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AN EXPLORATORY ANALYSIS OF THE RELATIONSHIP BETWEEN SOCIAL BACKGROUND FACTORS AND PERFORMANCE CRITERIA IN THE MICHIGAN STATE POLICE

By

James Michael Poland

A DISSERTATION

Submitted to

Michigan State University

in partial fulfillment of the requirements

for the degree of

DOCTOR OF PHILOSOPHY

College of Social Science

1976

ABSTRACT

AN EXPLORATORY ANALYSIS OF THE RELATIONSHIP BETWEEN SOCIAL BACKGROUND FACTORS AND PERFORMANCE CRITERIA IN THE MICHIGAN STATE POLICE

By

JAMES MICHAEL POLAND

This study was conducted at the Michigan State Police Department under a fellowship award from the Law Enforcement Assistance Association. It is part of a continuing research project devoted to understanding various aspects of police recruitment, selection and promotion policies. This research has compared the background characteristics of two randomly selected cohorts in the Michigan State Police Department with available measures of their on-the-job performance to determine the type of candidate who is likely to display specific patterns of "positive" job performance.

Previous research varies in quality from speculative theorizing to sophisticated testing of theory in empirical studies. To date the most comprehensive study of police background characteristics and actual measures of on-the-job performance has been conducted by Cohen & Chaiken. The Cohen & Chaiken study examined police background characteristics (predictor variables) and performance measures by analyzing results from a representative cohort of the New York City Police Department. How representative any single cohort of police may be of other police cohorts is only speculative. The question is whether a single cohort

analysis has any measure of generality beyond the cohort itself.

This study will examine two specific cohorts, 1964 and 1969. These two cohorts are divided into three groups; the active cohort, the inactive cohort and recruit school dropouts. A total of four-hundred and thirty nine candidates were appointed to the Michigan State Police Department in the two years, 1964 and 1969. The main focus of the study is on the active cohort. Sixty-six background characteristics (independent variables) were compared to twenty performance measures (dependent variables). The results of the 1969 cohort were then compared to the results of 1964 cohort in order to cross-validate the analysis and to determine differences over time.

The relationship between predictor variables and individual performance measures were determined by cross-tabulatious and simple correlations. The regression program used in this study is the LS Step or stepwise least squares program developed by the Michigan State University Computer Center. The stepwise procedure is completed when no independent variables meet the deletion criteria and no independent variables meet the addition criteria.

The results of the study suggest that it is feasible to predict police performance for two distinct cohorts in the same police organization. The most consistent predictors of future police performance identified by this study are age at entry level, education at entry level and probationary period evaluation.

Perhaps the most significant finding of this study has been that both cohorts of analysis produced quite similar results, suggesting that candidates in 1964 are not much different than in 1969. In fact there is marked similarity in the background characteristics of the two cohorts. This cross-validation of results indicates that a cohort analysis within police organizations may have some generality beyond a single cohort. This study demonstrates that police recruiters in the Michigan State Police look for a certain "type" of candidate.

DEDICATION

To Barbara and Michael

who understood the intent despite the content.

ACKNOWLEDGEMENTS

This study could not have been conducted without the complete support and interest of the Michigan State Police Department. The author is particularly indebted to Lieutenant Richie Davis who endorsed the proposal and discussed with the author the aspects of police selection of concern to the Michigan State Police. The author also extends his appreciation to staff members who assisted the author in locating and interpretating police personnel data.

The author is indebted to Dr. Philip M. Marcus, Dr. Charles Press and Dr. Victor G. Strecher who offered their insights, ideas and criticism during the conceptualization and research design of the study. Dr. Robert C. Trojanowicz, Chairman, as always, gave and provided perceptive guidance and assistance that was of substantial benefit toward the fulfillment of this research.

The author also wishes to express his deepest gratitude to Ms. Nova Green, for the editorial and analytical assistance that this project required.

Most of all the author would like to express his sincere appreciation to his wife, Barbara, for without her and the many sacrifices she made, this disseration would not have been possible.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER I

INTRODUCTION

STATEMENT OF THE PROBLEM

In the last decade several national commissions have been concerned with upgrading the quality of police personnel.[1] It is one of the central topics in the relatively new field of manpower and human resource development in criminal justice. Human resources account for 80 to 90 percent of present-day police costs.[2] How a police agency selects and manages these resources then becomes a crucial factor in the administration of justice. New strategies, new technology, and even substantial federal governmental support will make little difference if the police cannot attract applicants who know how to do the job, want to do the job and

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[1]The President's Commission on Law Enforcement and Administration of Justice, Task Force Report: The Police. (Washington, D.C.: U.S. Government Printing Office, 1967); Commission on Civil Disorders (New York: Bantam Books, Inc. 1968); National Commission on the Causes and Prevention of Violence, Violence in America (Washington, D.C.: U.S. Government Printing Office, 1969); Advisory Commission on Intergovernmental Relations, Police Reform (Washington, D.C.: U.S. Government Printing Office, 1971); American Bar Association Standards for Criminal Justice, The Urban Police Function (New York: Institute of Judicial Administration, 1972); National Advisory Commission on Criminal Justice Standards and Goals, Police (Washington, D.C.: U.S. Government Printing Office, 1973).

[2]Report of the Advisory Group on Productivity in Law Enforcement, Opportunities for Improving Productivity in Police Services (Washington, D.C.: National Commission on Productivity, 1973), p. 47.

and can perform on the job.[3]

Law enforcement administrators and social scientists generally agree on the desirability of improving police personnel. However, the choice of methods for selecting police candidates is often a matter of dispute. Selection criteria range from the extreme of eliminating all criteria to the development of elaborate psychiatric testing. Several techniques, instruments, and special criteria have been advocated as means to obtain the best possible candidate. These include: psychological testing,[4] use of the polygraph,[5] educational attainment, [6] background

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[3]Ibid.

[4]Jack G. Collins, "A Study of the Use of the Humm-Wadsworth Temperament Scale by the Los Angeles Police Department," unpublished Master's thesis, School of Public Administration, University of Southern California, 1965. Robert Hogan, "A Study of Police Effectiveness," American Psychological Association (Washington, D.C.: June, 1970). Richard J. Shavelson, et al, "A Criterion Sampling Approach to Selecting Patrolmen," The Police Chief, 42 (Sept., 1974), 55-61.

[5]Robert J. Ferguson, The Scientific Informer(Springfield, Ill.: Charles C. Thomas, 1971); Frank Horvath, "Verbal and Nonverbal Clues to Truth and Deception during Polygraph Examinations," Journal of Police Science and Administration, 1,2 (1973), 138-152; Frank Horvath, "The Police Candidate Polygraph Examination: Considerations for the Police Administrator," Police, 16 (June, 1972), 33-39.

[6]Ruth Levy, "Predicting Police Failures," The Journal of Criminal Law, Criminology and Police Sciences, 58 (1967), 265-276; Gilmore Spencer and Robert Nichols, "A Study of Chicago Police Recruits: Validation of Selection Procedures," Police Chief, 38, (June, 1971), 50-55; Franklin G. Ashburn and Payton E. Ward, Jr., "Education and Training: The Moment of Truth," Police Chief, 40, (July, 1973), 40-43; John M. Trojanowicz and Robert C. Trojanowicz, "The Role of a College Education in Decision-Making," Public Personnel Review, 33 (Jan., 1972), 29-32.

investigation[7], employment history,[8] job-related testing,[9] military record,[10] and physical stature.[11] However, these techniques have failed to predict the quality of future job performance and length of tenure.

The difficulty of predicting the success of a candidate for the position of police officer is increased by the conflicting demands made upon that role. People have different beliefs and attitudes about the police officer. They assign different magnitudes of importance to each of the functions he performs and expect these duties to be discharged in a variety of ways. The police officer himself has a set of beliefs and attitudes about his role. James Q. Wilson argues that the police role is twofold: maintaining order and enforcing the law.[12] Wenninger and Clark correlate these dual tasks with Parsons' two kinds of organizational goals--value maintenance and goal attainment.[13] In "value maintenance," the police department serves as a "symbolic agency of social control."[14] When performing this part

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[7]John A. McAllister, "A Study of the Prediction and Measurement of Police Performance," unpublished M.P.A. thesis, John Jay College of Criminal Justice, City University of New York, 1968.

[8]Stewart H. Marsh, "Validating the Selection of Deputy Sheriffs," Public Personnel Review, 23 (Jan., 1963), 41-44.

[9]Gail Neuman, et al, "Job-Related Tests and Police Selection Procedures," Police Chief, 41 (Feb., 1974), 43-66; Robert B. Mills, et al, "Situational Tests in Police Recruit Selection," Journal of Criminal Law, Criminology and Police Sciences, 57 (March, 1966), 99-104; David C. McClelland, "Testing for Competence Rather than for Intelligence," American Psychologist, 28 (Jan., 1973), 1-14.

[10]F. Louis Valla, "Predicting Tenure of Border Patrol Inspectors," Personnel Administration, 22 (March-April, 1959), 27-29.

[11]C. A. Dempsey, "A Study of Police Height Requirements," Texas Department of Public Safety, 1974; Raymond L. Hoobler and J. A. McQueeny, "A Question of Height," Police Chief, 42, (Dec., 1973), 42-48.

[12]James Q. Wilson, Varieties of Police Behavior (Cambridge, Mass.: Harvard University Press, 1968), p. 16.

[13]Eugene P. Wenninger and John P. Clark, "A Theoretical Orientation for Police Studies," in Juvenile Gangs in Context, (ed.) Malcolm W. Klein (Englewood Cliffs, N.J.: Prentice-Hall, 1967), pp. 163-171.

[14]Ibid., p. 164.

of his role, the police officer attempts to handle police matters without resort to the use of law. Police officers have a wide range of discretionary power. An armed robbery, in the eyes of the police, is unambiguously wrong and a serious offense whereby armed robbers are arrested. But with respect to their social control role in situations where an arrest is not always necessary, police exercise discretion whether to intervene, or if they do, just how to intervene. Goal attainment is the central task when the police act as an instrumental agency of social control. Then, the police officer's task is to make sure that laws are obeyed.

The lack of clarity concerning organizational goals also contributes to the complexity of the police role. March and Simon hypothesize that "the less the subjective operationality of organizational goals, the greater the differentiation of individual goals in the organization."[15] Operationalizing the goals of the police organization is difficult in part because of the difficulty of measuring important differences in the performance of individual officers. Police officers are usually evaluated on tasks which have an easily identifiable and quantitative output such as arrest records and number of traffic tickets written.[16] This is not an appropriate criteria for work that involves much more than writing tickets and making arrests.

In addition, the police officer's position in the organization may complicate his role. In an organization where the output is primarily service, those who actually perform the service occupy a position at the boundary of the organization and interact more with people outside the organization than do those more centrally located.[17] Studies have demonstrated that persons performing tasks at

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[15]James G. March and Herbert A. Simon, Organizations (New York: Wiley, 1958), Introductory Chapter.

[16]Jim L. Munro, Administrative Behavior and Police Organization (Cincinnati, Ohio: W.H. Anderson Co., 1974), pp. 119-121.

[17]James G. Miller, "Living Systems: Structure and Process," Behavioral Science Review, 10 (Oct., 1965), 337-379; Daniel Katz and Robert L. Kahn, The Social Psychology of Organizations (New York: Wiley, 1966), p. 85.

the boundary of organizations tend to experience greater conflict, greater tension, and in general, greater personal demands than those in the interior of the organization.[18] Police officers occupy this boundary position.

Another kind of role ambiguity is generated when a citizen holds contradictory expectations about the way a police officer should handle a given situation. He may be expected to maintain order and at the same time enforce the law. An example of this dilemma is illustrated in attitudes toward a sidewalk crap game. One citizen may want the players arrested, another simply may want the game removed, while yet another may want it allowed. Most people either want the law enforced or order maintained without making an arrest depending on the particular situation, and sometimes they simply do not know what they want.

The predicament of the police can scarcely be overstated. As Skolnick notes, "no recent observer doubts that the police are under increasing strain largely because they are increasingly being given tasks well beyond their resources."[19] This dilemma is described by Colin MacInnes:

> They are doing the difficult and dangerous job society demands without any understanding by society of what their moral and professional problems are. The public uses the police as a scapegoat for its neurotic attitude toward crime. Janus-like, we have always turned two faces toward a policeman. We expect him to be human and yet inhuman. We employ him to administer the law, and yet ask him to waive it. We resent him when he enforces a law in our own case, yet demand his dismissal when he does not elsewhere. We offer him bribes, yet denounce corruption. We expect him to be a member of society, yet not share its values. We admire violence, even against society itself, but condemn force by the police on our behalf. We tell the police that they are entitled to information from the

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[18] Robert Louis Kahn, et al, Organizational Stress (New York: Wiley, 1966), p. 47.

[19] Jerome Skolnick, The Politics of Protest: Violent Aspects of Protests and Confrontations, Staff Report to National Commission on the Causes and Prevention of Violence (Washington, D.C.: U.S. Government Printing Office, 1968), p. 189.

> public, yet we ostracize informers. We ask for crime to be eradicated but only by the use of sporting methods.[20]

How many of us would succeed in meeting the demands of this super human role? For these reasons it is exceedingly difficult to predict job performance. Rubinstein asks how we can predict future behavior when we do not even know what a policeman does.[21] To a significant degree, we are still unable to define the job of police officer clearly enough to be able to create tests that evaluate an applicant's potential for performing police responsibilities. Nevertheless, social scientists are obliged to assist police administrators in the attempt to develop selection criteria. Colarelli and Siegel maintain that:

> The effectiveness of a law enforcement organization rests to a large degree on its ability to adequately select, train and supervise its personnel. The critical problem of selecting candidates is one of the thorniest, the most expensive and the most time consuming tasks facing such organizations.[22]

It has been estimated that it takes about $10,000 to train and equip a police officer today and an additional $25,000 a year to support him until retirement.[23] Moreover, policemen are called upon to make important decisions in matters of life and death, honor and dishonor.[24] Society cannot afford to be less than rigorous in

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[20]Colin MacInnes, quoted in Ben Whitaker, The Police (Middlesex, England: Penguin Books, Ltd., 1964), pp. 170-171.

[21]Jonathan Rubinstein, City Police (New York: Ballantine Books, 1973), pp. ix-xix.

[22]Nick J. Colarelli and Saul M. Siegel, "A Method of Police Personnel Selection," Journal of Criminal Law, Criminology, and Police Science, 55 (June, 1964), 287.

[23]George W. O'Conner, Survey of Selection Methods (Washington, D.C.: International Association of Chiefs of Police, 1962), p. 34.

[24]Wilson, J.Q., op. cit., p. 30.

attempts to place the best men in positions of such responsibility. Comber states flatly that "personnel selection is the key to the future of law enforcement service."[25] Finding effective selection methods is a paramount concern of the police administrator.

NEED FOR STUDY

One of the best predictors of future job performance is past behavior. Nearly all police personnel selection programs seek to tap elements of past behavior through psychological testing, interviewing and analyzing application and personal data sheets. Unfortunately, it is extremely difficult to determine exactly what past behaviors relate to specific future job behaviors. The typical behavior inventory has no specified correct or incorrect answers. Instead, the personnel administrator is interested in obtaining descriptions of the applicant's major behavioral tendencies or predispositions (his so-called typical behavior) as he pursues his daily activities. In order to discover "patterns of behavior" that would disqualify an applicant, several behavior inventories are useful such as personality tests, vocational interests, biographical data, oral interviews or other available personal measurements. Each represents a method of describing relevant behavior patterns useful to the personnel administrator. Such a wide variety of behavior inventories is in common use in police organizations. One group of management theorists suggests that current police selection methods are usually poorly standardized and predictions therefore must be based on little more than vague impressions, subjective hunches and intuitive feelings.[26]

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[25]Edward Comber, "Selection for What?--The Long Range Goals: in Police Selection (ed.) Richard H. Blum (Springfield, Ill.: Charles C. Thomas, 1964), p. 213.

[26]John P. Campbell, et al, Managerial Behavior, Performance and Effectiveness (New York: McGraw-Hill Book Co., 1970), p. 143.

Analytical Problems

The various types of predictor instruments can be grouped into three major categories: 1) psychometric tests, 2) interviews, and 3) biographical information. Measures of actual job performance generally fall into four broad categories: 1) supervisory ratings, 2) termination of employment, 3) achievement in a police academy setting, 4) objective measures such as number of arrests, citizen complaints, departmental awards, departmental discipline, and rank progression.

Various sorts of psychological tests have been used to predict police officer job performance for over fifty years. A substantial body of literature exists that reports on the effectiveness (or lack of it) of these instruments in a variety of police organizations. The City of Detroit, for instance, used a psychological test that proved to be so unsatisfactory that it was discontinued.[27] Presently the City of Detroit has discontinued the use of all selection criteria including physical requirements. The most recent nationwide survey conducted by the International Association of Chiefs of Police showed that nearly 90% of police agencies surveyed use some kind of instrument that could be broadly defined as a psychological test.[28] However, it is significant to note that many cities are using psychological tests that have not been validated on police populations. As yet, police administrators have been unable to answer the question of what the psychological test measures. Police administrators often become overzealous in choosing psychological tests that have been "successful" with other occupational groups. In order to learn what a test actually measures, it is necessary to carry out a series of

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[27] U.S. Commission on Civil Rights, For All the People...By All the People: A Report on Equal Opportunity in State and Local Government Employment (Washington, D.C.: U.S. Government Printing Office, 1969), p. 83.

[28] Terry Eisenberg, Deborah Ann Kent and Charles R. Wall, Police Personnel Practices in State and Local Governments (Washington, D.C.: International Association of Chiefs of Police, 1973), pp. 17-24.

validation studies. Validation refers broadly to the process of learning more about the total network of measurement procedures. Psychological test validation is a continuous process, especially so in police work because of the ambiguity associated with the police role. It is more efficient to try well researched methods rather than those about which little is known. The evidence gained from the development of individualized psychological tests tells the police administrator how useful they actually are for predicting job behaviors of interest. The conclusion to be drawn is that, at best, psychological tests only contribute to the validity of the police selection process.

The types of psychological tests most frequently used fall into two specific categories. The first type focuses on the applicant's skills and abilities by measuring his capacity to perform (aptitude) or his current level of accomplishment (achievement). The second major type emphasizes various aspects of personality and occupational interest.

Ghiselli's review is the most comprehensive since it covers hundreds of studies, published and unpublished, of the usefulness of measurements of skills and abilities in the selection process between 1919 and 1964. The studies were conducted in a wide range of occupational settings, using many different tests and many different measures of job effectiveness. In order to summarize so many studies, Ghiselli classified tests into a few broad categories and jobs into similarly broad groupings based on gross estimates of relative similarity in job demands. Tests were classified according to 1) intelligence, 2) spatial and mechanical aptitudes, 3) perceptual accuracy, 4) motor abilities, and 5) personality and vocational interest. Ghiselli was also forced to lump together measures of occupational proficiency because of the large number of studies reviewed. He averaged the validity of all studies by converting r's to Fisher's z, averaging the z values, and converting them back to r's. Each test measure shows average r's

ranging between .25 and .30. This level of validity is, of course, low which prompted Ghiselli to conclude that the relationships between predictor scores and subsequent job performance are at best only "good bets" as potential predictors of job behavior.[29]

Personality tests have generally been less reliable in predicting job success. Guion and Gottier reviewed a substantial amount of literature on personality tests covering the years between 1952 and 1964. Included in their review were studies from a wide variety of occupational groups. A review of their summary tables shows that few studies have yielded correlations above .20 for predicting job performance. In over half the studies, the validities fail to reach statistical significance. The authors suggest that little evidence has been found to warrant optimism about the predictive value of personality inventories in personnel selection. However, they do find strong evidence that specially made tests validated for specific situations and for specific predictive purposes are of much greater usefulness than standardized personality tests currently available. They conclude their review on the following pessimistic note:

> It is difficult in the face of this summary to advocate the use of personality measures in most situations as a basis for making employment decisions. It seems clear that the only acceptable reason for using personality measures as instruments of decision is found only after doing considerable research with the measure in the specific situation and for the specific purpose for which it is to be used.[30]

Nash is less pessimistic. He finds that personality tests, at least for managerial skills, exhibited a modest prediction capacility. On the basis of his review of the literature, Nash suggests that four identifiable interest components

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[29]Edwin E. Ghiselli, The Validity of Occupational Aptitude Tests (New York: Wiley, 1966), p. 12.

[30]R. M. Guion and R. F. Gottier, "Validating of Personality Measures in Personnel Services," Personnel Psychology, 18 (Summer, 1965), 135-164.

are related to managerial effectiveness: 1) humanitarian and people-oriented, 2) persuasive, verbal and literary interests, 3) dislike of technical or skilled trades pursuits, and 4) dislikes of detailed activities. Nash successfully developed and cross-validated (r=.33) a special scoring key for identifying the more effective managers out of a group of 159 executives. According to Nash the more effective manager preferred activities that involved intense thought, some risk and would not demand much regimentation. Nash does, however, agree with Guion and Gottier that tailor-made scales developed for specific measurement situations are usually better predictors than standardized tests.[31]

Kent and Eisenberg offer an exhaustive review of the literature on police selection and suggest that the numerous studies concerned with the identification of various test performance have limited value.[32] They conclude that most studies overlook the important element of differential predictive validity in the tests used and therefore the tests are invalid as a method for determining future job performance.[33] These four reviews illustrate the need to investigate empirically the value of each psychometric prediction instrument. The police administrator must make a careful assessment of the many types of personality testing procedures.

The most frequently used prediction instrument is the selection interview. Almost every police job applicant can anticipate at least one interview before an employment decision is made. The interview may be informal or highly structured

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[31] Allan N. Nash, "Development of an SVIB Key for Selecting Managers," Journal of Applied Psychology, 50 (June, 1966), 250-254.

[32] Deborah Ann Kent and Terry Eisenberg, "The Selection and Promotion of Police Officers: A Selected Review of Recent Literature," Police Chief, 39 (Feb., 1972), 20-24.

[33] Ibid pp. 28-29.

and very often it is the final and deciding step in the selection process. Mayfield's study found that interviewers are generally unable to distinguish between candidates who will be successful performers and those who will not. Mayfield's findings suggest that each interviewer brings his own special frame of reference to the interview setting and that this colors the way he perceives others. Once the interview is underway, the interviewer forms a quick first impression of the interviewee. Even in a highly structured interview, an interviewer's handling of the information depends on his own characteristics. He may assimilate all of it and come to an integrated decision; or finding discordant information difficult to handle, he may depend on the most recently received knowledge. Mayfield concludes that unfavorable information carries more weight than favorable comments about the interviewee.[34]

Dunnette found evidence to believe that often the personal interview is nothing more than "passing the time of day" with the prospective candidate and that little effort is made to determine the candidate's typical past behavior patterns.[35]

In spite of the shortcomings of the personal interview process, no police administrator would suggest its elimination from the selection process. Wilson argues that the interview process is the only way of appraising the intangible personal qualities of the police candidate.[36] Adams states that the oral interview is designed to obtain biographical information about the candidate and therefore

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[34]Edward C. Mayfield, "The Selection Interview: A Reevaluation of Published Research," Personnel Psychology, 17 (Autumn, 1964), 239-260.

[35]Marvin D. Dunnette, Personal Selection and Placement (Belmont, California: Brooks/Cole Publishing Co., 1966), p. 66.

[36]Orlando W. Wilson and Roy C. McLaren, Police Administration, 3rd ed. (New York: McGraw-Hill Book Co., 1972), p. 269.

should be an important part of the selection process.[37]

The personal interview is the only way to see what the candidate looks like and to get acquainted with him as a person. Moreover, it may be the best way to "sell" the department to a promising applicant. As a public relations device, then, the interview may be crucial but as a means of predicting job performance, it often has little value.

According to Dunnette the best way to utilize past behavior for predicting job performance is to examine biographical information in relation to job performance criteria. Elements of a candidate's past behavior, i.e., job history, amount of education, military record, arrest record, work habits, etc., are treated as separate items to be compared to defined job performance criteria such as service rating, absenteeism, civilian complaints, etc.[38]

In an early review of the literature, Mahoney, Sorenson, Jerdee and Nash discovered that the biographical information obtained from an organization's application forms may well be the most reliable data for predicting various types of job performance.[39] Biographical information does not suffer from the same distortions that may invalidate information from psychometric tests and interviews. For example, it is empirically developed, it can be related directly to job performance criteria and it is much less likely to be faked since independent means can be used to check it. In an early study Mosel and Cozan demonstrated that biographical information supplied by applicants correlated very highly, all r's between .90 and .96, with information obtained from other sources and records such

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[37]Thomas F. Adams, Gerald Buck and Don Hallstrom, Criminal Justice: Organization and Management (Pacific Palisades, California: Goodyear Publishing Co., 1974), p. 96.

[38]Dunnette, op. cit., p. 145.

[39]Thomas A. Mahoney, et al, "Identification and Prediction of Managerial Effectiveness," Personnel Administration, 26 (July-August, 1963), 12-22.

as those of previous employers.[40] Subsequent studies have produced similar results. However, biographical data obtained from the typical application blank is restricted to strictly biographical items (such as age, education, race, sex, etc.) rather than incorporating perceptual and self-descriptive material of the type employed by more complete biographical inventory forms. In many cases B.D.I.'s resemble personality or interest tests. Research on the use of biographical data is still in its infancy, with police agencies only beginning to recognize its potential value. This is not surprising since most police agencies have files full of completed application blanks from potential candidates, present and past employees, along with records of personnel decisions made about them. Thus, biographical information is a fruitful source of predictive data for the selection process.

Legal Ramifications

The legal aspect of selection procedures is a dominant concern of police personnel management. A study by the U.S. Commission on Civil Rights found wide variations in selection methods used by police organizations.[41] These variations were a major factor in the extension of the 1964 Civil Rights Act by the 1972 Equal Employment Opportunity Act. The Equal Employment Opportunity Commission requires that the validity of selection decisions based on various selection criteria be presented in the form of "empirical data demonstrating that the test is predictive of or significantly correlated with important elements of work behavior which comprise or are relevant to the job or jobs for which candidates are being evaluated."[42] It should be noted that nothing in the Equal Employment Opportunity

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[40]James L. Mosel and Lee W. Cozan, "The Accuracy of Application Blank Work Histories," Journal of Applied Psychology, 36 (October, 1952), 365-369.

[41]U.S. Commission on Civil Rights, op. cit., pp. 71-91.

[42]Equal Employment Opportunity Commission, "Testing and Selecting Employee Guidelines," Federal Register (35 R.F. 12333), 1970, p. 2085.

Act precludes the use of testing or measuring devices. Congress has forbidden only the selection of job applicants on the basis of these procedures unless they can be demonstrated to be a reasonable measure of job performance. The intent of the Act is to insure that hiring is done on the basis of job qualifications and past job discrimination is not perpetuated.

The Commission has stated:

> For the purpose of satisfying the requirements...empirical evidence must be based on studies employing generally accepted procedures for determining criterion-related validity, such as those described in Standards for Educational and Psychological Tests and Manuals published by the American Psychological Association.... Evidence of content or construct validity, as defined in that publication, may also be appropriate where criterion-related validity is not feasible.... Evidence of content validity alone may not be acceptable for well-developed tests that consist of suitable samples of the essential knowledge, skills, or behaviors composing the job in question.[43]

This is the only scientific standard used for testing. These standards are intended to guide good testing practices and to provide an objective criterion for test evaluation.

Besides the validation of testing procedures there are numerous other legal requirements that the police personnel administrator must fulfill. Some of these legal decisions and their importance to police selection procedures are reviewed below. It should be remembered that decisions in this area are always changing and that decisions of lower courts are often reversed at a later date by higher-level courts.

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[43] Ibid., p. 2086.

Statistical Determination of Discrimination. Despite the seemingly explicit language of Title VII, prohibition of the use of preferential treatment for any group or individual becase of numerical imbalances in race, religion, national origin, or sex which may exist between an employer's work force and the community's work force, imbalances have been held to be prima facie cases of discrimination. No further evidence of discrimination is necessary to prove the point unless the employer produced counter-evidence proving that unfair discrimination had not occurred.[44] At least one court has even ruled that a statistical imbalance in itself constituted a violation of Title VII.[45]

While it is true that imbalances will result from discrimination, other explanations are also plausible, such as differences in vocational interests which would not be violations of the law. However, hard evidence must be presented the court to support that argument.[46] Police jurisdictions which have neither documentation nor research to justify their selection procedures lose their court cases on this issue almost every time. One exception occurred in the U.S. District Court, District of Columbia.[47] In this case, the court sustained a police test which had doubtful validity and a higher rejection rate for Blacks, in a jurisdiction with a racially imbalanced police force. The court based its decision on the assumption that vigorous minority recruitment programs had resulted in a disproportionate number of Black applicants with below average abilities. The major trend in this area is that a combination of statistical imbalance and additional "supportive facts"

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[44]U.S. District Court, Massachusetts, Arrington vs. Massachusetts Bay Transportation Authority, Federal Supplement 1969, 306, 1355.

[45]U.S. Court of Appeals, 85h Circuit, Parham vs. Southwestern Bell Telephone Company, Federal Reporter, 1970, 433, 421.

[46]U.S. Court of Appeals, 1st Circuit, Castro vs. Beecher, Federal Reporter, 1972, 459, 700.

[47]U.S. District Court, District of Columbia, Douglas vs. Hampton Fair Employment Practice Cases, 1972, 14, 382.

such as prior discriminatory practices[48] or a longstanding, complete absence of minority personnel[49] are necessary for a prima facie case.

In the more recent case of Crockett vs. Green, it was held that a substantial disparity exists between proportions of minorities in the general population and proportions in specific job classifications.[50] This was enough to establish a prima facie case of unlawful discrimination against the City of Milwaukee. The court stated that statistical discrepancies in police and fire jobs resulted from racial discrimination.[51]

Arrest and Conviction Records. The use of arrest records in personnel selection is suspect because Blacks account for a disproportionate number of arrests in relationship to their numbers in the population. Also, the validity of arrest records for predicting job performance is doubtful when so few arrests ever lead to convictions. The U.S. District Court, California, has ruled that the use of arrest records as selection criteria violates both Title VII and the Fifth and Fourteenth Amendments.[52]

The EEOC has gone further and ruled that conviction records may not be used in personnel selection unless the conviction was directly related to the work to be performed.[53] The U.S. Court of Appeals, 8th Circuit, also has rejected the use

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[48]U.S. District Court, Alabama, NAACP vs. Allen, Federal Supplement, 1972, 340, 703.

[49]U.S. Court of Appeals, 8th Circuit, Carter vs. Gallagher, Federal Reporter, 1972, 452, 317.

[50]U.S. District Court, Wisconsin, Crockett vs. Green, Federal Supplement, 1975, 388, 912.

[51]Ibid. p. 913.

[52]U.S. District Court, California, Gregory vs. Litton Systems, Inc., Federal Supplement, 1970, 316, 401.

[53]Equal Employment Opportunity Commission, Decision Number 72-1497, March 30, 1972.

of conviction records as an absolute barrier to employment in favor of deciding the relevance of each conviction to the job to be done.[54] In the U.S. vs. City of Chicago[55] evidence was presented to show that arrest records disqualified two Blacks for every white when a background investigation was made to fill a position as patrolman. The Court stated that the use of arrest records was patently discriminatory toward Blacks and ordered the City to examine the arrest records of Black candidates more carefully since an inordinate number of Black applicants had arrest records.

Physical Requirements. Height and weight requirements have generally been upheld for police officers under the provisions of the Fourteenth Amendment and the Civil Rights Acts of 1866 and 1871. These Acts have traditionally been applied to racial questions. However, height and weight requirements appear to be more vulnerable under Title VII. This Act offers more protection from discrimination due to sex and national origin. For example, the EEOC has ruled that a 5'6" height requirement for production jobs discriminated against females (median height of 5'5") and Spanish surnamed Americans (median height 5'4½") and in favor of Anglo males (median height of more than 5'7").[56]

State "protective" legislation which sets maximum weights that may be lifted and maximum hours that may be worked by women (physical strength requirement) has been struck down repeatedly. If weight or strength is job related, each applicant must be tested individually and the sex of the applicant cannot be used as a rough estimate of eligibility.

Education. Minimum education requirements have gained great popularity

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[54] Carter vs. Gallagher, op. cit., p. 317.

[55] U.S. District Court, Illinois, U.S. vs. City of Chicago, Federal Supplement, 1975, 385, 549.

[56] EEOC. Decision Number 71-1529, April 2, 1971.

as an inexpensive and readily available selection device, but its overuse has led to many invalid and discriminatory applications. The U.S. Supreme Court ruled that employers must demonstrate a relationship between educational requirements and successful job performance, and noted that:

> History is filled with examples of men and women who rendered highly effective performance without the conventional badges of accomplishment in terms of certificates, diplomas, or degrees. Diplomas and tests are useful servants, but Congress has mandated the common sense proposition that they are not to become masters of reality.[57]

To date court attacks have been mainly against using the high school diploma as a selection criterion, but general college degree requirements probably will be next. This would be particularly important to the police administrator since the National Advisory Commission on Criminal Justice Standards and Goals recommends that, by 1982, all police applicants have at least a bachelor's degree.[58]

These court decisions and the difficulties in predicting job performance require a closer examination of job selection criteria, particularly in regard to background investigations. If police personnel managers really do want to develop selection criteria to attract the best qualified candidate, considerable empirical research is necessary.

Purpose

The purpose of this study is to identify significant relationships between selected background characteristics obtained from application forms and job performance of policemen in the Michigan State Police. A review of previous studies of personnel selection and performance criteria illustrates that the most

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[57]U.S. Supreme Court, Griggs vs. Duke Power Company, U.S. Reports, 1971, 401.

[58]National Advisory Commission on Criminal Justice Standards and Goals, op. cit., p. 85

powerful and consistent predictors have been derived neither from written examinations nor subjective psychological tests but from the objective qualitative evaluation of the job applicant's personal history and academy performance.[59] However, no police organization has attempted to reduce these background factors to a valid employment tool upon which management can rely 1) to select candidates who are likely to perform effectively as policemen and 2) to reject candidates likely to be unsatisfactory. In short, a dependable selection instrument has not been developed, and this study will be addressed to that problem.

It is hoped that this study will provide the state police administrator with additional information so that competent decisions concerning the selection of qualified police applicants can be made. As this study deals directly with validity of selection criteria employed by a state police agency, the findings should have a more direct impact on the selection process than previous studies conducted in large metropolitan police organizations.

TERMS AND DEFINITIONS

To ensure clear understanding of this dissertation, terms used throughout the study are here defined.

Cohort - a cohort study focuses on the same specific population each time data are collected. Chapter III examines this method of collecting data in more detail.

Concurrent Validity - a concurrent validation study yields information about individual behavior concomitantly related to test responses. It is not correct to assume predictive usefulness for a test if it has been submitted only to con-

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[59] John Furcon, et al, "A Longitudinal Study of Psychological Test Predictors and Assessments of Patrolmen Field Performance," Report submitted to Law Enforcement Assistance Administration, (Washington, D.C.: U.S. Government Printing Office, 1972); Bernard Cohen and Jan Chaiken, Police Background Characteristics and Performance (New York: Rand Institute, August, 1972).

current validation. In personnel selection, concurrent studies are often the only means available for test validation. The sample of subjects will not usually include those who were not hired or have been discharged. Concurrent studies examine the relationship between test behavior with other acceptable measures of human performance.

Cross-Validation - simply involves replicating research results on another group of subjects. Results can be checked against an independently selected group to confirm or disconfirm the stability of relationships between tests and job performance shown in the first sample. Another much stronger method is to validate results on all applicants hired in one year and to cross-validate the results on applicants hired in another year. The present study proposes such a design.

Descriptive Study - the goal of descriptive studies reviewed in this dissertation is simply to describe some "trait" of the police applicant or working police officer. This is accomplished by the use of descriptive statistics which include means, medians, and standard deviations. Some studies also make use of tables, graphs and test scores. All these techniques are useful in summarizing data so as to facilitate their interpretation.

Performance - Chapter III defines performance and performance appraisal as used in this study.

Predictor Variables - these are simply the independent variables used in the study.

Predictive Validity - this design suggests that all applicants would be tested and all would be hired without regard to any established selection criteria. Job performance would be observed and evaluated on each applicant. At some later date, relationships would be determined between selection criteria and job performance of employees. The predictive strategy is the preferred strategy for any personnel selection program, but it is not without some major difficulties. For example, hiring all applicants regardless of their capabilities is a potentially

wasteful procedure because of the ineffective utilization of human resources.

Validation - selection criteria are valid if they measure what they are stipulated to measure. What is stipulated is a variable specified in the statement of the problem.

ORGANIZATION OF REMAINDER OF STUDY

Chapter II features a broad review of the literature in the areas of police recruitment and selection.

Chapter III describes the design of the study.

Chapter IV illustrates the results of the cross-tabulations between predictor variables and performance measures.

Chapter V presents the results of the least-squares stepwise multiple regression between predictor variables and performance measures.

Chapter VI offers the conclusions draw from this study and proposes specific recommendations to be implemented by the agency for whom this study was prepared.

Appendix A contains a list of the minimum entrance requirements for the position of trooper in the Michigan State Police.

Appendix B contains the selection process used by the Michigan State Police in processing police applicants.

Appendix C contains the coding sheet used in the study which lists the types of data collected.

Appendix D contains the correlation matrix of predictor variables and performance measures.

CHAPTER II

REVIEW OF THE LITERATURE

INTRODUCTION

The purpose of the police selection process is to ascertain which job candidates have the highest potential for developing into successful police officers. The literature on this process derives from a wide variety of sources. The fields of industrial psychology, public administration, and the behavioral sciences have all contributed concepts and theories to the development of police personnel selection methods, but these contributions are not often well integrated into a general theory. The literature on police selection methods varies in quality from speculative theorizing to sophisticated testing of theory in empirical studies. Some studies try to find a relationship between certain background characteristics of police officers and actual measures of on-the-job performance, while others examine background characteristics without any attempt to relate these characteristics to measures of performance. This review will be concerned only with studies that deal specifically with police background characteristics since the literature is so varied in quality. But first, current methods of police selection will be reviewed.

Current Methods of Police Selection

Most police selection methods include a series of tests to be passed by a police candidate. Each test acts as a screen to eliminate candidates from further consideration who fail to reach a certain standard. Written achievement or aptitude tests, physical examinations, agility tests, personality inventories, background investigations, oral board reviews and psychiatric interviews are common selection devices.

However, no police agency uses all these procedures and there is considerable disagreement among police administrators about which methods produce the best results. For example, some administrators rely on an expensive battery of personality, vocational and intellectual tests. Others require only a Civil Service examination, physical examination and background check. The amount of effort expended in gathering and analyzing information also differs between police agencies. Some carry out background investigations that are the envy of the federal government, while others merely make a perfunctory check of local credit ratings and arrest records.

There is also considerable variability in the order in which selection procedures are administered. Generally, low cost screening methods are used first so that expensive testing is used on the minimum number of applicants. Stone and Kendall have devised a technique called the "successive hurdles" method in which all the factors shown by research to be related to performance are set forth in the order of their importance.[1] Usually, Civil Service tests are given first, but the order in which the applicant must pass the remaining tests is much less standardized.

There are several ways to structure selection instruments. One way,

[1] C. Harold Stone and William E. Kendall, Effective Personnel Selection Procedures (Englewood Cliffs, New Jersey: Prentice Hall, Inc., 1956), Chapter I.

mentioned above, is to use the least expensive method (group mental testing) first and the more expensive methods (physical examination) later. Another way is to administer the tests according to ease of administration, so that the most difficult predictor information to generate (i.e. an extensive background check) is gathered on the fewest people. A third most desirable approach is to order the test hurdles in terms of their predictive validities. This would screen out the largest number of potential applicants early in the process with the most valid predictor. This option is seldom available, however, because of the lack of predictive validities for each of the screening hurdles.[2]

A wide variety of selection tools is desirable. In this way, information can be gathered from many points of reference, and decisions based on a wide breadth of information. But the multiple hurdle selection procedure is not the optimal method for combining information. It fails to take account of the interrelationships among selection methods and ignores the relative costs of decision errors at various points in the sequence. Furthermore, this method does not allow for subgroups of applicants who may be best tested by unique predictors or combinations of predictors.[3]

An individualized selection procedure has been proposed by Dunnette. This method utilizes only those predictors for a given applicant which can be shown to be optimally valid for him. Decisions at each point (such as reject, hire, or gather more information) are based upon research evidence instead of upon tradition, as is so often the case in the multiple hurdle procedure. An individualized selection procedure requires extensive research evidence, evidence which is almost always

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[2]B. Earl Lewis and Richard Blum, "Selection Standards: A Critical Approach," in Police Selection (ed.) Richard Blum (Springfield, Illinois: Charles C. Thomas Publisher, 1964), p. 68.

[3]President's Commission on Law Enforcement and Administration of Justice, Task Force Report: The Police (Washington, D.C.: U.S. Government Printing Office, 1967), pp. 163-67.

lacking in most selection settings.[4]

The following review of police selection procedures is divided into two major sections. First, descriptive studies that evaluate the characteristics of police candidates will be examined. Second, studies that empirically examine the relationship between measures of individual differences and future job performance will be inspected.

DESCRIPTIVE STUDIES

Studies which describe the characteristics of the typical police candidate or working police officer have been divided into four categories. These categories are intelligence, vocational interest, personality characteristics and biographical information.

Intelligence

The earliest application of intelligence testing in an effort to describe the characteristics of police officers was conducted by Terman. Terman argued that an important factor in determining an applicant's fitness to perform the responsibilities of a police officer was general intelligence. A revised edition of the Binet-Simon Intelligence Test was administered to a group of 30 police applicants. The applicants ranged in age from 21 to 38 years with a median age of 30. Test results produced a median I.Q. score of 84. From these test results Terman recommended that police candidates with an I.Q. score lower than 80 be eliminated from the police selection process, since a score of 80 was considered the dull normal range. Terman further maintained that the 80 cutoff score was necessary

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[4]Marvin D. Dunnette, Personnel Selection and Placement (Belmont, California: Brooks/Cole Publishing Co. 1966), pp. 41-66.

because it distinguished the difference between an inferior individual and one capable of handling normal police duties. Although Terman thought it important to compare I.Q. scores with later job performance, no attempt was made to do this and the arbitrary score of 80 was established as an indicator to perform police responsibilities.[5]

Thurstone was also interested in the potential usefulness of mental testing in police work and administered the Army Alpha scale, which is a measure of general intelligence, to 358 Detroit police officers at various stages in their careers. Thurstone discovered that the mean Alpha score was considerably higher for patrolmen, 71.44 than for sergeants, 54.71, or lieutenants, 57.80. These findings prompted Thurstone to compare Alpha scores of police officers and patrolmen in several urban jurisdictions. He discovered that lower intelligence test scores in the police officer group were not unique for the Detroit department but were discovered in all the groups he tested. He hypothesized that the brightest men who enter the police service leave in favor of other occupations where their ability and intelligence are better recognized. To support this conclusion Thurstone points to the strong negative relationship between mean Alpha scores and length of service in the Detroit sample. According to Thurstone's findings, it appears that the longer the individual had been employed by the police agency, the lower his score on the Army Alpha test.[6]

However, Merrill examined police applicants in rural agencies and found that the mean Army Alpha score for 113 candidates was 104.2 and that the more intelligent applicants remained on the job just as long as the less intelligent.

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[5]Lewis M. Terman, "A Trial of Mental and Pedogogical Tests in a Civil Service Examination for Policemen and Firemen," Journal of Applied Psychology, I (March, 1917) 17-29.

[6]L.L. Thurstone, "The Intelligence of Policemen," Journal of Personnel Research, I (1922) 64-74.

Merrill maintained that difference between her data and Thurstone's was due in part to departmental leadership. Merrill does not consider other important variables such as organizational structure, recruitment procedures, ethnic differences, economic conditions, ideology, etc., that probably effect the variation in I.Q. scores between urban and rural police agencies.[7]

Another measure of intelligence is the Civil Service examination. Usually, these examinations are constructed by educators and police administrators who submit questions to the Civil Service Commission which they believe are relevant to the police occupation and can be easily answered by the potential police applicant. However, there is evidence that Civil Service examinations are in fact measures of basic intelligence. For example, Blum discovered that a Civil Service test designed to select sheriff's deputies correlated .70 with the Otis Intelligence Test.[8] Likewise, Eilbert reported a correlation of .54 between scores on an entrance examination given to New York police applicants and scores on the Otis Intelligence Test.[9] Eilbert's results may not be representative of the whole group of applicants since the Otis was given ony to those applicants who passed the entrance examination.

There is considerable insight in Blum's observation concerning the use of Civil Service tests.

> It seems apparent that men of normal intelligence are lost to potential police service through the uncritical use of Civil Service tests as screening. The majority of such Civil Service tests are not standardized and not validated. It seems foolish to employ them as screening devices when standardized and validated intelligence

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[7]Maud A. Merrill, "Intelligence for Policemen," Journal of Personnel Research, 5 (1927), 511-515.

[8]Richard Blum, "Psychological Testing," in Police Selection (ed.) Richard Blum (Springfield, Illinois: Charles C. Thomas Publisher, 1964), p. 114.

[9]L.R. Eilbert, "Research on Selection of Police Recruits," American Institute for Research, August, 1966.

tests can be used in their place.[10]

Despite the limited predictive value of the Civil Service test, between 30 to 80 percent of police applicants fail to pass this first hurdle.[11] This staggering loss of potentially competent police candidates seems unjustified in view of the lack of demonstrated predictive validity of this selection device.

Other researchers have used various standard intelligence tests to examine police candidates. Matarazzo, et al reported that the average total scale score on the Wechler Adult Intelligence Scale (WAIS) for a sample of 113 police applicants was a mean score of 113.[12] It was noted that 40% of the subjects in this sample had some college education, so above average intelligence scores on the WAIS were not too surprising.[13] In an earlier study conducted by Kole, similar results were discovered for a sample of 40 police applicants who had a mean educational level of 12.7[14]

Gordon measured the verbal I.Q. for a sample of 252 police applicants by the Lorge-Thorndike Test of Intelligence, Level G, and found a mean verbal I.Q. of 93. In addition, Gordon found significant mean differences in intelligence test scores between white, black and Spanish-speaking applicants. The non-verbal portion of the Lorge-Thorndike Test was also administered. All groups scored lower on the non-verbal test than the verbal test, with the exception of the

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[10]Blum, op. cit., pp. 114-115.

[11]Philip H. Dubois and Robert I. Watson, "The Selection of Patrolmen," Journal of Applied Psychology, 34 (April, 1950), 90-95. Gilmore Spencer and Robert Nichols, "A Study of Chicago Recruits Validation of Selection Procedures," Police Chief, 38 (June, 1971), 50-55.

[12]Joseph D. Matarazzo, et al, "Characteristics of Successful Policemen and Firemen Applicants," Journal of Applied Psychology, 48 (April, 1964), 123-134.

[13]Ibid.

[14]D.M. Kole, "A Study of Intellectual and Personality Characteristics of Medical Students," unpublished Master's Thesis, University of Oregon, 1962.

Spanish-speaking applicants who scored higher on the non-verbal portion. Unfortunately, Gordon has no explanation for these unusual results.[15]

In conclusion, the more recent studies indicate that the typical police applicant today has at least average intelligence, and if police agencies can attract applicants with some college education, they have an applicant pool of above average intelligence. There is no doubt that competence at the routine and complex tasks that police officers perform requires considerable intelligence. Just how much intelligence will be discussed later.

Vocational Interest

One of the first researchers to examine the vocational interest of police applicants was Spaulding. He administered the Kuder Preference Record to a sample of 40 police applicants in Delaware. Spaulding found that the only outstanding vocational interests in his sample were strong inclinations toward the helping services, and with negative interest in the computational and clerical vocations. Spaulding offers no explanation for these results, stating only that police applicants may suffer from the "missionary syndrome."[16]

In another study, Kates administered the Strong Vocational Interest Blank (SVIB) and a job satisfaction questionnaire to a sample of 25 New York policemen who volunteered to participate in the research. Kates discovered no differences between the sample of policemen and the general population in terms of measured interest in police work. Also, no relationship was found between interest in police work and job satisfaction. Kates suggested that the absence of a relationship between work interest and job satisfaction was due to the complexity of the police

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[15]G. C. Gordon, Perspectives on Law Enforcement: I. Characteristics of Police Applicants (Princeton, New Jersey: Educational Testing Service, 1969, PR-69-17).

[16]V.V. Spaulding, "A Study of Nurse and Police Applicants," Delaware State Medical Journal, 20 (June, 1948), 177-178.

role which affects every man differently.[17]

Similar findings were recorded by Kole who measured the vocational interest of 40 police applicants with the Edwards Personal Preference Schedule (EPPS). Kole argued that the police applicant was most interested in social service type occupations.[18]

Matarazzo, et al administered both the EPPS and SVIB to a sample of 113 police applicants. The data indicated that the police applicants differed significantly from the general population on 10 of the 15 EPPS scales. For example, police applicants were higher on the scales of need for achievement, exhibition, intraception, dominance, endurance and heterosexuality. In contrast police applicants scored lower than the general population on the scales of autonomy, succorance, nurturance and aggression. On SVIB police applicants displayed an interest in social service work.[19]

In summary, these findings are not too surprising since it has been noted by Wilson[20] and others that 60 to 80 percent of all police work is related to performing some type of service to the community. Therefore, police applicants have a general interest pattern similar to people interested in social service work. Several other factors may have contributed to the lack of significant findings, including small sample sizes and lack of effective measures of job satisfaction.

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[17]Solis L. Kates, "Rorschach Responses, Strong Blank Scales and Job Satisfaction Among Policemen," Journal of Applied Psychology, 34 (June, 1950), 249-254.

[18]Kole, op. cit., p. 85.

[19]Matarazzo, et al, op. cit., pp. 125-131.

[20]James Q. Wilson, Varieties of Police Behavior (Cambridge, Massachusetts: Harvard Univsersity Press, 1969), pp. 16-19.

Personality Characteristics

Police officers have been characterized on the one hand as individuals with an excessive love of children and old people, the thin blue line that protects our democratic way of life, the vanguard of the fight against crime, or on the other hand as sociopaths who derive great satisfaction out of beating people or as stubborn upholders of the status quo. Police officers have been the victims of cruel exploitation by the mass media and popular literature which tend to perpetuate these stereotypes. Most researchers do not subscribe to these simplistic stereotypes in their research. Nonetheless, most research in police organizations has implicitly assumed that there is a single police personality, and this personality differs from non-police.

However, several studies have produced results that suggest the average police applicant does not differ substantially from the average white collar or office worker in terms of personality traits.[21] These studies used a wide variety of personality measures including the Jastak Personality test, Rorschach Inkblot Test, the Minnesota Multiphasic Personality Inventory, Taylor Manifest Anxiety Scale, and the Saslow Psychosomatic Inventory. Grencik, et al found that the most commonly used personality tests for police applicants were the Minnesota Multiphasic Personality Inventory (MMPI) and the Rorschach Inkblot.[22]

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[21]Stephen Nowicki, "A Study of Personality Characteristics of Successful Policemen," Police, 10 (Jan-Feb., 1966), 39-42. Spaulding, loc. cit,; Kates, loc. cit.; Matarazzo, loc. cit.

[22]J. Grencik, et al, Physiological Fitness Standards Research Project, LEAA Grant No. HI-70-042, Interim Report, June, 1971.

[23]Clifton Rhead, et al, "The Psychological Assessment of Police Candidates," American Journal of Psychiatry, 124 (May, 1968), 1575-1580.

Gottesman collected MMPI profiles on 203 applicants who had also passed all of the selection hurdles for an urban police department from 1966-1969. Gottesman also collected 100 MMPI profiles from a group of non-disabled war veterans to use as a "peer normal" comparison group. These two sets of profiles were compared with profiles from two other groups, some Cincinnati police recruits reported by Mills, et al in 1964 and the MMPI normal standardization group reported by Dahlstrom and Welsh in 1960. The results from the first comparison indicated that the typical police applicant was more positively adjusted but more defensive than the average member of the veteran group. The veteran group and the police applicant group both differed from the MMPI general population norms. Gottesman cautioned the reader that the use of MMPI general population norms may be inappropriate as a comparison for police applicants but failed to explain why it is inappropriate.[24]

Goldstein compared 500 police applicants who passed a Civil Service test for the position of police officer to 600 applicants who had failed the Civil Service examination and their scores on certain measures of the MMPI. Generally the applicants who passed the Civil Service examination were assessed to be less likely to avoid dangerous situations, more prone to believe in the honesty of others, and more likely to listen to the problems of others and offer them advice and assistance. The applicants who failed the Civil Service examination expressed a greater interest in situations which might bring harm to others and were judged to hold unrealistic interpretations of their ability.[25]

The working personality of police officers has also generated much interest

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[24]Joseph Gottesman, Personality Patterns of Urban Police Applicants as Measured by the MMPI (Hoboken, New Jersey: Laboratory of Psychological Studies, Stevens Institute of Technology, 1969).

[25]L.S. Goldstein, Perspectives on Law Enforcement: I. Characteristics of Police Applicants (Princeton, New Jersey: Educational Testing Service, 1971).

among social scientists. Lefkowitz discussed two trait syndromes that are often used to describe the "cop personality." One is a combination of isolation, cynicism, suspiciousness and secrecy. He suggests that the social isolation of the police, on both the individual and organizational level, gives rise to a generally cynical outlook and intense feelings of in-group solidarity. He adds that the cynicism can also be a product of "reality shock" experienced by the idealistic recruit when he encounters the real world. Solidarity is enhanced by the common sharing of danger. Isolation is probably the result of the inability of people to view a police officer outside his role.[26]

The other trait syndrome that Lefkowitz examines consists of authority, aggression, status, and self-esteem.[27] There has been a great deal of discussion about whether authoritarian and aggressive personalities are selected into police agencies or if the job itself creates these types of personalities. Neiderhoffer, for example, argued that "there is no self-selection among authoritarian personalities prior to appointment. It is the police system, not the personality of the candidate, that is the more powerful determinant of behavior and ideology."[28]

According to Lefkowitz, the crucial factor is not the amount of authoritarianism or aggression or the personality of the police officer, but the manner in which it is experienced, controlled, and expressed.[29] Findings of high authoritarianism among policemen can be due as much to the biases of the researcher expressed in his measurement instruments as to any real difference between police officers and other people. Since we put a police officer in the position of

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[26]Joel Lefkowitz, Job Attitudes of Police (New York: Bernard M. Baruch College of the City University of New York, 1971).

[27]Ibid.

[28]Arthur Neiderhoffer, Behind the Shield: The Police in Urban Society (New York: Anchor Books, 1967), p. 45.

[29]Lefkowitz, loc. cit.

exercising great discretion in ambiguous situations, the officer naturally behaves in an authoritarian manner. The officer often has to make decisions very quickly and under emergency conditions. Quick decisions can be interpreted as authoritarianism. Since the police officer's authority to make these decisions is challenged so often, it is not surprising that he is more concerned with the question of authority than civilians are. This concern with the question of authority may be what the studies are recording, rather than data on a personality trait interpreted as authoritarianism.

These two "personality syndromes" come from average measurements among policemen. As averages, they provide understanding of the environment in which policemen work, but they do not help us understand differences among individual policemen. There is as much variety in people inside police departments as outside. The descriptive studies concerned with personality traits of police applicants have found either that the average police applicant does not differ substantially from the general population or that he differs from general norms with respect to job-related personality characteristics.

Biographical Information

The most commonly reported biographical data in studies of police applicants have been age and education. Earlier studies conducted by Terman and Merrill indicated that the average police applicant was relatively older at the time of appointment than today's applicant, being 30 years or older.[30] Most recent studies have shown that the average police applicant is relatively young, averaging about 25 years of age.[31] The early studies also found that police applicants had a

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[30]Terman, loc. cit.; Merrill, loc. cit.

[31]Matarazzo, loc. cit.; Blum, loc. cit.

very low educational level, generally only 7 to 9 years.[32] More recent investigations indicate that the average police applicant has graduated from high school and that increasing numbers of applicants have some college education.[33]

Goldstein has extensively examined biographical information of applicants for police jobs in New Jersey. Among his findings are that the typical applicant had worked at two full-time jobs prior to his application, often had work experience related to police work (e.g., military police, security guard, etc.), had experienced little unemployment, and had been in military service. Most of the applicants were married, had one to three dependents and little personal indebtedness other than home mortgages and auto loans. The applicants generally were raised by both parents and had one to three siblings. They grew up in towns and cities with populations over 10,000. Their fathers were often employed in crafts and trades with relatively few in service work, sales, the professions, or managerial positions. The applicants had good driving and legal backgrounds with few violations or arrests.[34]

The descriptive studies of the biographical characteristics of police applicants show two trends of importance. The police applicant is becoming younger and better educated. In addition, the police applicant comes from a working-class environment in terms of background history variables.

According to Ross, the purpose of background information is to determine

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[32]August Vollmer, "A Practical Method for Selecting Policemen," Journal of Criminal Law and Criminology, 11 (Feb., 1921) 571. Edward M. Martin, "Aptitude Tests for Policemen," Journal of Criminal Law and Criminology, 14 (1923), 376. L. J. O'Rourke, "Personnel Problems in the Police Department," U.S. Civil Service Commission, 43 Annual Report (1926), p. 74.

[33]Solomon Gross, "Higher Education and the Police," Journal of Police Science and Administration, 1 (Dec., 1973), 477-483. Dennis Smith and Elinor Ostrom, "The Effects of Training and Education on Police and Performance: A Preliminary Analysis" unpublished Research Study, New York University, 1974.

[34]Goldstein, loc. cit.

if the applicant's character and reputation are suitable for a police officer.[35] Application blanks are used to collect this information. Typically, application blanks used by police departments ask for more information and greater detail than the personal history blanks used in industry. The application blank which Ross recommends is approximately 18 pages long and requests information on personal and financial activities as well as information about violations of criminal and civil statutes.[36]

Cohen found that only 14.6 percent of applicants investigated were rejected on the basis of background information. However, an additional 18 percent never returned a completed application blank, despite having passed the mental and physical examinations. Applicants may have failed to turn in the application blank because it was too difficult to complete, or because they believed their backgrounds would have disqualified them. It is particularly disconcerting that Cohen estimates 60 percent of black applicants who passed the entrance exams failed to complete the application blank, while the comparable attrition rate for whites is only 25 percent.[37]

It is evident that the utility of the descriptive study is quite limited. Most studies of this nature deal with a large number of variables in an attempt to produce a general profile of the typical police applicant or working police officer. No attempt has been made to determine relationships between intelligence, vocational interests, personality characteristics or biographical information and some criterion of job performance. Therefore, while the descriptive study may be

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[35]Jewell Ross, "The Background Investigation" in Police Selection (ed.) Richard Blum (Springfield, Illinois: Charles C. Thomas Publisher, 1964), pp. 157-158.

[36]Ibid., pp. 166-172.

[37]Bernard Cohen, "The Police Internal Administration of Justice in New York City," The New York Rand Institute, Vol. R-621-NYC, November, 1970.

useful descriptively, the researcher learns nothing about whether the measures used can predict the job performance of candidates. In the last few years researchers have become more sophisticated and validation of police selection devices has become more efficient. The remainder of the literature review will address the empirical question of test validation.

VALIDITY STUDIES

The police selection studies described in this section attempt to examine the relationship between predictors of job performance such as age, academy score, Civil Service test scores, arrest history, etc., and measures of actual job performance which include supervisory ratings, absenteeism and duty-incurred injuries.

Generally, validity studies use predictor variables discovered through three diffrerent kinds of information collection instruments, mental tests, personality tests, and biographical information. This model has sought to link predictors, i.e., various measures of individual differences, directly with performance criteria, i.e., various measures of organizational or job success through an index of relationships. The validation model specifies that persons on any given job be divided on some global measure (such as overall performance or potential for promotion) into success and failure and that they be compared on test scores, biographical information or any other available personal measurement.

Mental Tests

The earliest recorded study on the effectiveness of mental tests used for police selection was conducted by Martin in 1923. Martin used performance criteria consisting of intelligence, discipline, efficiency and multiple supervisory ratings. His predictor variables consisted of results from twelve mental tests including arithmetic fundamentals, arithmetic reasoning, number copying and

statistics, tests of spelling, "opposites," reading, common sense and rapid judgment responses to crime situations and directions and verbal intelligence tests. Martin obtained a multiple correlation of .74 when he compared eight of the twelve mental test scores with the efficiency index criterion. No results are given for the other three parts of the rating scale. Also, it must be noted that the results were obtained from a sample of only 30 cases, and the author fails to describe how the sample was drawn. In addition, the highest single correlation was .39 for the number copying variable. As with many early studies of this nature there is an absence of cross-validation, especially necessary when using a large number of predictor variables and small number of subjects.[38]

Since mental tests were originally developed to predict academic achievement, it can be assumed that scores on these examinations would show a positive relationship to measures of trainability. Dubois and Watson, for example, found from their study of 129 recruits that verbal, numerical block scores, and total scores on the AGCT were significantly correlated with the grade police recruits received at the end of an eight-week training program. A multiple correlation of .60 was obtained. The non-verbal performance criteria used in the study were achievement test score, marksmanship and supervisory service rating tests. No predictor test score was found to be significantly related to supervisory ratings. The authors concluded that the total battery of tests based on supervisory ratings was a rather poor predictor. They considered supervisory ratings to be ambiguous and dependent on personalities. The authors conclude that performance appraisal formats are totally inadequate because nonperformance factors may greatly influence the rater.[39]

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[38]Edward M. Martin, "An Experiment in New Methods of Selecting Policemen," National Municipal Review, 12 (1923), 671-681.

[39]Dubois and Watson, op. cit., pp. 91-93.

In a similar study Clopton reported a correlation between final police academy grades and AGCT total score of .16 for two groups of police recruits. Clopton also found that the total AGCT score was not related to supervisory ratings in any significant way. A second performance criterion was developed by Clopton to measure the "mean activity" of police officers across a variety of dimensions by job sampling their activities. This technique also proved to be inadequate since the "mean activity score" was not related to AGCT score for the sample. Clopton concluded that pre-employment test scores have no effect on police academy grades. He attributes this to the lack of pre-test validation.[40]

Mullineaux selected a sample of 322 police applicants by use of the AGCT and a personal interview. Both the AGCT and personal interview carried equal weight with a maximum of 50 possible points each. The candidates were ranked, the top 50 were sent to the police academy and immediately began their probationary period. Correlation coefficients were computed between the recruit's AGCT scores and his mean spelling grades, report writing scores, final overall scores at the end of training and final examination averages. The following correlations were reported: .56 between AGCT scores and spelling test, .60 between the AGCT scores and report writing, .66 between AGCT scores and final scores at the end of training and .73 between AGCT scores and average final examination grades in academic subjects.[41]

After completion of recruit training school, the subjects were transfered to their respective assignments. At the end of three months and again at the end of six months their performance was evaluated by supervisory officials. Although

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[40] W. Clopton, Jr., Comparison of Ratings and Field Performance Data in Validating Predictions of Patrolmen Performance: A Five-Year Followup Study, M.A., Washington State University, 1971.

[41] Jewell E. Mullineaux, "An Evaluation of Predictors Used to Select Patrolmen," Public Personnel Review, 16 (April, 1965), 84-86.

Mullineaux reports no statistical data, he does point out that the entire sample was rated as satisfactory or above. From these results Mullineaux recommends that the AGCT and the personal interview be important elements in the selection process because of their predictive qualities.[42]

Nonetheless, Mullineaux overlooks some very important considerations in arriving at these conclusions. For instance, the validity of the interview process was not assessed. Second, it may well be that the other 268 subjects of the original sample could have done just as well in recruit school as the top 50 candidates. Third, probationary period ratings are totally inadequate as indicators of job performance. Once a recruit reaches that stage in his career, the police administrator does not want him to resign because of the large financial investment in his training. Consequently, nearly all probationary recruits receive at least a satisfactory rating.

The most comprehensive use of mental test scores for predicting police performance was developed by Baehr, Furcon and Froemel for the Chicago Police Department. An extensive battery of written intelligence tests were administered to two separate groups of police officers who had at least one year of job experience. The subjects were selected on the basis of a paired-comparison test developed by the authors. Each supervisor who was acquainted with the performance of at least 10 of the patrolmen in the sample was requested to evaluate each pair of officers and answer the question "which of these two men is the better performer on the street," and "which is the better in terms of performance in the field?" All levels of tenure were represented in the sample. The written tests were measures of mental abilities including non-verbal reasoning, closure flexibility and speed, perceptual speed and verbal comprehension. In addition, there were tests of creative and social aptitudes, work interest,

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[42] Ibid.

personality traits and background information. Performance criteria were divided into eight categories: paired comparison supervisory ratings, departmental graphic ratings, tenure, awards, complaints, arrests, disciplinary action and absenteeism. The results of the regression analysis of all the test scores against each performance variable indicated that multiple correlations above .60 could be obtained for the paired comparison rating the the police department's performance rating. The multiple correlation coefficients for prediction of absenteeism, disciplinary problems, and awards were typically lower, being in the range of .50 to .55. Upon cross-validation the multiple correlations were reduced to the .30 to .40 range. The authors concluded that there were significant and high relationships between the test scores and all eight of the performance criteria used. Of particular interest to this study is the discovery that the predictors having the highest correlations with job performance, consistent among subjects in the sample, were elements of background and experience derived from a Personal History Index and background information.[43]

Albeit, the Baehr, et al study is one of the better research efforts in this area it is not without its flaws. First, the paper and pencil tests used to measure personality and background characteristics is inappropriate. Second, the subjects in the study were volunteers and after being rank order by supervisory ratings, none of them fell in the middle third of performance, as measured by the paired-comparison rankings. Finally, the authors did not use any variables where a specified ranking is a prerequisite for appointment, e.g., Civil Service scores. The present study avoids the biases introduced by using volunteers, since a cohort design controls for the variable of tenure. Also, background information on the

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[43]Melany E. Baehr, John E. Furcon, and Ernest C. Froemel, "Psychological Assessment of Patrolmen Qualifications in Relation to Field Performance," The Industrial Relations Center, University of Chicago (Washington, D.C.: U.S. Government Printing Office, 1968).

subjects was reported at the time of application and was checked for accuracy by a thorough police background investigation, thus minimizing false information.

Personality Tests

Numerous studies on the personality traits of police applicants have been carried out in the last three decades. Presently, it is difficult to determine whether personality traits and values are determined by the selection of persons with specific class backgrounds, a combination of this background selection and the selection of specific personality types, or a further combination of these selection processes and the socialization of police officers into an occupational subculture.

In an early study by Humm and Humm, the Humm-Wadsworth Temperament Scale was used to predict success as a police officer. The scale was administered to a sample of 669 probationary police officers. Performance was judged on the basis of voluntary or involuntary termination or the achievement of an executive position. Extremely high correlations were found between Humm-Wadsworth appraisals and this performance criterion. The authors reported that in the dismissal group the Humm-Wadsworth Scale was in agreement with performance criterion in about 91.3% of the cases. Another group, who were appointed after passing a Civil Service test, were given the temperament scale and scores agreed 84.4% with dismissals. The correlation coefficients for the police success group were also unusually high, approximately .72.[44]

These studies are potentially of great interest, not only because of the high correlations obtained, but also because applicants in the first study noted were appointed to the department without first passing the Civil Service test. Nevertheless, the research design and methods used to select the sample make the

[44]Doncaster G. Humm and Kathryn A. Humm, "Humm-Wadsworth Temperament Scale Appraisals Compared with Criteria of Job Success in the Los Angeles Police Department," Journal of Psychology, 30 (July, 1950), 63-75.

results difficult to interpret because all members of the population did not have an equal chance of being selected in the sample. It is not possible to draw conclusions about performance differences since the Civil Service test was not administered to all applicants.

The statistical analysis used by Humm and Humm has been criticized by Blum. Blum points out that the ratio of men fired to men resigned suggests an unusual situation in the police hierarchy. Among the total sample of 669, 79 resigned, 233 were fired and 357 remained active with the department. At the time of testing, the Humms predicted that 359 out of the total 669 would do poorly in police work and that 310 would do fair or good work. Among the 359 predicted to do fair or good work, 245 or 70 percent did so. Blum pointed out that the rate of false positives (men who are predicted to do well but who in fact get fired) was 21 percent while the rate of false negatives (men predicted to do badly but who did well) was 53 percent. Therefore, the Humms expected 54 percent (359/669) to do badly, but only 34 percent (233/669) were really fired. Among these 233 fired individuals, the Humms had correctly identified 72 percent of them by their testing program. Blum's analysis forces the conclusion that the Humm-Wadsworth Temperament Scale is not as good a predictor of police job success as it seemed upon first reading.[45]

Colarelli and Siegel examined a police selection program of the Kansas State Highway Patrol. They administered the California Test of Mental Maturity, the Allport-Vernon-Lindzey Study of Values, the EPPS and the MMPI to members of the Highway Patrol. Eight job performance variables recorded during the preceding year (moving hazardous arrests, moving hazardous warnings, other arrests, services rendered, light correction, miles per contact with and without radar and hours per

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[45]Blum, op. cit., pp. 106-108.

arrest) were summarized into a composite index for each patrolman on the force. A prediction formula was then developed (the exact procedure is not stated by the authors) which was applied to 60 new recruits who took the same test battery. Ratings were made at a later time by supervisors who were unaware of the predictions. The results were presented only in general terms. All but one candidate predicted to be a failure were either terminated or judged by their supervisor as poor or marginal in their performance. The men predicted to be good policemen generally performed well. Conclusions from this study are questionable even though the results appear encouraging. No specific correlations or significance tests were reported, nor were the relative numbers of successes and failures reported. The specific relationships between predictors and measures of job success are not given so the reader does not know the relative power of the various predictors used in the study.[46]

Hogan investigated the personality characteristics of three classes of police cadets at the Maryland State Police Academy (N=141) and state police officers with one year's experience (N=42). The subjects were administered the California Psychological Inventory with staff and supervisory ratings serving as criterion scores. The results of the study suggest that highly rated police officers score high on CPI scales for intelligence, self-confidence, and sociability. According to Hogan, the results he has reported replicate earlier research findings of Matarazzo, Baehr, et al and other psychological research and show that the popular stereotypic conception of the police officer described in sociological survey data is totally invalid. The picture which emerges from the Hogan analysis differs markedly from the popular image of the police officer.[47]

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[46]Nick J. Colarelli and Saul M. Siegel, "A Method of Police Personnel Selection," Journal of Criminal Law, Criminology, and Police Science, 55 (June, 1964), pp. 287-290.

[47]Robert Hogan, "Personality Characteristics of Highly Rated Policemen," Personnel Psychology, 24 (Winter, 1971), 679-685.

It is extremely difficult to define personality traits and devise ways to measure them accurately. Personality reflects the nature of a person's adjustment to the interpersonal and situational demands of his environment. Personality measures in the studies quoted estimate the subjects' typical behavior pattern in adjusting to the interpersonal or social aspects of his work milieu. According to Ghiselli's summary, personality tests may be "good bets" as potential predictors of job success, but should not be relied on as the only predictor.[48] In fact as McNemar has pointed out, general intelligence measures usually can be useful predictors only of nontest behaviors such as scholastic success.[49]

Biographical Information

Cross and Hammond examined the background differences between successful and unsuccessful Colorado highway patrolmen. Successful patrolmen were defined as those employed by the Colorado Highway Patrol for at least one year. Unsuccessful patrolmen were defined as men who had resigned or been dismissed during the previous three years. The results indicate that the patrolman's family status and former occupation are major factors correlated with job success. For example, successful patrolmen were employed in agriculture and were single or married with no children while unsuccessful patrolmen were found to be employed in clerical or sales occupations and either married with children or divorced. These findings are difficult to evaluate since the researchers failed to distinguish patrolmen who voluntarily resigned and were eligible for rehire from the unsuccessful group. Additionally, no cross-validation was attempted since the

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[48]E.E. Ghiselli, The Validity of Occupational Aptitude Tests (New York: Wiley and Sons, 1966), p. 129.

[49]Quinn McNemar, "Lost: Our Intelligence. Why?" American Psychologist, 19 (Dec., 1964), 871-882.

study appears to be only concerned with concurrent validity.[50]

Levy studied the personal files of 4500 law enforcement officers from 14 police organizations from 1952 through 1962. These agencies included ten municipal police departments, three county sheriff's departments and the California Highway Patrol. Successful officers were defined as those who remained on the job, while unsuccessful were defined as those who left police work either through resignation or dismissal. The relationship between these definitions and 140 predictor variables was analyzed. While the results are too lengthy to review in detail, it can be noted that the successful officers tended to have the greatest amount of work experience, the least education, were older at time of appointment and were likely to have had some police science courses. Those officers who terminated with clean records tended to be younger at the time of appointment and had the greatest amount of education. Those officers dismissed for due cause had the most traffic violations, were most likely to have been fired from previous jobs and had the greatest number of marriages. Levy also found that unsuccessful officers were unable to cope with job imposed stress. However, it is difficult to assess the usefulness of these findings since the sample was obtained from agencies that vary along some very important dimensions, including department size, job function, type of agency and hierarchical structure. Again no cross-validation was attempted.[51]

In a study conducted by McAllister, an attempt was made to determine the effectiveness of one phase of the selection process by examining the background character investigation. The hypothesis of interest concerned the question: "Can the investigators, through their knowledge of a police candidate gained through the

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[50]Arthur C. Cross and Kenneth R. Hammond, "Social Differences Between 'Successful and Unsuccessful' State Highway Patrolmen," Public Personnel Review, 12 (July, 1951), 159-162.

[51]Ruth J. Levy, "Predicting Police Failures," Journal of Criminal Law, Criminology and Police Science, 58 (June, 1967), 265-267.

investigators, through their knowledge of a police candidate gained through the investigative process, predict success or failure in the police career?"[52] Using the records of 396 New York City police recruits, McAllister attempted to establish the extent to which the qualitative descriptions (good, fair, poor) of applicants by background investigators represent predictions of on-the-job performance. Seven criteria made up the performance valuation: time lost, time lost for injuries, achievement of training standards, formal recognition or outside performance, absence of formal disciplinary charges, completion of probationary period, and the supervisory evaluation. Comparisons were made using means and percentages. No differences were found on job performance criteria between officers approved and those disapproved by background investigators. Thus McAllister concluded that the background investigation may not be valid as a predictor of future job performance.[53]

Kent and Eisenberg describe a study by McConnell in which a signficant correlation of .44 was found between scores on a biographical information form and supervisor performance rating forms of success or failure for 97 line Colorado patrolmen. The patrolmen with higher scores on the weighted personal history form were rated higher by their supervisors than those with lower scores. However, there is no information concerning which items were scored, and no attempt at cross-validation was reported.[54]

Perhaps the best sociological study of background characteristics is the one authored by Cohen and Chaiken of the New York City Rank Institute.[55] It is a part

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[52]James A. McAllister, "A Study of the Prediction and Measurement of Police Performance," Police, 14 (Sept.-Oct., 1970), 58.

[53]Ibid., pp. 58-64.

[54]Deborah A. Kent and Terry Eisenberg, "The Selection and Promotion of Police Officers: A Selected Review of Recent Literature," Police Chief, 39 (Feb., 1972), 20-29.

[55]Bernard Cohen and Jan Chaiken, Police Background Characteristics and Performance, The New York City Rand Institute R-999-DOJ, August, 1972.

of an omnibus research study examining various aspects of police selection, assignment, promotion and reward policies. As the authors state:

> We have compared the background characteristics of a large group of officers in the New York City Police Department with available measures of their performance on the job to determine the type of candidate who is likely to display specific patterns of performance.[56]

All the data were collected in 1968, based on 1,915 officers appointed to the New York City Department in 1957. Apart from the numerous predictor variables (33 in all), which include race, age, I.Q., and Civil Service exam scores, employment records, military history, early performance, etc., and the 13 performance variables (e.g., departmental awards, criminal misconduct, civilian review board hearings, etc.), the authors distinguished theirs from previous studies on the following grounds:

a. All the subjects were officers in a single police department, and yet the sample size is large enough to study interesting subgroups such as black officers, detectives and college-educated men.
b. All the subjects entered the Police Department in a single year - hence the possibility of a cohort design.
c. Nearly every officer who entered the Department in the selected year is included as a subject - hence no need for volunteers.
d. We did not confine our study to officers of a particular rank. In fact, the entire range from patrolmen to captain is represented in the same. Thus, it is possible to use career advancement as a measure of performance.
e. All of the data were collected at least 11 years after the subjects' appointment, thus providing a substantial period of time over which to measure performance.
f. Although most of our performance measures rely on the documented actions taken by the Department in respect to each officer; ... we do have extensive data on two communiy-derived (albeit negative) measures of performance.[57]

Also unlike previous research, Cohen and Chaiken make use of cross-tabulation and regression analysis to compile "Police Performance Profiles" and "Police Career Profiles." Using the predictor variables, they identify types of officers, e.g., those

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[56] Ibid., p. iii.

[57] Ibid., p. 2.

likely to be discipline problems, those likely to incur civilian complaints, those likely to rapidly advance through the ranks, or become detectives.[58]

One major conclusion of the study is that early job performance measured by the recruit training score and probationary rating predicts later job performance. Additionally, strong predictors were discovered in the subject's previous behavior and experience observed over a period of time: employment record, military disciplinary actions, repeated appearances in civil court, and education. These findings represent a positive evaluation of the Department's background investigation and contradict the earlier research findings of McAllister. Background characteristics found not related in any important way to later performance were: Civil Service examination score, I.Q. score, arrest for a petty crime, military service, military commendations, father's occupation, number of residences, aspects of early family responsibility, (including marital status, number of children, and debts), reported history of psychological disorder, place of residence, and number of summonses.[59]

This is by far the best prediction study completed to date; however, it is not without some methodological problems. For example, it is possible that police officers joining the force in 1957 may not have been typical of officers from 1952 or 1972 or any other year. There may have been no great changes in the factors examined prior to or since 1957, but the reader has no way of determining this. Factors such as the economic recession of 1956 are not considered. In other words, there is no way of knowing whether the 1957 cohort may be considered a typical cohort and if not, in what way it differs.

Nowhere in the study do the authors explain the rationale for using officers with eleven years of service rather than, say, 10, 12 or 18 years. The reader can

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[58]Ibid., pp. 140-147.

[59]Ibid., pp. 149-155.

only speculate about the magic of the eleven-year figure.

Perhaps the greatest problem arising in this study is expressed by the question asked by so many police administrators: "What criteria are to be used in determining good police job performance?"

In another study using the same research design as the Cohen and Chaiken study, Kayode examined the background characteristics of 217 Philadelphia police officers and related them to the same performance criteria used by Cohen and Chaiken. His interest was in the question, "Can we predict the performance of police officers on the basis of social background characteristics?" Kayode concluded that background characteristics of police candidates are very predictive of future performance as police officers. According to the author's results, educational attainment emerges as the best predictor of job performance. Age, previous employment ratings, previous arrest record and number of prior jobs were also considered to be "good" predictors of the job performance of the cohort under study. Kayode's data did not indicate any significant difference between black and white police officers. This may be due to the small sample size of the study.[60]

Manyak has created a "new" instrument that makes use of background information to supplement the selection process of the Port Authority Police in New York and New Jersey. He suggests that background information can be useful in identifying successful and unsuccessful officers. To do this Manyak proposes first the use of a coded application form which contains all the information requested in written application forms. Second, to convert written test scores into computer input. Third, to record the performance of previous officers using termination as the main criteria of performance; other measures of performance are supervisory evaluation, commendations and disciplinary actions. The objective

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[60]Olinjemi J. Kayode, "Predicting Performance on the Basis of Social Background Characteristics: Case of the Philadelphia Police, unpublished Doctoral Dissertation, University of Pennsylvania, 1973.

of Manyak's proposal is to establish a data retrieval system that identifies the best performers and relates performance criteria to background data. The results indicate Manyak's design predicted 62 percent of the successful officers. Manyak concluded that his instrument is an efficient way of developing character profiles that are useful in the selection process and recommends the creation of a data retrieval system that codes all background and performance information.[61]

Manyak's proposal is an effective method for collecting and storing information; however, his statistical technique is open to question. It may be misleading to use descriptive statistics (percentages) to predict performance. As yet it may be premature to judge the success of Manyak's proposal since it has only been tested on a population of 54 officers.

Studies in police selection standards have also been proposed by other researchers. The National Police Selection Standards Project[62] presently being carried out by the Selection Consulting Center, Sacramento, California, is attempting to identify the duties, tasks and responsibilities and the corresponding knowledges, skills, abilities, and other personal characteristics required for successful performance as an entry level law enforcement officer.

Their proposed methodology is to conduct a series of job analysis workshops to acquire a first-hand understanding of the factors which are required for successful performance at the entry-level. According to SCC, the sampling of police departments for inclusion in these workshops will seek to ensure that representation is achieved with respect to such demographic variables as type of department (city vs. county, etc.), type of community service (urban vs. rural,

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[61] Terrell G. Manyak, "The Use of Background Information in the Police Selection Process," paper presented at the 1975 National Conference on Public Administration, April, 1975.

[62] Stephen Wollack, Project Director, "National Police Selection Standards Project," Selection Consulting Center, Sacramento, California, September, 1974.

etc.), size of community served and geographic location. The sample representing police departments in the job analysis workshops will be composed of a cross-section of police officers of all ranks. Each workshop will be attended by approximately 20-25 police personnel. These workshops will be held in various locations across the country, with the exact location of each workshop being determined by the geographical locations of the participating departments. It is estimated that approximately ten such workshops will be conducted.

The main point of the job analysis is to determine whether a given performance dimension, i.e., required applicant capability, is relevant to the departments making up each job function or grouping by contextual variable. For example, to what extent is the requirement of writing skills important in large, medium, or small sized departments? SCC emphasizes the point that the primary unit of analysis for the purpose of considering similarities or differences among the departments and substrata is that of performance dimensions or required applicant capabilities rather than tasks. It is these dimensions which will guide the selection process and determine the nature of the selection instruments to be developed and validated.

In another study proposed by the Dade County Public Safety Department[63] three main objectives have been emphasized. First, the development of a biographical data police officer selection tool. Second, the development of a police officer performance evaluation appraisal format. Third, to computerize personnel information to provide police administrators with vital employee data.

The keynote to this study is the identification and isolation of critical job performance criteria. On one hand, a structured development of the performance appraisal system is suggested to define job functions; while on the other hand,

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[63]Dade County Public Safety Department, "Police Officer Selection and Performance Analysis," unpublished research proposal, January, 1975.

relevant historical employment data (e.g. police-civilian encounters, reprimands, commendations, accidents, absenteeism) will be collected from the employees' Personnel and Internal Review files. While the past performance information is being compiled, the following approaches will be used to lay the groundwork for the proposed job evaluation rating device:

1. Task Analysis
    a. Existing job descriptions
    b. On-the-job descriptions
2. Worker Analysis
    a. Employee interviews
3. Review of Existing Systems and Previous Research

In addition, early performance measures depicting the progress of the candidate through the recruitment and appointment process will be obtained for each subject. Examples of background characteristics and recruitment scores include the subject's educational history and performance, extracurricular activities, prior employment and military history, family factors, sibling relationships, demographic data, physical factors, reading habits, arrest and civil court appearances, number of traffic summonses, civil service test scores, panel interview scores, and background investigation assessment. Early performance measures include the Police Institute Training Bureau scores (e.g., written tests, weapons, physical agility, class standing), Police Academy evaluations, Training Performance Evaluation and the probationary evaluations.

The final objective is a unique performance appraisal system in which an officer's present performance will be evaluated not only in relation with that of his contemporaries but in light of his whole career pattern since entering the force.

The proposed two studies represent the first attempts at defining the tasks of police officers. Truly a tremendous undertaking.

After this brief review, it is now appropriate to discuss the rationale for

the present study. The major reason for this study is to provide useful information to the Michigan State Police about the relationships between background characteristics and job performance among their personnel. This can be achieved by use of the method employed by Cohen and Chaiken. The authors suggest that:

> The methods we used could be readily adopted to the personnel files of nearly any police department in the country, and further research along these lines, including validation studies, would indicate the extent to which the New York City 1957 cohort shows typical patterns of relationships between background characteristics and performance.[64]

This study will attempt to follow this suggestion.

Second, this study will proceed on the sociological premise that variations exist between communities and also between police departments in differential reward systems and performance evaluations. These variations become of obvious importance in the interaction between each police department and its particular community; geographic location, size and ethnic composition of community, individual philosophy of police administration, salary size of the law enforcement department itself, ratio of law enforcement officers to population, age of department, type of enforcement agency (e.g., police department, sheriff's office or highway patrol, state police) and numerous other organizational factors. As Ruth Levy (1967) maintains:

> Attempts to devise police selection techniques addressed to identifying the successful or ideal peace officer may have failed largely because of the heterogeneity of characteristics required from agency to agency.[65]

Conclusions and Implications

This review does not enable the police administrator to develop a set of recommendations about what the "best" procedure might be for selecting policemen. No single instrument has been shown to provide an accurate means of

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[64]Cohen and Chaiken, op. cit., p. 28.

[65]Levy, op. cit., p. 274.

identifying even those candidates most likely to become poor police officers, much less potentially outstanding ones. For the most part, the research reported has been spotty and piecemeal, attending to only certain phases or aspects of the policeman's job. Except for the Cohen and Chaiken study, none has attempted to investigate the utility of a total selection system, and few have attempted to provide any guidelines for the optimal use or order of administration for any predictor evaluated. The prediction methods reviewed have been shown to be useful only under certain circumstances and for limited information (such as the predicting of course grades or academy ratings).

Perhaps an important flaw in these studies is the lack of attention given to job performance measures by the investigators. Most researchers have been content to rely upon overall ratings of police effectiveness by supervisors or upon other indicators of dubious objectivity, such as commendations or disciplinary actions.

Many of the studies which have tried to assess the effectiveness of various selection procedures have had other serious weaknesses. A large number of such investigations have utilized academy performance rather than field performance as the primary criterion measure. The relationship between training performance and actual job performance is not always high, and the more important measure is actual field performance. Few studies have used a predictive validation design in which predictor scores are related to performance measures after some time period has elapsed. More often, concurrent validation has been used. The existence of concurrent validity does not guarantee predictive validity, but the primary concern in personnel selection is the prediction of subsequent job performance. Finally, the lack of cross-validation of test batteries is especially crucial. The work of Baehr, et al indicates the importance of this step in the development of a selection

program.[66] The use of a large number of tests and few subjects increases the likelihood that mere chance relationships in the data will give the appearance of a useful selection procedure, which in reality would become worthless if applied to a new sample of individuals.

What is needed, then, is to look at many predictors and criteria simultaneously. Criterion measures should include not only police academy ratings, and tenure, but also more carefully developed ratings of policeman effectiveness. The criteria should be multi-dimensional to allow for the fact that 1) a policeman may be more adept at performing some aspects of his job than others, and 2) various predictors may be related to different aspects of performance.

Only by developing good measures of job performance can the problem of police selection be realistically approached. Throughout this review, job performance measures have been the most elusive and difficult to define. Development of behavior rating scales will enable the development of simulated experiences to measure a police candidate's proficiency in critical aspects of job performance. Failure to pass the test of behavioral relevance is perhaps a major reason why simulated measures have not yet shown up well when compared with actual on-the-job performance.

In Chapter III the design of the study is discussed, and background characteristics and performance measures used in this study are identified.

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[66] Baher, Furcon and Froemel, loc. cit.

SUMMARY OF LITERATURE REVIEW

Study	Analyzed	Test Used	Independent Variable	Dependent Variable	Results	Conclusions	Recommendations
Terman (1917)	Intelligence	Binet-Simon	Education	I.Q.	Police applicants mentally inferior--median I.Q. of 84	Score of 80 was considered dull normal range	Candidates with I.Q. lower than 80 be eliminated from selection process
Thurstone (1922) Detroit Police Department	Intelligence	Army Alpha Scale	Education & tenure	I.Q.	Patrolmen had higher I.Q. than supervisory personnel	Brightest men leave police work for other occupations	
Martin (1923)	Mental testing	Twelve mental tests--reasoning, spelling, arithmetic, etc.	Various mental tests	I.Q., discipline, efficiency and supervisory ratings	Efficiency index correlated highest with Ind. variables	Sample size was too small (30) to draw any definitive conclusions	Future studies use larger samples
Merrill (1927) Rural police agencies	Intelligence	Army Alpha Scale	Education & tenure	I.Q.	Patrolmen I.Q.'s were higher than general public, 104.2	More intelligent remain on department just as long as less intelligent	
Spaulding (1948) Delaware State Police	Vocational Interest	Kuder-Preference Record	Education	I.Q. Civil Service Test	Strong inclination toward helping services	Police applicants suffer from "necessary syndrome"	

Study	Analyzed	Test Used	Independent Variable	Dependent Variable	Results	Conclusions	Recommendations
Dubois and Watson (1950) St. Louis Police Department	Mental tests	Army General Classification Test	Police Academy Grades	AGCT Supervisory ratings	Positive correlation at the end of eight weeks' training	Rather a poor predictive instrument	Improving police performance appraisal formats
Humm and Humm (1950) Los Angeles Police Department	Personality tests	Humm-Wadsworth Temperament Scale	Various Temperament Scales	Voluntary or involuntary terminated	High correlation in dismissal group	Temperament Scale was a good measure of success in a police agency	
Kates (1950)	Vocational interest	Strong Vocational Interest Blank (SVIB)	Various indicators of interest in police work	Job Satisfaction	No difference between policemen & general population in terms of interest in police work	Absence of any relationships was due to complexity of police role	
Cross and Hammond (1951) Colorado Highway Patrol	Biographical information	Background investigation report	Employment record, military record, hobbies	Termination of employment	Family status and former occupation are major factors correlated with job success		
Mullineaux (1955) Baltimore City Police Department	Mental tests	Army General Classification Test & personal interview	AGCT	Police academy grades, spelling & report writing	High correlations obtained for all measures	Ability to write legibly and spell correctly was a factor in later performance	

Study	Analyzed	Test Used	Independent Variable	Dependent Variable	Results	Conclusions	Recommendations
Kole (1962)	Intelligence, vocational interest	Edwards Personal Preference Scheule (EPPS)	Education	Job Satisfaction	College educated policemen had a greater interest in police work	Police applicants are most interested in social service as opposed to crime fighting	
Matarazzo (1964)	Vocational interest	EPPS and SVIB	General population	Scores on EPPS and SVIB	Significant difference between general population and police applicants on EPPS	Police applicants score lower on dominance, aggression & displayed an interest in social service work	
Blum (1964) Not Identified	Personality tests	MMPI	I.Q. & mechanical tests developed for police applicants	Career development personal injury, absenteeism, disciplinary charges & commendations	High correlations were found between certain MMPI tests & serious misconduct	MMPI Schizophrenia scale could be used to identify bad risks before appointment to police agency	The use of MMPI Schizophrenia Subscale & Pt (obsessive-compulsive) scale
Colarelli and Siegel (1965) Kansas State Highway Patrol	Personality of police applicants	California Test of Mental Maturity, Allport-Vernon Study of Values, MMPI	Scales on standard personality tests	Supervisory evaluation, arrest history	No specific correlations cited; men predicted to be good policemen generally performed well	Candidates rated satisfactory by supervisors enjoyed the authority of badge & uniform	

Study	Analyzed	Test Used	Independent Variable	Dependent Variable	Results	Conclusions	Recommendations
Eilbert (1966) New York City Police Department	Personality, aptitude	Developed by author & Otis Intelligence Test	Battery of tests	Specially developed supervisory evaluation form which ranked officers high or low	Tests were unreliable, failed to provide significant difference between high & low rank performance		
Levy (1967) Several California Police agencies	Biographical information	Personnel files of 4,500 police officer	Employment history, military record, age, debts, arrest history, marital status	Termination for cause	Officers who terminate voluntarily are different in background characteristics from those who terminate for cause	Less educated remain on force, better educated leave police work for more challenging employment	
Niederhoffer (1967) New York City	Personality	Developed by author	Education	Cynicism	Strong correlation	Some officers become frustrated at lack of advancement	Frustration can be eliminated by developing job enrichment program
Baehr, Furcon & Froemel (1968) Chicago Police Department	Mental tests	Personal History Index	Background data from personal history	Supervisor's evaluation, absenteeism, commendations, disciplinary charges, number of arrests	Positive correlations on all variables	Predictors with highest results came from personal history items	

Study	Analyzed	Test Used	Independent Variable	Dependent Variable	Results	Conclusions	Recommendations
Rhead (1968) Chicago, P.D.	Personality	MMPI, Draw-A-Person Test	Projective Test	Capacity of the ego	Police applic.: Suspicious, take risks, impulsive	State of ego influences success/failure	
Gottesman (1969) Not identified	Personality	MMPI Profiles	Scales on MMPI	Compared police applicants & veteran group	Typical police applicant more adjusted but more defensive than veteran group	MMPI general population norms are inappropriate as comparisons for police applicants	
Gordon (1969) New York City	Intelligence	Lorge-Thorndike Test of Intelligence	Race	I.Q.	Differences in intelligence between white, black & Spanish speaking officers	Presents no explanation for results	
McAllister (1970) New York City	Biographical information	None	Background Investigator's Rating	Tenure, supervisory evaluation, accidents, commendations, absenteeism, disciplinary charges	No difference between officers approved or disapproved	Background rating may not be a valid predictor of future job performance	
Clopton (1971)	Mental tests	Army General Classification Test	Scales on AGCT	Police academy grade, supervisory rating	Positive correlation no relationship	Pre-employment test scores have no effect on police academy grades	

Study	Analyzed	Test Used	Independent Variable	Dependent Variable	Results	Conclusions	Recommendations
Goldstein (1971) New York City	Personality	Civil Service Tests MMPI	Scales on testing procedures	Pass or fail Civil Service Test	Applicants who pass likely to avoid danger, are honest, good listeners	There is a great difference between those who pass or fail a Civil Service Test	Retension of Civil Service Tests
Lefkowitz (1971) Not identified	Personality	Various attitude measures	Background variables	Cynicism, authority	Social isolation gives rise to cynicism, authoritarianism due to research bias	Quick decisions interpreted as authoritarianism by public at large	
Hogan (1971) Maryland State Police	Personality	California Psychological Inventory	Test Scores	Supervisory evaluation, grades in police academy	Position correlation	Replicates earlier research findings of Baehr and Matarazzo	
Cohen and Chaiken (1972) New York City Police Department	Biographical information	Personnel files	Background characteristics (33 in all)	Tenure, accidents, ratings, commendations, disciplinary charges, absenteeism, Training grades	Strongest correlations existed between age, education, employment history, difference between black and white	Early job performance is a good predictor of later performance	Single selection process, continuing education, older officers to sensitive areas, broaden training programs

Study	Analyzed	Test Used	Independent Variable	Dependent Variable	Results	Conclusions	Recommendations
Kayode (1973) Philadelphia Police Department	Biogaphical information	Personnel files	Background characteristics (33 in all)	Tenure, accidents, ratings, commendations, disciplinary charges, absenteeism, Training grades	Amount of education best predictor of job success	No great difference between black and white officers	Educational programs
Manyak (1975) Port Authority Police, New York and New Jersey	Biographical information	Personnel files, weighted application blank	Background characteristics	Tenure, supervisory evaluation, commendations, disciplinary actions	Able to predict 62% successful officers	Best background predictors are highly discriminatory	Use of coded application forms, computerize all selection information

CHAPTER III

DESIGN OF STUDY

GENERAL CONSIDERATIONS

Source of Data

The data for this study were collected in 1975, from personnel folders located at the administrative headquarters of the Michigan State Police. The typical personnel file is divided into nine categories and contains the following information: 1) Enlisted Papers, (application forms and background investigator's report), 2) Promotions and Transfers, 3) In-Service Schools, 4) Commendations, 5) Board of Inquiry, Complaints and Trial Board, 6) Leaves, 7) Health: Illness and Injury, 8) Service Ratings, and 9) Miscellaneous.

The Michigan State Police placed no restrictions on the types of data to be collected and analyzed. One hundred and ten descriptors were selected for each subject describing background characteristics but not all of these were analyzed for the study. It is hoped that future researchers may derive benefit from this data. A complete set of code sheets illustrating the data removed from the personnel folders appears in the Appendices. The data were collected from 1) the Personnel Record Unit which contains detailed information on the background of each subject and his performance as a police officer, 2) the Medical Unit which contains a detailed medical history of each subject including on-duty injuries and rates of absenteeism, and 3) the Old Record Section which contains data on individuals who

terminated their employment shortly after completing probationary training as well as on individuals who failed to complete the recruit training school program. All subjects were identified by a code number in order to insure the confidentiality of the study and to prevent associating any data with the name of a particular police officer.

The Cohort Analysis

The term cohort is used for a variety of groups. A cohort study focuses on the same population each time data are collected, even though the samples studied may be different. For example, Ryder says that a cohort:

> may be defined as an aggregate of individuals (within some population definition) who experienced the same event within the same time interval. In almost all cohort research to date the defining event has been birth, but ... the approach can be generalized beyond the birth cohort to cohorts identified by common time of occurrence of any significant enduring count in life history. Cohorts may be defined in terms of the year in which they completed their school, the year in which they married, the year in which they migrated to the city, or the year in which they entered the labor force full time.[1]

Usually, the cohort design is used to describe a population born within a specified time period (three, five or ten years) as in fertility time series, demographic studies, migration differentials, or occupational mobility studies. The term has been widely used to designate an aggregate of individuals of widely different ages who experienced the same event such as appointment to a job within the same time interval.

Researchers have long recognized that longitudinal studies using a cohort design are superior to cross-sectional studies for acquiring greater understanding of the circumstances that condition human behavior. However, cohort research is not

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[1]Norman B. Ryder, "The Cohort as a Concept in the Study of Social Change," American Sociological Review, 30 (Dec., 1965), 845, 847-848.

without problems. Ryder warns that:

> The members of any cohort are entitled to participate in only one slice of life -- their unique location in the stream of histo-· Because it embodies a temporally specific version · · (social) heritage, each cohort is differentiated from all others, despite the minimization of variability by symbolically perpetuated institutions and by hierarchically graduated structures of authority.[2]

In essence, then, each cohort is unique and time-bound. As it passes through the different stages of life, its members go to school, get jobs, retire and die, not in isolation but in contact with other cohorts. Society is not static and the impact of changes in social behavior undoubtedly differs from one cohort to another, especially when several years separate them. The present study will analyze two cohorts in an effort to discover differences over time.

How representative any single cohort of police may be of other state police cohorts is only speculative. The question to be raised is whether any probability figure derived from a cohort analysis has any measure of generality beyond the cohort itself. If non-cohort studies exhibit the same results as cohort findings, then generalizability may be in question until other cohorts are formed and analyze.

For example, in the present study if it was discovered that the age and education of the candidate at time of appointment indicates a higher probability of termination of employment, this finding could not be ascribed to the power of the cohort design, since cross-sectional studies regularly produce such findings. In many cross-sectional studies, younger and better educated candidates have been observed to leave police work for more rewarding occupations.

In sum, findings reported in this study must be treated with the usual caution, and their empirical and theoretical transferability should be considered a matter for further research. Hopefully the results will provide information that

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[2]Ibid., p. 844.

other researchers can use to generate hypotheses for further cohort analysis.

This study will examine two specific cohorts, 1964 and 1969. These two cohorts will then be divided into three groups. The active cohort represents State police troopers who are still employed by the Michigan State Police. The inactive cohort represents troopers who resigned from the Michigan State Police sometime after completing their probationary training. The third group are candidates who failed to complete the recruit school training program.

Defining Performance

Techniques for evaluating individual performance are generally not well developed in police organizations. Commonly, an annual or semi-annual subjective rating form on each officer is filled out by police supervisors. Police officers are rated on global categories such as quality of work or overall suitability. Individual strengths and weaknesses are not assessed. Because police administrators believe that the police officer's role is too complex to describe, performance appraisal has become an empty ritual where almost everyone's performance is rated satisfactory.

The factors upon which police officers are rated may have little to do with the actual role of the police. Bittner states that "recognition is given for doing well in the department, not outside where all the real duties are located."[3] It is difficult for supervisors to evaluate police officer performance because of 1) the decentralized nature of police work, 2) the lack of clarity and conflict of police goals, and 3) the intangible nature of much of the police product, particularly deterrence. These factors and a bureaucracy which is semi-military result in evaluations that are based on conformity to internal bureaucratic standards.[4] It is

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[3]Egon Bittner, The Functions of the Police in Modern Society (National Institute of Mental Health, Center for Studies of Crime and Delinquency: Maryland, 1973), pp. 54-55.

[4]Ibid., p. 56

doubtful that being on post or appearing at roll call with shiny leather and shiny shoes has any relationship to the acquisition of street "savey" or the ability to calm tempers in a dispute.

The bureaucratization of the police means an emphasis on rules, procedures, processes and record keeping. Objective measures of productivity are sought as proof of performance. This gives rise to an emphasis on police productivity as determined by quantitative indicators. Production rates for patrolmen are determined by the number of traffic tickets written, arrests made, stolen cars recovered, persons convicted, cases closed by arrest and amount of recovered stolen property. The focus is on rates of production rather than on the quality of the process through which the rates are produced. The question asked is "how many tickets or arrests?" rather than "was it wise to write a ticket or make an arrest in this particular situation?" The proponents and opponents of objective measures argue primarily about the reliability of the measure rather than its legitimacy in a performance appriasal of individual police behavior.

Performance appraisal data can also produce other problems. Police organizations generally tend to punish failure rather than reward success. Success often becomes defined simply as the absence of failure. Supervisors are more apt to recognize failure to live up to a standard than success in going beyond that standard. Because of this, patrolmen tend to view supervisors as people who can make trouble for them, rather than as people who will reward a job well done.[5]

In addition, performance appraisal has many technical problems: 1) varying standards and frames of references among supervisors,[6] 2) lack of testing for

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[5]Ibid., pp. 56-57

[6]Clifford E. Jurgensen, et al., Employee Performance Appraisal Re-examined (Chicago, Illinois: Public Personnel Association, April, 1963).

reliability and validity,[7] 3) supervisor's indifference,[8] 4) lack of knowledge,[9] and 5) bias testing procedures.[10] According to one theorist, these problems can be ameliorated through training and supervision of evaluators and more clearly defined measures of performance that relate to actual job performance.

There is a need to develop indicators that describe the quality of performance as well as the quantity, and techniques of evaluation that go beyond the subjective rating of a supervisor.

The Michigan State Police has discontinued the use of their performance evaluation format in order to develop a more realistic appraisal of police officer performance. Therefore, supervisory performance appraisal ratings on the subjects in this study were not current. Subsequently, other measures of performance were selected. After a discussion with Michigan State Police Command Personnel, it was decided to use twenty performance measures to see what relationships exist between these and certain background characteristics. The discussion with management personnel was more for input than unsolicited opinions. However, it should be noted that the Michigan State Police performance rating system exhibited many of the problems cited earlier. For example, upon reviewing performance ratings for the 1964 cohort, it was discovered that virtually all subjects received satisfactory ratings including those subjects who had an inordinate number of departmental and citizen complaints filed against them. Of

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[7]Melany E. Baehr, Occasional Papers: The Appraisal Job Performance, Industrial Relations Center, University of Chicago, No. 27-R1, 1968.

[8]Sidney Epstein and Richard S. Laymon, Guidelines for Police Performance Appraisal, Promotion and Placement Procedures, U.S. Department of Justice, Law Enforcement Assistance Administration, National Institute of Law Enforcement and Criminal Justice, March, 1973.

[9]L.L. Cummings and Donald P. Schwab, Performance in Organizations: Determinants and Appraisal (Glenview, Ill.: Scott, Foresman and Co., 1973).

[10]Ibid.

the 113 probationary troopers (of the 1964 cohort) assigned to various posts throughout the state, only two troopers received unsatisfactory probationary performance ratings. In the 1969 cohort only three probationary troopers received an unsatisfactory probationary rating. It would seem, at least for these two cohorts, that performance evaluation had become an empty bureaucratic ritual.

RESEARCH SETTING

The subjects of this study are all the male police officers appointed to the Michigan State Police Department in 1964 and 1969. Nineteen Sixty-four was the earliest year for which complete and accurate records could be obtained. Nineteen Sixty-nine was chosen at random to examine the differences over time between the two cohorts and to cross-validate the results of the 1964 cohort. All of us would probably agree that we live in a time of momentous changes--in technology, politics, norms, the arts, warfare, etc., but one area which has demonstrated "unparalleled continuity" is that of police selection. To meet the changing needs of society, both the selection of police applicants and the training environments will have to be different. How much and in what ways different are questions that go beyond the scope of this study. Nevertheless, to select and train police candidates as in the past must widen the gap between this profession and the society it serves. Like any other program or activity that extends over time, techniques for selecting and training police officers need continual modification and redesign.

A total of 439 candidates were appointed to the Michigan State Police in the two years, 1964 and 1969. The background records of 436 subjects were located. The only records that could not be found were on three subjects of the 1964 cohort. The active cohorts used in the study consisted of 199 subjects, with 93 appointed in 1964 and 106 appointed in 1969.

Two hundred thirty-seven subjects had left the Michigan State Police prior

to January 1, 1975, due to resignation, dismissal or death. A total of thirty subjects left the department after completing their probationary period and comprise the inactive cohort of the study.

Two hundred and seven candidates dropped out or were asked to resign from the recruit training school program. This constitutes a loss of 48 percent of the candidates and represents a substantial waste of money and time of the taxpayers and the Michigan State Police. In the last fifteen years the recruit school dropout rate has been about 50 percent for each class. There are, of course, many reasons for the high dropout rate in recruit school. The reason most often cited by the candidates is the rigorous physical training program. Other more complex answers may be hypothesized, e.g., the role transformation that takes place when the new recruit is placed in a highly structured, semi-military and authority-centered bureaucracy. The analysis of recruit school dropouts is beyond the scope of this study and will not be referred to again.

The main focus of this study is on the active cohorts to determine background characteristics that relate to performance criterion. The use of a cohort design automatically standardizes the amount of time covered by performance data for the active cohort. This eliminates bias that appears when officers with varying lengths of service are compared in performance. Table I illustrates the design of the study.

Table I

Design of Study

		Groups			
		Active	Inactive	Recruit School Dropout	Total
Year	1964	93	20	65	178
	1969	106	10	142	258
	Total	199	30	207	436

RATIONALE FOR SELECTING VARIABLES

Previous research indicates that the most commonly used background predictor variables have been educational attainment, some aspects of prior employment history, military record, age at time of appointment, violations of the law, background investigator's rating, marital history and race. Figure 1 illustrates some of the studies that have used these predictor variables. These studies are reviewed in Chapter II.

Predictor Variables

	Educational Level	Employment History	Military Record	Age	Arrest History	Background Investigator's Rating	Marital History	Race
Dade County Project, 1975	x	x	x	x	x	x	x	x
Manyak, 1975	x		x					x
National Police Selection Standards Project, 1974	x	x	x	x	x	x	x	x
Kayode, 1973	x	x	x	x	x	x	x	x
Cohen & Chaiken, 1972	x	x	x	x	x	x	x	x
Spencer & Nichols, 1971	x		x	x			x	
Hankey, 1968	x	x		x				
McAllister, 1968						x		
Levy, 1967	x	x	x	x	x	x	x	x
March, 1962	x	x		x				
Valla, 1959		x	x		x			
Mullineaux, 1955				x				
Cross and Hammond, 1951	x	x						

Figure 1

The most commonly used performance criteria has been termination of employment. In four of the studies length of tenure was the sole criterion of performance. These studies reflect the belief that officers who terminate have proved unsuited for police work. It is hoped that improvement in the selection process will reduce training and turnover costs by eliminating candidates who will not become permanent employees.

Supervisor appraisals are often used as performance criteria. However, they are not used in the present study because the data were incomplete.

Other performance criteria used by researchers are rates of absenteeism, number and type of automobile accidents, departmental commendations, disciplinary charges, police academy grades, and marksmanship. Figure 2 illustrates studies that have used these criteria.

Performance Variables

Study	Termination of Employment	Supervisory Evaluations	Absenteeism	Accidents	Commendations	Disciplinary Charges	Academy Score	Marksmanship
Dade County Project, 1975	x	x	x	x	x	x	x	x
Manyak, 1975		x						
National Police Selection Standards Project, 1974	x	x	x	x	x	x	x	
Kayode, 1973	x	x	x	x	x	x	x	
Cohen & Chaiken, 1972	x	x	x	x	x	x	x	
Spencer & Nickols, 1971		x	x	x	x	x		
McAllister, 1968	x	x	x	x	x	x		
Levy, 1967	x							
Blum, 1964			x	x	x	x		
March, 1962	x	x		x				
Valla, 1959	x							
Mullineaux, 1955		x						
Cross & Hammond, 1951	x							
Humm & Humm, 1950	x							

Figure 2

Previous research has been primarily concerned with large urban police agencies, and has only briefly examined other types of law enforcement agencies such as sheriff departments and highway patrols. As yet a research study employing a cohort design has not been conducted in a state police organization. The studies quoted reflect theoretical perspectives and research orientations not

easily adaptable to an investigation of the role of the Michigan State Police. The notion of role is central to any conceptualization of police performance because it provides a unifying concept with which to examine patterns of police behavior. The role of the police today encompasses both a collective and an individual dimension. It relates to structurally given demands (what police organizations required of people) which are external to individuals, and to role definitions (how individual police officers define what it is they are expected to do) which are internal to individuals at the action level.[11] As yet researchers have been unsuccessful in their attempts to define the role of the police. It may be that the nature of police work differs substantially from one jurisdiction to another, so that the role of the police can only be defined within the context of a particular police organization. The variables used in this study were selected primarily because of the availability of the data.

Predictor Variables

The background and early performance variables used in this study are described as follows:

Age. This was the subject's age at time of appointment, determined by subtracting his year of birth from 1964 and 1969 respectively. Because of Civil Service selection criteria, none of the subjects are under 21 or older than 30 at the time of submitting an application.

Region of Birth. This variable was coded into two categories: 1) urban/rural and 2) native/non-native Michigander.

Siblings. The number of siblings for all groups was coded.

Father's Occupation. The actual occupation as recorded by the applicant on the application blank was converted to a scale of Occupational prestige

[11] D.J. Levinson, "Role, Personality and Social Structure in the Organizational Setting," Journal of Abnormal and Social Psychology, 58 (1959), 170-179.

developed by Otis D. Duncan.[12] Occupations ranked the highest are considered to be the most prestigious, with one being the least prestigious and 99 being the most prestigious.

Last Occupation. This was the subject's current occupation, also scored by using the Duncan model.

Number of Prior Jobs. This was a count of the number of jobs listed on the application form that are confirmed by a background investigation.

Employment Disciplinary Record. This variable was scored only if the subject had two or more disciplinary actions against him. This information was verified by the background investigator's report.

Branch of Military. This variable was scored both on whether the subject served in the military and to which branch he was attached.

Military-Discipline. This variable was a count of responses listed by the subject, and verified by the background investigator's report, to the question, "Were you ever court-martialed or disciplined while in the Service?"

Military Commendations. The number of commendations that appear on military form DD214 was scored.

Marital Status. This variable was scored at the time of application.

Arrest History. Minimum entrance requirements state that an applicant must not have been convicted of any felony. This variable incudes arrests for any felony, misdemeanor, or juvenile offence. A complete record check (local, state and F.B.I.) was made on each applicant.

Summons. This was the number of traffic tickets received by the applicant. A complete traffic record was obtained for each applicant.

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[12]Otis D. Duncan, "A Socioeconomic Index for All Occupations," in Occupations and Social Status (ed.) Albert J. Reiss (New York: Free Press of Glencoe, 1961), Chapter IV.

Auto Accidents. This was the total number of automobile accidents obtained from the applicant's traffic record.

Education. The highest level of education obtained by the subject at time of application was coded. All applicants must have at least a G.E.D.

College Major. Of particular interest was the number of applicants who majored in Police Administration.

Indebtedness. The number of outstanding debts was scored for each applicant.

Background Rating. This variable summarized the findings of the background investigator's report.

Oral Board. This variable summarized the personal interview conducted by the Oral Board of each applicant. The Board was made up of three people, a member of the Michigan State Police, a Civil Service person, and a psychologist.

Probationary Rating. After graduation from recruit school each recruit must spend another 9 months on probation. At the end of this period, he was evaluated by his superior officer as either Satisfactory, Conditional, or Unsatisfactory. These evaluations are included as predictor variables.

Marksmanship. This variable recorded the recruit's achieved facility in handling a pistol, graded according to the Michigan State Police classification of marksman, sharp-shooter, expert and distinguished expert.

Performance Variables

The following represent the variables used to measure performance of the active members of the cohort.

Current Rank. (Career advancement)

Traffic Awards. Michigan Civil Service distributed awards for safe and accident-free driving at the end of four and eight years.

Recruit School Score. After completion of sixteen weeks of training in the

recruit school each recruit's average score was obtained. A passing grade of 80 percent was necessary to graduate from the Recruit School training program.

Later Education. This variable represented the level of education of the subject as of January 1, 1975.

Departmental Awards. Six types of official commendation were conferred by the Michigan State Police. These were scored according to prestige in the Department.

Commendatory Letters. This was the number of citizen and departmental letters for commendatory service.

Auto Accidents. This variable was the number of preventable and non-preventable accidents in which the subject was involved while on duty.

Disciplinary Actions. Complaints of misbehavior by police officers may be made by the general public, by the Michigan State Police, or by other law enforcement agencies. These complaints were obtainable from the subject's personnel file. For this study complaints were divided into 1) reprimands, 2) suspensions, 3) dismissal, 4) citizen complaints, and 5) criminal complaints.

Absenteeism. This was a count of the total number of days the subject reported sick.

Personal On-duty Injuries. Type and total number of injuries were coded.

In-Service Schools. This was the number of in-service training programs in which the subject participated.

Use of Firearms on Duty. This was the number and type of occasions on which an officer had to use firearms in the performance of duty.

Assault on Officer. This was the number of times the subject was assaulted while on duty. Type of assault was also scored.

Missing Information

Civil Service examination scores were not available during this study. This test score is supposed to be the index of the candidate's performance on the written test taken prior to being considered for subsequent screening for police work. Civil Service scores were destroyed after a three-year period prior to 1970. Such records are now systematically maintained.

The race of the subject is not significant since the first black was not appointed until 1967. The 1969 cohort had eight blacks begin recruit school with three still employed.

General Research Questions

The central questions of this study are the following:

1. Can the performance of Michigan State Police officers be predicted on the basis of social background characteristics?
2. What background characteristics effectively measure a job candidate's experience in relationship to proposed task requirements?
3. What background variables show a substantial association with performance measures?
4. Can an "appropriate" career profile of the successful state police officer be developed from background variables?
5. Are there certain background characteristics that can successfully predict job performance?

This study is not an attempt to prove certain hypotheses, but rather is an exploratory look at the relationship between background characteristics and performance in a state police organization. In an exploratory study such as this, it is rarely possible to collect precise numerical data sufficient to permit rigorous analysis. Therefore, much of the analysis is asserted, illustrated or suggested but not proved.

Data Analysis

The relationship between predictor variables and individual performance measures will be determined by cross-tabulations and simple correlations. These tabulations will be obtained separately for both active cohorts.

The computer program used for this study is the Statistical Package for the Social Sciences (SPSS). The importance and reliability of the relationship between predictor and performance variables is determined by internal consistency of associations and formal statistical tests such as F tests and chi square.

The results of this preliminary analysis hopefully will generate hypotheses for predicting performance from background variables. Initially a large number of relationships are examined since presently there is no fully developed theory of how individual background characteristics are related to each performance measure.

The regression program used in this study is the LS Step or stepwise least squares program developed by the Michigan State University Computer Center. The LS Step Program is used to estimate a best relationship between a dependent variable and a set of independent variables. The LS Step Program calculates the significance probability of the F Statistic for the least squares co-efficient of a variable to determine whether or not it should be deleted from or added to the equation. The stepwise procedure is completed when no independent variables meet the deletion criteria and no independent variables meet the addition criteria.

In sum, this study is a modest attempt to replicate previous studies and to determine if in fact police officers as well as police organizations are different across federal, state, and local jurisdictions.

CHAPTER IV

ANALYSIS OF DATA

INTRODUCTION

This is the first of two chapters devoted to discussion of the statistical analysis of data gathered for this study. The intention in this chapter is twofold:

1) To discuss the relationship between background characteristics and performance criteria of the active cohorts; and
2) To examine similarities and differences betwen the two active cohorts of the study.

These observations are obtained from pairwise cross tabulations of background variables with performance variables. Unless otherwise stated, all relationships reported attained a statistical significance level of .05 by chi-square testing.

The following predictor variables were found to have no significant relationships with performance criteria and will not be discussed further: region of birth, father's occupation, arrest history, background rating, oral board review, and marksmanship. Relationships between each of the remaining predictor variables and performance variables are examined and discussed.

AGE

The average age of the 1964 active cohort was 24.1 years at time of appointment and 23.8 years for the 1969 active cohort. For both cohorts age of the subject was found to be related to rates of absenteeism. However, in the 1964 active cohort, age was also related to awards, number of times the officer was assaulted while on duty and to career type.

Age vs. Absenteeism

The cross tabulation of age against absenteeism is illustrated in Table 2 for the 1964 cohort and Table 3 for the 1969 cohort. The analyses indicate that absences due to illness were substantially less common among subjects who were older than the average at time of appointment. The proportion of subjects who reported sick less than five times was 40.0 percent for the over-25 group and only 30.0 percent of the subjects under 25 years of age.

Table 2

AGE VS. ABSENTEEISM

1964 ACTIVE COHORT

	Absenteeism													
	0-19		20-39		40-59		60-79		80-99		100-119		Total	
Age	N	%	N	%	N	%	N	%	N	%	N	%	N	%
21-25	25	36.8	20	29.4	13	19.1	5	7.4	4	5.9	1	1.4	68	100
26-30	11	44.0	8	32.0	4	16.0	1	4.0			1	4.0	25	100
Total	36	38.7	28	30.1	17	18.3	6	6.5	4	4.3	2	2.1	93	100

Table 3

AGE VS ABSENTEEISM

1969 ACTIVE COHORT

	Absenteeism															
	0-9		10-19		20-29		30-39		40-49		50-59		60-69		Total	
Age	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
21-25	27	34.6	22	28.2	12	15.4	6	7.7	8	10.3			3	3.8	78	100
26-30	9	32.1	4	14.3	9	32.1	1	3.6	2	7.1	3	10.8			28	100
Total	36	34.0	26	24.5	21	19.8	7	6.6	10	9.5	3	2.8	3	2.8	106	100

Age vs. Departmental Awards

As illustrated in Table 4, subjects under 25 years at time of appointment received more departmental awards than subjects over 25 years for the 1964 active cohort. This may be due, in part, to the location of the state police post. The data indicate that older men generally seek assignments at posts with less activity -- such as the Upper Peninsula -- thereby reducing opportunities to obtain awards. Younger men generally seek assignments in the more "active" posts located near large urban centers such as Detroit or Pontiac.

Table 4

AGE VS. AWARDS

1964 ACTIVE COHORT

	Departmental Awards							
	0-1		2-3		4-5		Total	
Age	N	%	N	%	N	%	N	%
21-25	56	82.3	11	16.2	1	1.5	68	100
26-30	22	88.0	1	4.0	2	8.0	25	100
Total	78	83.8	12	12.9	3	3.3	93	100

Traditionally, awards are given for "outstanding" police work which most often involves some aspect of "crook catching." Urban areas with higher than average crime rates present a variety of opportunities for the young trooper to become involved in "real" police work which consists of acting out the very important symbolic acts of arrest, search and the "big pinch." Wilson suggests that "real" police work is defined as catching "real" criminals in the act of committing

the crime.[1] No doubt the urban environment is the place for the young, energetic trooper who wants to do what he considers "real" police work.

Age vs. Assaults on the Officer

Table 5 shows that subjects 25 years or younger were assaulted more frequently. The findings in this study correspond with statistics compiled by the F.B.I. in their Uniform Crime Reports which also showed that younger police officers were assaulted more frequently than older police officers.[2] Many of the injuries were inflicted by felons or other persons attempting to escape after being arrested. Some minor assaults resulted, at least partially, from general hostility toward the police. Although the number of incidents which result in police injury is a small proportion of total police contacts with the public, the prospect of facing danger is constantly present. This is especially true in the heavily populated urban areas where the younger subjects are likely to seek assignments. Another explanation of the findings might be the "gung ho" attitude of many younger candidates. One state police official was overheard to say that "impulsive acts (e.g., failing to follow departmental regulations) will sometimes be committed by younger troopers for which there is no explanation and often result in injury to the trooper." Yet another hypothesis was proposed by McNamara in his study of New York police recruits. He found that lack of age, i.e., police officers under 24 years, meant lack of supervisory experience, lack of ability to clarify expectations to persons in a subordinate position and little opportunity to develop the skill of dissembling their uncertainties regarding an appropriate line of action.[3]

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[1] James Q. Wilson, Varieties of Police Behavior (Cambridge, Mass.: Harvard University Press, 1969), p. 68.

[2] Uniform Crime Reports, Crime in the United States -- 1974 (Washington, D.C. Governmental Printing Office, 1974).

[3] John H. McNamara, "Uncertainties in Police Work: The Relevance of Police Recruit's Background and Training," in David J. Bordua (ed.), The Police: Six Sociological Essays (New York: John Wiley and Sons, 1967), p. 177.

Table 5

AGE VS. ASSAULTS ON THE OFFICER

1964 ACTIVE COHORT

Age	Assaults on the Officer							
	0		1		2		Total	
	N	%	N	%	N	%	N	%
21-25	45	66.1	21	30.9	2	3.0	68	100
26-30	20	80.0	4	16.0	1	4.0	25	100
Total	65	69.9	25	26.9	3	4.2	93	100

Age vs. Career Type

The cross tabulation of age vs. career type is shown in Table 6 for the 1964 active cohort. Data indicate that subjects who were older at the time of appointment were more likely to advance beyond the position of trooper than those who were younger. As the most popular route of advancement is through the detective ranks, a somewhat higher proportion of older subjects than younger became detective sergeants. More than one half of the older men were promoted beyond the rank of trooper.

Table 6

AGE VS. CAREER TYPE

1964 ACTIVE COHORT

	Career Type									
	Trooper		Specialist		Uniform Sgt.		Detective Sgt.		Total	
Age	N	%	N	%	N	%	N	%	N	%
21-25	34	50.0	4	5.8	15	22.1	15	22.1	68	100
26-30	11	44.0	5	20.0	2	8.0	7	28.0	25	100
Total	45	48.4	9	9.7	17	18.3	22	23.6	93	100

Seventy percent of the subjects who were 21 to 22 years old at the time of appointment were still troopers after 11 years on the job, while 90.0 percent of the 28 to 30 age group were promoted.

Another interesting finding is that in both cohorts over 75.0 percent of the men under 25 years dropped out of recruit school. This is surprising since the Michigan State Police recruit very heavily from this age group. Perhaps as McNamara suggests, such qualities as patience, tolerance, and ability to cope with stressful situations tend to be more developed if a recruit is beyond 25 years of age.[4]

EDUCATIONAL ATTAINMENT VS. PERFORMANCE

The mean educational attainment of the 1964 active cohort is 12.5 years. For the 1964 active cohort, educational level of the subject at the time of appointment was found to have a significant inverse relationship to the use of firearms while on duty. The 1969 active cohort produce somewhat different

[4] Ibid.

relationships--educational level at time of entry was found to be inversely related to citizen complaints, and auto accidents while on duty, and positively related to career advancement.

Educational Attainment vs. Use of Firearms

The 1964 active cohort data showing the relationship between education and use of firearms while on duty are presented in Table 7. Subjects with a high school education were more likely to resort to the use of firearms while on duty to control human behavior than were officers who had some higher education. It was discovered, for example, that 29.5 percent of the officers with only a high school education were involved in shootings while on duty. In contrast, officers who acquired some education beyond high school were involved in police shootings only 8.4 percent of the time.

Table 7

EDUCATIONAL ATTAINMENT VS. USE OF FIREARMS

1964 ACTIVE COHORT

Education	Use of Firearms on Duty							
	0		1		2		Total	
	N	%	N	%	N	%	N	%
High School	43	70.5	12	19.7	6	9.8	61	100
Some College	24	82.8	3	10.3	2	6.9	29	100
Bachelor's Degree	3	100					3	100
Total	70	75.3	15	16.1	8	8.6	93	100

It is generally recognized that years of formal schooling beyond high school contribute toward giving the individual a better background for understanding the

complexities of society. The difficult and complex responsibilities of a state police trooper require this kind of understanding.

> It is nonsense to state or to assume that the enforcement of the law is so simple that it can be done best by those unencumbered by a study of the liberal arts. The man who goes into our streets in hopes of regulating, directing or controlling human behavior must be armed with more than a gun and the ability to perform mechanican movements in response to a situation. Such men as these engage in the difficult, complex and important business of human behavior. This intellectual armament must be no less than their physical prowess and protection.[5]

[5]Quinn Tamm, "A Change for the Better," The Police Chief, 29 (Jan. 1962), 5.

Educational Attainment vs. Citizen Complaints

In the 1969 active cohort, subjects with some college experience were less likely to receive civilian complaints of verbal abuse and the use of unnecessary force than officers with less education. Table 8 illustrates that 8.9 percent of these subjects had "at least one citizen complaint" compared to 13.5 percent of the subjects with a high school diploma. The data also indicate that after three years of service the frequency of citizen complaints lessens, suggesting that probationary troopers should be supervised more closely regardless of educational attainment.

Table 8

EDUCATIONAL ATTAINMENT VS. CITIZEN COMPLAINTS

1969 ACTIVE COHORT

	Citizen Complaints							
	0		1		2		Total	
Education	N	%	N	%	N	%	N	%
High School	45	86.5	6	11.6	1	1.9	52	100
Some College	41	91.1	3	6.7	1	2.2	45	100
Bachelor's Degree	9	100					9	100
Total	95	89.6	9	9.5	2	1.9	106	100

It would seem, then, that quality of police service may be improved by the establishment of higher educational requirements. As indicated earlier, the complexity of the police task needs personnel who have characteristics which a college education seeks to foster, i.e., intellectual curiosity, analytical ability and articulateness.

Educational Attainment vs. Auto Accidents on Duty

Table 9 suggests that with education beyond high school the subject is involved in fewer on-duty traffic accidents. For example, 50.0 percent of the subjects with high school diplomas were involved in on-duty patrol car accidents at least three times compared to 33.3 percent of the subjects with some college or a bachelor's degree. Further, the data indicate that subjects with a bachelor's degree were involved in patrol car accidents far less than non-degree officers. Of subjects with a bachelor's degree, 44.4 percent were involved in no more than one on-duty traffic accident compared to 46.7 percent of the subjects with some college and 61.5 percent of the subjects with a high school diploma.

Table 9

EDUCATIONAL ATTAINMENT VS. AUTO ACCIDENTS ON DUTY
1969 ACTIVE COHORT

	Auto Accidents on Duty									
	0-1		2-3		4-5		6-7		Total	
Education	N	%	N	%	N	%	N	%	N	%
High School	20	38.5	26	50.0	5	9.6	1	1.9	52	100
Some College	24	53.3	15	33.3	6	13.3	1	2.2	45	100
Bachelor's Degree	5	55.6	3	33.3	1	11.1			9	100
Total	49	46.2	43	40.6	12	11.3	2	1.9	106	100

Educational Attainment vs. Career Type

The data illustrating the relationships for the 1969 active cohort between educational attainment and career type are presented in Table 10. They show that officers who entered the Michigan State Police with a bachelor's degree tended to advance much more rapidly than their less educated counterparts. The data

indicate that 44.4 percent of the college graduates were promoted to detective, specialist or uniform sergeant compared to 11.1 percent of the officers with some college and 7.7 percent of the high school graduates. Of the nine subjects who entered the agency in 1969 with a bachelor's degree, four had been promoted during the first five years of their service.

Table 10

EDUCATIONAL ATTAINMENT VS. CAREER TYPE

1969 ACTIVE COHORT

	Career Type									
	Trooper		Detective		Specialist		Uniform Sgt.		Total	
Education	N	%	N	%	N	%	N	%	N	%
High School	48	92.3	3	5.8	1	1.9			52	100
Some College	40	88.9			4	8.9	1	2.2	45	100
Bachelor's Degree	5	55.6	1	11.1	1	11.1	2	22.2	9	100
Total	93	87.7	4	3.8	6	5.7	3	2.8	106	100

Other interesting differences between college and non-college graduates were as follows. Only 55.6 percent of the college graduate were still assigned in 1975 as troopers whose major responsibility was traffic control. The corresponding proportions for officers who only graduated from high school were 92.3 percent and 88.9 percent for officers with some college. Furthermore, 22.2 percent of the college graduates held the rank of uniform sergeant compared to only 2.2 percent of the officers with some college.

MARITAL STATUS VS. PERFORMANCE

A candidate's marital status at the time of appointment was found to be related only to citizen complaints for the 1969 active cohort. Married subjects had slightly more citizen complaints of verbal abuse and unnecessary use of force. Table 11 shows that 12.5 percent of the married officers had formal complaints filed against them compared to 7.2 of the single officers. It is interesting to note that all subjects who were divorced (4.7 percent) at the time of appointment dropped out or were asked to leave recruit school. Therefore, divorced subjects were not a part of the 1969 active cohort.

Table 11

MARITAL STATUS VS. CITIZEN COMPLAINTS
1969 ACTIVE COHORT

Marital Status	Citizen Complaints							
	0		1		2		Total	
	N	%	N	%	N	%	N	%
Married	56	87.5	8	12.5			64	100
Single	39	92.8	1	2.4	2	4.8	42	100
Total	95	89.6	9	8.5	2	1.9	106	100

Nonetheless, the general patterns for married and single candidates as indicated by the data were about what one would expect, e.g., the older married subjects were promoted faster, had fewer departmental complaints and were less educated.

INDEBTEDNESS VS. PERFORMANCE

The number of debts outstanding against an applicant at the time of appointment to recruit school showed a significant positive relationship to the use of firearms and absenteeism. All the performance criteria used in the study taken together suggest that applicants with a large number of debts (three or more) are somewhat less satisfactory performers than the average. In the 1964 active cohort, 6.7 percent of the subjects with no debts were found to have resorted to the use of weapons in the performance of police duties over the eleven-year period, compared to 21.2 percent of the subjects with one debt and 66.7 percent of the subjects with four or more debts. (See Table 12)

Table 12

INDEBTEDNESS VS. USE OF FIREARMS
1964 ACTIVE COHORT

Indebtedness	Use of Firearms on Duty					
	0		1-2		Total	
	N	%	N	%	N	%
0	28	93.3	2	6.7	30	100
1	26	78.8	7	21.2	33	100
2	14	77.8	4	22.2	18	100
3	9	100			9	100
4+	1	33.3	2	66.7	3	100
Total	78	83.9	11	11.8	93	100

Applicants with many debts also had a slightly higher than average frequency of absenteeism. Similar patterns emerged for both the 1964 and 1969 active cohorts. Tables 13 and 14 show that the greater the number of debts, the

more sick leave the subject used. For example, in the 1964 active cohort 42.8 percent of the subjects with two to three outstanding debts had taken from 40 to 119 days of sick leave over an eleven-year period. During this same period the mean number of sick days used for the 1964 active cohort was 21.9 days. The 1969 active cohort produced somewhat different results over an equal time period, e.g., 21.8 percent of the subjects with two or more debts used from 30 to 69 days of sick leave over a six-year period compared to 21.6 percent of the subjects with no debts. The mean number of sick days used by the 1969 active cohort was 11.3 days. The results are in the same direction but do not reach significance between the amount of indebtedness and rates of absenteeism at least for the 1969 active cohort.

Table 13

INDEBTEDNESS VS. ABSENTEEISM
1964 ACTIVE COHORT

Indebtedness	Absenteeism													
	0-19		20-39		40-59		60-79		80-99		100-119		Total	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-1	26	41.9	20	32.2	11	17.7	5	8.2					62	100
2-3	8	28.6	8	28.6	6	21.4	1	3.6	2	7.1	3	10.7	28	100
4+	2	66.7							1	33.3			3	100
Total	36	38.7	28	30.1	17	18.3	6	6.4	3	3.2	3	3.3	93	100

Table 14

INDEBTEDNESS VS. ABSENTEEISM
1969 ACTIVE COHORT

	Absenteeism															
	0-9		10-19		20-29		30-39		40-49		50-59		60-69		Total	
Indebtedness	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%
0-1	14	33.4	13	30.7	6	14.3	2	4.9	6	14.3			1	2.4	42	100
2-3	18	33.9	10	18.9	15	28.3	4	7.5	3	5.7	1	1.9	2	3.7	53	100
4+	4	40.0	3	30.0			1	10.0	1	10.0	2	20.0			11	100
Total	36	33.9	26	24.5	21	19.8	7	6.6	10	9.4	3	2.9	3	2.9	106	100

PREVIOUS RESIDENCES VS. PERFORMANCE

Previous Residences vs. Absenteeism

Table 15 shows that for the 1969 active cohort previous residences were also related to absenteeism. The data indicate that subjects who had changed their place of residence prior to appointment to the recruit school (excluding the military) four or more times used a slightly greater number of sick days during the study period. For instance, 40.3 percent of the subjects who changed their place of residence at least three times were absent 20 to 79 days compared to 44.9 percent of the subjects who moved more than four times. However, for those subjects who only made one prior move, 36.4 percent were absent 20 to 79 days, while 50.0 percent of the subjects with six or more moves were absent 20 to 79 days.

Table 15

PREVIOUS RESIDENCES VS. ABSENTEEISM
1969 ACTIVE COHORT

	Absenteeism									
	0-19		20-39		40-59		60-79		Total	
Previous Residences	N	%	N	%	N	%	N	%	N	%
0-1	14	63.6	2	9.1	5	22.7	1	4.6	22	100
2-3	20	57.2	11	31.4	2	5.7	2	5.7	35	100
4-5	22	56.4	14	35.9	3	7.7			39	100
6+	5	50.0	2	20.0	3	30.0			10	100
Total	61	57.6	29	27.3	13	12.3	3	2.8	106	100

Previous Residences vs. Citizen Complaints

The number of previous residences is related to citizen complaints of verbal abuse and unnecessary use of force for the 1964 active cohort, e.g., 18.8 percent of the subjects who changed their place of residence at least once had one

citizen complaint filed against them. In contrast, 30.8 percent of the subjects with six or more moves prior to appointment had one or more civilian complaints filed against them. (See Table 16)

Table 16

PREVIOUS RESIDENCE VS. CITIZEN COMPLAINTS
1964 ACTIVE COHORT

Previous Residence	Citizen Complaints									
	0		1		2		3		Total	
	N	%	N	%	N	%	N	%	N	%
0-1	13	81.2	3	18.8					16	100
2-3	37	88.1	4	9.5			1	2.4	42	100
4-5	19	86.4	2	9.1	1	4.5			22	100
6+	9	69.2	2	15.4	2	15.4			13	100
Total	78	83.8	11	11.8	3	3.3	1	1.1	93	100

When the variable of residences entered the regression equation, it did not emerge as a predictor of future performance for the 1964 active cohort. However, it did emerge as a powerful predictor in the 1969 active cohort for commendatory letters, (i.e., the least number of residence changes the more favorable the letters) producing a correlation coefficient of .250 which was significant at the .05 level.

MILITARY BACKGROUND VS. PERFORMANCE

In general for both active cohorts the officers who served in the military performed no better or worse than those who had no military service. In terms of career advancement, absenteeism, discipinary actions and other performance variables, no significant differences were found between veterans and non-veterans.

In addition, the presence of military discipline in a candidate's record was not found to be a meaningful predictor of later performance. It is particularly interesting to note that a history of military discipline was not related in any significant way to a violation of departmental norms or citizen complaints. Therefore, it is suggested that poor performance in the military does not necessarily mean that the candidate will be a future discipline problem. There were differences between the two cohorts of interest, as discussed below.

Military Background vs. Departmental Awards

It was found that veterans received slightly more awards than non-veterans in the 1964 active cohort. Table 17 illustrates that 52.3 percent of the subjects with prior military service obtained departmental awards for "outstanding" police work compared to 50.0 percent of the non-veterans. Moreover, 11.1 percent of the veterans received three or more awards, while there were no non-veterans in this category.

Table 17

MILITARY BACKGROUND VS. DEPARTMENTAL AWARDS
1964 ACTIVE COHORT

Military Background	Departmental Awards									
	0		1		2		3+		Total	
	N	%	N	%	N	%	N	%	N	%
Yes	30	47.7	24	38.1	2	3.1	7	11.1	63	100
No	15	50.0	9	30.0	6	20.0			30	100
Total	45	48.4	33	35.5	8	8.6	7	7.5	93	100

Military Background vs. Assaults on the Officer

The number of officers assaulted while in the performance of police duties totaled 28, which represents 30.1 percent of the entire 1964 active cohort. However, non-veterans were assaulted with much greater frequency than veterans.

The data presented in Table 18 shows that non-veterans were assaulted 43.3 percent of the time. However, 4.8 percent of the veterans were assaulted two or more times, compared with 0.0 percent of the non-veterans.

Table 18

MILITARY BACKGROUND VS. ASSAULTS ON THE OFFICER
1964 ACTIVE COHORT

Military Background	Assaults on the Officer							
	0		1		2		Total	
	N	%	N	%	N	%	N	%
Yes	48	76.2	12	19.0	3	4.8	63	100
No	17	56.7	13	43.3			30	100
Total	65	69.9	25	26.9	3	3.2	93	100

Military Background vs. Auto Accidents on Duty

Table 19 indicates there is a difference between veterans and non-veterans in their ability to handle a patrol car in the 1969 active cohort. For example, 49.0 percent of the veterans were involved in on-duty patrol car accidents more than two times, compared to 57.9 percent of the non-veterans. Additionally, 17.6 percent of the non-veterans were involved in four or more patrol car accidents, in contrast to 8.2 percent of the veterans. It is suggested that troopers with military experience represent a modified military bearing that may result in fewer accidents, i.e., if the officer is standing, he should do so without support and if he is driving, he should sit upright, be attentive and alert.

Table 19

MILITARY BACKGROUND VS. AUTO ACCIDENTS
1969 ACTIVE COHORT

Military Background	Auto Accidents on Duty							
	0-1		2-3		4+		Total	
	N	%	N	%	N	%	N	%
Yes	25	51.0	20	40.8	4	8.2	49	100
No	24	42.1	23	40.3	10	17.6	57	100
Total	49	46.2	43	40.6	14	13.2	106	100

Military Background vs. Later Education

Military background was found to be related inversely to later education in the 1969 active cohort. Subjects who took advantage of current educational incentives offered by Law Enforcement Education Plan (LEEP) were overwhelmingly the non-veterans. Table 20 shows that 75.4 percent of the non-veterans pursued higher educational goals, compared with ony 32.7 percent of the subjects classified as veterans. Many of the non-veterans had attended college upon graduation from high school, although many left after a semester or two. The data implies that if the candidate did not enter college after high school, he enlisted in the military service.

Table 20

MILITARY BACKGROUND VS. LATER EDUCATION
1969 ACTIVE COHORT

Military Background	Later Education											
	High School		1 yr. College		2 yrs. College		3 yrs. College		Bachelor's Degree		Total	
	N	%	N	%	N	%	N	%	N	%	N	%
Yes	33	67.3	13	26.5	2	4.1			1	2.1	49	100
No	14	24.6	18	31.6	13	22.8	3	5.3	9	15.7	57	100
Total	47	44.3	31	29.3	15	14.1	3	2.8	10	9.5	106	100

OCCUPATIONAL HISTORY VS. PERFORMANCE

Neither the number of jobs held by candidates prior to application nor the type of work performed were related to any performance measure, except for the 1969 active cohort on one measure. A high ranking on Last Occupation was inversely associated with the number of citizen complaints of verbal abuse and use of unnecessary force. Table 21 illustrates that 23.1 percent of officers whose last occupation rates the lowest received the greatest number of citizen complaints, compared to 8.0 percent of those rated in the 30 to 39 range. It is interesting to note that of the 25 officers rated in the 30 to 39 range, 91.3 percent were former police officers, and this range had the lowest proportion of citizen complaints.

Table 21

LAST OCCUPATION VS. CITIZEN COMPLAINTS
1964 ACTIVE COHORT

Last Occupation	Citizen Complaints					
	0		1-3		Total	
	N	%	N	%	N	%
00-09	10	76.9	3	23.1	13	100
10-19	35	83.3	7	16.7	42	100
20-29	4	80.0	1	20.0	5	100
30-39	23	92.0	2	8.0	25	100
40-49	2	66.7	1	33.3	3	100
50-59	1	100			1	100
60-69	2	66.7	1	33.3	3	100
70-79	1	100			1	100
80-89						
90-99						
Total	78	83.8	15	16.2	93	100

EMPLOYMENT DISCIPLINARY RECORD VS. PERFORMANCE

Within the 1964 active cohort a history of employment disciplinary incidents was found to be related to the number of on-duty auto accidents as well as number of times the officer was assaulted in the performance of police tasks. Table 22 shows that 87.5 percent of the subjects with an employment disciplinary record had been involved in two or more auto accidents while on duty compared to 72.9 percent of the subjects without a derogatory employment record. Additionally, officers with an employment disciplinary record were assaulted more than officers without a record of employment incidents. For example, Table 23 shows that 37.5 percent of the subjects with an employment disciplinary record were assaulted, compared to 29.4 percent of the subejcts without a perjorative employment record. When employment disciplinary record was entered into the regression equation for the 1964 active cohort, it emerged as the second most powerful predictor of non-preventable accidents and citizen complaints.

Table 22

EMPLOYMENT DISCIPLINARY RECORD
VS. AUTO ACCIDENTS ON DUTY
1964 ACTIVE COHORT

Employment Disciplinary Record	Total Number Auto Accidents on Duty									
	0-1		2-3		4-5		6+		Total	
	N	%	N	%	N	%	N	%	N	%
Yes	1	12.5	3	37.5	2	25.0	2	25.0	8	100
No	23	27.1	29	34.1	26	30.6	7	8.2	85	100
Total	24	25.8	32	34.4	28	30.1	9	93	100	

Table 23

EMPLOYMENT DISCIPLINARY RECORD
VS. ASSAULTS ON OFFICER
1964 ACTIVE COHORT

Employment Disciplinary Record	Assaults on the Officer							
	0		1		2		Total	
	N	%	N	%	N	%	N	%
Yes	5	62.5	3	37.5			8	100
No	60	70.6	22	25.9	3	3.5	85	100
Total	65	69.9	25	26.9	3	3.2	93	100

The 1969 active cohort, on the other hand, produced an inverse relationship between employment disciplinary record and two important measures of performance: assaults on the officer and departmental reprimands. It might be assumed that prior employment discplinary incidents suggest future disciplinary problems, but this was not the case for the 1969 active cohort. Table 24 indicates that 70.0 percent of the officers with an employment disciplinary record received no departmental reprimands, compared to 58.1 percent of the officers free from any prior employment discipline. It also appears that subjects with an employment disciplinary record were assaulted less. For example, Table 25 shows that 41.8 percent of the officers without an employment disciplinary record were assaulted compared to 25.0 percent of the officers with an employment disciplinary record. Employment disciplinary record did not emerge as a successful predictor when entered into the regression equation for the 1969 active cohort.

Table 24

EMPLOYMENT DISCIPLINARY RECORD
VS. REPRIMANDS
1969 ACTIVE COHORT

Employment Disciplinary Record	Reprimands							
	0		1		2+		Total	
	N	%	N	%	N	%	N	%
Yes	14	70.0	3	15.0	3	15.0	20	100
No	50	58.1	28	32.6	8	8.3	86	100
Total	64	60.4	31	29.2	11	10.4	106	100

Table 25

EMPLOYMENT DISCIPLINARY RECORD
VS. ASSAULTS ON OFFICER
1969 ACTIVE COHORT

Employment Disciplinary Record	Assaults on the Officer							
	0		1		2+		Total	
	N	%	N	%	N	%	N	%
Yes	15	75.0	2	10.0	3	15.0	20	100
No	50	58.2	30	34.9	6	6.9	86	100
Total	65	61.3	32	30.2	9	8.5	106	100

Employment discipline was not found to be related to positive measures of police performance such as Awards and Career Type in either cohort. There was some indication that subjects with an employment disciplinary record were absent more frequently than others, but these differences were not large.

PRIOR TRAFFIC OFFENSES VS. PERFORMANCE

Prior traffic record of the subject was related to several performance measures. The 1964 active cohort exhibited relationships between pre-service auto accidents and the use of firearms on duty, as well as departmental awards. Table 26 shows that 86.9 percent of the officers with less than two pre-service auto accidents never resorted to the use of firearms to control human behavior, compared to 55.5 percent of the officers with two or more prior auto accidents. However, a somewhat different relationship appears for prior auto accidents and departmental awards. For example, Table 27 suggests that 13.1 percent of the officers with less than two pre-service auto accidents acquired two or more departmental awards, compared to 44.4 percent of the officers with more than two pre-service auto accidents. When entered into the regression equation for the 1964 active cohort, prior auto accidents emerged as the only significant predictor for use of firearms on duty attaining an R^2 of .10, hardly statistically significant.

Table 26

PRIOR AUTO ACCIDENTS
VS. USE OF FIREARMS ON DUTY
1964 ACTIVE COHORT

Prior Auto Accidents	Use of Firearms on Duty							
	0		1		2		Total	
	N	%	N	%	N	%	N	%
0-1	73	86.9	10	11.9	1	1.2	84	100
2-3	5	55.5	1	11.1	3	33.4	9	100
Total	78	83.8	11	11.9	4	4.3	93	100

Table 27

PRIOR AUTO ACCIDENTS VS. AWARDS
1964 ACTIVE COHORT

Prior Auto Accidents	Departmental Awards							
	0-1		2-3		4-5		Total	
	N	%	N	%	N	%	N	%
0-1	73	86.9	8	9.5	3	3.6	94	100
2-3	5	55.6	4	44.4			9	100
Total	78	83.9	12	12.9	3	3.2	93	100

The 1969 active cohort data suggest a relationship between prior moving violations and two negative performance measures. Table 28 shows that 36.8 percent of the subjects who had less than two prior auto accidents had one or more departmental reprimands, compared to 57.9 percent of the subjects with two or more auto accidents.

Table 28

PRIOR AUTO ACCIDENTS VS. REPRIMANDS
1969 ACTIVE COHORT

Prior Auto Accidents	Reprimands							
	0		1-2		3		Total	
	N	%	N	%	N	%	N	%
0-1	55	63.2	32	36.8			87	100
2-3	8	42.1	8	42.1	3	15.8	19	100
Total	63	59.4	40	37.7	3	2.9	106	100

The number of prior auto accidents was found to have a positive relationship to the number of on-duty patrol car accidents. Table 29 illustrates that 48.3 percent of the officers with less than two prior auto accidents were

involved in two or more on-duty patrol car accidents, compared to 84.2 percent of the officers who had two or more prior auto accidents. In fact, over 50.0 percent of the subjects with an accident-free pre-service driving record had never been involved in an on-duty patrol car accident. These findings provide some indication that troopers with a history of auto accidents are more inclined to become involved in future on-duty auto accidents. Prior auto accidents emerged as the third most powerful predictor of on-duty auto accidents, following prior moving violations and marksmanship when entered into the regression equation for the entire 1964 active cohort.

Table 29

PRIOR AUTO ACCIDENTS VS. AUTO ACCIDENTS ON DUTY
1969 ACTIVE COHORT

Prior Auto Accidents	Auto Accidents on Duty							
	0-1		2-3		4+		Total	
	N	%	N	%	N	%	N	%
0-1	45	51.7	34	39.1	8	9.2	87	100
2-3+	3	15.8	10	52.6	6	31.6	19	100
Total	48	45.3	44	41.5	14	13.2	106	100

Further, the number of prior moving traffic summonses was found to be related to on-duty auto accidents for the 1969 active cohort. For example, Table 30 shows that 68.0 percent of the subjects who had never received a traffic citation prior to appointment were involved in less than two on-duty patrol car accidents, compared to 56.8 percent of the subjects with one or two citations and 24.3 percent of the subjects with three or four moving violation. In fact, 61.2 percent of the troopers with less than two prior moving violations were involved in no more than one patrol car accident, compared to 25.0 percent of the subjects who received

three or more moving violations prior to appointment. Prior moving traffic citations appeared four times in the regression equations. It emerged as the most powerful predictor for the performance criteria of total number of on-duty patrol car accidents and non-preventive accidents. This suggests that pre-service driving habits are an indication of future ability to operate a state police patrol car.

Table 30

PRIOR MOVING TRAFFIC TICKETS
VS AUTO ACCIDENTS
1969 ACTIVE COHORT

Prior Moving Traffic Tickets	Auto Accidents on Duty							
	0-1		2-3		4-5		Total	
	N	%	N	%	N	%	N	%
0	17	68.0	7	28.0	1	4.0	25	100
1-2	21	56.8	12	32.4	4	10.8	37	100
3-4	9	24.3	19	51.3	9	24.4	37	100
5-6	2	28.6	5	71.4			7	100
Total	49	46.2	43	40.6	14	13.2	106	100

RECRUIT SCHOOL SCORE VS. PERFORMANCE

The recruit training school score[6] was significantly related to Career Type, Duty-Incurred Injuries and In-Service Schools attended by the 1969 active cohort. The 1964 active cohort produced no relationships between recruit score and future police performance. In the 1969 cohort, men with higher recruit training scores were much better performers than those with low scores.

[6]The Michigan State Police recruit training program states that all recruits must maintain an average grade of 80 percent. If the recruit falls below this level, he is asked to resign from the recruit school.

Recruit School Score vs. Career Type

The statistics illustrate that high recruit training score were associated with rapid career advancement in 1969 cohort only. Table 31 indicates that 23.1 percent of the troopers in that cohort with the highest recruit training scores (89-94) advanced beyond the rank of trooper at a rate four times as high as the 6.3 percent rate of the subjects with the lowest scores (80-88). Likewise, troopers with high recruit scores advanced to specialist assignments more rapidly than average. The data shows that 15.4 percent of the troopers with high recruit scores were promoted to the more prestigous specialist squads, a rate eight times as high as the 2.6 percent rate of subjects with the lowest recruit scores. More rapid advancement with increased recruit training scores was also the pattern for subjects in the 1969 cohort with intermediate scores, i.e., those subjects who attained a score between 87 and 89.

Table 31

RECRUIT SCHOOL SCORE VS. CAREER TYPE
1969 ACTIVE COHORT

Recruit School Score	Career Type									
	Trooper		Detective		Specialist		Uniform Sgt.		Total	
	N	%	N	%	N	%	N	%	N	%
80-82	13	92.8					1	7.2	14	100
83-85	31	94.0	1	3.0	1	3.0			33	100
86-88	31	94.0	1	3.0	1	3.0			33	100
89-91	19	82.6	1	4.3	3	13.1			23	100
92-94	1	33.4	1	33.3	1	33.3			3	100
Total	95	89.6	4	3.8	6	5.7	1	.9	106	100

Recruit School Score vs. Duty-Incurred Injuries

In the 1969 cohort, recruit training scores had a curvilinear relationship to incidence of injuries while performing police responsibilities. Table 32 shows that 59.5 percent of the troopers with the lowest scores (80-85) were injured while on duty, compared to 65.3 percent of the troopers with the highest scores (89-94). Subjects with intermediate scores (86-88) reported the least number of duty-incurred injuries.

Table 32

RECRUIT SCHOOL SCORE VS. DUTY-INCURRED INJURIES
1969 ACTIVE COHORT

Recruit School Score	Duty-Incurred Injuries					
	0		1-2		Total	
	N	%	N	%	N	%
80-82	7	50.0	5	35.7	14	100
83-85	10	30.3	23	69.7	33	100
86-88	18	54.5	12	36.4	33	100
89-92	8	34.8	15	65.2	23	100
92-94	1	33.3	2	66.7	3	100
Total	44	41.5	57	53.8	106	100

Recruit School Score vs. In-Service Schools

In the 1969 cohort, the grades of subjects in the recruit training program also had a curvilinear relationship to the number of In-Service Training Schools attended after appointment. Table 33 shows that 59.6 percent of the subjects with an average grade between 80 and 85 attended in-service training programs, compared to 50.0 percent of the troopers who scored between 89 and 94. However, 72.7 percent of the subjects in the intermediate range of 86 to 88 attended in-service training programs.

Table 33

RECRUIT SCHOOL SCORE VS. IN-SERVICE SCHOOLS
1969 ACTIVE COHORT

Recruit School Score	In-Service Schools							
	0		1-2		3+		Total	
	N	%	N	%	N	%	N	%
80-82	7	50.0	6	42.8	1	7.2	14	100
83-85	12	36.4	19	57.6	2	6.0	33	100
86-88	9	27.3	23	69.7	1	3.0	33	100
89-91	13	56.5	10	43.5			23	100
92-94			2	66.7	1	33.3	3	100
Total	41	38.8	60	56.6	5	4.6	106	100

The data on this cohort suggest that the most consistent performers are subjects with scores ranging from 86 to 88, since they reported the least number of injuries, attended more in-service schools, and advanced through the ranks faster.

SIBLINGS VS. PERFORMANCE

The number of siblings the subject had was related to several performance measures for both active cohorts. The 1964 active cohort produced relationships between Number of Siblings and Citizen Complaints, On-Duty Auto Accidents, Awards and Duty-Incurred Injuries. For the 1969 active cohort the number of siblings was related to Career Type and In-Service Schools. When siblings entered the regression equation for Career Type of the 1964 active cohort, it emerged as the second most powerful predictor, producing a correlation coefficient of .214, which was significant at the .05 level.

Siblings vs. Citizen Complaints

Subjects with fewer siblings had the least number of citizen complaints involving verbal abuse and the use of unnecessary force. This relationship is displayed in Table 34, which shows that subjects who had no siblings or one sibling did not register any citizen complaints, compared to 22.5 percent of the subjects with 2 to 3 siblings and 33.3 percent of the subjects with 4 to 5 siblings. However, subjects with 6 or more siblings reported fewer citizen complaints than subjects with 2 to 5 siblings.

Table 34

SIBLINGS VS. CITIZEN COMPLAINTS
1964 ACTIVE COHORT

Siblings	Citizen Complaints					
	0		1-3		Total	
	N	%	N	%	N	%
0-1	29	100			29	100
2-3	31	77.5	9	22.5	40	100
4-5	10	66.7	5	33.3	15	100
6+	8	88.9	1	11.1	9	100
Total	78	83.9	15	16.1	93	100

The data indicate that subjects from the "middle range" (2 to 5 siblings) received a greater number of citizen complaints than subjects with less than two siblings or more than six siblings.

Siblings vs. On-Duty Auto Accidents

The relationship between siblings and on-duty auto accidents for the 1964 active cohort produced results similar to siblings and citizen complaints. For example, Table 35 shows that 65.5 percent of the troopers with less than two siblings were involved in two or more auto accidents while performing police tasks, compared to 77.5 percent of the troopers with two to three siblings, and 86.6 percent of the troopers with four to five siblings. Likewise, subjects with six or more siblings had fewer on-duty traffic accidents than subjects with two to five siblings. In fact, subjects with six or more siblings differed from subjects with less than two siblings by only 1.1 percent.

Table 35

SIBLINGS VS. AUTO ACCIDENTS ON DUTY
1964 ACTIVE COHORT

	Auto Accidents on Duty									
	0-1		2-3		4-5		6+		Total	
Siblings	N	%	N	%	N	%	N	%	N	%
0-1	10	34.5	7	24.1	8	27.6	4	13.8	29	100
2-3	9	22.5	15	37.5	14	35.0	2	5.0	40	100
4-5	2	13.4	6	40.0	4	26.6	3	20.0	15	100
6+	3	33.4	5	55.5	1	11.1			9	100
Total	24	25.8	33	35.5	27	29.0	9	9.7	93	100

Siblings vs. Departmental Awards

A cross-tabulation of number of siblings with awards for the 1964 active cohort indicated that subjects with the fewest number of siblings attained the greatest number of departmental awards. Table 36 shows that 37.9 percent of the subjects with less than two siblings received no departmental awards in the eleven-year period, compared to 42.5 percent of the subjects with two to three siblings, 60.0 percent of the subjects with four to five siblings and 88.9 percent of the subjects with more than six siblings. In addition, 59.4 percent of the troopers with less than four siblings acquired at least one departmental award, compared to 26.9 percent of the troopers with more than four siblings.

Table 36

SIBLINGS VS. AWARDS
1964 ACTIVE COHORT

	Departmental Awards							
	0		1-2		3-4		Total	
Siblings	N	%	N	%	N	%	N	%
0-1	11	37.9	17	58.6	1	3.5	29	100
2-3	17	42.5	20	50.0	3	7.5	40	100
4-5	9	60.0	4	26.7	2	13.3	15	100
6+	8	88.9			1	11.1	9	100
Total	45	48.4	41	44.1	7	7.5	93	100

Siblings-vs.-Duty-Incurred-Injuries

Subjects with fewer siblings for the 1964 active cohort had a significantly greater number of duty-incurred injuries than their counterparts with many siblings. Table 37, for example, shows that 69.2 percent of the subjects with fewer than four siblings suffered at least one duty-incurred injury, compared to 75.0

percent of the officers with more than four siblings. Further, 86.7 percent of the subjects with four to five siblings experienced the greatest proportion of on-duty injuries.

Table 37

SIBLINGS VS. DUTY-INCURRED INJURIES
1964 ACTIVE COHORT

	Duty-Incurred Injuries							
	0		1-2		3-4		Total	
Siblings	N	%	N	%	N	%	N	%
0-1	7	24.1	21	72.4	1	3.5	29	100
2-3	14	35.0	18	45.0	8	20.0	40	100
4-5	2	13.3	9	60.0	4	26.7	15	100
6+	4	44.5	4	44.4	1	11.1	9	100
Total	27	29.0	52	55.9	14	15.1	93	100

Siblings vs. Career Type

The number of siblings in a trooper's family was related to career advancement for the 1969 active cohort. The data imply that subjects with fewer siblings advanced more slowly than subjects with many siblings. For instance, Table 38 shows that 7.9 percent of the subjects with fewer than four siblings advanced beyond the rank of trooper, compared to 16.7 percent of the subjects with more than four siblings. Further, the subject with the greatest number of siblings (11) advanced to the rank of uniform sergeant.

Table 38

SIBLINGS VS. CAREER TYPE
1969 ACTIVE COHORT

Siblings	Career Type									
	Trooper		Det.		Spec.		Uniform Sgt.		Total	
	N	%	N	%	N	%	N	%	N	%
0-1	18	85.7			3	14.3			21	100
2-3	52	94.5	1	1.8	2	3.7			55	100
4-5	14	87.5	1	6.3	1	6.2			16	100
6+	11	78.6	2	14.3			1	7.1	14	100
Total	95	89.6	4	3.8	6	5.7	1	.9	106	100

Siblings vs. In-Service Schools

The relationship between number of siblings in a subject's family and the number of in-service training programs the subject attended was significant for the 1969 active cohort. This relationship is presented in Table 39, which illustrates that the greater the number of siblings, the greater the number of in-service training schools attended by the subject. For example, 52.4 percent of the troopers with less than two siblings never attended an in-service training school, compared to 28.6 percent of the troopers with six or more siblings in their family. Additionally, 70.0 percent of the officers with more than four siblings participated in at least one in-service training program, compared to 57.9 percent of the officers with fewer than four siblings.

Table 39

SIBLINGS VS. IN-SERVICE TRAINING SCHOOLS
1969 ACTIVE COHORT

	In-Service Schools							
	0		1-2		3+		Total	
Siblings	N	%	N	%	N	%	N	%
0-1	11	52.4	10	47.6			21	100
2-3	21	38.2	31	56.4	3	5.4	55	100
4-5	5	32.2	9	56.2	2	12.6	16	100
6+	4	28.6	10	71.4			14	100
Total	41	38.7	60	56.6	5	4.7	106	100

SUMMARY OF CROSS-TABULATIONS

This portion of the study is both valuable and noteworthy, since it identifies certain biographical factors on predictors of successful job performance. However, the use of percentages and chi-square testing is not the most effective method of analyzing the background and performance variables, nor does it yield an ordering of the resulting predictors. In the next section the regression equation is presented for the 1964 and 1969 active cohorts in which most of the predictors identified in Chapter III are analyzed. This portion of the study also determines the best predictors among the significant predictors.

CHAPTER V

ANALYSIS OF REGRESSION PROGRAM

PREDICTING POLICE PERFORMANCE

This chapter will present the results of the predictive equations. We are interested in four primary objectives:

1) to identify the relative importance of each background factor by relating each factor to individual performance measures;
2) to predict the value of each performance measure;
3) to examine differences between the two active cohorts;
4) to develop a general performance index derived from the individual performance measures.

The statistical technique used was stepwise multiple linear regression. In the stepwise solution, tests are performed at each stage to determine the contribution of each variable already in the equation if it were to enter last. For example, the most powerful background variable enters the regression equation first and explains as much of the variance as possible. This is followed by the second strongest background variable, and so forth. Whenever a new variable enters the equation, each of the preceding variables is held constant to avoid duplication.

The computer program used for the analysis is the LS Step or stepwise least squares program developed by the Michigan State University Computer Center.

This method is used to estimate a best relationship between a dependent variable (performance measure) and a set of independent variables (background factors). The LS Step Program calculates the significance probability of the F Statistic for the least squares coefficient of a variable to determine whether or not it should be deleted from or added to the equation. The stepwise procedure is completed when no independent variables meet the deletion criteria and no independent variables meet the addition criteria. Only those predictor variables whose contribution was significantly different from zero at the .05 level were retained in the regression equation. Thus, the analysis for the performance variable Y takes the form $Y = a + b_1x_1 + b_2x_2 + b_3x_3 + \ldots + b_nx_n$ where the number n of predictor variables changes with each performance measure.

The following background factors were used as independent variables in each regression equation: age, region of birth, height, marital status, father's occupation, number of siblings, number of prior jobs, last occupation, employment disciplinary record, military history, arrest history, auto accidents, educational attainment, college curriculum, number of debts, number of prior residences, number of geographical transfers, probationary rating, firearms qualification, oral board review, background rating. (See Chapter III for a detailed description of these variables.)

The performance measures or dependent variables are as follows: Career Advancement, Number of In-Service Schools Attended, Later Education, Traffic Awards, Department Awards, Commendatory Letters, Preventable Auto Accidents, Non-preventable Auto Accidents, Total Auto Accidents, Departmental Reprimands, Departmental Suspensions, Departmental Dismissals, Total Departmental Complaints, Citizen Complaints, Total Departmental and Citizen Complaints, Personal Injuries on Duty, Sick Days Used, Use of Firearms on Duty, Recruit School Score.

Findings

The results of the regression analysis for the 1964 and the 1969 active cohorts are summarized in Tables 40 and 41. Only those performance measures with multiple correlations significantly different from zero at the .05 level are illustrated on these tables. There were a total of ninety-eight statistically significant relationships, fifty for the 1964 active cohort and forty-eight for the 1969 active cohort. The multiple correlation coefficients (R) displayed on Tables 40 and 41 vary from large to small, results that are quite similar to previous studies.

Table 40 shows, for example, that there were four statistically significant relationships between background factors and Career Advancement for the 1964 active cohort. The most powerful predictor, the number of geographical transfers, entered the regression equation first, yielding a correlation coefficient of .437 which explained 14.0 percent of the variance in Career Advancement. The results indicate that the sign of beta for the variable Transfers was positive, suggesting that the number of geographical transfers were related to Career Advancement. The Number of Siblings entered the regression equation next as the second strongest predictor and accounted for an additional 8.2 percent of the variance. The third strongest predictor was enrollment in a Police Science curriculum which reported a correlation coefficient of .203 and explained an additional 4.8 percent of the variation. Being a member of the National Guard was the fourth strongest predictor which accounted for 4.2 percent of the variance. The combined values of Transfers, Number of Siblings, Police Science Major and National Guard yielded a multiple correlation coefficient of (R) = .64 which means that 64 percent of the variance can be explained by these four predictor variables.

The next item in Table 40 shows that Transfers and Assaults on the Officer accounted for 49.0 percent of the variance in predicting the number of In-Service

Table 40

REGRESSION RESULTS FOR EACH PERFORMANCE MEASURE 1964 ACTIVE COHORT

Performance Measure	Background Factor	Simple r	R	R^2	F (Sig)	Multiple R^2	Beta & Sign
1. Career Advancement	Transfers	.437	.64	.41	8.612 (.0005)	.1403	.38
	Number of Siblings	.214				.0826	.29
	Police Science Major	.203				.0482	-.22
	National Guard	.277				.0426	-.21
	Divorced	-.096				.0337	-.18
2. In-Service Schools	Transfers	.422	.49	.24	14.456 (.0005)	.1410	.38
	Assaults on the Officer	.319				.0645	.25
3. Later Education	Educational Attainment	.734	.80	.65	32.988 (.0005)	.2433	.58
	Juvenile Arrest	-.183				.0502	-.22
	Behavioral Science Major	-.357				.0395	-.21
	Police Science Major	-.363				.0231	-.16
4. Traffic Awards	Business Major	-.263	.50	.25	6.098 (.0005)	.0886	-.30
	Misdemeanor Arrest	-.178				.0422	-.20
	Age	.193				.1025	.34
	Divorced	.192				.0534	.23
5. Departmental Awards	Assaults on the Officer	.337	.48	.23	13.710	.1288	.35
	Divorced	-.323				.1199	-.34
6. Commendatory Letters	Behavioral Science Major	-.549	.62	.39	28.976 (.0005)	.3028	-.55
	Transfers	.298				.0903	.30

1964 ACTIVE COHORT

Performance Measure	Background Factor	Simple r	R	R^2	F (Sig)	Multiple R^2	Beta & Sign
7. Preventable Accidents	Marines	-.282	.50	.25	6.021 (.0005)	.0467	-.22
	Business Major	.232				.0570	.24
	Age	-.115				.0705	-.28
	Divorced	-.242				.0361	-.20
8. Non-Preventable Accidents	Air Force	-.397	.49	.24	9.470 (.0005)	.1643	-.40
	Employment Disciplinary Record	-.170				.0544	-.23
	Reserves	.190				.0425	.20
9. Total Auto Accidents	Air Force	-.339	.48	.23	8.957 (.0005)	.0897	-.30
	Business Major	.300				.0710	.26
	National Guard	.240				.0417	.20
10. Reprimands	Air Force	-.306	.40	.16	8.748 (.0005)	.0886	-.29
	Transfers	.272				.0941	.20
11. Suspensions	Marines	-.452	.45	.20	23.483 (.0005)		-.45
12. Total Departmental Complaints	Air Force	-.272	.34	.12	6.191 (.0005)	.0703	-.26
	Transfers	.225				.0466	.21
13. Citizen Complaints	Oral Board Review	.269	.34	.11	6.101 (.0005)	.1169	.39
	Employment Disciplinary Record	.052				.0471	.25
14. Total Departmental and Citizen Complaints	Transfers	.225	.22	.05	4.919 (.0005)		.22

1964 ACTIVE COHORT

Performance Measure	Background Factor	Simple r	R	R^2	F (Sig)	Multiple R^2	Beta & Sign
15. Personal Injuries on Duty	Assaults on the Officer	.337	.55	.30	7.755 (.0005)	.1432	.38
	Probationary Rating	.153				.0387	.19
	Army	-.250				.0708	-.27
	Marines	-.133				.0662	-.26
16. Sick Days Used	National Guard	.237	.48	.23	5.466 (.0005)	.0684	.27
	Traffic Tickets	.192				.0668	.26
	Transfers	-.210				.0439	-.21
17. Use of Firearms on Duty	Auto Accidents	.329	.32	.10	11.104 (.0005)		.32
18. Recruit School Score	Police Science Major	-.310	.50	.25	10.211 (.0005)	.1072	-.32
	Father's Occupation	.269				.0941	.30
	Misdemeanor Arrest Record	.268				.0693	.26

Table 41

REGRESSION RESULTS FOR EACH PERFORMANCE MEASURE 1969 ACTIVE COHORT

Performance Measure	Background Factor	Simple r	R	R^2	F (Sig)	Multiple R^2	Beta & Sign
1. Career Advancement	Transfers	.323	.43	.19	8.028 (.0005)	.1069	.32
	Number of Siblings	.246				.0652	.25
	No arrest Record	-.113				.0333	-.18
2. In-Service Schools	Indebtedness	-.255	.39	.15	6.394 (.0005)	.0428	-.20
	Traffic Tickets	-.251				.0480	-.22
	Father's Occupation	.243				.0400	.20
3. Later Education	Educational Attainment	.932	.95	.91	155.956 (.0005)	.6110	1.03
	Transfers	-.052				.0194	.14
	Enlisted Man	.356				.0079	-.10
	Prior Residence	-.180				.0128	.12
	Indebtedness	-.392				.0094	-.11
	Air Force	.094				.0064	-.08
	Number of Siblings	-.175				.0042	.07
4. Departmental Awards	Assaults on the Officer	.500	.50	.25	34.847 (.0005)		.50
5. Commendatory Letters	Behavioral Science Major	-.274	.42	.18	7.560 (.0005)	.0972	-.31
	Prior Jobs	.225				.0365	.20
	Prior Residences	.250				.0339	.19
6. Preventive Accidents	Height	-.229	.34	.12	7.077 (.0005)	.0690	-.26
	Auto Accidents	.227				.0681	.26

1969 ACTIVE COHORT

Performance Measure	Background Factor	Simple r	R	R^2	F (Sig)	Multiple R^2	Beta & Sign
7. Non-Preventive	Traffic Tickets	.249	.55	.30	6.236 (.0005)	.0569	.24
	National Guard	.199				.0312	.18
	Divorced	-.197				.0410	-.20
	Probationary Rating	.230				.0530	.23
	Police Science Major	-.139				.0525	-.23
8. Total Accidents	Traffic Tickets	.268	.41	.16	6.879 (.0005)	.0897	.30
	Firearms Qualifications	.207				.0555	.23
	General Course Work	.169				.0500	.22
9. Reprimands	Firearms Qualification	.285	.41	.17	7.109 (.0005)	.0900	.30
	Engineer Major	-.198				.0525	-.23
	Auto Accidents	.211				.0369	.19
10. Suspensions	Divorced	-.204	.20	.04	4.533 (.036)		-.20
11. Total Departmental Complaints	Firearms Qualification	.273	.40	.16	6.550 (.0005)	.0807	.28
	Engineer Major	-.178				.0431	-.20
	Auto Accidents	.223				.0421	.20
12. Citizen Complaints	Probationary Rating	.319	.37	.13	8.175 (.001)	.1111	.33
	Firearms Qualification	.161				.0352	.18

1969 ACTIVE COHORT

Performance Measure	Background Factor	Simple r	R	R^2	F (Sig)	Multiple R^2	Beta & Sign
13. Total Departmental and Citizen Complaints	Firearms Qualification	.289	.49	.24	8.353 (.0005)	.1241	.35
	Probationary Rating	.276				.0803	.28
	General Course Work	.192				.0508	.22
	Air Force	.119				.0334	.18
14. Personal Injuries on Duty	Assaults on the Officer	.529	.57	.33	25.418 (.0005)	.2581	.50
	Non-Commissioned Officer	-.269				.0497	-.22
15. Sick Days Used	Oral Board Review	.196	.19	.03	4.163 (.044)		.19
16. Use of Firearms on Duty	Behavioral Science Major	-.239	.38	.14	5.913 (.001)	.0710	-.26
	Traffic Tickets	.201				.0554	.23
	Army	-.166				.0465	-.21
17. Recruit School Score	Attended College	-.297	.37	.13	8.204 (.0005)	.0706	-.26
	Misdemeanor Arrest Record	.258				.0487	.22

Schools the subject attended. Further, 14.1 percent of the variance was explained by Transfers and 6.4 percent by times assaulted while on duty.

Further down the list is Citizen Complaints which appears to have an entirely different set of significant predictors. The background characteristics associated with Civilian Complaints are Oral Board Review and Employment Disciplinary Record. Subjects who had received a low rating at the oral board review and accumulated at least two pre-service employment disciplinary actions had a larger number of civilian complaints filed against them. Oral Board Review accounted for 11.6 percent of the variance while 4.7 percent was attributed to Employment Disciplinary Record.

The highest multiple correlation coefficient for the 1964 active cohort was reported for Later Education (R = .80). Four relationships between background factors and Later Education were statistically significant. They include in order of power of prediction Educational Attainment, Juvenile Arrest Record, Behavioral Science Major and Police Science Major. The most powerful predictor, Educational Attainment, produced a correlation coefficient of .734 and explained 24.3 percent of the variation in Later Education. In sum, those who were better educated at time of appointment were more inclined to continue their education.

Likewise, the highest multiple correlation attained for the 1969 active cohort (Table 41) was .950 recorded for Later Education, with Educational Attainment explaining a total of 61.1 percent of the variance. However, six additional relationships were statistically significant. For example, the amount of indebtedness was inversely associated with Later Education and produced a simple correlation of -.392, but explained only .94 percent of the variation.

Background factors that were associated with performance measures produced different results in each active cohort. For instance, Citizen Complaints has a different set of predictor variables for the 1969 active cohort. It was found that the correlation between Probationary Rating and Citizen Complaints yielded a

correlation coefficient of .319, which explained 11.1 percent of the variance, while Firearms Qualification produced a correlation coefficient of .161 and explained 3.5 percent of the variance. This was quite different from the results obtained for the 1964 active cohort. Similarly, statistically significant relationships for Total Departmental Complaints differed for the two cohorts.

In order to illustrate further this difference, each background factor which was statistically significant in one or more of the regression equations was ordered for both the 1964 and 1969 active cohorts by the maximum amount of variation it explained. The data is presented in Table 42. The most powerful predictor for both active cohorts was Educational Attainment, by virtue of its contribution to reduction of variance in the performance measure Later Education. The second strongest predictor for the 1964 active cohort emerged as "former status as a Marine," since it reduced the variance in Suspensions by 20.0 percent. "Assaults on the officer" was the second strongest predictor for the 1969 active cohort, reducing the variance by 25.0 percent for Departmental Awards. The fourth strongest predictor, regardless of cohort, was "Probationary Rating," which explained 15.7 percent and 11.1 percent of the variance in Departmental Dismissals for the 1964 active cohort and Citizen Complaints for the 1969 active cohort, respectively.

Fifteen of the twenty-seven background factors which attained statistical significance for the 1969 active cohort also were significant for the 1964 active cohort (See Table 42). However, for prior military experience (e.g., Marines, Air Force, National Guard), an increasing score was related to effective performance for the 1964 active cohort but somewhat ineffective performance for the 1969 active cohort. The data showed that subjects in the 1964 active cohort with prior military experience, especially experience in the Marines or Air Force, had been involved in fewer on-duty traffic accidents and received fewer Departmental and Citizen Complaints, while officers of the 1969 active cohort with prior military

Table 42

BACKGROUND FACTORS AS PREDICTORS

1964 Active Cohort

Factor	Highest Multiple R^2 Appearing	# of Associations
Educational Attainment	24.3%	1
Marines	20.0%	3
Air Force	16.4%	4
Probationary Rating	15.7%	2
Assaults on the Officer	14.3%	3
Transfers	14.1%	7
Oral Board Review	11.6%	1
Police Science Major	10.7%	3
Age	10.2%	2
Auto Accidents	10.0%	1
Father's Occupation	9.4%	1
Business Major	8.8%	3
Number of Siblings	8.2%	1
Army	7.0%	1
Misdemeanor Arrest	6.9%	2
Traffic Tickets	6.6%	1
Employment Disciplinary Record	5.4%	2
Juvenile Arrest	5.0%	1
Reserves	4.2%	1
National Guard	4.2%	2
Behavioral Science Major	3.9%	3

1969 Active Cohort

Factor	Highest Multiple R^2 Appearing	# of Associations
Educational Attainment	61.1%	1
Assaults on the Officer	25.0%	2
Firearms Qualification	12.4%	5
Probationary Rating	11.1%	3
Transfers	10.6%	2
Behavioral Science Major	9.7%	2
Traffic Tickets	8.9%	4
Attended College	7.0%	1
Height	6.9%	1
Auto Accidents	6.8%	2
Number of Siblings	6.5%	2
Police Science Major	5.2%	1
Engineer Major	5.2%	2
General Course Work	5.0%	2
Non-Commissioned Officer	4.9%	1
Misdemeanor Arrest	4.8%	1
Army	4.6%	1
Indebtedness	4.2%	2
Divorced	4.1%	2
Father's Occupation	4.0%	1
Prior Jobs	3.6%	1
Prior Residences	3.3%	2
Air Force	3.3%	2
Arrest Record	3.3%	1
National Guard	3.1%	1
Oral Board Review	3.0%	1
Enlisted Man	.79%	1

experience were brought to trial for misconduct more frequently than officers without that experience. One important factor that attained statistical significance for the 1969 active cohort but not for the 1964 active cohort was Firearms Qualification, which recorded the largest number of associations (5) for the 1969 group. Firearms Qualification emerged as the best predictor for Reprimands, Total Departmental Complaints and Citizen Complaints. Firearms Qualification also made a comparatively substantial contribution in two additional performance measures: Citizen Complaints and Total Accidents. Subjects in the 1969 active cohort who reported the lowest scores in Firearms Qualification while assigned to recruit school accumulated the greatest number of citizen and departmental complaints and were involved in a greater number of on-duty traffic accidents, while subjects with higher qualifying scores had fewer complaints filed against them and were involved in fewer on-duty traffic accidents.

Police Performance Profiles

Using the results attained by the cross-tabulations and regression analysis, it is possible to develop profiles of candidates based on the performance characteristics used in the regression analysis.

1. Officers in the 1964 active cohort and the 1969 active cohort who were most likely to advance through the ranks had the following characteristics:

1964 Active Cohort	1969 Active Cohort
- older at time of appointment	- educational attainment beyond high school at time of appointment
- served in military	- high recruit school score
- many siblings	- many siblings
- some college	- no history of prior arrest
- Police Science major prior to appointment	

2. Officers most likely to be a discipline problem for supervision with a large number of Departmental charges and Absenteeism had the following characteristics:

1964 Active Cohort	1969 Active Cohort
- young at time of appointment - poor probationary rating - frequently transfered - served in military	- acquired a large number of debts prior to appointment - frequently changed residences prior to appointment - prior employment disciplinary record - poor driving record prior to appointment - divorced prior to appointment - low score on firearms qualification

3. Officers most likely to incur civilian complaints had the following characteristics:

1964 Active Cohort	1969 Active Cohort
- non-college graduate - frequently changed residences prior to appointment - low status occupation - few siblings - prior employment disciplinary record - low rating on Oral Board Review	- young at time of appointment - poor probationary rating - low score on firearms qualification

4. Men most likely to acquire many departmental awards and commendations had the following characteristics:

1964 Active Cohort	1969 Active Cohort
- younger at time of appointment - served in military - divorced at time of appointment - fewer pre-service auto accidents - few siblings - educational attainment beyond high school	- assaulted while on duty - fewer pre-service jobs - fewer residence changes - educational attainment beyond high school

5. Officers most likely to become involved in on-duty traffic accidents had the following characteristics:

1964 Active Cohort	1969 Active Cohort
- served in military - prior employment disciplinary record - many siblings - younger at time of appointment	- high school education - served in military - poor driving record prior to appointment - poor probationary rating - low score on firearms qualifications

6. Officers who were college graduates at time of appointment or who obtained a college degree while working for the department (Later Education) in the 1964 and 1969 active cohorts had the following performance characteristics:

- likely to be promoted to special assignment or sergeant
- low absenteeism
- fewer on-duty injuries
- low number of departmental awards and commendations
- low incidence of misconduct; both departmental discipline and citizen complaints
- fewer on-duty traffic accidents

Selecting Candidates for Police Responsibilities

The conclusions and assertations of this chapter are to be regarded as tentative. For one thing, most of the statistics that emerged from the analysis of the data were not significant only those that attained a significance level .05 were reported, although discernible patterns and trends did emerge. Additionally, it is not certain that the findings of this study can be generalized for the entire Michigan State Police Department; extrapolating beyond the cohorts of analysis may not be justified. However, the findings from these cohorts suggest some criteria for consideration in the selection of candidates to carry out police responsibilities.

First, certain early background characteristics of Michigan State Police candidates would seem to be predictive of future on-the-job police performance. As previously stated, most of the early background characteristics used in this study were found worthless in terms of predicting general police performance in both cohorts; however, a few of the variables did appear relevant to the selection process. One of these is the amount of previous education. Officers who enlisted in the Michigan State Police Department with a high school diploma or less (G.E.D.) were significantly poorer performers on the Performance criteria than those with more education. This statistical relationship may indicate that educational attainment beyond high school provides that individual with a more adequate background

for understanding the complex nature of the police role. It is possible that if there had been a larger number of candidates with college experience in the cohorts of analysis, the results might have been quite different. Nevertheless, the complexity of police work makes it a logical assumption that raising the academic calibre of candidates would increase their competence. The findings from the study imply that while many candidates with a high school diploma make "good" officers, the Michigan State Police should strive to attract college-educated candidates and encourage the pursuit of further education after enlistment.

Age of the candidate also appeared predictive of future job performance. The older candidates in both cohorts were more "successful" as police officers than their younger counterparts. Perhaps this is so because of greater maturity; in other words, the older men may be better "ambassadors" in the community. This assumption is supported by the finding of low incidence of civilian complaints and fewer departmental disciplinary actions in their records. Apparently, these officers fit the "police image" expected by the Michigan State Police or by the citizenry. Also the quasi-military nature of police organization and responsibility may make the older candidate a better prospect as a "successful" police officer.

Another important finding of this study concerns the candidate's previous employment history. If we combine the three background variables (last occupation, prior jobs, employment disciplinary record) dealing with previous occupational history, it is concluded that employment history of candidates becomes a strong predictor of future police performance. Therefore, in addition to the investigation of the candidate's character, emphasis probably also should be placed on ascertaining the job history of the candidate.

In this study, the prior driving record of the candidate was found to be an important predictor of success as a police officer. Candidates with a large number

of traffic tickets and auto accidents prior to appointment were the least "successful" based on the following Performance criteria. In both active cohorts, candidates with poor driving records had acquired fewer awards, had a much larger percentage of citizen complaints filed against them, had a greater number of departmental charges filed against them and, most important, were involved in more on-duty traffic accidents resulting in personal injuries. Their early poor driving habits evidently have persisted. It is of paramount concern that the Michigan State Police select only those candidates with the best driving record, since the greatest proportion of the officer's time is spent in patrolling the state's roadways.

The performance of the prospective police candidate during probation is also somewhat predictive of future police performance. The findings of this study indicate that the first nine months as a state trooper is a crucial period in the eventual career of the officer. For example, in the 1964 active cohort it was discovered that officers dismissed from the department had an unsatisfactory or conditional probationary rating. The results from the 1969 active cohort indicate that a poor probationary rating correlates with citizen complaints and non-preventive accidents. The ability of the officer to get along with the public is important to the image of the police organization. Therefore, a more sophisticated and objective measure of evaluation should be developed; the probation period could very well serve as the most appropriate time to weed out potentially "unsuccessful" police officers.

One purpose of this study was to cross-validate the results of the 1964 active cohort on the 1969 active cohort to determine if there were any significant differences over time. The data indicate that the results for both cohorts were quite similar, suggesting that candidates in 1964 are not much different than in 1969. In fact, there is a marked similarity in the background characteristics of the

two cohorts which indicates that Michigan State Police recruiters are looking for a certain "type" of candidate. Consider the following means ($\bar{x}$) for the total 1964 and 1969 cohorts:

Table 43

COMPARISON OF CANDIDATES - TOTAL COHORT

Characteristic	1964	1969
Age	24.1 years	23.8 years
Race	White	White
Ethnicity	Anglo-Saxon	Anglo-Saxon
Education	12.5 years	12.6 years
Height	71.7 inches	71.6 inches
Weight	170 pounds	181 pounds
Birthplace	Rural Western Michigan	Rural Western Michigan
Marital Status	Married	Married
Number of Siblings	2.6	2.8
Last Occupation	24th on Duncan Scale	23rd on Duncan Scale
Father's Occupation	28th on Duncan Scale	30th on Duncan Scale
Military Service	Yes	Yes
Branch of Military	Army	Army
Military Rank	Enlisted Man	Enlisted Man
Number of Auto Accidents	.61	.74
Number of Traffic Tickets	1.6	2.1
Changed Residences	3.2	3.0
Total Indebtedness	1.3 debts	1.9 debts
Recruit School Score	85.8	85.7

In short, the average candidate for the Michigan State Police is a six foot, 24 year old white Anglo-Saxon from rural Western Michigan with a high school education, from an average size American family, who has served in the Armed Services, has a good civilian driving record and for whom police work is an upgrade in social status.

The regression equations also produced similar results with educational attainment being the most powerful predictor for both the 1964 and 1969 active cohorts (See Table 42).

Some background factors were determined to be unimportant for the

selection of Michigan State police officers. For the 1964 active cohort, these include region of birth, marital status, last occupation, pre-service employment, military discipline, military commendation, background investigator's rating and marksmanship. For the 1969 active cohort, the data suggest removing last occupation, employment disciplinary record, military discipline, military commendations, marital status and background investigator's rating. Perhaps this information should not be used in the selection of Michigan State Police candidates.

When all background as well as early performance factors are taken into account, it appears that the strongest predictors for both active cohorts are those quantifiable measures which reflect the candidate's primary behavior and experience over an extended period of time, e.g., educational attainment, probationary rating, pre-service driving record, recruit school score and age, rather than background factors which tend to label applicants as good or bad candidates, such as arrest record, divorce, large amount of indebtedness, etc.

Nearly all aspects of performance were used in the study except for "Criminal Complaints", and "Dismissed" for the 1964 active cohort and "Dismissed", "Traffic Awards", and "Criminal Complaints" for the 1969 active cohort. Of the total sample (436 subjects), no Michigan State Police Officer was ever charged with or accused of a violation of state or federal statutes. Thus, Criminal Complaints was not a relevant performance measure. The data analyzed in the study is only concerned with the active cohort; therefore, it was not necessary to record officers dismissed from the Department, since this performance variable applies to the inactive cohort. For the 1969 active cohort, Traffic Awards were eliminated as a performance measure. Because of the differences of tenure in the Department, officers in this cohort only had an opportunity to achieve one Award, while the 1964 active cohort members had an opportunity to achieve at least two Awards.

The data and the findings convincingly demonstrate important similarities

between the active cohorts. A cross-validation of the 1964 active cohort results on the 1969 active cohort produced very similar results. Table 42 indicates the similarity in background predictors for the two cohorts. This may indicate that over the years Michigan State Police recruiters have consistently attracted the same particular group of people to their agency. If this is the case, the results of the study might reasonably be assumed to apply to the entire police department. If the findings in this study are not specific to a particular group or time, they may provide some useful criteria for recruitment of the applicant best equipped to perform the police officer's task.

CHAPTER VI

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

The results of this study show that factors can be identified that predict performance for two distinct cohorts in the same police organization, although some of the factors were similar rather than identical. However, the strongest predictors of police performance in this study are similar for both active cohorts. The findings suggest that selection criteria should be revised to pay particular attention to 1) the specific background characteristics associated consistently with excellent performance, and 2) those consistently predictive of poor performance.

It was discovered that many of the traditional negative indicators of past performance did predict at least one dimension of unproductive performance. For instance, Employment Disciplinary Record was found to be a consistent predictor of misconduct, especially behavior involving violation of departmental regulations. Other factors which are usually viewed as negative and appear to be related to a pattern of poor performance include arrests for minor infractions other than traffic citations, poor probationary rating, indebtedness and prior auto accidents. Among the 1964 active cohort, there were five negative predictors that attained significance, with poor Probationary Ratings being related to above average number of dismissals from the department. In addition, an employment disciplinary record was generally associated with a poor driving record and an inordinate number of citizen complaints. However, for the 1969 active cohort employment

disciplinary record did not appear in any of the regression equations as a significant predictor.

In some cases certain so-called "negative" background indicators were actually associated with successful police performance. For example, the officers in both cohorts who had prior misdemeanor arrest records were found to have fewer citizen complaints and had considerably higher scores upon completion of recruit school.

Another factor, Educational Attainment, often viewed as a positive attribute, accounted for the largest statistical relationship for both active cohorts with the performance variable Later Education. Educational attainment beyond high school was highly correlated with advancement beyond the rank of trooper, fewer citizen complaints, and fewer times the officer had to resort to the use of firearms in the performance of police duties.

This suggests that the Department should seek college educated applicants. One interesting finding that does not appear in the statistical analysis of the study is the disproportionate number of candidates with at least two years of college who terminated their employment before completing recruit training school. Further analysis disclosed that of the high school graduates who completed recruit training school, 85 percent were in the lower fifth of their high school graduating class. These findings suggest that academic achievement is not considered highly important in the recruit. The training program may be at fault. Recruits with two years or more of college may terminate their employment because of the lack of challenge and intellectual stimulation.

It appears that the Michigan State Police appear to draw the majority of their candidates from those in the third educational and social quartile of the population.

If the Michigan State Police hope to attract and retain more educated

candidates, they must recognize that these candidates may not be suited for traditional police training methods. Also they may not be satisfied with waiting the long periods required to attain promotions. These officers should be given special attention by the personnel administrators of the department. The Michigan State Police need access to a broader pool of manpower.

However, before undertaking a major recruitment effort, it is suggested that an empirical study be conducted to determine why educated, intelligent candidates are discontented with police work. The Department might then be able to plan new procedures and incentive systems which will lessen the attrition rate of such recruits and officers, especially in their early years.

This does not mean that candidates of average intelligence and no college education cannot be of use to the Department. The findings of the study indicate that officers who remained in the Traffic Enforcement Division were of average intelligence with a high school education and appeared to be satisfied with their assignment. Perhaps the more educated officers, upon receiving only traffic assignments, would be dissatisfied with the lack of challenge of such routine work and the inability to apply their college background. On the other hand, the study revealed that the older and more educated officers had fewer citizen complaints filed against them than their younger, less educated counterparts. This suggests that older officers with advanced education should be assigned to sensitive areas of the state, and provide the manpower for civil disturbance units which are routinely mobilized and assigned to trouble spots throughout the state.

The study indicates that the members of the Michigan State Police Department's Oral Board Review were quite skillful at evaluating the applicants' characteristics and arriving at an overall appraisal. In sum, the applicants rated "excellent" by the Oral Board Review turned out to be above the average in performing police duties. Those applicants defined as "poor risks" were later discovered to be discipline problems for the Michigan State Police, with excessive

citizen complaints and absenteeism. This suggests that recommendations of the Oral Board be given considerable weight in the evaluation of police applicants.

Another significant finding of the study is that the number of geographical transfers made by the officer appears to be a strong predictor of later performance. The data indicate that the greater the number of geographical transfers, the faster the officer's career advanced. The majority of officers are known to prefer to remain at one post and not be transferred throughout the state. If the officer expects to advance through the state police hierarchy, it appears that he must be prepared to relocate. Transfers are also made for punitive reasons. This is the oldest disciplinary device in police administration, i.e., exiling a man to Siberia for a violation of departmental norms. This merely transfers the problem from one post to another. These less desirable posts still have some dedicated officers. Isolating errant troopers at these posts causes them to be unjustly categorized as "trouble spot" because some officers are discipline problems. This practice penalizes the community as well since the data showed that the majority of disciplined officers were transfered to the same post. The post becomes overburdened with less efficient personnel.

If transfers are to be used as a discipline tool by management, one alternative is to disperse problem officers throughout the state. However, it is management's responsibility to identify the problem officer during recruit school or during the probationary period. It is suggested that the benefits to the community in terms of improved police service clearly outweigh the disadvantages of possible false rejection of recruits who perform poorly in their first year but might improve later.

The data illustrate that, pre-service auto accidents and traffic citations were good predictors of future unsatisfactory performance. Officers who developed poor driving habits before entering the Michigan State Police generally

had more preventable and total accidents while on duty than recruits with good pre-service driving records. Of particular interest to management is the fact that the number of on-duty auto accidents increases dramatically after the recruit completes the probationary period. This may be due in part to the time the new recruit spends learning how to patrol in a car. When he first works with older troopers or training officers, he gets little opportunity to drive. Usually he acts as a "recorder"--handling the radio, maintaining the patrol log, helping out with paper work--because veterans are very reluctant to trust the wheel to men whose skill and temperament are unknown and untested. Until the recruit learns to compensate for the unusual responses of most drivers to the presence of police cars, he must give considerable attention to avoiding accidents.

The recruit must also learn when to do illegal things with his car. At the police academy recruits are taught to obey all traffic laws and signals except in emergency situations. Caution is constantly urged upon them. At the same time, they are told to respond quickly to crime calls and calls for assistance. There is an unresolvable conflict between the Department's desire to have its men drive carefully and prevent accidents and its tactical decision to use the car's speed and mobility to suppress crime. It may be that after probation, officers with a poor pre-service driving record lapse back into their old habits with one added advantage--they now represent the law and may feel that a violation of traffic regulations is necessary in order to "protect" the community.

In summary, a police officer's job efficiency is determined not only by his past behavior but also by his personal attitude, by the special characteristics of the police role, and by the organization's motivational policies and practices. The literature reveals that rarely have correlations between background factors and performance criteria exceeded .40 except for age, education, recruit training score and probationary period evaluation. This study also discovered that education and

probationary period appraisal were powerful predictors of future job performance.

One extremely important finding does emerge from the results of the study. Best results are often obtained when the researcher is completely relieved of the task of drawing behavioral inferences (as with tailor-made scoring keys). This study has been conducted primarily to present a kind of catalog or "montage" of possible predictors of police job performance in a state police agency. The next section will describe specific recommendations concerning the selection process of the Michigan State Police Department.

RECOMMENDATIONS

This study was undertaken to obtain information which would lead to specific recommendations to the Michigan State Police Department for upgrading their recruitment and selection criteria. The following recommendations are based on the observations of this study.

First, in addition to attracting the "traditional" police applicant, the Michigan State Police must also seek to attract representatives of minority groups. As of January 1, 1975, the Michigan State Police had a total of twenty-one blacks, eleven Hispanics, four American Indians and seven women employed as state troopers. The total strength of sworn personnel at this time was 1,970 officers. Without question, the minority representation on the Department does not represent the racial composition of the state.

A lack of understanding of the problems and culture of minority groups is common to most if not all police agencies and is a serious deterrent to effective and efficient police work in minority communities. The relationship between the police and the community is so personal that every section has a right to expect representation reflected in its police. The recruitment of minorities is also a step in the direction of improving police-community relations and creating sound crime

prevention programs. Therefore, the Michigan State Police should attempt to achieve a ratio of minority group employees in approximate proportion to the makeup of the population. This would be consistent with affirmative action programs and EEOC guidelines.

In addition to the recruitment of minorities, there should be recruitment of college-educated personnel. Since the data revealed that educational attainment prior to appointment was a powerful predictor of future job performance, those applicants with education beyond high school should be encouraged to apply for employment with the Michigan State Police. However, it is suggested that applicants with no college background still be sought as candidates, since it is not known whether large numbers of college-educated officers will perform any differently than their less educated counterparts.

Second, officers who are older at time of appointment and have some education beyond high school should be assigned to sensitive areas of the state. This recommendation is based on the finding that older officers prompt fewer citizen complaints than the younger, less educated officers. The analysis indicated, at least within the cohorts of this study, that older, more educated candidates are more likely to complete the rigorous recruit training program, and therefore, be better trained for sensitive assignments.

Third, no applicant should be discouraged from seeking police employment on the basis of certain "negative" information, i.e., categories such as prior arrest record and poor military performance that were not associated with later poor performance.

Fourth, it is recommended that the background investigator's role in evaluating potential candidates be reviewed. Previously cited studies indicate that background investigators are very skillful at appraising the characteristics of an applicant. However, in this study the background investigator's evaluation of

applicants was not predictive of future job performance. This suggests that the recommendations of the background investigator should not be accepted without careful consideration.

Fifth, a computer-based information system should be developed to analyze police officer performance data and background characteristics. Most of this information is currently collected by separate units within the Department, but in its present form it is virtually useless as a management tool. The recommended data system would integrate all relevant pieces of information having predictive value and provide a data base for computing the general performance for each officer in the Department.

Finally, some commonly used measures of performance proved not to be predictive in the study. It is recommended that the Department develop new criteria for evaluating performance.

NEED FOR FURTHER RESEARCH

Through a review of the literature and the analysis of the data, this study has identified several valuable variables that are strong predictors of future police job performance. This research has also suggested that future projects of this nature use stepwise discriminant analysis. This statistical procedure may well become one of the most useful tools in predictive and selection research. To date most predictive research has concentrated on one or two variables even though we live in a multi-variate world.

A critical need is for the development of theory at several levels. Clearly, the collection of data concerning police recruitment and selection has proceeded more rapidly than the accumulation of theory. More and better theory is needed first, at the lowest level in the form of working hypotheses and ultimately in tested generalizations. Second, descriptions and criticisms of police selection methods

must progress to statements about the range of behaviors and interrelatedness of social background characteristics and the complexity of the police role.

Questions we need to ask: What relationship exists between physical environment and police job performance? Why do older, better educated police officers have fewer citizen complaints filed against them than the younger, less educated officer? Will the police service significantly upgrade the quality and performance of police officers by hiring only college-educated personnel? Is there a relationship between social class and police job performance? Answers to questions such as these will require a higher order of theorizing, the construction of so-called theories of the middle range. For example, a theory of police performance is needed which will relate and explain the use of individual and organizational performance measures. This is crucial for understanding the workings of the police agency as well as administrative policy.

Measures should be developed that can indicate the extent of compatability and trade-offs among various goals, that can identify areas where performance is particularly weak or strong, that will permit a more rational allocation of resources, i.e., selection, training, placement and promotion procedures linked to actual needs. We need to clarify what is expected of a police officer and the nature of the police role. We need to learn how to develop a reward system related to the kinds of performance valued by citizens and police administrators.

At a higher level of abstraction, the search must intensify for a general, all encompassing theory of the role of the police officer in a complex democratic society. As well as the police officer, this broader theory would have to encompass the other principal actors in the criminal justice system, e.g., the citizenry, political structure, social structure, interest groups, the press, the legal system and the historical development of law. Such a theory would, no doubt, come close to being a theory of the entire American political process.

In sum, it is critical to the welfare of society that only the best qualified individual be admitted to the police profession. Police work involves immense responsibilities; consider how much can depend on a police officer's decision and how easily his mistakes can cause loss, injury, disaster or ruin. The police officer must deal with problems under the most difficult circumstances, i.e., whenever they happen to occur and generally out in the open, relying most often on nothing more than personal skill, luck and judgment. When this is the case, police administrators cannot afford to recruit applicants of less than average intelligence, distinctly below-average aspirations and motivation, and absolutely no prior preparation for the job.

APPENDIX A

MINIMUM ENTRANCE REQUIREMENTS

APPENDIX A

MINIMUM ENTRANCE REQUIREMENTS
MICHIGAN STATE POLICE

Objective Criteria	Requirement
Age	21-30 inclusive, at time of submitting application. No applicant may be appointed to Recruit Training School after he has reached 31 years old.
Height	Not under 5'9" in stocking feet
Weight	Not under 150 and not more than 250 pounds stripped
Citizenship	U.S. required
Education	High school or equivalent
Residency	Michigan resident for a period of at least four years between the ages of 17 and 30, or have resided in Michigan one year prior to application.
Vision	20/50 each eye without glasses
Arrest Record	No felony convictions
Military Record	No dishonorable discharge
Driving Habits	1. Valid operator's license 2. No convictions operating under the influence of alcohol or drugs 3. No convictions on three or more moving violations in 24 months prior to date of application 4. Applicant must have a perfect driving record for a five-year period prior to candidacy.
Examinations	
General Information	Grade of 40 out of possible 66 points on a written Civil Service examination
Agility Test	Twelve push-ups, six pull-ups and standing broad jump of six feet, six inches

Medical	"Top physical condition"
Subjective Criteria	
Personal Attributes	"Good moral character" "Average intelligence" Willingness to work long hours

APPENDIX B

POLICE SELECTION IN THE MICHIGAN STATE POLICE: THE "SUCCESSIVE HURDLE" METHOD

APPENDIX B

POLICE SELECTION IN THE MICHIGAN STATE POLICE: THE "SUCCESSIVE HURDLE" METHOD

1. Examination announcement posted by Department of Civil Service.

2. Application form is filled out at nearest State Police post or Civil Service department.

3. Agility test given at Post -- accept or reject at this stage in the process.

4. If accepted, applicant is given written examination at the Post. This is a general I.Q. test developed by the Michigan Department of Civil Service composed of 66 questions. The applicant has 20 minutes in which to complete examination with a minimum score of 40. The test is graded on a pass/fail basis.

5. Those applicants that pass return to the Post nearest their home to begin background investigation.

6. Field investigator's report is reviewed by the recruiting section of the State Police and Civil Service. Applicant may be accepted or rejected.

7. If rejected because of "questionable" background, application is reviewed by the Civil Service Board.

8. If accepted, Oral Board is scheduled for applicant.

9. If Oral Board Review is passed, applicant is placed on employment list.

In order to be appointed to the recruit school, the applicant must have scored at least a total of 80 percent. The written examination and the Oral Board Review each count 50 percent. Civil Service will accept a minimum of 35 percent on the written test. The Oral Board is composed of three reviewers. In order to obtain score for Oral Board, add the three scores (minimum 60, maximum 100), divide by three and multiply by .50. For example, if an applicant scores 42 percent on the written test and receives an 80, 80 and 80 on the oral, his total score would

be 82. Thus, the applicant has completed the selection process and becomes a candidate for Recruit School.

APPENDIX C

CODING GUIDELINES

APPENDIX C

CODING GUIDELINES

1- 3	Subject Number
4	Status
5- 6	Age
7	Place of Birth
8	Race
9-10	Height
11-13	Weight
14	Marital Status
15	Number of Children
16-17	Spouse's Occupation
18-19	Father's Occupation
20	Number of Siblings
21	Number of Prior Jobs
22-23	Last Occupation
24	Employment Disciplinary Record
25	Military Service
26	Branch of Military
27	Military Rank
28	Military Discipline
29	Military Awards
30	Arrest History
31	Investigated by Police
32	Number of Traffic Tickets
33	Number of Auto Accidents
34-35	Educational Attainment
36	Correspondence or Trade School
37	College Major
38	Indebtedness
39	Filed Bankruptcy
40-41	Prior Residences
42	Transfers
43	Probationary Rating
44	Firearms Qualification
45	Oral Board Review
46	Background Rating
47-48	Recruit School Score
49	Use of Firearms on Duty
50	Times Assaulted on Duty
51	Current Rank
52-54	Termination Date

55 In-Service Training Schools Attended

56-57 Later Education

58 Traffic Awards

59 Departmental Awards

60-61 Commendatory Letters

62-63 Total Awards and Letters

64-65 Preventable Accidents

66-67 Non-Preventable Accidents

68-69 Total Accidents on Duty

70 Reprimands

71 Suspensions

72 Dismissed

73 Total Departmental Complaints

74 Citizen Complaints

75 Criminal Complaints

76-77 Total Departmental and Citizen Complaints

78 Personal Injuries on Duty

79-80 Absenteeism (Sick Days Used)

APPENDIX D

CORRELATION MATRICES

1964 ACTIVE COHORT
CORRELATIONS BETWEEN PERFORMANCE MEASURES

	Assault on the Officer	In-Service Schools	Later Education	Personal on-duty Injuries	Recruit School Score	Current Rank	Promotions	Transfers	Probationary Rating	Departmental Awards	Commendatory Letters	Traffic Awards	Reprimands	Dismissals	Preventive Accidents	Sick Days Used
Assaults on the Officer	•															
In-Service Schools	.31	•														
Later Education			•													
Personal on-duty Injuries	.33			•												
Recruit School Score		.36			•											
Current Rank						•										
Promotions		.39				.43	•									
Transfers		.42				.36		•								
Probationary Rating									•							
Departmental Awards	.33	.32								•						
Commendatory Letters			.30						.33		•					
Traffic Awards									.32			•				
Reprimands												-.45	•			
Dismissals									.49					•		
Preventive Accidents												-.75	.38		•	
Sick Days Used						-.39	-.43									•

1964 ACTIVE COHORT
CORRELATIONS BETWEEN BACKGROUND CHARACTERISTICS

	Age	Single	Married	Divorced	Debts	Residences	Military	Army	Navy	Air Force	Marines	Prior Jobs	Employment Disciplinary Record	Enlisted	Non-Commissioned	Educational Attainment	College	Police Science Major	Education Major	Business Major	General Course Work	Oral Board	Misdemeanor Arrest	Recruit School Score
Age	•																							
Single	.33	•																						
Married			•																					
Divorced				•																				
Debts	-.35	.44	-.45		•																			
Residences		.35	-.32			•																		
Military	.35						•																	
Army							.39	•																
Navy									•															
Air Force										•														
Marines				.31							•													
Prior Jobs						.31						•												
Employment Disciplinary Record													•											
Enlisted							.54		.34	.33				•										
Non-Commissioned							.44	.40							•									
Educational Attainment							.37					.32				•								
College												-.33				-.81	•							
Police Science Major																-.37	.33	•						
Education Major																-.43			•					
Business Major																-.31	.43			•				
General Course Work				.36													.40				•			
Oral Board													.50									•		
Misdemeanor Arrest																						-.35	•	
Recruit School Score																		-.31						•

1964 ACTIVE COHORT
CORRELATIONS BETWEEN BACKGROUND CHARACTERISTICS
AND PERFORMANCE MEASURES

	Divorced	Prior Jobs	Air Force	Marines	Auto Accidents	Educational Attainment	Behavioral Science Major	Police Science Major	Business Major	Recruit School Score	Later Education	Probationary Rating	Departmental Awards	Commendatory Letters	Non-Preventive Accidents	Total Accidents	Reprimands	Suspensions	Use of Firearms on Duty
Divorced	•																		
Prior Jobs		•																	
Air Force			•																
Marines				•															
Auto Accidents					•														
Educational Attainment						•													
Behavioral Science Major							•												
Police Science Major								•											
Business Major									•										
Recruit School Score								.31		•									
Later Education		.33				.65	.35	.36			•								
Probationary Rating												•							
Departmental Awards	.32												•						
Commendatory Letters							.54							•					
Non-Preventive Accidents			.39												•				
Total Accidents			.33						.30							•			
Reprimands			.30														•		
Suspensions				.45														•	
Use of Firearms on Duty					.32														•

1969 ACTIVE COHORT
CORRELATIONS BETWEEN PERFORMANCE MEASURES

	Assaults on the Officer	Personal Injuries	Departmental Awards	Transfers	Current Rank	Promotions	Pobationary Rating	Recruit School Score	Citizen Complaints	Reprimands	Preventive Accidents	Non-Preventive Accidents	Total Accidents	Later Education
Assaults on the Officer	•													
Personal Injuries	.50	•												
Departmental Awards	.52		•											
Transfers				•										
Current Rank				.32	•									
Promotions					.46	•								
Probationary Rating							•							
Recruit School Score			.32					•						
Citizen Complaints							.31		•					
Reprimands										•				
Preventive Accidents										.49	•			
Non-Preventive Accidents												•		
Total Accidents									.39	.51	.76	.72	•	
Later Education								.30						•

1969 ACTIVE COHORT
CORRELATIONS BETWEEN BACKGROUND CHARACTERISTICS

	Age	Single	Married	Educational Attainment	College	Debts	Residences	Father's Occupation	Last Occupation	Prior Jobs	Employment Disciplinary Record	Military	Army	Navy	Air Force	Marines	National Guard	Enlisted	Non-Commissioned	Misdemeanor Arrest	Oral Board	Business Major	Police Sci. Major	General Course Work
Age	•																							
Single	.35	•																						
Married			•																					
Educational Attainment	-.39			•																				
College	.35			-.75	•																			
Debts	-.39			-.35		•																		
Residences	.38	.46				.36	•																	
Father's Occupation								•																
Last Occupation								.34	•															
Prior Jobs							.34			•														
Employment Disciplinary Record										-.39	•													
Military	-.34			.55	-.51							•												
Army												.43	•											
Navy												.30		•										
Air Force												.30			•									
Marines												.32				•								
National Guard																	•							
Enlisted				.45	-.41							.79		.39			.36	•						
Non-Commissioned												.38			.34				•					
Misdemeanor Arrest																				•				
Oral Board																				-.50	•			
Business Major				-.39	.34																	•		
Police Sci. Major					.32																		•	
General Course Work					.40																			•

1969 ACTIVE COHORT
CORRELATIONS BETWEEN BACKGROUND CHARACTERISTICS
AND PERFORMANCE MEASURES

	Age	Military	Enlisted	Educational Attainment	Business Major	Engineering Major	Debts	Probationary Rating	Later Education
Age	•								
Military		•							
Enlisted			•						
Educational Attainment				•					
Business Major					•				
Engineering Major						•			
Debts							•		
Probationary Rating						-.33		•	
Later Education	-.31	.45	.35		-.36		-.39		•

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