:00 SAMUEL D. SHERRID -- Changes in police values

11:30 Discussion

Session IV: The use of personality tests in police selection

Larry Monroe, Chair.

2:00 NORMAN D. HENDERSON -- Validity coefficients under voluntary and actual test conditions

2:30 Discussion

2:45 ALLEN E. SHEALY -- Use of the MMPI and the Myer Briggs type indicators in police selection: Selection from a homogenous population of applicants

3:15 Discussion

3:45 ROBERT J. FILER -- Assessment centers in police selection

4:15 Discussion

4:30 D.H. SAUNDERS -- Moderator variables in police selection

5:00 Discussion

8:00 L.W. TAYLOR -- Banquet Speaker

Agenda for The National Working Conference - continued

Friday, October 29, 1976

Session V: Fair employment practices and civil rights compliance issues in police selection

Ronald Branch, Chair.

8:30 DAVID ROSE -- From the legal point of view

9:00 Discussion

9:15 RICHARD CARETTI -- From the police administrators' point of view

9:45 Discussion

10:15 General Discussion

Roster of Speakers and Participants

CONFERENCE PLANNING COMMITTEE

RONALD D. BRANCH, ESQ., Office of Civil Rights Compliance, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, DC 20531

SID EPSTEIN, PH.D., Social Scientist, Crime Prevention Division, National Institute of Law Enforcement and Criminal Justice, Washington, DC 20531

MR. DONALD FISH, Director, Division of Standards and Training, Police Standards and Training Commission, Tallahassee, FL 32302

DR. J. PRICE FOSTER, Director, Office of Criminal Justice Education and Training, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, DC 20531

MR. JOHN W. PFAFF, Unit Chief, Behavioral Science, FBI National Training Academy, Quantico, VA 22135

MR. CHARLES F. RINKEVICH, Regional Administrator, Law Enforcement Assistance Administration, Atlanta, GA 30308

C.D. SPIELBERGER, PH.D., Professor and Director, Doctoral Program in Clinical and Community Psychology, Department of Psychology, University of South Florida, Tampa, FL 33620

CONFERENCE SPEAKERS

MELANY E. BAEHR, PH.D., Industrial Relations Center, University of Chicago, Chicago, IL 60637

INSPECTOR RICHARD J. CARETTI, Commanding Officer, Records, Placement and Counseling, Detroit Police Department, Detroit, MI 48202

CONFERENCE SPEAKERS - continued

WAYNE F. CASCIO, PH.D., Associate Professor of Psychology & Management, School of Business and Organization Sciences, Florida International University, Miami, FL 33199

ANDREW C. CROSBY, PH.D., International Association of Chiefs of Police, Gaithersburg, MD 20760

TERRY EISENBERG, PH.D., San Jose Police Department, San Jose, CA 95110

JOSEPH M. FABRICATORE, PH.D., Clinical Psychologist, Personnel Department, City of Los Angeles, Los Angeles, CA 90012

JAMES L. FARR, PH.D., Department of Psychology, Pennsylvania State University, University Park, PA 16801

ROBERT J. FILER, PH.D., Professor of Psychology, University of Richmond, and President, Psychological Consultants, Inc., Richmond, VA 23230

ROBERT T. FLINT, PH.D., Associate Professor of Psychology, University of Minnesota, Minneapolis, MN 55455

EUGENE FOX, PH.D., Director of Field Activities, Law Enforcement Human Resources Division, Industrial Relations Center, University of Chicago, Chicago, IL 60637

JOHN E. FURCON, PH.D., Director, Law Enforcement Manpower Research Project, Industiral Relations Center, University of Chicago, Chicago, IL 60637

NORMAN D. HENDERSON, PH.D., Professor of Psychology, Oberlin College, Oberlin, OH 44074

MICHAEL D. ROBERTS, PH.D., San Jose Police Department, San Jose, CA 95110

CONFERENCE SPEAKERS - continued

DAVID ROSE, Civil Rights Division, U.S. Department of Justice, Washington, DC 20530

D.R. SAUNDERS, PH.D., Senior Psychologist, Mathtech, Inc., Princeton, NJ 08540

ALLEN E. SHEALY, PH.D., Associate Professor, Department of Psychiatry, University of Alabama, Birmingham, AL 35233

SAMUEL D. SHERRID, PH.D., Director of Graduate Studies in Criminal Justice, New York Institute of Technology, Old Westbury, Long Island, NY 15568

ROBERT YATES, Federal Bureau of Investigation, FBI Academy, Quantico, VA 22135

INVITED PARTICIPANTS

MR. DALE BEERBOWER, Manpower Development Specialist, Atlanta Regional Office, Law Enforcement Assistance Administration, Atlanta, GA 30308

DR. THOMAS R. COLLINGWOOD, Staff Psychologist, City of Dallas Police Department, Youth Services Program, Dallas, TX 75101

MR. GEORGE DATESMAN, Chief, Planning and Analysis Division, Office of Criminal Justice Education and Training, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, DC 20531

MR. CHARLES DAVOLI, Director, Division of State Planning, Bureau of Criminal Justice Planning and Assistance, Tallahassee, FL 32304

MR. KEN COOKE, Assistant Chief, Administrative Division, Georgia State Peace Officer Standards and Training Council, Decatur, GA 30032

INVITED PARTICIPANTS - continued

MR. MIKE MARKS, Brighton, MA

DR. KENNETH R. JOSEPH, Academic Chief, United States Department of Justice, FBI National Training Academy, Quantico, VA 22135

MR. JOHN J. LUCEY, Law Enforcement Specialist, Enforcement Division, Office of Regional Operations, LEAA, Washington, DC 20531

MR. JERRY LETWIN, Equal Employment Opporutnity Commission, Washington, DC 20037

MR. FERRIS LUCAS, Executive Secretary, National Sheriffs Association, Washington, DC 20036

DR. JOHN MATTHEWS, Assistant Professor, Institute of Contemporary Corrections, Sam Houston State University, Huntsville, TX 77340

D. DANIEL MCLELLAN, PH.D., J.D., East Lansing, MI 48223

DR. AVRUM MENDELSOHN, Staff Psychologist, Bureau of Testing Services, Hillside, IL 60662

MR. LARRY MONROE, Federal Bureau of Investigation, FBI National Training Academy, Quantico, VA 22135

MR. GLENN R. MURPHY, Director of Research Division, International Association of Chiefs of Police, Gaithersburg, MD 20760

MR. JOEL PATE, Division of Standards and Training, Police Standards and Training Commission, Tallahassee, FL 32302

MR. RALPH OLMOS, Minnesota Peace Officer Training Board, St. Paul, MN 55104

MR. HOWARD M. RASMUSSEN, Director, Southeast Florida Institute of Criminal Justice, Miami, FL 33167

CAPTAIN JAMES REESE, Director-Personnel and Training, Miami Police Department, Miami, Florida 33152

INVITED PARTICIPANTS - continued

HERBERT C. RICE, ESQ., Silver Springs, MD 20901

DR. JOHN ROGERS, Director, Criminal Justice Program, College of Multidisciplinary Studies, University of Texas, San Antonio, TX 78285

DR. JIM SCHARF, Research Division, Equal Employment Opportunity Commission, Washington, DC 20037

TOM SHEDLICK, ESQ., Director, Office of Civil Rights Compliance, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington DC 20531

MR. HARRY C. SPAULDING, Coordinator, Florida Police Standards Research Project, Department of Psychology, University of South Florida, Tampa, FL 33620

DR. RICHARD STAUFENBERGER, Police Foundation, Washington, DC 20006

MS. CINDY SULTON, Police Foundation, Washington, DC 20006

MR. LEWIS W. TAYLOR, Special Assistant to the Administrator, Law Enforcement Assistance Administration, U.S. Department of Justice, Washington, DC 20531

MR. FRED J. TOLER, Executive Director, Texas Commission on Law Enforcement Officers Standards and Education, Austin, TX 78701

DR. JAMES H. SHAW, Department Psychologist, King County Department of Public Safety, Seattle, Washington 98104

MR. JOHN WARD, Florida Police Standards Research Project, Department of Psychology, University of South Florida, Tampa, Florida 33620

DR. LEON WESROGAN, Personnel Research Psychologist, Personnel Research and Development Center, U.S. Civil Service Commission Washington, DC 20415

Appendix B

Prediction of Performance at the Police Academy and On-The-Job During the Probationary Period

List of Tables

Appendix B

Prediction of Performance at the Police Academy and On-The-Job During the Probationary Period

Additional information on the predictor and criterion variables investigated in the Florida Police Standards Research Project that were not reported in the main body of this report are included in this Appendix. Table B-1 lists the 157 predictor and criterion variables on which data were obtained. These variables are divided into the following categories: biographical and demographic data, personality, ability, and interest tests, and measures of performance at the police academy and on-the-job during the probationary period. Each biodata item, psychological test, and criterion performance measure is preceded by a number which identifies the variable in subsequent tables.

Table B-2 presents the means and standard deviations for the biographic, demographic, personality and ability predictor measures. Separate means and SD's are reported for the Caucasian and minority males and the female subsamples. Means and SD's for the interest predictor measures and for all of the performance criterion variables are reported in Table B-3.

Table B-4 presents Pearson product-moment correlations between the biographic and demographic predictor variables and key measures of performance at the police academy and ratings of job performance during the probationary period. Separate correlations are reported

for Caucasian and minority males and for females. Similar correlations are reported in Table B-5 between personality, ability and interest predictor measures and key criterion variables.

The Performance Evaluation Rating (PER) scale was the major FPSRP criterion measure used to assess the on-the-job performance of probationary police officers. The PER consists of eight behaviorally-anchored supervisor rating scales devised by Landy and Farr (1975), and a ninth scale (Honesty & Integrity) adapted for the FPSRP from Dunnette and Motowidlo (1976). The relation between predictor measures and PER ratings made by first-line supervisors are reported in Table B-6. Zero-order and multiple correlations for each FPSRP predictor variable that correlated significantly ($p \leq .05$) with the PER are reported separately for Caucasian males, minority males and females.

Separate stepwise, multiple regression analyses were carried out for Caucasian males, minority males and females. Only those FPSRP predictors that correlated significantly with PER scores were included in these analyses. Retention of variables in the resulting multiple regression equations was based on whether a measure significantly contributed to the total regression variance. The underlined correlations in Table B-6 identify the predictors included in the final multiple regression solutions.

Of the 12 predictors included in the stepwise multiple regression analysis for Caucasian males, a multiple R of .39 resulted from a combination of 5 of these variables: two biodata items (activity in church groups, age), one CPI scale (Psychological Mindedness), and two scales from the SCII (Investigative themes, athletics). In

the minority male sample, 15 of the 23 predictor variables entered in the multiple regression analysis yeilding a multiple R of .79. The contributing variables were: 5 biodata items (height, number of dependents, musical or artistic achievement in high school, dissatisfaction with last job, memberships in organized societies), 4 CPI scales (Dominance, Sociability, Sense of Well Being, Communality), 3 of the 4 Nelson-Denny Reading scales, one scale from the SCII (Army officer, female), and state and trait anxiety. In the female sample, 9 predictor variables entered into the multiple regression analysis, and a combination of 5 of these variables, yielded a multiple R of .72. The 5 variables were: 3 biodata items (number of brothers, high school grades, important to get ahead), one CPI scale (Flexibility), and one SCII scale (Domestic Arts).

The Personal History Questionnaire (PHQ) items that were used in the FPSRP are listed in Table B-7. The key for scoring individual PHQ items that was used in the FPSRP is provided in Table B-8.

TABLE B-1

LIST OF PREDICTOR AND CRITERION VARIABLES IN THE FLORIDA POLICE STANDARDS RESEARCH PROJECT

Biographical Data

001. Height
002. Weight
003. No. of Brothers
004. No. of Sisters
005. Marital Status (Married at least once)
006. No. of Times Married
007. No. of Dependents
008. Think about Quitting High School
009. No. of High School Offices
010. High School accomplishments told to Parents
011. High School Grades
012. High School Social Sciences
013. High School Athletics
014. Age at High School Graduation
015. Musical/Artistic Achievement in High School
016. Highest Education Level
017. High School Preference for Laboratory Work
018. Other High School Students had more Ability
019. High School Publication Job Easier than Clubs
020. Sufficient Schooling for Career
021. No. of Jobs
022. Read Unusual Parts in Newspaper regularly
023. No. of Cities Lived In
024. No. of Family Moves
025. Rural Life Before 18 Years
026. Age of First Part-time Job
027. Length of Time per Job
028. Dissatisfaction with Last Job
029. Better at Writing Reports than Other Things
030. Experience with Public
031. Supervisory Experience
032. Prefer Controlling Job
033. Prefer Working Alone
034. Prefer Many Projects
035. At Ease for Group Presentation
036. Like Encouragement on Job
037. Not Bothered by Bragging Co-workers
038. Work Slowly on Tasks
039. Reluctant to Express View
040. Family Area not most Important
041. No. of Awards
042. Does not Relax in Leisure Time
043. No. of Books Owned
044. Read Non-Sport Magazines
045. Read Literary Classics
046. Not Active in Church Groups
047. No. of Groups of which a Member
048. No. of Societies of which a Member
049. Motivated by Material Gains
050. Desire to be "Top Professional"
051. Succeed for Self
052. Important to Get Ahead
053. Make Friends Easily
054. People Most Important
055. Emphasize Practical Aspects

TABLE B-1 continued

056. Proportion of Income Saved		
057. Non-active Leisure Time		
058. Digestion Troubles		
059. No. of Recent Injuries		
060. No. of Hours Sleep		
061. Internal-External Control	Personality Data	
062. Spy Scale		
063. Lie Scale		
064. A-State		
065. A-Trait		
066. Age	Demographic Data	
067. Sex		
068. Academy		
069. Dominance	California Psychological Inventory	
070. Capacity for Status		
071. Sociability		
072. Social Presence		
073. Self-Acceptance		
074. Sence of Well-being		
075. Responsibility		
076. Socialization		
077. Self-Control		
078. Tolerance		
079. Good Impression		
080. Communality		
081. Achievement via Conformance		
082. Achievement via Independence		
083. Intellectual Efficiency		
084. Psychological-mindedness		
085. Flexibility		
086. Femininity		
087. Nelson-Denny Verbal	Nelson-Denny Aptitude Test	
088. Nelson-Denny Comprehension		
089. Nelson-Denny Total (V+C)		
090. Reading Rate		
091. Realistic	Strong-Campbell Interest Inventory	
092. Investigative		
093. Artistic	Themes	
094. Social		
095. Enterprising		
096. Conventional		
097. Academic Orientation	Special Scales	
098. Introversion-Extraversion		
099. Agriculture		
100. Nature		
101. Adventure		
102. Military Activities		
103. Mechanical		
104. Science	Basic Interest Scales	
105. Mathematics		
106. Medical Science		
107. Medical Service		
108. Music		
109. Art		
110. Writing		
111. Teaching		
112. Social Service		

TABLE B-1 continued

113.	Athletics		
114.	Domestic Arts		
115.	Religious Activities		
116.	Public Speaking		
117.	Law/Politics		
118.	Merchandising		
119.	Scales		
120.	Business-Management		
121.	Office Practices		
122.	Police Officer (Male)		
123.	Highway Patrol Officer (Male)		
124.	Army Officer (Female)		
125.	Navy Officer (Male)		
126.	Army Officer (Male)		
127.	Air Force Officer (Male)		
128.	Final Average	Criterion Performance	
129.	Final Test Score		
130.	Interim Test Score		
131.	Notebook	Academy Performance	
132.	Firing Score		
133.	General Suitability Composite Rating		
134.	Work Quality Composite Rating		
135.	Honesty/Openness Composite Rating	Supervisor Ratings	
136.	Relations with Others Composite Rating		
137.	Completion of Academy (1=yes 2=no)		
138.	Job Knowledge		
139.	Judgment		
140.	Initiative		
141.	Dependability		First Line Judges
142.	Demeanor		
143.	Attitude		
144.	Relations with others		
145.	Communication		
146.	Honesty and Integrity		
147.	Performance Ratings - Total Score		
148.	Job Knowledge		
149.	Judgment		
150.	Initiative		
151.	Dependability		Second Line Judges
152.	Demeanor		
153.	Attitude		
154.	Relations with others		
155.	Communication		
156.	Honesty and Integrity		
157.	Performance Ratings -Total Score		

TABLE B-2

MEANS AND STANDARD DEVIATIONS FOR THE BIOGRAPHIC, DEMOGRAPHIC, PERSONALITY AND ABILITY PREDICTOR MEASURES

PREDICTORS	Cauc. Males N=153		Min. Males N=45		Females N=39	
BIODATA	Mean	SD	Mean	SD	Mean	SD
001	2.6	0.8	2.4	0.9	1.2	0.5
002	2.8	1.1	2.8	1.2	1.3	0.6
003	2.1	1.1	2.3	1.4	2.3	1.3
004	2.0	1.0	2.3	1.3	2.3	1.4
005	1.6	0.5	1.7	0.4	1.4	0.5
006	1.7	0.7	1.8	0.6	1.6	0.8
007	2.0	1.3	2.6	1.2	1.8	1.3
008	4.5	1.0	4.4	1.1	4.7	0.8
009	1.6	1.0	1.8	1.2	1.6	1.1
010	1.1	0.3	1.2	0.4	1.2	0.4
011	3.3	0.9	3.2	1.0	2.7	1.0
012	1.3	0.5	1.2	0.4	1.2	0.4
013	1.4	0.5	1.4	0.5	1.2	0.4
014	3.6	0.8	3.8	0.7	3.5	0.7
015	1.1	0.3	1.0	0.2	1.2	0.4
016	2.6	1.5	2.8	1.5	2.7	1.6
017	1.2	0.4	1.1	0.3	1.2	0.4
018	1.1	0.3	1.2	0.4	1.1	0.3
019	1.1	0.3	1.0	0.2	1.2	0.4
020	2.9	1.0	2.8	1.0	2.6	1.1
021	3.0	1.5	3.4	1.4	2.6	1.5
022	1.1	0.3	1.1	0.3	1.2	0.4
023	1.9	1.2	1.4	0.6	1.6	1.1
024	2.7	1.6	2.3	1.4	2.5	1.6
025	1.2	0.4	1.1	0.3	1.1	0.3
026	2.6	0.7	2.4	0.6	2.9	0.9
027	3.2	1.0	3.2	0.8	3.4	1.0
028	1.3	0.5	1.3	0.5	1.4	0.5
029	1.2	0.4	1.3	0.4	1.4	0.5
030	3.7	1.1	3.7	1.3	4.1	1.0
031	3.4	1.4	3.2	1.5	2.8	1.5
032	1.1	0.3	1.1	0.3	1.1	0.3
033	2.1	1.4	1.9	1.3	1.9	1.4
034	2.2	1.0	2.1	0.8	2.1	0.7
035	3.2	0.9	2.9	0.9	2.8	0.7
036	1.2	0.4	1.2	0.4	1.1	0.3
037	1.8	0.4	1.5	0.5	1.7	0.5
038	2.2	0.7	2.1	0.8	2.1	0.7
039	2.1	0.8	1.9	0.8	2.2	0.9
040	1.8	0.4	1.7	0.5	1.9	0.3
041	2.2	1.4	2.1	1.5	1.8	1.4
042	0.9	0.3	1.9	0.3	1.9	0.3
043	2.0	1.3	1.6	0.9	2.5	1.4
044	1.9	0.3	1.9	0.3	2.0	0.0
045	1.0	0.1	1.0	0.1	1.1	0.3
046	1.8	0.4	1.8	0.8	1.9	0.3
047	1.7	0.9	1.5	0.8	1.5	0.8
048	1.4	0.8	1.3	0.6	1.5	1.0
049	1.1	0.3	1.0	0.2	1.1	0.2
050	1.6	0.5	1.6	0.5	1.6	0.5
051	1.4	0.5	1.2	0.4	1.4	0.5
052	1.1	0.3	1.1	0.3	1.1	0.3
053	1.3	0.4	1.2	0.4	1.2	0.4
054	1.4	0.5	1.4	0.5	1.5	0.5
055	1.2	0.4	1.2	0.4	1.2	0.4
056	2.2	1.2	2.4	1.3	2.4	1.4
057	1.9	0.8	2.0	0.8	1.9	1.0
058	1.1	0.3	1.3	0.4	1.1	0.3
059	1.5	0.9	1.5	0.9	1.6	0.8
060	3.2	0.9	2.9	1.1	3.3	1.2
DEMOGRAPHIC DATA						
066	25.1	5.7	25.4	4.4	25.8	6.1
067	1.0	0.0	1.0	0.0	2.0	0.0
068	2.7	2.4	2.7	2.8	2.9	2.5
PERSONALITY DATA						
061	8.8	3.7	9.2	3.6	9.0	4.3
062	10.6	2.8	11.3	2.1	11.0	3.1
063	3.9	2.2	5.4	2.5	4.2	2.2
064	35.9	9.6	34.6	8.5	33.5	8.2
065	31.9	7.2	32.7	6.6	34.4	8.2
CALIFORNIA PSYCHOLOGICAL INVENTORY						
069	56.6	10.5	54.9	10.5	55.0	12.0
070	47.0	9.4	46.8	6.5	47.0	12.8
071	52.5	9.3	48.8	7.8	52.1	12.2
072	55.0	10.0	51.8	7.4	53.2	12.2
073	58.7	8.8	55.4	8.4	52.6	9.6
074	47.5	13.1	44.4	14.4	47.8	13.6
075	44.8	10.0	45.0	9.3	45.6	9.6
076	50.2	9.3	49.6	8.5	44.6	12.7
077	47.7	10.5	51.0	10.2	48.8	11.5
078	45.2	10.6	43.4	10.2	46.2	13.7
079	49.0	10.9	54.4	11.8	49.9	12.4
080	51.4	13.7	43.1	17.2	49.5	8.8
081	51.6	10.4	51.9	10.1	49.8	10.4
082	48.8	9.8	45.8	9.3	50.1	12.8
083	46.0	12.4	41.1	11.4	47.9	11.8
084	52.9	9.2	52.2	9.1	55.0	8.7
085	46.9	9.5	46.0	11.2	50.0	10.9
086	44.8	7.9	48.2	7.0	40.3	11.5
NELSON DENNY						
087	41.5	16.4	29.5	12.2	43.0	15.4
088	31.0	13.8	27.3	11.7	32.2	15.9
089	72.6	26.2	52.4	19.6	70.3	29.3
090	243.1	92.1	209.8	70.7	265.2	109.1

[1]Predictor numbers refer to list in this Appendix.

TABLE B-3

MEANS AND STANDARD DEVIATIONS FOR THE INTEREST PREDICTOR MEASURES AND THE PERFORMANCE CRITERION VARIABLES

PREDICTORS	Cauc. Males N=153		Min. Males N=45		Females N=39	
	Mean	SD	Mean	SD	Mean	SD
STRONG-CAMPBELL INTEREST INVENTORY						
091	59.6	9.4	59.0	8.7	52.4	12.2
092	51.1	10.1	49.9	10.4	49.2	9.2
093	45.8	10.4	45.8	10.0	53.4	9.3
094	53.5	10.5	56.1	10.9	54.6	9.0
095	52.1	9.2	55.8	9.9	50.6	10.3
096	50.8	8.7	54.2	10.2	49.4	9.1
097	39.0	15.7	39.2	14.0	43.1	13.6
098	46.7	10.8	44.9	9.8	43.3	10.5
099	56.1	7.3	53.2	7.6	55.4	8.5
100	50.2	9.0	46.0	11.5	54.8	8.9
101	62.7	5.9	60.5	6.6	57.3	8.1
102	63.5	10.5	68.7	7.3	61.5	10.3
103	57.6	9.3	56.8	9.8	49.7	11.9
104	51.8	9.7	50.4	9.5	49.3	9.6
105	48.3	8.8	49.8	10.2	45.7	9.0
106	53.3	10.3	52.0	9.5	51.2	9.0
107	52.9	8.3	55.0	8.0	53.9	8.0
108	45.8	10.2	47.0	10.0	53.9	8.7
109	45.0	9.8	44.7	10.2	54.8	8.7
110	44.1	10.2	45.4	8.8	50.7	8.9
111	49.1	10.2	49.9	11.4	51.0	9.4
112	51.1	9.9	54.0	9.7	56.0	7.4
113	58.9	8.2	60.4	6.8	53.0	9.2
114	46.4	9.2	45.5	11.8	57.7	10.8
115	50.4	11.2	51.4	10.7	50.0	9.3
116	53.0	9.2	54.2	8.3	52.5	8.9
117	55.0	8.4	57.2	8.4	54.6	8.4
118	49.1	9.3	53.8	9.5	50.7	10.6
119	50.9	9.2	55.7	9.2	48.3	8.4
120	51.0	9.4	55.5	8.9	49.1	9.0
121	47.1	7.6	51.8	9.5	49.9	10.1
122	48.3	11.1	50.2	9.5	39.6	13.1
123	43.8	11.4	44.2	9.4	30.7	10.5
124	46.7	9.6	47.8	9.4	38.4	8.2
125	36.8	12.5	39.3	12.5	28.1	13.0
126	36.3	10.8	40.1	10.0	30.8	13.3
127	34.5	12.0	36.0	12.3	26.7	12.4

CRITERIA	Cauc. Males N=153		Min. Males N=45		Females N=39	
	Mean	SD	Mean	SD	Mean	SD
ACADEMY PERFORMANCE CRITERIA						
128	100.8	24.7	91.6	20.0	86.0	40.8
129	101.8	23.1	89.3	19.5	88.5	41.8
130	84.8	41.5	94.3	23.8	82.7	42.8
131	82.6	40.8	96.7	21.4	87.5	46.9
132	102.5	22.0	96.8	21.9	73.2	37.3
133	105.3	18.5	94.4	15.8	88.3	18.7
134	104.0	18.1	88.5	15.1	101.6	23.1
135	102.6	19.3	95.2	16.8	97.6	21.8
136	101.9	19.5	95.8	15.7	100.1	21.0
PROBATIONARY PERFORMANCE CRITERIA						
138	6.2	1.5	5.5	1.7	5.9	1.7
139	6.4	1.4	5.8	1.6	6.0	1.8
140	6.6	1.7	6.1	1.8	6.0	1.9
141	6.9	1.6	6.5	1.7	6.0	1.9
142	7.1	1.4	7.0	1.4	7.1	1.7
143	7.0	1.7	6.8	1.6	6.6	1.8
144	6.8	1.5	6.7	1.6	6.5	1.7
145	6.6	1.7	5.5	1.8	6.5	2.1
146	8.1	1.2	7.4	1.7	7.7	1.4
147	63.7	12.8	57.2	11.9	58.6	13.5

[1]Predictor numbers refer to list in this Appendix.

TABLE B-4

PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN BIOGRAPHIC AND DEMOGRAPHIC PREDICTOR MEASURES, AND KEY CRITERION PERFORMANCE MEASURES

PREDICTORS[1]	PERFORMANCE CRITERIA														
	Performance at the Law Enforcement Academy												Performance on Probation		
	Final Average			General Suitability			Honesty/Openness			Relation With Others			Perf. Eval. Rating Total		
	C.Male	M.Male	Female[2]	C.Male	M.Male	Female	C.Male	M.Male	Female	C.Male	M.Male	Female	C.Male	M.Male	Female
	N=153[3]	45	39	153	45	39	153	45	39	153	45	39	142	47	30
BIODATA															
001	-08	02	-26	07	-25*[4]	-02	04	-33*	06	00	-27*	07	10	-26*	18
002	-18*	-03	-06	02	-16	-21	-09	-29	-16	00	-26*	-23	11	08	-51**
003	-03	-14	07	-03	-18	-24	-04	-01	-02	-04	-10	-15	-04	-07	-35*
004	09	-16	20	01	-11	-02	01	11	02	00	-02	-05	-06	-28*	-13
005	07	-25*	15	20**	-26*	14	07	-23	03	12*	-23	07	05	-07	15
006	05	-22	17	19**	-24	12	08	-22	22	13	-17	03	07	-05	11
007	-01	-20	12	09	-23	-05	03	-10	18	07	-15	14	00	-27*	-20
008	30***	22	10	16*	13	11	10	17	18	08	12	-02	03	11	13
009	14*	05	04	21**	-13	-05	12	-19	-02	25***	-08	01	07	06	34*
010	16*	15	07	09	09	-11	04	-08	-04	05	-07	-11	-08	16	-27
011	-30***	-24	-24	-26***	-20	-25	-31***	-06	18	-26***	-12	-14	03	-02	-34*
012	14*	-30*	10	-05	-27*	08	01	-51***	14	-07	-35**	20	04	-06	00
013	02	-23	-10	14*	-04	07	12	-08	10	15*	11	09	-03	03	-15
014	-17*	-22	08	-03	09	-06	00	34**	15	-05	16	-12	02	09	-20
015	-06	-12	-47***	-09	12	-08	-06	12	-06	-11	22	-08	-08	-38**	16
016	33***	29*	28*	14*	13	-09	17*	-07	-09	13	-05	-18	12	26*	-30*
017	08	04	-07	06	16	-03	00	-20	-19	02	-04	-22	-03	03	21
018	-04	00	-14	12	-06	14	16*	06	04	04	-08	12	08	-18	23
019	-09	-09	-26	-11	00	-01	-08	13	00	-11	02	10	11	09	-14
020	-23**	-33*	-17	-14*	00	08	-22**	-14	21	-18*	-09	23	-05	03	17
021	-05	-21	03	09	-03	07	-09	-06	13	-01	04	04	09	-09	17
022	-17*	09	-19	-10	-04	-15	-10	-10	-05	-14*	-32*	-21	04	-08	11
023	04	10	-06	11	-07	-11	10	-32*	-01	07	-18	00	09	12	-06
024	-14	23	20	-03	22	05	-03	27*	16	-05	20	21	07	36**	-11
025	-19**	-31*	03	-21**	-28*	18	-21**	00	02	-17*	-30*	05	10	20	05
026	-08	02	22	-03	08	10	-07	27*	05	01	12	01	-10	-05	-01
027	01	-34*	25	12	-22	13	10	-24	24	05	-15	25	06	-14	-11
028	-03	18	-27*	11	-05	-31*	07	-15	-30*	05	-11	-24	11	30*	-17
029	15	06	09	07	02	13	07	14	-03	12	03	-13	03	18	-18
030	-01	02	02	20**	26*	-21	12	15	-11	11	03	-12	-05	02	-18
031	-03	07	09	05	24	-07	01	01	17	05	07	01	05	12	-06
032	05	20	-34*	09	03	-14	00	-08	-09	13	02	-12	-10	14	02
033	03	-07	-13	01	-18	-22	-02	-27*	-19	-07	24	-11	-08	11	02
034	11	03	16	11	12	10	01	-08	-01	09	11	12	10	27*	06
035	11	21	03	12	24	-13	11	-03	-26*	11	13	-39**	01	-02	08
036	-17*	03	15	-05	15	06	-09	19	01	-03	27*	-03	-01	07	17
037	-02	-03	34*	03	-05	10	03	13	09	04	06	-09	01	-10	-01
038	-21**	-12	25	-20**	08	23	-13	11	27	-17*	04	25	06	-11	-11
039	-10	-15	08	-08	-07	13	-01	09	25	-12	-12	21	-04	-01	06
040	01	07	-01	-12	-10	00	-11	-14	-18	-08	-15	-12	-10	-18	16
041	-01	14	18	13*	02	05	10	04	-03	15*	-13	-04	-03	15	-09
042	03	-01	-18	02	16	-39**	-02	-05	-24	10	00	-15	-07	-03	-02
043	12	04	08	12	-22	-25	03	-11	-36*	05	-37**	-23	09	17	-13
044	23**	-02	—	12	00	—	08	-23	--	08	-33*	--	-05	17	—
045	01	25*	15	00	26*	-04	-06	16	-17	-06	26*	-36*	00	16	11
046	-02	-34**	13	04	01	08	-01	-04	04	10	07	-12	-15*	-07	16
047	09	07	-02	14*	-14	-11	16*	-09	-22	21**	-18	-14	05	-06	14
048	17	13	04	23**	05	02	18*	-08	-11	27***	02	-06	02	-24*	25
049	00	13	-20	-14*	-08	-06	-09	04	-03	-17*	-19	-06	-09	-03	-06
050	09	06	03	10	14	14	09	13	10	13	14	-07	-13	17	-03
051	17*	-13	-02	08	-07	-08	02	-11	-07	11	-10	-26	01	-04	16
052	-01	14	-05	-05	-09	-24	-08	-17	-20	-08	-13	-21	06	01	44**
053	00	12	-12	-08	00	-01	-04	29*	04	-09	19	-01	04	23	29
054	01	-03	41**	-05	-15	21	06	-07	15	-05	01	17	07	-04	-07
055	03	-03	25	-08	38**	13	-11	-17	31*	-16*	-25*	12	02	-11	13
056	14*	-06	03	01	03	-12	-08	03	-14	-05	02	-12	-06	17	01
057	-11	00	-16	-05	-03	-07	-05	09	-05	-09	17	-06	10	26*	-07
058	03	-16	25	08	-24	13	10	-01	-02	05	-09	13	02	21	15
059	-04	12	31*	-01	10	32*	06	-04	16	00	-04	33*	10	09	-02
060	05	33*	-10	-10	17	01	-09	35**	01	-08	20	03	-08	14	06
DEMOGRAPHIC DATA															
066	00	-18	08	12	01	12	05	14	18	-07	11	01	15*	11	-05
067	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
068	12	00	-14	11	-19	-28*	10	-24	-11	06	-15	-12	12	11	33*

1. Predictor numbers refer to list in Appendix C.
2. C.Male=Caucasian Males, M.Male=Minority Males, Female=Females.
3. The reduction in subject number from overall subjects in each group reflects listwise deletion of subjects who did not have complete scores for all variables. This is a more conservative approach upon which to base multivariate analyses.
4. Significance levels reported as: $p \leq .05$=*; $p \leq .01$=**; $p \leq .001$=***.

TABLE B-5

PEARSON PRODUCT-MOMENT CORRELATIONS BETWEEN PERSONALITY, ABILITY AND INTEREST PREDICTOR MEASURES AND KEY CRITERION PERFORMANCE MEASURES

PREDICTORS[1]	PERFORMANCE CRITERIA														
	Performance at the Law Enforcement Academy												Performance on Probation		
	Final Average			General Suitability			Honesty/Openness			Relation With Others			Perf. Eval. Rating Toral		
	C.Male	M.Male	Female[2]	C.Male	M.Male	Female	C.Male	M.Male	Female	C.Male	M.Male	Female	C.Male	M.Male	Female
	N=153[3]	45	39	153	45	39	153	45	39	153	45	39	142	47	30
PERSONALITY DATA															
061	-17*	-11	-25	-14*	-13	-01	-14*	-22	04	-10	-15	21	-12	-14	-01
062	-04	18	01	-04	16	15	-01	08	01	-01	17	08	-13	23	06
063	-11	-15	13	-09	-01	-09	-06	24	-25	-08	08	-43**	-06	21	06
064	-27***	-40**	-35*	-08	-29*	-03	-13	-08	13	-06	-04	13	12	-41**	07
065	-17*	-14	-28*	-10	-31*	-18	-07	-15	01	-10	-29*	00	09	-27*	-05
C.P.I.															
069	23**	41***	30*	15*	42**	07	06	13	-03	19**	28*	-10	-06	40**	-07
070	28**	13	39**	27***	27*	11	17*	18	-11	25***	18	-21	-12	01	05
071	34***	33*	35*	31***	38**	19	20**	27*	04	26***	44***	00	-14	30*	04
072	22***	47***	40**	18*	30*	24	09	03	02	15*	17	08	-17*	12	04
073	27***	35**	11	29***	26*	09	18*	11	-02	25***	24	16	-06	25*	11
074	20**	13	59***	05	54***	35*	06	34*	18	07	41**	09	-06	29*	-06
075	28***	25*	50***	15*	34*	22	15*	36**	11	17*	30*	01	09	16	01
076	03	22	41**	-04	29*	20	02	30*	27*	03	16	12	00	22	13
077	10	-21	25	01	16	10	02	18	04	-01	25	-14	07	-07	-13
078	30***	-02	58***	15*	28*	23	12	28*	13	10	26*	-06	00	-04	-11
079	07	-11	35*	03	18	11	01	24	-08	00	27*	-24	03	09	-10
080	23**	40**	67***	20**	45***	57***	21**	39**	59***	20**	33*	55***	-06	41**	32*
081	32***	-03	47***	16*	34*	18	20**	36**	17	16*	41**	04	02	-02	-20
082	28***	-01	37*	15*	07	10	12	12	03	08	-01	-18	09	-13	-21
083	31***	09	65***	24***	42**	31*	22*	30*	25	24**	28*	12	-01	18	-10
084	26***	01	42**	08	25*	26	04	16	13	09	12	-02	-15*	-02	00
085	06	-21	09	03	-30*	-10	02	-27*	-13	-04	-20	-22	-04	31*	-32*
086	-02	-05	-15	-11	-07	03	-14*	-06	19	-16*	-08	03	-06	00	22
Nelson-Denny															
087	40***	63***	49***	32***	26*	15	30***	-10	-04	22**	-01	-09	15*	45***	-10
088	22**	52***	46**	11	34*	30*	13	26*	02	09	26*	04	02	36**	-13
089	37***	55***	38**	26***	29*	17	26***	08	03	19**	16	-20	10	41**	-07
090	24***	32*	12	21**	10	-08	16*	02	-09	24***	18	-15	-05	34*	-01
S.C.I.I.															
091	12	06	20	26***	32*	20	32***	19	09	23**	30*	02	-08	08	-08
092	22**	02	44**	33***	13	14	31***	-04	03	29***	15	-09	-12	13	-08
093	15*	08	17	24***	23	11	21**	13	05	20**	32*	04	-17*	-13	-13
094	12	05	14	20**	30*	16	24***	22	23	15*	46***	22	-06	06	12
095	-05	10	03	04	33*	05	10	21	03	04	42**	07	-10	12	05
096	10	00	-08	18*	29*	00	29***	14	12	12	30*	07	-10	08	07
097	23**	-02	41**	34***	15	10	31***	05	00	26***	21	-11	-10	09	-01
098	-12	-12	-11	-19**	-41**	-01	-20**	-22	01	-21**	-50***	-06	12	-14	02
099	07	10	32*	17*	12	27*	17*	02	26	19**	10	24	-08	11	-03
100	12	-01	46**	26***	18	30*	26***	13	17	19**	19	13	-04	00	17
101	08	24	08	20**	32*	-05	20**	07	-18	19**	22	-10	-16*	30*	02
102	11	01	05	17*	14	17	16*	00	02	22**	15	03	-03	04	-21
103	15*	11	18	23**	23	19	26***	15	12	21**	22	01	-13	-02	-14
104	15*	-09	40**	31***	07	28*	30***	00	13	29***	15	-03	-11	08	-10
105	12	01	26	22**	10	01	23**	-01	-01	19**	13	-06	-07	04	04
106	11	-12	29*	20**	06	14	15*	-15	-05	14*	08	-13	-17*	00	02
107	-05	-06	00	04	28*	06	09	15	00	-03	26*	-06	-20**	11	-26
108	08	15	03	17*	16	-04	16*	15	-01	14*	29*	02	-13	-10	-17
109	14*	08	08	22**	26*	13	16*	19	11	14*	30*	07	-08	-20	-07
110	16*	07	24	25***	29*	03	19**	10	-04	18*	32*	-10	-12	04	-17
111	15*	04	09	20**	35**	05	24**	23	20	14*	47***	06	-02	04	11
112	16*	02	04	15*	30*	-05	19**	20	06	07	42**	17	-05	10	00
113	05	07	20	18*	30*	16	20**	26*	18	18*	46***	23	-20**	11	01
114	08	11	18	15*	22	32*	21**	12	38**	09	18	37**	-08	-18	41*
115	02	02	-11	12	-03	22	19**	06	22	13	10	32*	-03	-15	28
116	03	-01	14	13	23	-06	15*	00	-08	15*	27*	-09	-07	-06	-05
117	15*	-14	27*	09	13	03	10	-07	-01	08	13	01	00	11	03
118	00	11	04	08	30*	06	10	06	12	01	33*	17	-07	11	00
119	-08	05	-10	08	17	01	00	12	01	-09	26*	01	-02	03	-09
120	10	08	14	15*	39**	14	18*	24	17	09	45***	23	-08	21	03
121	00	-08	-29*	04	22	-02	14*	12	15	-05	12	23	-11	06	29
122	09	-01	23	23**	34*	23	27***	14	14	27***	36**	17	-14*	11	-07
123	01	-04	12	05	22	23	13	18	11	11	21	10	-07	07	02
124	36***	03	23	31***	20	05	26***	-08	01	27***	15	-04	-05	25*	-22
125	31***	08	41**	37***	21	26	39***	05	10	32***	18	02	-07	08	-13
126	25***	05	41**	34***	20	18	36***	04	10	32***	24	11	-08	25*	-15
127	21**	08	35*	33***	24	24	38***	09	01	32***	23	02	-06	03	-16

1. Predictor numbers refer to list in Appendix C.
2. C.Male=Caucasian Males, M.Male=Minority Males, Female=Females.
3. The reduction in subject number from overall subjects in each group reflects listwise deletion of subjects who did not have complete scores for all variables. This is a more conservative approach upon which to base multivariate analyses.
4. Significance levels reported as: $p \leq .05$=*; $p \leq .01$=**; $p \leq .001$=***.

TABLE B-6

PREDICTION OF SUPERVISORS' RATINGS OF PERFORMANCE DURING THE PROBATIONARY PERIOD

Predictor Variables	Male Caucasians Simple R[1]	Male Caucasians Mult. R	Minority Males Simple R	Minority Males Mult. R	Females Simple R	Females Mult. R
BIODATA:						
001 Height			-26*[2]			
002 Weight					-51**	
003 No. of brothers					-35*	
007 No. of dependents			-27*			
009 No. of high school offices					34*	
-011 High school grades (low)					-34*	
015 Musical/artistic achiev in HS			-38**			
016 Highest education level			26*		-30*	
024 No. of family moves			36**			
028 Dissatisfaction with last job			30*			
034 Prefer many projects			27*			
046 Not active in church groups	-15*					
048 No. of societies belong to			-24*			
052 Important to get ahead					-44**	
066 Age	15*					
STATE-TRAIT ANXIETY INVENTORY:						
064 A-State			-41**			
065 A-Trait			-27*			
CALIFORNIA PSYCHOLOGICAL INVENTORY:						
069 Dominance			40**			
071 Sociability	-14*		30*			
072 Social presence	-17*					
073 Self-acceptance			25*			
074 Sense of well-being			29*			
080 Communality			41**		32*	
084 Psychological-mindedness	-15*					
085 Flexibility			-31*		-32*	
NELSON-DENNY APTITUDE TEST						
087 Nelson-Denny Verbal	15*		45***			
088 Nelson-Denny Comprehension			36**			
089 Nelson-Denny Total (V+C)			41**			
090 Reading Rate			34*			
STRONG-CAMPBELL INTEREST INVENTORY						
093 Investigative	-17*					
101 Adventure	-16*		30*			
106 Medical science	-17*					
107 Medical service	-20**					
113 Athletics	-20**					
114 Domestic arts					41*	
122 Police officer (male)	-14*					
124 Army officer (female)			25*			
126 Army officer (male)		.39	25*	.79		.72

[1]Significance for simple correlations reported as: * = $p \leq .05$; ** = $p \leq .01$; *** = $p \leq .001$

[2]Underlined correlation indicates variable included in Stepwise Regression. Variable has contributed R^2 change $\geq .01$ (Multiple R includes only those variables underlined).

TABLE B-7

Florida Police Standards Research Project

PERSONAL HISTORY QUESTIONNAIRE *

1. What is your height?

   1. 5'7" or under
   2. 5'8" to 5'10"
   3. 5'11" to 6'1"
   4. 6'2" to 6'4"
   5. 6'5" or over

2. What is your weight?

   1. 150 pounds or less
   2. 151 to 170 pounds
   3. 171 to 190 pounds
   4. 191 to 210 pounds
   5. 211 pounds and over

3. How many brothers do you have?

   1. none
   2. 1
   3. 2
   4. 3
   5. 4 or more

4. How many sisters do you have?

   1. none
   2. 1
   3. 2
   4. 3
   5. 4 or more

5. What is your present marital status?

   1. single
   2. married, no children
   3. married, 1 or more children
   4. widowed
   5. separated or divorced

6. How many times have you been married?

   1. never
   2. once
   3. twice
   4. three times
   5. four or more times

7. How many persons (adults and children) directly depend upon you?

   1. none
   2. 1
   3. 2
   4. 3
   5. 4 of more

8. Did you ever think about quitting high school?

   1. all the time
   2. frequently
   3. sometimes
   4. hardly ever
   5. never

9. To how many student offices were you elected in high school?

   1. 0
   2. 1
   3. 2
   4. 3
   5. 4 or more

10. During your high school days, how did you like to have your accomplishments become known?

    1. announcement to the class or group
    2. notification to myself only
    3. notification to my parents
    4. publication in the school or local paper
    5. something else

11. What was your grade average in all major courses in high school?

    1. A minus or better
    2. B plus
    3. B or B minus
    4. C plus or C
    5. C minus or lower

*Condensed from Dade County Public Safety Department Questionnaire (Cascio & Real, 1978)

12. Which one of the following high school courses was easiest for you?

1. physical science, chemistry, physics, mathematics
2. natural science, biology, zoology
3. history, economics, civics
4. commercial courses, bookkeeping, typing
5. English, literature, humanities

13. During your high school days, in which one of the following did you participate most?

1. sand-lot games
2. clubs or student organizations
3. student government
4. varsity athletics
5. I worked or studied and did not participate

14. My age at graduation from high school was?

1. 15 or less
2. 16
3. 17
4. 18
5. 19 or older

15. Which one of the following do you feel was your most outstanding positive experience in high school?

1. achievement in studies
2. achievement in sports
3. achievement in art or music
4. popularity with classmates
5. popularity with teachers

16. What was the last school grade you completed?

1. 12 or below
2. freshman in college
3. sophomore in college
4. junior in college
5. college senior or graduate work

17. In school, which type of course did you enjoy most?

1. lecture
2. laboratory
3. discussion
4. something else
5. had no preference

18. Some people received better grades in school than you did because:

1. you did not apply yourself
2. they spent more time in preparation
3. they had more ability
4. the teachers played favorites
5. you made better grades than most others

19. During your last year in school, which one thing was easiest for you to do?

1. earn a letter in athletics
2. make the honor roll
3. gain membership in a social club
4. get into a musical organization
5. receive an important job on a school publication

20. With regard to achieving your career goals, do you feel your schooling was:

1. more than sufficient
2. sufficient
3. adequate
4. inadequate
5. very inadequate

21. After leaving school, how many full-time jobs have you had (excluding your present one)?

1. none
2. 1
3. 2
4. 3
5. 4 or more

22. Prior to age 18, what was the one part of the newspaper which you read regularly?

1. editorials
2. news
3. the funnies
4. the sports page
5. something else

23. In how many different cities or towns have you lived?

1. 1 to 3
2. 4 to 6
3. 7 to 9
4. 10 to 12
5. 13 or more

Personal History Questionnaire

24. How many times did you and/or your family move your residence from one town to another before you were 18 years of age?

1. none
2. 1 time
3. 2 times
4. 3 times
5. 4 or more times

25. Which one of the following best describes the community in which you spent most of your time prior to age 18?

1. the center of a large city
2. an industrial district
3. a small town with practically no industry
4. a suburb of a large town or city
5. a rural or farming community

26. How old were you when you got your first part-time job?

1. never had a part-time job
2. 14 or younger
3. 15 to 17
4. 18 to 20
5. 21 or older

27. What has been the average length of time you've spent on your previous jobs?

1. I had no previous jobs
2. less than 1 year
3. 1 to 2 years
4. 3 to 4 years
5. 5 years or more

28. Which one of the following was your reason for leaving your last full-time job?

1. I never had a full-time job
2. dissatisfied with pay or working conditions
3. laid off or discharged
4. personal reasons such as moving to another part of the country
5. little chance for advancement

29. Of the following, which one do you do best?

1. conducting interviews
2. written reports
3. group discussions, conferences, lectures, or speeches to groups
4. telephone conversations
5. selling ideas to others

30. How much experience have you had in working with the public?

1. none
2. less than 1 year
3. 1 to 2 years
4. 3 to 4 years
5. 5 or more years

31. What is the largest number of people you have directly supervised at one time (include military experience)?

1. none
2. 1 to 5 people
3. 6 to 10 people
4. 11 to 20 people
5. 21 or more people

32. Which one of the following is most important to you in any good job?

1. opportunity to deal with what most interests you
2. assurance of security
3. opportunity to control situations
4. size of financial reward
5. opportunity for advancement

33. What would be your choice of an ideal job?

1. allows a great amount of contact
2. requires working with a medium sized group
3. requires working with a small group
4. requires working closely with one person
5. requires you to work alone

Personal History Questionnaire

34. Generally, in work assignments, would you prefer to:

1. work on a part of a project at one time
2. work on one whole project at one time
3. work on 2 or 3 projects at the same time
4. work on 4 or 5 projects at the same time
5. work on many projects at the same time

35. Which best describes your feelings when you last made a verbal presentation before a group?

1. have never made such a presentation
2. did not make a good presentation because of nervousness
3. nervous, but the presentation was not affected
4. felt at ease
5. hated to stop once I had started

36. Which one of the following have you disliked most in any job you have held?

1. couldn't plan future around job
2. couldn't use initiative
3. no encouragement to put forth greater effort
4. lots of time spent away from family
5. placed too much on your own

37. Which one of these characteristics bothers you most in the people you work with?

1. bragging
2. shyness
3. laziness
4. sloppiness
5. competitiveness

38. In most tasks do you:

1. work very quickly
2. work more quickly than the average
3. work at about the same pace as other people
4. work more slowly than the average.
5. work very slowly

39. How do you usually behave in group sessions with your associates?

1. you feel free to express your views and sway the group considerably
2. you feel free to express your views but the group doesn't always share them
3. you are reluctant to express your views, but they are usually well received
4. you are reluctant to express your views and unsure of their reception

40. Outside of work, which one of the following do you feel has been your major accomplishment?

1. family activities
2. community activities
3. development of yourself
4. development of your social activitie
5. something else

41. Have you ever received a commendation (plaque, sheepskin, citation, etc.) from a civic, social or public group for outstanding service?

1. no
2. 1 time
3. 2 times
4. 3 times
5. 4 or more times

42. Which one of the following do you look forward to most in your leisure time activities?

1. a chance to rest and relax
2. a chance to putter around
3. a chance to be with family and friends
4. a chance to get outdoors or be active
5. a chance to be alone

43. How many books do you own?

1. fewer than 50
2. 51 to 100
3. 101 to 150
4. 151 to 200
5. 201 or more

Personal History Questionnaire

44. Which one of the following do you read each week?

1. sport magazines
2. newspapers
3. news magazines
4. novels
5. short stories

45. Which one type of book do you prefer to read for pleasure?

1. novels
2. literary classics
3. job related books
4. biography
5. history

46. In which one of the following are you most active?

1. a church group
2. a fraternal society
3. a service club
4. a professional or technical society
5. something else

47. To how many civic organizations (i.e., school boards, PTA, etc.), clubs, or social organizations do you belong (any group which has a definite membership and regular meetings)?

1. none
2. 1
3. 2 or 3
4. 4 to 6
4. 7 or more

48. In how many honorary clubs, societies, or fraternities, do you hold membership?

1. none
2. 1
3. 2
4. 3
5. 4 or more

49. Which one of the following most motivates you?

1. prestige
2. material gains
3. gaining a position of security
4. helping others
5. raising a family

50. Which one of the following goals would you most like to reach during the next five years?

1. earn a better than average income
2. become a leader
3. be in a position where you can be free to work on ideas that interest you
4. become a top-flight professional in your field
5. be recognized for your civic contribution

51. Which one of the following best describes why you would like to be a success?

1. in order to make my family proud of me
2. in order to help others
3. in order to please myself
4. in order to impress my neighbors
5. in order to please my superiors

52. Which one of the following strikes you as the most important feature about a job?

1. the kind of work you do
2. the amount of prestige you achieve
3. what others think of your profession
4. the security the job can give you
5. the ways in which you can use this job to get ahead

53. Which one of these abilities do you most cherish in yourself?

1. ability to achieve job success
2. ability to make friends
3. ability to contribute something to society
4. ability to please your family
5. ability to impress people

54. Which one of the following is most important to you?

1. status
2. people
3. ideas
4. things
5. happiness

Personal History Questionnaire

55. Which one of the following activities would you enjoy most?

1. develop the theory of a new procedure
2. directing the practice of the theory
3. selling the theory
4. prepare the promotion for the theory
5. teach others the theory

56. Under normal circumstances, how much of your yearly income do you save?

1. 0% to 5%
2. 6% to 10%
3. 11% to 15%
4. 16% to 20%
5. 21% or more

57. How would you describe your leisure time activity level?

1. am constantly active
2. frequently active
3. only moderately active
4. not very active
5. almost never active

58. Which of these common personal complaints most often bothers you?

1. inability to sleep
2. poor digestion
3. headaches
4. shortness of breath
5. weariness

59. How many serious injuries have you had in the past five years (injuries requiring medical attention)?

1. none
2. 1
3. 2
4. 3
5. 4 or more

60. In the average night, how much sleep do you require to feel really good?

1. less than 5 hours
2. 5 to 6½ hours
3. 6½ to 7 hours
4. 7 to 8 hours
5. more than 8 hours

Scoring Key for Personal History Questionnaire

The Personal History Questionnaire (PHQ) is a forced choice biographical inventory in which there are five alternative responses to each question. In scoring the PHQ, the number of the response alternative checked by the subject represents the "score" for 31 of the 60 questionnaire items. These items are labeled "ordinal" in the scoring key provided below. For the remaining items, several response choices were combined to produce dichotomous categories for which scores of 1 or 2 were assigned. For example, on Item 5, response alternative "1" was scored 1, and response choices "2", "3", "4", and "5" were combined and scored as 2. The scoring of the dichotomous PHQ items are indicated below.

BIOGRAPHICAL SCORING KEY

1.	Ordinal
2.	Ordinal
3.	Ordinal
4.	Ordinal
5.	1=1; 2,3,4,5=2
6.	Ordinal
7.	Ordinal
8.	Ordinal
9.	Ordinal
10.	1,2,4,5=1; 3=2
11.	Ordinal
12.	1,2,4,5=1; 3=2
13.	1,2,3,5=1,4=2
14.	Ordinal
15.	1,2,4,5=1; 3=2
16.	Ordinal
17.	1,3,4,5=1; 2=2
18.	1,2,4,5=1; 3=2
19.	1,2,3,4=1; 5=2
20.	Ordinal
21.	Ordinal
22.	1,2,4,3=1; 5=2
23.	Ordinal
24.	Ordinal
25.	1,2,3,4=1; 5=2
26.	Ordinal
27.	Ordinal
28.	1,2,3,5=1; 4=2
29.	1,3,4,5=1; 2=2
30.	Ordinal
31.	Ordinal
32.	1,2,4,5=1; 3=2
33.	Ordinal
34.	Ordinal
35.	Ordinal
36.	1,2,4,5=1; 3=2
37.	1=1; 2,3,4,5=2
38.	Ordinal
39.	Ordinal
40.	1=1; 2,3,4,5=2
41.	Ordinal
42.	1=1; 2,3,4,5=2
43.	Ordinal
44.	1=1,2,3,4,5=2
45.	1,3,4,5=1; 2=2
46.	1=1; 2,3,4,5=2
47.	Ordinal
48.	Ordinal
49.	1,3,4,5=1; 2=2
50.	1,2,3,5=1; 4=2
51.	1,2,4,5=1; 3=2
52.	1,2,3,4=1; 5=2
53.	1,3,4,5=1; 2=2
54.	1,3,4,5=1; 2=2
55.	1,3,4,5=1; 2=2
56.	Ordinal
57.	Ordinal
58.	1,3,4,5=1; 2=2
59.	Ordinal
60.	Ordinal

END