PREDICTING POLICE EFFECTIVENESS FROM SELF REPORTS OF RELATIVE TIME SPENT IN TASK PERFORMANCE

DISSERTATION

Presented in Partial Fulfillment of the Requirements for the Degree Doctor of Philosophy in the Graduate School of The Ohio State University

By

David Dorman Robinson, B.A., M.A.

The Ohio State University
1969

Approved by

Adviser
Department of Psychology
My sincere thanks are extended to Dr. Robert J. Wherry, my adviser. I am indeed grateful to him because he was always available, patient, and willing to listen to ideas, no matter how incomplete they may have been. I wish to thank him for his advice and guidance with respect to my dissertation and my graduate training at The Ohio State University. I also appreciate the advice and assistance rendered by Dr. Milton Hakel and Dr. Ralph Stogdill.

Without the cooperation of Robert H. Baus, Chief of the Columbus Police Department, and the day-to-day assistance, encouragement, and efficiency of my friend, Captain Earl Burden, Training Bureau Commander, the research could not have been performed.

Finally, I would like to thank my parents for their financial aid and encouragement throughout my undergraduate and graduate years. To Sheila, my wife, go my thanks for her patience and understanding during the course of this research.
VITA

February 11, 1938 .......... Born - Pontiac, Michigan
1959 ....................... B.A., Michigan State University,
                        East Lansing, Michigan
1961-64 .................... Psychology Trainee, U.S. Veterans Administra-
                        tion
1963 ....................... M.A., Michigan State University,
                        East Lansing, Michigan
1963-66 .................... Psychologist, Psychological
                        Business Research, Cleveland, Ohio
1966-68 .................... Research Psychologist, Battelle
                        Memorial Institute, Columbus, Ohio

FIELDS OF STUDY

Major Field: Psychology

   Studies in Clinical Psychology. Professors A. I. Rabin,
       C. L. Winder, and Marguerite R. Hertz

   Studies in Industrial Psychology. Professors C. R. Shartle,
       R. J. Wherry, and J. C. Naylor

   Studies in Statistics. Professors J. C. Naylor, R. J. Wherry,
       and J. R. Erickson
## CONTENTS

<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td></td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>1</td>
</tr>
<tr>
<td>Background of the Problem: Research on Police Training</td>
<td>2</td>
</tr>
<tr>
<td>The Battelle Research</td>
<td>3</td>
</tr>
<tr>
<td>The Research Strategy</td>
<td>3</td>
</tr>
<tr>
<td>The Job Analysis and Questionnaire Construction</td>
<td>3</td>
</tr>
<tr>
<td>Data Collection and Analysis</td>
<td>4</td>
</tr>
<tr>
<td>Implications of the Battelle Research</td>
<td>5</td>
</tr>
<tr>
<td>II</td>
<td></td>
</tr>
<tr>
<td>RATIONALES FOR ITEM AND CRITERION SELECTION</td>
<td>9</td>
</tr>
<tr>
<td>Item Selection and Revision</td>
<td>9</td>
</tr>
<tr>
<td>Rationale for Criterion Selection</td>
<td>10</td>
</tr>
<tr>
<td>III</td>
<td></td>
</tr>
<tr>
<td>QUESTIONNAIRE ADMINISTRATION AND CRITERION DATA COLLECTION</td>
<td>14</td>
</tr>
<tr>
<td>Columbus Police Department Organization</td>
<td>14</td>
</tr>
<tr>
<td>Questionnaire Administration</td>
<td>15</td>
</tr>
<tr>
<td>Questionnaire Instructions</td>
<td>15</td>
</tr>
<tr>
<td>Subjects</td>
<td>16</td>
</tr>
<tr>
<td>Collection of Supervisors' Ratings</td>
<td>17</td>
</tr>
<tr>
<td>Raters</td>
<td>17</td>
</tr>
<tr>
<td>Instructions to Supervisors</td>
<td>17</td>
</tr>
</tbody>
</table>

iv
<table>
<thead>
<tr>
<th>Chapter</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calculation of Criterion Scores From</td>
<td>18</td>
</tr>
<tr>
<td>Supervisors' Ratings</td>
<td></td>
</tr>
<tr>
<td>Collection of Peer Ratings</td>
<td>19</td>
</tr>
<tr>
<td>Instructions to Raters</td>
<td>19</td>
</tr>
<tr>
<td>Calculation of Peer Rating Scores</td>
<td>20</td>
</tr>
<tr>
<td>IV RESULTS AND DISCUSSION</td>
<td>22</td>
</tr>
<tr>
<td>The Factor Analysis</td>
<td>22</td>
</tr>
<tr>
<td>Factors</td>
<td>26</td>
</tr>
<tr>
<td>Sub-general factor I: Determining Contingencies before taking action</td>
<td>26</td>
</tr>
<tr>
<td>Sub-general factor II: General Procedures allied with arrest, search</td>
<td>28</td>
</tr>
<tr>
<td>and seizure</td>
<td></td>
</tr>
<tr>
<td>Specific factor I: Routine Traffic Accidents</td>
<td>29</td>
</tr>
<tr>
<td>Specific factor II: Legal search and seizure</td>
<td>30</td>
</tr>
<tr>
<td>Specific factor III: Controlling dangerous and/or unpredictable</td>
<td>31</td>
</tr>
<tr>
<td>non-felons</td>
<td></td>
</tr>
<tr>
<td>Specific factor IV: Belligerence in dealing with offenders of</td>
<td>32</td>
</tr>
<tr>
<td>potential offenders</td>
<td></td>
</tr>
<tr>
<td>Specific factor V: Harassment versus service</td>
<td>33</td>
</tr>
<tr>
<td>Specific factor VI: Traffic control related to public gatherings</td>
<td>35</td>
</tr>
<tr>
<td>Relationships Among Criterion Measures</td>
<td>36</td>
</tr>
<tr>
<td>The Multiple Regression Analyses</td>
<td>37</td>
</tr>
<tr>
<td>Supervisors' Overall Ratings</td>
<td>38</td>
</tr>
<tr>
<td>Supervisors' Ratings of Complaints Versus Compliments</td>
<td>39</td>
</tr>
<tr>
<td>Peer Ratings</td>
<td>39</td>
</tr>
<tr>
<td>Interrelationships Among the Items Entering the Three Prediction</td>
<td>39</td>
</tr>
<tr>
<td>Equations</td>
<td></td>
</tr>
<tr>
<td>Relationships Between the Factor Analysis and the Multiple Regression</td>
<td>43</td>
</tr>
<tr>
<td>Analysis</td>
<td></td>
</tr>
<tr>
<td>Conclusions</td>
<td>45</td>
</tr>
<tr>
<td>Chapter</td>
<td>Page</td>
</tr>
<tr>
<td>---------------------------------------------</td>
<td>------</td>
</tr>
<tr>
<td>Suggestions for Further Research</td>
<td>45</td>
</tr>
<tr>
<td>V SUMMARY</td>
<td>48</td>
</tr>
<tr>
<td>APPENDICES</td>
<td>50</td>
</tr>
</tbody>
</table>
# TABLES

<table>
<thead>
<tr>
<th>Number</th>
<th>Table Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Medians and Ranges of Subjects' Ages, Years of Service, and Years of College</td>
<td>16</td>
</tr>
<tr>
<td>2</td>
<td>Frequency and Percentage Distributions of Supervisors' Ratings</td>
<td>19</td>
</tr>
<tr>
<td>3</td>
<td>Frequency and Percentage Distributions of Transformed Peer Rating Scores and Peer Rating Criterion Scores</td>
<td>21</td>
</tr>
<tr>
<td>4</td>
<td>Rotated Factor Loadings</td>
<td>23</td>
</tr>
<tr>
<td>5</td>
<td>Distribution of Residual Correlations</td>
<td>27</td>
</tr>
<tr>
<td>6</td>
<td>Intercorrelations Between Criterion Measures</td>
<td>36</td>
</tr>
<tr>
<td>7</td>
<td>Multiple R, Shrunken R, and Number of Predictors For Each Criterion</td>
<td>38</td>
</tr>
<tr>
<td>8</td>
<td>Paraphrased Items, A Weight, and Gross Score Weights Used to Predict Supervisors' Overall Ratings</td>
<td>40</td>
</tr>
<tr>
<td>9</td>
<td>Paraphrased Items, A Weight, and Gross Weights Used to Predict Supervisors' Ratings of Complaints vs. Compliments</td>
<td>41</td>
</tr>
<tr>
<td>10</td>
<td>Paraphrased Items, A Weight, and Gross Score Weights Used to Predict Peer Ratings</td>
<td>42</td>
</tr>
</tbody>
</table>
CHAPTER I

INTRODUCTION

Demonstration of the effectiveness of most of the techniques of applied behavioral science rests upon the ability to provide adequate criteria; that is, criteria that are relevant, reliable, bias-free, and measurable. In some circumstances reasonably good criteria can be easily established, especially when some kind of production or sales data are available, but in most cases adequate criteria are hard to come by. The difficulties in securing adequate criteria are greater in some of the more complex service occupations such as police officer, social worker, and foreign service officer. Here there are no production or sales data, and the worker has discretion in the way he distributes his time across various duties. If the worker is physically separated from his supervisor, and has infrequent contact with him, the problem is complicated even further. Not only may there be an absence of work standards; there may not even be opportunity to apply them fairly if they existed.

One possible attack on the problem of evaluating workers in complex service occupations would be to use a subjective measure, a procedure that is frequently, but usually unsystematically used. If contact between worker and supervisor were limited, the measuring instrument could be a self-rating device. Pym and Auld (1965) have suggested this approach, but have conceded that it may be expecting too much of people to ask them to consider their own worth rationally when their future may be at stake. This concession implies that right and wrong answers would be identifiable. A self-rating device on which "right" or "wrong" answers were not indicated might be of considerable value, depending upon the strength of the relationship
between that which was reported upon and job effectiveness. Time spent performing certain duties may be related to job performance measures, for example.

If a relationship between time spent and effectiveness could be demonstrated, a new method of performance evaluation could be established. Although there is a paucity of literature with respect to this specific point, there are reasons (which will be enumerated with respect to one occupation in the following section) to suspect the existence of a systematic relationship between the amount of time an individual spends performing certain duties and some measure of his rated effectiveness. The purpose of this research is to determine whether or not such a relationship exists, and to discuss its utility in performance evaluation.

Background of the Problem: Research on Police Training

Law enforcement agencies have directed increasing research attention toward modernization and professionalization in the last ten years. Police agencies and associations have called upon psychologists and others to develop selection programs (Chenoweth, 1961; Levy, 1967; Matarazzo, Allen, Saslow, and Wiens, 1964; Mills, 1964; O'Connor, 1962; and Olson, 1968), performance evaluation systems (Beck, 1960-61; Jurgensen, 1963; Lopez, 1963; McLaren, 1967; Peres, 1958; and Stander, 1960), training programs (Mold, 1968; Robinson and Coffey, 1968; and Watson, 1964) and other programs and services. A few of the most progressive law enforcement agencies have hired full-time psychologists to develop and administer such services. Federal funds are available to state and local agencies from the Office of Law Enforcement Assistance (O.L.E.A.) in the U.S. Department of Justice for research and development in these and in other areas of concern.
The Battelle Research

Until the 1960's formal peace officer training programs in Ohio had been limited to major agencies. Smaller departments provided no formal training, and newly appointed officers were expected to develop professional skills through experience, by conferring with older officers, and by whatever other ways they could. The need for formal training on a statewide basis was evident, and in 1966 the Ohio Peace Officer Training Council specified a 120 hour basic training curriculum which would be mandatory for all officers appointed after January 1, 1966. Although this training was well-received, it was soon deemed inadequate. As a first step in improving basic training for police officers in Ohio, the Council applied for, and received, an O.L.E.A. grant for a project entitled, "Implementation of Improved Police Training Programs." The Columbus Laboratories of Battelle Memorial Institute performed research and development directed toward improving police basic training. The present research is an offshoot of the Battelle project of which the author was principal investigator.

The Research Strategy

In order to improve upon or to develop a training program, one of the first tasks must be to determine job content. Once content is specified, job performance requirements can then be translated into training requirements and reasonable and valid terminal performance requirements can be established. Thus, the first task in the Battelle research was to perform an analysis of the job of the patrolman.

The Job Analysis and Questionnaire Construction

A series of discussions were held with representatives of the Ohio Peace Officer Training Council, the output of which were a number of flow charts representing various police activities. A number of Columbus, Ohio Police Department supervisors and patrolmen were interviewed, and patrolmen and investigators were
accompanied and observed in the course of their normal duties. A 195 item list of police tasks was generated as a result of these efforts. After joint editing by the author and a representative of the Ohio Peace Officer Training Council, 155 items were retained and cast into a questionnaire format. Two questions were to be answered with respect to each item: (1) have you ever performed this task?, and (2) how often have you (or do you) perform this task? The questionnaire was field tested and final revisions were made.

Data Collection and Analysis

The 155 item questionnaire was administered to 127 law enforcement officers in police and sheriffs' departments of various sizes throughout the State of Ohio. The investigator had control over the size and composition of neither the total sample nor its components since individual and departmental participation was voluntary, and the locations had been specified by the Council in its original grant proposal. Therefore no claim could be made to its representativeness. Nonetheless, it was believed intuitively that the most relevant characteristics of the sample of departments such as size, composition, problems encountered, range of duties of officers, and so on probably did not deviate significantly from those of the general population of Ohio law enforcement agencies from which it was drawn. Since the purpose of the training program was to improve basic training, the agency chiefs were requested to provide data from officers who had from six months to two years of service, if possible. Although not all subjects met this desideratum, the data are probably representative of young peace officers with respect to age, education, experience, and so on.

The analysis of these data yielded the information needed to develop an improved basic training curriculum and to improve the training system of which the curriculum is a part. Briefly, the method of analysis was a simple analysis of proportions. If 60% or more offers on any two "levels," e.g., city and county, or city and village, reported that they had performed a particular duty at least
once, the duty was considered sufficiently important to be worthy of consideration for inclusion in the basic training program. Items which failed to meet this criterion were presented to a panel of experts in order to determine whether or not the duty was critical, even though seldom performed. For example, firing a weapon with intent to hit a subject is an aspect of the police officer's job that could certainly be critical, but it is one that has been performed by only a small fraction of law enforcement officers. A more complete discussion of the rationale and analysis of these data is presented in the Battelle report to O.L.E.A. (Robinson & Coffey, 1968).

**Implications of the Battelle Research**

During the course of the research performed under the O.L.E.A. grant, three facts became evident. First, evaluation of police performance is difficult because of a lack of adequate, observable criteria and because officers and supervisors experience only limited contact during most of the watch or shift. Although the criterion problem with respect to the peace officer's job is tough, it is not insoluble. Peres (1958) and Stander (1960), for example, have successfully used peer nominations as criteria. Second, the job of the police officer is a many-faceted one. He must be a law enforcer, a social arbiter (President's Commission on Law Enforcement and Administration of Justice, 1967), a social worker of sorts, and must possess journeyman skills in a number of other areas. Finally, police officers have discretionary use of time. As long as an officer satisfies minimum time demands for performing certain duties, he is relatively free to distribute his work time among various duties as he sees fit. This fact has important ramifications. A decision to spend time getting acquainted with juveniles on a patrol route may cause them to have positive attitudes toward the law and to behave in socially acceptable ways, for example. If an officer spends insufficient time aiding the family of an accident victim, they may resent the lack of attention, and the opposite effect may result. The time the officer spends questioning suspicious characters may pay off in terms of a higher-than-average number of arrests and convictions to
his credit; or it could irritate people in the neighborhood so much that no one would tell him anything.

There are several reasons to suspect the existence of a systematic relationship between the time an officer spends performing certain duties and some measure of his effectiveness as a police officer:

1. An effective officer may conscientiously perform all necessary duties with adequate time attention to each, whereas an ineffective officer may slight unpleasant duties and spend more time than necessary in more pleasant ones.

2. An effective officer may perceive accurately that some duties require more or less time than others, whereas the less effective officer may distribute his time according to what he misperceives as a proper allocation of time.

3. An officer may be rated effective if he spends time doing things his supervisor has indicated are important without understanding the reasons.

4. An officer may be rated effective if he spends time doing things he thinks his supervisor considers important without understanding the reasons—or without specific direction from his supervisor.

5. An effective officer may have learned his distribution of time across activities from an older, more experienced, expert officer who made time distributions more or less explicit. The ineffective officer may not have had the benefit of such instruction.

As the three facts mentioned above emerged, two major questions arose: can the many-faceted job of police officers, considered in terms of the time they spend performing certain duties, be explained in terms of a manageable number of factors? Secondly, if satisfactory criterion data can be established, can variance in the criterion data be accounted for in terms of variance in the job performance factors? In other words, can time-spent data be used to predict various facets of police job performance?

Data regarding the time officers spend performing various duties had been collected in the course of the Battelle research.
Opportunity to perform further analysis of the 155 item questionnaire arose, and in June, 1968, the data were subjected to a Wherry-Winer hierarchical factor analysis. A weak general factor, two sub-general factors and four specific factors were extracted. They represented the following dimensions:

**General factor.** Although the loadings on the general factor were too low for meaningful interpretation, it seemed to represent the broad area of law enforcement.

**Sub-general factor I.** Determining contingencies before taking action.

**Sub-general factor II.** Controlling wrongdoers and protecting and preserving evidence.

**Specific factor I.** Routine traffic accidents. This factor was associated in the hierarchy with Sub-general II.

**Specific factor II.** General procedures associated with search and seizure. This factor is also associated with Sub-general II.

**Specific factor III.** Crowd and traffic control. This factor seemed to be independent of the general and sub-general factors.

**Specific factor IV.** Dealing with minor, routine complaints. This factor seemed to be independent of the general and sub-general factors also.

These dimensions seemed to make sense in terms of a rational analysis of the police officer's job, and appeared to hold sufficient promise to merit further research. Accordingly, preparations were made to carry out the present project.

In summary, it is extremely difficult to evaluate job performance of workers in complex service occupations, especially of those whose contact with supervisors is limited and who have discretionary use of time. The Battelle research raised two interesting questions: (1) can police duties be expressed in terms of a manageable number of factors based on time spent performing these duties? and (2) can a systematic relationship be demonstrated between time spent performing various tasks and certain measures of overall performance? The data collected in the course of that project were
subjected to further analysis and the results were considered sufficiently promising to merit further investigation. The purpose of this research is to attempt to determine whether or not a systematic relationship exists between the way in which a police officer utilizes his discretionary time and certain measures of his job effectiveness.

The following chapter will present a discussion of the rationales employed for item and criterion selection. Chapter III will discuss the administration of the questionnaire and collection of criterion data. Chapter IV will present results and discussion, and the research is summarized in Chapter V.
CHAPTER II

RATIONALES FOR ITEM AND CRITERION SELECTION

Analysis of the original Battelle research data indicated that meaningful factors could be extracted, and on this basis further research was initiated. In the first section of this chapter the rationale for item selection and revision will be discussed. In the second section of this chapter a discussion of the rationale for selecting criteria is presented.

Item Selection and Revision

One of the first tasks of the present project was to select the most promising items from the original 155. The first criterion for selection was that all items must be applicable to the job of the patrolman in the Columbus, Ohio Police Department since all subjects were members of that organization. The second criterion for selection was that all meaningful factors would be represented by the four items with the highest loadings on that factor. Once these criteria were satisfied, the remaining items were selected on the basis of high loadings. An attempt was made to select items with high loadings from each factor, and to eliminate from consideration items with moderate loadings on several factors. Seventy-one items were selected according to this process.

Tasks in the previous questionnaire had been grouped according to common headings, e.g.,

Escorting Parades, Public Figures and Funerals

___3. Clear intersections.

___4. Keep pedestrians under control.
Subjects had been requested to respond to each item with reference to the heading of the group to which it belonged; that is, "Clear intersections while escorting parades, public figures and funerals," and "Keep pedestrians under control while escorting parades, public figures and funerals." It was determined that some subjects in the earlier project had failed to take the group heading into account, and had responded only to the words, "Clear intersections" or "Keep pedestrians under control." Therefore, in order to minimize error variance arising from possible confusion as to the meaning of certain items, but at the risk of destroying correlations between these and other items, it was considered necessary to restate items which might be misleading. In most cases, the only changes that were made to the items were to add the group heading to their stems. For example, "Clear intersections" was restated to read, "Clear intersections while escorting parades, public figures and funerals."

The original research subjects represented law enforcement agencies of all sizes in rural, suburban and urban locations throughout the state of Ohio. Since the subjects in the present research were to be Columbus, Ohio police officers, five additional items were written which seemed particularly relevant to the job of the police officer in a large, urban department. These items are numbered 72-76 in the questionnaire which is attached as Appendix A.

A description of the subjects and a discussion of the administration of the questionnaire are presented in the following chapter.

**Rationale for Criterion Selection**

The difficulties of securing adequate performance criteria for workers in complex service occupations have been noted above. The problem with respect to the police job is especially tough because at this point in time even the experts disagree as to what the role of the police officer should be (Chiaramonte, 1968), and therefore conceptualization of an ultimate criterion (Thorndike, 1949) must be postponed until the controversy clears.
The establishment of satisfactory criteria is a judgmental matter. For this research three criterion measures were judged relevant: supervisors' ratings of overall performance; supervisors' judgments of complaints versus compliments; and peer ratings. The rationale for using each of these criteria will be discussed below.

Supervisors' Ratings of Overall Performance. A supervisor's judgment of overall performance is one of the most frequently employed criteria of worker performance. Its advantages are that such a judgment is convenient, easily rendered, and in many respects one of the most realistic measures of success available since supervisors decide who is to advance through the system, who is to be stalemated, and who is to be dropped from the system. Supervisors also possess the experience that permits them to discriminate between adequate and substandard performance. Despite these advantages, certain shortcomings are inherent in asking supervisors to render overall criterion judgments. The first is the well-known problem of halo. A second is that success is usually a complex phenomenon, and it may not be possible to reflect all its important dimensions in terms of a unitary judgment. A third problem is that subordinates usually put their best foot forward in the presence of supervisors, and attempt to present a proper image. Fourthly, the patrolman has little direct contact with his supervisors, and thus the latter has less opportunity to observe performance than does the factory foreman or the infantry squad leader, for example. A fifth problem is that in some personnel systems supervisors are not necessarily the best qualified, but may be the most senior or the oldest. Finally, some supervisors are reluctant to evaluate subordinates negatively for reasons of loyalty or for fear that negative evaluations may be interpreted as reflections of inadequate leadership.

Although the limitations of using supervisors' ratings of overall performance were recognized, it was decided that the advantages of doing so outweighed the disadvantages, especially if ratings of overall performance were supplemented by other criterion measures.
Supervisors' Ratings of Complaints versus Compliments. Discussions with police officials indicated that a patrolman can be evaluated on the basis of complaints or compliments from the public or from other police supervisors or patrolmen. One of the most important aspects of the policeman's job, and in many cases one of the most neglected, is maintaining good relations with the public. Individual and group attitudes toward law enforcement can be positively or negatively shaped depending upon the conduct of the officer in his interface with the public. For example, if an officer is courteous and objective while issuing a traffic citation, the offending motorist may be left with the feeling that he was in error, that he should have been more careful, and perhaps that he got what was coming to him. On the other hand, if the officer is curt, if he swaggers, threatens force, and puts his foot on the offender's automobile bumper, the offender may become justifiably resentful. He may exercise his disgust by teaching his children to hate police. He may also make a complaint to police headquarters.

Because of these facts it was decided to request supervisors to rate patrolmen according to supervisors' estimates of the relative number of complaints versus compliments they receive from the public or from other police. It was expected that the correlation between overall performance and complaints versus compliments would be high because the same individuals were being asked to render both judgments and because similar dimensions would probably be measured in both cases. However, it was also presumed that some officers, although perceived by supervisors to be highly effective, might receive public commendations for efficiency and courtesy, or complaints due to over-enthusiasm for enforcing the law, for example.

Peer Ratings. Numerous studies have established the value of peer ratings as a criterion of effective job performance. Bittner (1948), for example, has pointed out that ratings made by peers probably more accurately reflect real competence than ratings made by supervisors because: (1) peers are in closer contact with a man; (2) a man tries to present his best side to his superiors, whereas
his "peers see him as he is"; and (3) in using peers, a larger number of judgments can be obtained, the average of which is more reliable than the judgment of a single individual or small group. Williams and Leavitt (1947) have indicated that the advantages of using peer ratings are that peers have more opportunity to observe each other than superior officers; they "know each other in a realistic context," and react more directly to each other's social behavior. Roadman (1964) found peer ratings to be highly successful in predicting success of corporation managers on seven out of thirteen characteristics. Peres (1958) and Stander (1960) were successful in demonstrating the value of peer ratings in appraising police performance.

One criticism that has been leveled at peer ratings has been that they are better measures of popularity than they are of performance. Empirical data argues to the contrary. Wherry and Fryer (1949) have concluded that buddy ratings are the purest measure of leadership available. They found that in a military situation, peers were able to rate at one month what it took tactical officers four months to rate. Hollander (1956) has demonstrated that while friends appear to be favored for high nominations, the validity of the buddy rating is not adversely affected by considerations of friendship.

Thus, the available evidence strongly supports the principle of using peer ratings as criterion measures.

In summary, 71 predictor items were selected on the bases of job relevance, factor representation, and high factor loadings from the factor analysis of the 155 item questionnaire used in the Battelle research. Some of these items were modified slightly, and five additional items were written. Three criteria were established: (1) supervisors' ratings of overall job performance; (2) supervisors' estimates of relative number of complaints versus compliments; and (3) peer ratings. The rationale for employing each criterion was discussed.

The next chapter will deal with the administration of the questionnaire and collection of the criterion data.
CHAPTER III

QUESTIONNAIRE ADMINISTRATION AND CRITERION DATA COLLECTION

This chapter will deal with the following topics: description of subjects, questionnaire administration, questionnaire instructions, collection of supervisors' ratings and calculation of criterion scores from these data, and collection of peer ratings and calculation of peer rating scores. First, however, it may be appropriate to examine briefly the organization of the Columbus, Ohio Police Department.

Columbus Police Department Organization

The Columbus Police Department is separated into three major parts: the Investigative Subdivision, the Service Subdivision, and the Uniform Subdivision. The subdivisions are broken down further into bureaus. In the Investigative Subdivision are found the Detective Bureau, the Juvenile Bureau, the Intelligence Bureau, and the Vice Bureau. In the Service Subdivision are the Training Bureau, the Jail Bureau, and Headquarters Service Bureau. The Uniform Subdivision is comprised of the Patrol and Traffic Bureaus. Within the Patrol Bureau are four platoons: "A," "B," "C," and "D." Platoons "A," "B," "C," each about 100 strong, alternate through three eight-hour shifts or watches. "D" Platoon, sometimes called the "relief" platoon, is composed of about 60 patrolmen who may be assigned to any watch, usually overlapping that watch by about one hour.

"A," "B," and "C" Platoons normally are commanded by captains, each of whom are assisted by three lieutenants. The platoons are split up into nine precincts which have geographic boundaries. Each precinct is commanded by a sergeant and consists of six to
twelve patrolmen. The "D" or "relief" Platoon has one lieutenant and five sergeants who are assigned as needed.

In August, 1968, Robert H. Baus, Chief of Police, agreed to allow the research to be carried out within the Columbus Department. Captain Earl Burden, Training Bureau Commander, consented to assist in data collection and other administrative matters. All patrolmen in "B" Platoon and those in "D" Platoon who were assigned to work during approximately the same hours as "B" Platoon during the month of October were selected to be subjects.

**Questionnaire Administration**

On September 27, 1968, the questionnaires were sent through Police Department channels from the Training Academy to each patrolman in the designated platoons. Major D.W. Joseph, Deputy Chief in charge of the uniform Subdivision wrote a cover letter (Appendix B) to the questionnaire which was designed to elicit maximum cooperation from the individuals involved. The patrolmen were instructed to complete and return the questionnaire to the Training Academy within 72 hours after receiving it, but no later than October 11, 1968.

**Questionnaire Instructions**

The questionnaire instructions are attached to the questionnaire (see Appendix A). They stated that the questionnaire was not a test nor a means by which individuals, supervisors, or organizational units would be evaluated. It requested the patrolmen to complete six items of demographic importance, and then to respond to each item by means of a seven-point scale in terms of how much time they typically spend performing each task in comparison with all their other duties. In other words, they were asked to respond in terms of relative, rather than absolute, time spent. Morsh (1965) found that if incumbents rated tasks in terms of an absolute time spent scale, the distribution
of ratings was nearly always highly skewed. He determined that this problem can be avoided if time spent data are reported in terms of relative time spent (Morsh and Archer, 1967).

The officers were also requested to print their names on a 3" x 5" card which was attached to the questionnaire. This card was used subsequently by the supervisors when they made their ratings.

The officers were not told that further data (peer ratings) would be requested from them, and further, in an attempt to avoid biasing the responses of officers who completed the questionnaire later than others, the subjects were requested not to discuss the task.

Subjects

One hundred-eighteen Columbus, Ohio patrolmen, 86 from "B" Platoon and 32 from "D" Platoon, completed the questionnaire. They were all assigned general police duties throughout the city. Their median age was 28.1 with a range of 22-50. Seventy-seven percent had had less than six years of service with the Department. The range of their years of service (reported to the nearest whole year) was from 1-22 with a median of 3.43 years. Their median number of years of college was .75; the range was 0-4. Approximately 68% were high school graduates with less than one year of college; about 10% reported that they had had four years of college. These data are summarized in Table 1.

<table>
<thead>
<tr>
<th>Table 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medians and Ranges of Subjects' Ages, Years of Service, and Years of College</td>
</tr>
<tr>
<td>========================================================================</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Median</td>
</tr>
<tr>
<td>Range</td>
</tr>
</tbody>
</table>
Collection of Supervisors' Ratings

Raters
A group of 13 precinct sergeants and three lieutenants provided supervisors' ratings on October 8th and 9th, 1968, which was several days after the questionnaires had been returned. Nine of the sergeants and two lieutenants were from "B" Platoon; the others were from "D" Platoon. Each sergeant was well acquainted with the patrolmen assigned to his precinct. The lieutenants were less well acquainted with the patrolmen, but knew nearly all of them at least by reputation, if not personally.

Instructions to Supervisors
The sergeants and lieutenants were assembled in a group at Police Headquarters and were told that they were being asked to evaluate their men. They were assured that the results would not be used administratively and that the data they provided would be kept confidential. At that point, the lieutenants, and one sergeant who was acting as a lieutenant, were asked to wait in another office.

Instructions to Sergeants. Each sergeant was given 6-12 3" x 5" cards on which were written the names of the men in his precinct, one name per card. (These were the cards filled out by the questionnaire respondents.) The sergeants were asked to assume that they were forming their own police departments with the men whose names were on the cards in front of them. They were asked to select the 25% they would most like to have in their imaginary department and the 25% they would least like to have. After arranging the three piles of cards from left (25% least desirable) to right (25% most desirable) with the middle 50% in the center, they were requested to mark a "2" on each card in the "low" pile, a 3" on each card in the middle pile, and a "4" on each card in the "high" pile. This forced distribution technique has been suggested by Tiffin (1962).

After completing this task, the sergeants were asked to shuffle the cards and to repeat the rating procedure except in the second task
they were asked to rate their men according to complaints versus compliments. The 25% who received the most complaints and the fewest compliments would receive a rating of "2"; the middle 50% a rating of "3," and the top 25% (most compliments, fewest complaints) a "4." At this point the sergeants were asked not to discuss the project with anyone, and were dismissed.

The instructions to the sergeants, which were read to them, are attached as Appendix C.

Instructions to Lieutenants. The two lieutenants from "B" Platoon were given a roster of the 86 officers in that command and were asked to mark the names of the eight most effective and the eight least effective officers on the roster. The lieutenant and the sergeant from "D" Platoon were given a roster of the 32 subjects in that command and asked to indicate the three most and three least effective. They were then requested to indicate the individuals who received the most compliments and fewest complaints and those who received the most complaints and fewest compliments.

The instructions read to the lieutenants are attached as Appendix D.

Calculation of Criterion Scores From Supervisors' Ratings

The sergeants provided a rating of 2, 3, or 4 for each patrolman in their precincts ($n_p = 6-12$). Depending upon whether they were from "B" or "D" Platoons respectively, the three lieutenants (and the acting lieutenant) nominated the eight or three most effective and eight or three least effective officers in their platoons. Thus, each patrolman received one rating from his sergeant, and could have been nominated by one or both lieutenants in his platoon. Depending upon the direction of the lieutenant's rating, one point was either added to or subtracted from the sergeant's rating. Thus, the possible range of ratings was from 0-6, representing a seven-point scale. The sergeant's judgment determined placement in a high-medium-low trichotomy; and the lieutenants' nominations could affect an individual's placement two steps more in either direction.
The frequency and percentage distributions of supervisors' ratings are reflected in Table 2.

Table 2

Frequency and Percentage Distributions of Supervisors' Ratings

<table>
<thead>
<tr>
<th>Criterion scores</th>
<th>Supervisors' ratings</th>
<th>Complaints vs compliments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td></td>
</tr>
<tr>
<td></td>
<td>f</td>
<td>%</td>
</tr>
<tr>
<td>0</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td>1</td>
<td>9</td>
<td>7.6</td>
</tr>
<tr>
<td>2</td>
<td>21</td>
<td>17.8</td>
</tr>
<tr>
<td>3</td>
<td>46</td>
<td>39.0</td>
</tr>
<tr>
<td>4</td>
<td>31</td>
<td>26.3</td>
</tr>
<tr>
<td>5</td>
<td>5</td>
<td>4.2</td>
</tr>
<tr>
<td>6</td>
<td>3</td>
<td>2.5</td>
</tr>
<tr>
<td></td>
<td>118</td>
<td>99.9</td>
</tr>
</tbody>
</table>

Collection of Peer Ratings

Instructions to Raters

Each of the 118 patrolmen who completed a questionnaire was sent a roster of subjects' names presented in alphabetical order and a sheet of instructions (see Appendix E) through Departmental channels during the week of October 7, 1968. They were asked to imagine that they were assigned to carry out a difficult and dangerous assignment. As a condition of that assignment they were to select the three men from the roster whom they would most like to have accompany them on the assignment, and three men whom they would least like to have accompany them. Once this task was complete, they were requested to seal the roster in an envelope and send it to the Training Academy. Confidentiality and anonymity were promised, and assurance was given that the results were not to be used administratively.
Although every subject was supposed to nominate a total of six other officers, only 70 complied fully with the request by nominating three officers at either end of the scale. A few marked the top three, but refused to identify the three officers at the bottom. Some of the unusable rosters were returned with such statements as "I do not care to denounce my fellow officers." This indicated that the task of rating peers was a disagreeable or threatening one, at least for some officers. It is clear that the 70 returns that were used represented some biased sub-sample of the total sample, but to what degree the peer rating data were biased, and in which direction, is unknown. However, it can be said that the ratings represented the averaged judgments of 70 individuals, and despite the failure of the remainder to respond properly, the data provided by those who did probably can be judged reliable.

**Calculation of Peer Rating Scores**

For each subject, the number of unfavorable nominations was subtracted from the number of favorable mentions. This resulted in a continuum running from -20 to +9. By adding a constant of +20 to each score, negative scores were eliminated. This yielded a range of 0-29. A frequency distribution of the transformed scores was tabulated, and criterion scores from 0-6 were assigned. The criterion scores were assigned according to the following procedure: first, cutoff points for the 0 and 6 scores were arbitrarily established after visually examining the frequency distribution of transformed scores. Transformed scores below 16 were assigned a criterion score of 0, and transformed scores above 25 were assigned a 6. Transformed scores of 16 and 17 were assigned a 1; 18 and 19 a 2, and so on (see Table 3).

There were 76 questionnaire items. After the criterion data were collected, each subject's three criterion scores were tabulated as Items 77, 78, and 79 on the questionnaire. Then the data were keypunched preparatory to analysis.
Table 3

Frequency and Percentage Distributions of Transformed Peer Rating Scores and Peer Rating Criterion Scores

<table>
<thead>
<tr>
<th>Transformed peer rating scores</th>
<th>f</th>
<th>%</th>
<th>Criterion Scores</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-15</td>
<td>8</td>
<td>6.8</td>
<td>0</td>
</tr>
<tr>
<td>16-17</td>
<td>2</td>
<td>1.7</td>
<td>1</td>
</tr>
<tr>
<td>18-19</td>
<td>25</td>
<td>21.2</td>
<td>2</td>
</tr>
<tr>
<td>20-21</td>
<td>51</td>
<td>43.2</td>
<td>3</td>
</tr>
<tr>
<td>22-23</td>
<td>21</td>
<td>17.8</td>
<td>4</td>
</tr>
<tr>
<td>24-25</td>
<td>7</td>
<td>5.9</td>
<td>5</td>
</tr>
<tr>
<td>26.29</td>
<td>5</td>
<td>4.2</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td>118</td>
<td>100.8</td>
<td></td>
</tr>
</tbody>
</table>

This chapter has presented a brief description of the organization of the Columbus Police Department followed by a chronological sequence of events during the data collection phase of the research. The subjects were described and the questionnaire instructions and administration procedures were summarized, and procedures by which supervisors' ratings and peer ratings were collected were described. Finally, descriptions of the methods by which criterion scores were calculated were presented. The next chapter will present results and discussion of results.
CHAPTER IV

RESULTS AND DISCUSSION

The results presented in this chapter are based upon two types of analysis of the questionnaire and criterion data. The first was a factor analysis of the 79 x 79 matrix formed by intercorrelating the 76 predictor and three criterion items. The second consisted of three multiple regression analyses utilizing the 76 questionnaire items to predict toward each of the three criteria. The results of each analysis will be presented and discussed in this chapter.

The Factor Analysis

The 76 predictor and three criterion items were intercorrelated and the resulting matrix was subjected to a Wherry-Wherry hierarchical factor analysis. This analysis was performed on an IBM 1401 computer using a Department of Psychology computer program (WHEWHII). The analysis yielded six orthogonal factors which were rotated to simple structure by the varimax procedure. After the varimax loadings had been computed, these factors were intercorrelated and a complete hierarchical solution was carried out. A general factor, two subgenerals, and six specific factors were extracted. Table 4 presents the factor loadings and communalities.

As the frequency distribution of residuals (Table 5) indicates, the number of residuals exceeding two sigmas (sigma = .09 = \(\frac{1}{\sqrt{N}} = \frac{1}{\sqrt{118}}\)) was less than 5%. It can therefore be concluded that all significant factors were extracted.
Table 4

Rotated Factor Loadings

<table>
<thead>
<tr>
<th>Item</th>
<th>G</th>
<th>SGIc</th>
<th>SGII</th>
<th>Ie</th>
<th>If</th>
<th>IIIg</th>
<th>IVh</th>
<th>v1</th>
<th>VIj</th>
<th>h2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>09</td>
<td>-07</td>
<td>13</td>
<td>11</td>
<td>-06</td>
<td>31</td>
<td>12</td>
<td>-08</td>
<td>-38</td>
<td>31</td>
</tr>
<tr>
<td>2</td>
<td>20</td>
<td>-14</td>
<td>28</td>
<td>20</td>
<td>-01</td>
<td>38</td>
<td>35</td>
<td>-21</td>
<td>-55</td>
<td>79</td>
</tr>
<tr>
<td>3</td>
<td>20</td>
<td>-11</td>
<td>26</td>
<td>25</td>
<td>-01</td>
<td>30</td>
<td>36</td>
<td>-19</td>
<td>-52</td>
<td>71</td>
</tr>
<tr>
<td>4</td>
<td>26</td>
<td>-08</td>
<td>26</td>
<td>11</td>
<td>04</td>
<td>31</td>
<td>23</td>
<td>-17</td>
<td>-33</td>
<td>44</td>
</tr>
<tr>
<td>5</td>
<td>32</td>
<td>01</td>
<td>22</td>
<td>40</td>
<td>07</td>
<td>09</td>
<td>-13</td>
<td>18</td>
<td>-34</td>
<td>49</td>
</tr>
<tr>
<td>6</td>
<td>28</td>
<td>04</td>
<td>15</td>
<td>18</td>
<td>08</td>
<td>08</td>
<td>-22</td>
<td>16</td>
<td>-10</td>
<td>26</td>
</tr>
<tr>
<td>7</td>
<td>36</td>
<td>21</td>
<td>05</td>
<td>-03</td>
<td>-06</td>
<td>01</td>
<td>00</td>
<td>26</td>
<td>08</td>
<td>26</td>
</tr>
<tr>
<td>8</td>
<td>35</td>
<td>02</td>
<td>22</td>
<td>-06</td>
<td>05</td>
<td>15</td>
<td>-08</td>
<td>20</td>
<td>-07</td>
<td>25</td>
</tr>
<tr>
<td>9</td>
<td>44</td>
<td>06</td>
<td>25</td>
<td>-02</td>
<td>13</td>
<td>09</td>
<td>-21</td>
<td>24</td>
<td>04</td>
<td>39</td>
</tr>
<tr>
<td>10</td>
<td>50</td>
<td>11</td>
<td>24</td>
<td>03</td>
<td>09</td>
<td>11</td>
<td>-17</td>
<td>27</td>
<td>-01</td>
<td>44</td>
</tr>
<tr>
<td>11</td>
<td>03</td>
<td>06</td>
<td>09</td>
<td>-01</td>
<td>02</td>
<td>-04</td>
<td>02</td>
<td>15</td>
<td>-10</td>
<td>05</td>
</tr>
<tr>
<td>12</td>
<td>11</td>
<td>-13</td>
<td>21</td>
<td>10</td>
<td>03</td>
<td>00</td>
<td>15</td>
<td>13</td>
<td>-30</td>
<td>21</td>
</tr>
<tr>
<td>13</td>
<td>33</td>
<td>21</td>
<td>02</td>
<td>-09</td>
<td>-02</td>
<td>32</td>
<td>03</td>
<td>-23</td>
<td>17</td>
<td>34</td>
</tr>
<tr>
<td>14</td>
<td>50</td>
<td>24</td>
<td>12</td>
<td>07</td>
<td>04</td>
<td>35</td>
<td>-15</td>
<td>-12</td>
<td>09</td>
<td>49</td>
</tr>
<tr>
<td>15</td>
<td>35</td>
<td>-09</td>
<td>34</td>
<td>-08</td>
<td>08</td>
<td>16</td>
<td>41</td>
<td>-10</td>
<td>-19</td>
<td>50</td>
</tr>
<tr>
<td>16</td>
<td>53</td>
<td>21</td>
<td>17</td>
<td>-06</td>
<td>-05</td>
<td>29</td>
<td>01</td>
<td>15</td>
<td>-02</td>
<td>47</td>
</tr>
<tr>
<td>17</td>
<td>38</td>
<td>-06</td>
<td>34</td>
<td>17</td>
<td>15</td>
<td>06</td>
<td>-03</td>
<td>19</td>
<td>-23</td>
<td>41</td>
</tr>
<tr>
<td>18</td>
<td>51</td>
<td>14</td>
<td>23</td>
<td>-06</td>
<td>02</td>
<td>16</td>
<td>04</td>
<td>20</td>
<td>-01</td>
<td>41</td>
</tr>
<tr>
<td>19</td>
<td>50</td>
<td>23</td>
<td>13</td>
<td>11</td>
<td>05</td>
<td>07</td>
<td>-09</td>
<td>13</td>
<td>11</td>
<td>37</td>
</tr>
<tr>
<td>20</td>
<td>33</td>
<td>10</td>
<td>13</td>
<td>-02</td>
<td>14</td>
<td>01</td>
<td>-10</td>
<td>-01</td>
<td>21</td>
<td>21</td>
</tr>
<tr>
<td>21</td>
<td>43</td>
<td>24</td>
<td>06</td>
<td>-02</td>
<td>-08</td>
<td>17</td>
<td>-02</td>
<td>18</td>
<td>04</td>
<td>32</td>
</tr>
<tr>
<td>22</td>
<td>32</td>
<td>-27</td>
<td>50</td>
<td>-27</td>
<td>33</td>
<td>-04</td>
<td>13</td>
<td>06</td>
<td>03</td>
<td>62</td>
</tr>
<tr>
<td>23</td>
<td>46</td>
<td>-10</td>
<td>43</td>
<td>-23</td>
<td>27</td>
<td>03</td>
<td>12</td>
<td>03</td>
<td>11</td>
<td>55</td>
</tr>
<tr>
<td>24</td>
<td>41</td>
<td>-20</td>
<td>49</td>
<td>-26</td>
<td>32</td>
<td>01</td>
<td>20</td>
<td>-02</td>
<td>08</td>
<td>65</td>
</tr>
<tr>
<td>25</td>
<td>36</td>
<td>-15</td>
<td>41</td>
<td>-12</td>
<td>25</td>
<td>05</td>
<td>01</td>
<td>09</td>
<td>-03</td>
<td>41</td>
</tr>
<tr>
<td>26</td>
<td>49</td>
<td>21</td>
<td>14</td>
<td>00</td>
<td>10</td>
<td>22</td>
<td>-14</td>
<td>01</td>
<td>19</td>
<td>46</td>
</tr>
<tr>
<td>27</td>
<td>40</td>
<td>19</td>
<td>10</td>
<td>07</td>
<td>15</td>
<td>19</td>
<td>-21</td>
<td>-19</td>
<td>24</td>
<td>42</td>
</tr>
</tbody>
</table>
Table 4 (continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>( G^b )</th>
<th>( SGI^c )</th>
<th>( SGII^d )</th>
<th>( I^e )</th>
<th>( II^f )</th>
<th>( III^g )</th>
<th>( IV^h )</th>
<th>( V^i )</th>
<th>( VI^j )</th>
<th>( h^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>28</td>
<td>30</td>
<td>11</td>
<td>11</td>
<td>02</td>
<td>11</td>
<td>21</td>
<td>-10</td>
<td>-21</td>
<td>15</td>
<td>25</td>
</tr>
<tr>
<td>29</td>
<td>46</td>
<td>38</td>
<td>-05</td>
<td>04</td>
<td>-12</td>
<td>18</td>
<td>21</td>
<td>-13</td>
<td>19</td>
<td>50</td>
</tr>
<tr>
<td>30</td>
<td>47</td>
<td>33</td>
<td>00</td>
<td>08</td>
<td>01</td>
<td>22</td>
<td>11</td>
<td>-33</td>
<td>27</td>
<td>58</td>
</tr>
<tr>
<td>31</td>
<td>44</td>
<td>50</td>
<td>-18</td>
<td>17</td>
<td>-22</td>
<td>16</td>
<td>21</td>
<td>-14</td>
<td>18</td>
<td>68</td>
</tr>
<tr>
<td>32</td>
<td>49</td>
<td>48</td>
<td>-13</td>
<td>02</td>
<td>-22</td>
<td>12</td>
<td>23</td>
<td>01</td>
<td>22</td>
<td>65</td>
</tr>
<tr>
<td>33</td>
<td>53</td>
<td>48</td>
<td>-10</td>
<td>09</td>
<td>-26</td>
<td>21</td>
<td>28</td>
<td>01</td>
<td>09</td>
<td>73</td>
</tr>
<tr>
<td>34</td>
<td>55</td>
<td>33</td>
<td>06</td>
<td>21</td>
<td>-04</td>
<td>17</td>
<td>06</td>
<td>-04</td>
<td>06</td>
<td>51</td>
</tr>
<tr>
<td>35</td>
<td>48</td>
<td>47</td>
<td>-12</td>
<td>13</td>
<td>-19</td>
<td>28</td>
<td>11</td>
<td>-12</td>
<td>14</td>
<td>64</td>
</tr>
<tr>
<td>36</td>
<td>61</td>
<td>33</td>
<td>11</td>
<td>20</td>
<td>-09</td>
<td>31</td>
<td>04</td>
<td>04</td>
<td>-07</td>
<td>65</td>
</tr>
<tr>
<td>37</td>
<td>53</td>
<td>24</td>
<td>14</td>
<td>14</td>
<td>00</td>
<td>16</td>
<td>08</td>
<td>03</td>
<td>01</td>
<td>41</td>
</tr>
<tr>
<td>38</td>
<td>44</td>
<td>42</td>
<td>-11</td>
<td>15</td>
<td>-17</td>
<td>19</td>
<td>24</td>
<td>-17</td>
<td>13</td>
<td>58</td>
</tr>
<tr>
<td>39</td>
<td>43</td>
<td>02</td>
<td>29</td>
<td>14</td>
<td>11</td>
<td>17</td>
<td>14</td>
<td>-06</td>
<td>-15</td>
<td>38</td>
</tr>
<tr>
<td>40</td>
<td>45</td>
<td>45</td>
<td>-13</td>
<td>05</td>
<td>-20</td>
<td>22</td>
<td>26</td>
<td>-19</td>
<td>20</td>
<td>66</td>
</tr>
<tr>
<td>41</td>
<td>49</td>
<td>47</td>
<td>-12</td>
<td>07</td>
<td>-23</td>
<td>19</td>
<td>31</td>
<td>-10</td>
<td>16</td>
<td>70</td>
</tr>
<tr>
<td>42</td>
<td>47</td>
<td>23</td>
<td>11</td>
<td>23</td>
<td>01</td>
<td>-02</td>
<td>20</td>
<td>00</td>
<td>03</td>
<td>38</td>
</tr>
<tr>
<td>43</td>
<td>47</td>
<td>34</td>
<td>-00</td>
<td>02</td>
<td>-11</td>
<td>19</td>
<td>24</td>
<td>-10</td>
<td>13</td>
<td>47</td>
</tr>
<tr>
<td>44</td>
<td>52</td>
<td>34</td>
<td>04</td>
<td>-04</td>
<td>-13</td>
<td>28</td>
<td>05</td>
<td>08</td>
<td>07</td>
<td>50</td>
</tr>
<tr>
<td>45</td>
<td>49</td>
<td>00</td>
<td>34</td>
<td>06</td>
<td>16</td>
<td>02</td>
<td>-07</td>
<td>27</td>
<td>-07</td>
<td>47</td>
</tr>
<tr>
<td>46</td>
<td>59</td>
<td>22</td>
<td>20</td>
<td>22</td>
<td>05</td>
<td>12</td>
<td>00</td>
<td>10</td>
<td>-04</td>
<td>51</td>
</tr>
<tr>
<td>47</td>
<td>39</td>
<td>03</td>
<td>24</td>
<td>22</td>
<td>10</td>
<td>-04</td>
<td>-04</td>
<td>25</td>
<td>-14</td>
<td>35</td>
</tr>
<tr>
<td>48</td>
<td>42</td>
<td>-19</td>
<td>49</td>
<td>-18</td>
<td>25</td>
<td>-00</td>
<td>33</td>
<td>03</td>
<td>-06</td>
<td>66</td>
</tr>
<tr>
<td>49</td>
<td>41</td>
<td>-20</td>
<td>49</td>
<td>-20</td>
<td>24</td>
<td>02</td>
<td>34</td>
<td>02</td>
<td>-07</td>
<td>66</td>
</tr>
<tr>
<td>50</td>
<td>41</td>
<td>07</td>
<td>22</td>
<td>-14</td>
<td>03</td>
<td>28</td>
<td>06</td>
<td>02</td>
<td>-03</td>
<td>33</td>
</tr>
<tr>
<td>51</td>
<td>40</td>
<td>-04</td>
<td>25</td>
<td>-11</td>
<td>-00</td>
<td>12</td>
<td>19</td>
<td>19</td>
<td>-10</td>
<td>33</td>
</tr>
<tr>
<td>52</td>
<td>36</td>
<td>00</td>
<td>25</td>
<td>-15</td>
<td>04</td>
<td>29</td>
<td>16</td>
<td>-06</td>
<td>-08</td>
<td>34</td>
</tr>
<tr>
<td>53</td>
<td>55</td>
<td>18</td>
<td>22</td>
<td>21</td>
<td>13</td>
<td>-01</td>
<td>-19</td>
<td>26</td>
<td>04</td>
<td>56</td>
</tr>
<tr>
<td>54</td>
<td>19</td>
<td>03</td>
<td>11</td>
<td>08</td>
<td>06</td>
<td>04</td>
<td>-08</td>
<td>07</td>
<td>-04</td>
<td>07</td>
</tr>
<tr>
<td>55</td>
<td>20</td>
<td>-03</td>
<td>18</td>
<td>-03</td>
<td>03</td>
<td>07</td>
<td>17</td>
<td>03</td>
<td>-11</td>
<td>12</td>
</tr>
<tr>
<td>56</td>
<td>35</td>
<td>26</td>
<td>-00</td>
<td>50</td>
<td>07</td>
<td>-18</td>
<td>19</td>
<td>-21</td>
<td>09</td>
<td>57</td>
</tr>
<tr>
<td>57</td>
<td>51</td>
<td>27</td>
<td>10</td>
<td>48</td>
<td>07</td>
<td>-05</td>
<td>14</td>
<td>-12</td>
<td>01</td>
<td>61</td>
</tr>
</tbody>
</table>
Table 4 (Continued)

<table>
<thead>
<tr>
<th>Item</th>
<th>G&lt;sup&gt;b&lt;/sup&gt;</th>
<th>SGI&lt;sup&gt;c&lt;/sup&gt;</th>
<th>SGI&lt;sup&gt;d&lt;/sup&gt;</th>
<th>I&lt;sup&gt;e&lt;/sup&gt;</th>
<th>II&lt;sup&gt;f&lt;/sup&gt;</th>
<th>III&lt;sup&gt;g&lt;/sup&gt;</th>
<th>IV&lt;sup&gt;h&lt;/sup&gt;</th>
<th>V&lt;sup&gt;i&lt;/sup&gt;</th>
<th>VI&lt;sup&gt;j&lt;/sup&gt;</th>
<th>h&lt;sup&gt;2&lt;/sup&gt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>58</td>
<td>46</td>
<td>33</td>
<td>00</td>
<td>44</td>
<td>02</td>
<td>-14</td>
<td>31</td>
<td>-19</td>
<td>11</td>
<td>68</td>
</tr>
<tr>
<td>59</td>
<td>43</td>
<td>17</td>
<td>14</td>
<td>49</td>
<td>09</td>
<td>-18</td>
<td>23</td>
<td>-05</td>
<td>-07</td>
<td>58</td>
</tr>
<tr>
<td>60</td>
<td>15</td>
<td>13</td>
<td>-03</td>
<td>10</td>
<td>-08</td>
<td>03</td>
<td>03</td>
<td>09</td>
<td>-04</td>
<td>07</td>
</tr>
<tr>
<td>61</td>
<td>42</td>
<td>11</td>
<td>19</td>
<td>59</td>
<td>11</td>
<td>-11</td>
<td>09</td>
<td>03</td>
<td>-23</td>
<td>67</td>
</tr>
<tr>
<td>62</td>
<td>43</td>
<td>11</td>
<td>19</td>
<td>52</td>
<td>08</td>
<td>-11</td>
<td>08</td>
<td>13</td>
<td>-23</td>
<td>60</td>
</tr>
<tr>
<td>63</td>
<td>35</td>
<td>04</td>
<td>21</td>
<td>21</td>
<td>-03</td>
<td>25</td>
<td>19</td>
<td>-01</td>
<td>-34</td>
<td>43</td>
</tr>
<tr>
<td>64</td>
<td>55</td>
<td>34</td>
<td>06</td>
<td>38</td>
<td>-06</td>
<td>-06</td>
<td>27</td>
<td>05</td>
<td>-02</td>
<td>65</td>
</tr>
<tr>
<td>65</td>
<td>55</td>
<td>36</td>
<td>04</td>
<td>44</td>
<td>-06</td>
<td>-09</td>
<td>21</td>
<td>09</td>
<td>-03</td>
<td>69</td>
</tr>
<tr>
<td>66</td>
<td>52</td>
<td>33</td>
<td>04</td>
<td>42</td>
<td>-06</td>
<td>-11</td>
<td>24</td>
<td>08</td>
<td>-02</td>
<td>63</td>
</tr>
<tr>
<td>67</td>
<td>55</td>
<td>40</td>
<td>-01</td>
<td>16</td>
<td>-15</td>
<td>17</td>
<td>28</td>
<td>-07</td>
<td>07</td>
<td>63</td>
</tr>
<tr>
<td>68</td>
<td>47</td>
<td>28</td>
<td>06</td>
<td>27</td>
<td>09</td>
<td>15</td>
<td>02</td>
<td>-03</td>
<td>17</td>
<td>52</td>
</tr>
<tr>
<td>69</td>
<td>47</td>
<td>27</td>
<td>06</td>
<td>15</td>
<td>05</td>
<td>16</td>
<td>07</td>
<td>-21</td>
<td>16</td>
<td>42</td>
</tr>
<tr>
<td>70</td>
<td>12</td>
<td>.06</td>
<td>03</td>
<td>17</td>
<td>08</td>
<td>28</td>
<td>-24</td>
<td>-24</td>
<td>-02</td>
<td>25</td>
</tr>
<tr>
<td>71</td>
<td>38</td>
<td>02</td>
<td>25</td>
<td>02</td>
<td>11</td>
<td>13</td>
<td>07</td>
<td>-01</td>
<td>-04</td>
<td>24</td>
</tr>
<tr>
<td>72</td>
<td>15</td>
<td>08</td>
<td>03</td>
<td>14</td>
<td>07</td>
<td>29</td>
<td>-18</td>
<td>-29</td>
<td>02</td>
<td>25</td>
</tr>
<tr>
<td>73</td>
<td>28</td>
<td>09</td>
<td>12</td>
<td>13</td>
<td>07</td>
<td>39</td>
<td>-21</td>
<td>-20</td>
<td>-06</td>
<td>36</td>
</tr>
<tr>
<td>74</td>
<td>04</td>
<td>-01</td>
<td>03</td>
<td>21</td>
<td>17</td>
<td>-27</td>
<td>-01</td>
<td>-10</td>
<td>15</td>
<td>18</td>
</tr>
<tr>
<td>75</td>
<td>17</td>
<td>03</td>
<td>10</td>
<td>34</td>
<td>27</td>
<td>04</td>
<td>-21</td>
<td>-40</td>
<td>13</td>
<td>45</td>
</tr>
<tr>
<td>76</td>
<td>26</td>
<td>13</td>
<td>06</td>
<td>10</td>
<td>14</td>
<td>27</td>
<td>-15</td>
<td>-39</td>
<td>18</td>
<td>40</td>
</tr>
<tr>
<td>77</td>
<td>04</td>
<td>14</td>
<td>-17</td>
<td>-08</td>
<td>-23</td>
<td>23</td>
<td>-17</td>
<td>17</td>
<td>-07</td>
<td>22</td>
</tr>
<tr>
<td>78</td>
<td>-08</td>
<td>11</td>
<td>-17</td>
<td>00</td>
<td>-16</td>
<td>18</td>
<td>-28</td>
<td>16</td>
<td>-06</td>
<td>21</td>
</tr>
<tr>
<td>79</td>
<td>04</td>
<td>06</td>
<td>-03</td>
<td>-04</td>
<td>-09</td>
<td>17</td>
<td>-34</td>
<td>30</td>
<td>-02</td>
<td>26</td>
</tr>
</tbody>
</table>

a. All entries are two-place decimals.
b. General factor.
c. Sub-general I, Determining contingencies before taking action.
d. Sub-general II, General procedures allied with arrest, search and seizure.
e. Specific factor I, Routine traffic accidents.
f. Specific factor II, Legal search and seizure.
Table 4 (Continued)

g. Specific factor III, Controlling dangerous and/or unpredictable non-felons.

h. Specific factor IV, Belligerence in dealing with offenders and potential offenders.

i. Specific factor V, Harassment versus service.

j. Specific factor VI, Traffic control related to public gatherings.

Factors

Each factor will be named and discussed. Except for the general factor, items with highest loadings on each factor and the loadings themselves are listed after each factor name. The factor loadings precede the item numbers.

General factor. A moderately strong general factor of law enforcement was extracted. Forty-six predictor items loaded .40 or higher on this factor.

Sub-general factor I Determining contingencies before taking action

<table>
<thead>
<tr>
<th>Load</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>.50</td>
<td>31. Determine the proper charge to bring against an offender.</td>
</tr>
<tr>
<td>.48</td>
<td>32. Determine whether or not assistance is necessary in making an arrest.</td>
</tr>
<tr>
<td>.48</td>
<td>33. Judge the amount of force necessary to make an arrest.</td>
</tr>
<tr>
<td>.47</td>
<td>35. Estimate the odds that a subject whom you are about to arrest is dangerous.</td>
</tr>
<tr>
<td>.47</td>
<td>41. During a search, tell the difference between objects that could be used as weapons and those that would probably not be.</td>
</tr>
<tr>
<td>.45</td>
<td>40. Make a preliminary search of a prisoner for weapons, evidence, or contraband.</td>
</tr>
<tr>
<td>.42</td>
<td>38. Inform a subject that he is under arrest.</td>
</tr>
</tbody>
</table>
Table 5
Distribution of Residual Correlations

<table>
<thead>
<tr>
<th>Lower limit of class interval</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.149</td>
<td>52</td>
</tr>
<tr>
<td>0.140</td>
<td>12</td>
</tr>
<tr>
<td>0.131</td>
<td>18</td>
</tr>
<tr>
<td>0.122</td>
<td>13</td>
</tr>
<tr>
<td>0.113</td>
<td>22</td>
</tr>
<tr>
<td>0.104</td>
<td>50</td>
</tr>
<tr>
<td>0.095</td>
<td>62</td>
</tr>
<tr>
<td>0.086</td>
<td>55</td>
</tr>
<tr>
<td>0.077</td>
<td>108</td>
</tr>
<tr>
<td>0.068</td>
<td>124</td>
</tr>
<tr>
<td>0.059</td>
<td>144</td>
</tr>
<tr>
<td>0.050</td>
<td>156</td>
</tr>
<tr>
<td>0.041</td>
<td>160</td>
</tr>
<tr>
<td>0.032</td>
<td>175</td>
</tr>
<tr>
<td>0.023</td>
<td>215</td>
</tr>
<tr>
<td>0.014</td>
<td>218</td>
</tr>
<tr>
<td>0.005</td>
<td>207</td>
</tr>
<tr>
<td>-0.004</td>
<td>196</td>
</tr>
<tr>
<td>-0.013</td>
<td>207</td>
</tr>
<tr>
<td>-0.040</td>
<td>146</td>
</tr>
<tr>
<td>-0.049</td>
<td>120</td>
</tr>
<tr>
<td>-0.058</td>
<td>157</td>
</tr>
<tr>
<td>-0.067</td>
<td>114</td>
</tr>
<tr>
<td>-0.076</td>
<td>76</td>
</tr>
<tr>
<td>-0.085</td>
<td>69</td>
</tr>
<tr>
<td>-0.094</td>
<td>53</td>
</tr>
<tr>
<td>-0.103</td>
<td>39</td>
</tr>
<tr>
<td>-0.112</td>
<td>36</td>
</tr>
<tr>
<td>-0.121</td>
<td>30</td>
</tr>
<tr>
<td>-0.130</td>
<td>15</td>
</tr>
<tr>
<td>-0.139</td>
<td>13</td>
</tr>
<tr>
<td>-0.148</td>
<td>14</td>
</tr>
<tr>
<td>-0.157</td>
<td>20</td>
</tr>
</tbody>
</table>
This factor is clearly judgmental and preparational. The items reflect behavior in situations in which the officer is about to take some kind of action, but is judging possible outcomes before actually doing so. This factor makes a great deal of sense in terms of police job requirements. The police officer encounters situations in which failure to predict outcomes could easily lead to serious consequences including physical harm to himself or to others. If he fails to bring the proper charge against an offender, for example, he may lose the case in court. He must constantly think ahead, and this fact is stressed in training and in informal discussions. This factor also appeared as a sub-general in the factor analysis of the original 155 item questionnaire.

Sub-general factor II: General Procedures allied with arrest, search, and seizure

- .50 22. Get a search warrant.
- .49 48. Halt offender's automobile at a roadblock.
- .49 49. Approach an offender's automobile at a roadblock.
- .49 24. Call for a search warrant when you see evidence of another offense or fruits of a crime.
- .43 23. Determine that the search warrant is valid.
- .41 25. Guard evidence until a search warrant arrives.
- .34 45. Arrest person responsible for a personal injury if an offense has been committed, if offender is present, and if victim appears to be fatally injured.

The second sub-general factor involves legal and other procedures allied with arrest, search, and seizure of evidence. Among the most frustrating and embarrassing situations that policemen face
are to fail to make an arrest, to lose or destroy evidence or to have it declared inadmissible, or to have a case dismissed because of improper attention to procedural matters. The legal aspects of arrest, search and seizure are extremely important. Citizens in a free society cannot be unduly deprived of liberty or property, but on the other hand, the law must provide for deprivation of both in certain circumstances. In recent years, arrest, search, and seizure procedures have become of increasingly greater importance, and hence more time is being devoted to performing these tasks properly. It is logical to expect this factor, and perhaps to expect it to be a sub-general.

Sub-general II appeared in the first factor analysis as Specific factor III. The differences between the first and second analyses may be due to the differences between subjects in the first and second projects. In the first, subjects were from departments of all sizes, but only about half were from large, urban departments. In the present project, all officers were from a large, urban department. There are many more felonies in the cities, and consequently, probably a greater need to spend time preparing for arrest, and preparing and validating search warrants. Moreover, the job of the law enforcement officer in the smaller department is different in other respects: typically this officer is much more concerned with the investigation of minor complaints, with school crossings, with public affairs such as parades and band concerts, and so on. The idea of the peaceful countryside is no myth.

Specific factor I: Routine Traffic accidents

.59 61. Direct traffic at an accident scene.
.51 62. Safeguard personal property at an accident scene.
.50 56. Direct motorist to curb, approach vehicle, inform violator of nature of violation, and issue a traffic citation.
.49  59. Interview witnesses when taking an accident report.
.48  57. Observe a motorist for intoxication (either drugs or alcohol)
.44  58. Explain what a traffic violator must do, when he must appear, etc.
.42  66. Convey a urine bottle to storage.

Specific factor I is very clearly a matter of routine traffic accidents. It is associated with Sub-general I, which involves judgment and preparation before taking action. This factor makes good sense, since police officers are immediately summoned to virtually all traffic accidents except the very most minor. That it should be associated with Sub-general I is also reasonable. The police tasks associated with traffic accidents require good judgment and determination of contingencies before taking action. Directing traffic, safeguarding property, specifying the violation, interviewing witnesses, observing the motorist for intoxication, all require foresight and good decision-making. It appeared clearly on the first factor analysis as Specific factor II.

Specific factor II: Legal search and seizure

.33  22. Get a search warrant.
.32  24. Call for a search warrant when you see evidence of another offense or fruits of a crime.
.27  23. Determine that the search warrant if valid.
.26  33. Judge the amount of force necessary to make an arrest.
-.23  77. Supervisors' overall ratings.

This factor is defined by tasks connected with legal search and seizure. The items with the highest loadings on this specific factor also appear with high loadings on Sub-general II, General procedures allied with arrest, search, and seizure.
The items on this specific factor are negatively related to supervisors' overall ratings. The reasons for this are not clear, except that when a subordinate becomes involved in a legal question necessitating a search warrant, it requires time and effort on the part of the superior. Those individuals who spend disproportionate amounts of time on problems involving search warrants may arouse the ire of superiors because they obligate superiors' time. A second possible reason is that those officers who spend disproportionate amounts of time in problems of legal search and seizure may be "guardhouse lawyers"; individuals who are traditionally disliked by supervisors.

Specific factor III: Controlling dangerous and/or unpredictable non-felons

.51 36. Approach a subject who is known to be dangerous.
.39 73. Help people who are having serious personal problems—crises.
.38 2. Keep pedestrians under control during a parade, a funeral, or while escorting a public figure.
.35 14. Warn or advise disputants or bystanders in case of a verbal assault on an officer or other person.
.31 1. Clear intersections while escorting a parade, a public figure, or a funeral.
.23 77. Supervisors' overall ratings.

This factor is primarily concerned with controlling ordinary people who have lost control of themselves because of alcohol, illness, or emotional distress, and who have become unpredictable, argumentative, and/or potentially dangerous. The officer must correctly assess the situation and must be ready to protect himself against any threat that might develop. Specific factor III is related to Sub-general I, Determining contingencies before taking action.
This factor probably could have been predicted from even superficial knowledge of the police officer's job. The officer is frequently called upon to quell a violent domestic disturbance, to disarm a violent paranoid, to prevent a suicide, and so on. In short, the officer must be prepared for any contingency, and must control the subject without harming him unduly.

This factor did not appear in the first factor analysis. It is likely that there are fewer problems of this nature in the rural areas and small towns from which the officers in the earlier research came than there are in the city. Certainly there is less mental illness in smaller communities than there is in the city (Hollingshead and Redlich, 1958).

Specific factor IV: Belligerence in dealing with offenders or potential offenders

| .41 | 15. Defend yourself or other in case of physical assault with a firearm by actually firing a shot with intent to hit the subject. |
| .36 | 3. Halt or direct traffic during a parade, a funeral, or while escorting a public figure. |
| .35 | 2. Keep pedestrians under control during a parade, a funeral, or while escorting a public figure. |
| -.34 | 79. Peer ratings. |
| .34 | 49. Approach an offender's automobile at a roadblock. |
| .33 | 48. Halt offender's automobile at a roadblock. |
| .28 | 78. Supervisors' ratings of complaints (low) vs compliments (high). |

This factor deals with situations in which danger is clearly present, but in contrast to the previous factor, the source of danger is a willful offender or potential offender, not an ordinary citizen who
has lost emotional control. The items that load on this factor point toward the need for the policeman to defend himself against threatening individuals who must be neutralized.

Yet both supervisors' ratings of complaints versus compliments and peer ratings received significant negative loadings on this factor, which indicates that officers who spend disproportionate amounts of time performing the tasks denoted by the items are not well regarded. Apparently, these officers are belligerent individuals who literally may be quick on the trigger.

Discussion of this type of officer with experienced Columbus police and Ohio State Highway Patrol officers indicated that such individuals tend to be immature, emotionally unstable, and, more often than not, seem to be more afraid in the face of threat than the average officer. These observations make psychological sense since some people characteristically deal with threat by aggressive action or over-reaction.

It is not clear whether this factor is related to Sub-general I or II; both sub-generals are concerned with problems of dealing with offenders and potential offenders. It did not appear in the first factor analysis, possibly because of the differences between the urban and small town or rural settings. The impact of these differences upon the job of the police officer has been discussed.

Specific factor V: Harassment versus service

<table>
<thead>
<tr>
<th>Item</th>
<th>Loading</th>
</tr>
</thead>
<tbody>
<tr>
<td>75. Check homes and places of business</td>
<td>-.40</td>
</tr>
<tr>
<td>76. Deal with intoxicated persons</td>
<td>-.39</td>
</tr>
<tr>
<td>30. Advise a complainant to contact the appropriate agency such as the Health Department, Prosecutor's Office, or an attorney if the complaint is justified, but isn't a police matter</td>
<td>-.32</td>
</tr>
<tr>
<td>79. Peer ratings</td>
<td>-.30</td>
</tr>
<tr>
<td>68. Question a suspicious person</td>
<td>-.30</td>
</tr>
<tr>
<td>72. Get acquainted with people in your patrol area</td>
<td>-.29</td>
</tr>
</tbody>
</table>

45. Arrest person responsible for a personal injury if an offense has been committed, if offender is present, and if the victim appears to be fatally injured.

53. Protect and preserve evidence by guarding area to prevent further loss of property, etc.

7. Make notes for testifying in court.

9. Recognize indications of foul play at a death scene.

70. Inspect establishments in which liquor is sold.

28. If the complaint is justified, but minor in nature, advise the complainant that there is nothing the police can do and give reasons why not.

This factor is concerned with matters encountered during routine patrol. Peer ratings had a significant positive loading on this factor; supervisors' overall ratings and ratings of complaints versus compliments also loaded positively, but not significantly.

Apparently officers who spend disproportionate amounts of time checking homes and places of business, dealing with inebriates, questioning suspicious persons, getting acquainted with persons in their patrol areas, and advising complainants that there is nothing police can do to help them are disliked by their peers. These officers may be officious, suspicious individuals who enjoy badgering their fellow citizens in the name of the law. Those who are well liked seem to be friendly (inspecting bars is usually a convivial task), protective officers who serve the public by arresting assailants, preserving evidence, and guarding property to prevent further losses, anticipating the need for accurate testimony, and so on.
An alternative interpretation is that the negatively weighted items may represent tasks that require very little thought and judgment, and are fairly simple to execute, whereas items with positive loadings represent greater need for thought, and more expertise. An alternate name for this factor might be abuse of police power versus professional skill.

A third, but less likely interpretation is that these items represent ambivalence toward various aspects of police patrol. Those which load negatively are unpleasant, while those with positive loadings are enjoyable. Those individuals whose preferences are to check bars rather than places of business, to arrest assailants rather than inebriates, and so on, are liked better by their peers than those whose preferences are in the opposite direction.

Further research is needed to clarify the interpretation of this factor. A suggestion for doing so is outlined in a later section of this chapter.

Specific factor VI: Traffic control related to public gatherings

1. Clear intersections while escorting a parade, a public figure, or a funeral.
2. Keep pedestrians under control during a parade, a funeral, or while escorting a public figure.
3. Halt or direct traffic during a parade, a funeral, or while escorting a public figure.
4. Guard visiting dignitaries such as presidents or senators and so on by watching the crowd for suspicious people and events, turning your back on the VIP when he is close, and so on.
5. Assist in parking and leaving at a public gathering such as an athletic event, a church service, or a play at Veterans Memorial.
63. After arresting violator, request a blood sample.
This factor is concerned with traffic control related to public gatherings. Traffic control is a duty shared by nearly all police officers. This factor emerged in the first analysis as Specific factor III. In both analyses it was independent of the general and sub-general factors.

The items loading on this factor require little interpretation since all but Item 63 involve traffic control at public gatherings. Item 63 involves an arrest and a request for a blood sample. Blood samples are used to determine level of alcohol intoxication. Intoxicated persons are fairly commonly seen at public gatherings of various kinds, and often enough they make sufficient nuisances of themselves to merit arrest.

**Relationships Among Criterion Measures**

In the course of the factor analysis, all 79 variables were intercorrelated. The intercorrelations between criterion variables are presented in Table 6.

<table>
<thead>
<tr>
<th>Supervisors' ratings</th>
<th>Complaints vs compliments</th>
<th>Peer ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Overall 1.00</td>
<td>.61</td>
<td>.39</td>
</tr>
<tr>
<td>Complaints vs compliments 1.00</td>
<td></td>
<td>.33</td>
</tr>
<tr>
<td>Peer ratings 1.00</td>
<td></td>
<td>1.00</td>
</tr>
</tbody>
</table>

The correlations between the supervisors' ratings of overall performance and their ratings of complaints versus compliments was .61. A fairly high correlation between these two criterion measures was expected since the same raters rated the same officers on both
criteria, and because similar dimensions probably were measured in both cases. Yet, it is clear that these two criteria are not identical.

The correlation between supervisors' overall ratings and peer ratings was .39, which is in nearly perfect agreement with previous research. Gaylord and Russell (1951) found a correlation of .39 between buddy ratings and supervisors' semi-annual efficiency ratings of West Point graduates. Springer (1953) found low, but significant correlations between ratings of supervisors and co-workers' ratings in an industrial situation. On a factor of general fitness for promotion, for example, the correlations between supervisors' and peer ratings was .39; on general quantity of work .33, and on general quality of work .25.

Between peer ratings and supervisors' ratings of complaints versus compliments, the correlation was .33. These two criteria are conceptually different, but not completely so. Both, in part, are measures of reputation; one in terms of reputation with peers and the other with peers, superiors, and the general public. Complaints and compliments may influence peer ratings to a degree, but the effect of complaints from the public is probably attenuated for the following reason. The police expect the public to complain about police behavior, and complaints are not viewed with alarm unless they are frequently tied to one individual. Police officials say, "any policeman who isn't getting complaints isn't doing his job." Thus, it is not surprising to find a moderate, positive correlation between these two criterion measures.

The Multiple Regression Analyses

Three Wherry test selection multiple regression analyses were performed in order to determine the best combination of the 76 items to predict to each criterion. The analysis was performed on an IBM 1401 computer using a Department of Psychology program. The program was designed to select variables which, in combination with items already selected, yield successively higher \( \bar{R}'s \). The program computes a
number of $R$'s and $R$'s, and, for each combination of variables selected, computes the A weight, the beta weights, the "b" weights, t-tests for significance of the beta (and "b") weights, and the F test for increase. The F ratio is

$$F = \frac{R_j^2 - R_i^2}{1 - R_j^2} \frac{(N - m - 1)}{\text{df} = 1, (N - m - 1)}$$

where $R_j > R_i$, $j = i + 1$, $N$ is the total number of subjects, and $m$ is the number of predictors.

The combination of variables that yielded the highest $R$ with a correspondingly significant $F_{.05}$ was identified for each criterion by use of tables of the F distribution. Table 7 presents the highest $R$, $\bar{R}$, and the number of predictors for which $F$ was significant for each criterion.

**Table 7**

<table>
<thead>
<tr>
<th></th>
<th>Supervisors' ratings</th>
<th>Peer ratings</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Complaints vs compliments</td>
</tr>
<tr>
<td>$R$</td>
<td>.75</td>
<td>.78</td>
</tr>
<tr>
<td>$\bar{R}$</td>
<td>.64</td>
<td>.68</td>
</tr>
<tr>
<td>No. of predictors</td>
<td>31</td>
<td>32</td>
</tr>
</tbody>
</table>

**Supervisors' Overall Ratings**

The highest $R$ between the predictors and the supervisors' overall ratings for which $F$ was significant was .75; the corresponding $\bar{R}$ was .635. This finding was supported by the one study found to bear upon this specific problem. Edgerton (1964) found that "within a research organization, Industrial Engineering measures of time spent
upon technical matters and supervisory merit ratings correlated in the .70's. Thirty-one items entered the prediction equation. Of these 31, t for item weights reached significance (p < .05) in 12 cases. The items, the A weight, and the gross score weights are reflected in Table 8.

**Supervisors' Ratings of Complaints Versus Compliments**

The highest R between the predictors and the supervisors' ratings of complaints versus compliments was .78, with a R of .68. Thirty-two items, entered the equation predicting the second criterion, 23 of which were significant at the .05 level. Table 9 reflects the paraphrased items, the A weight, and the gross score weights of the items predicting to the second criterion.

**Peer Ratings**

The multiple between the predictors and the peer ratings reached .73, with a corresponding R of .64. Twenty-six items entered this equation, 11 of which were significant at the .05 level. Table 10 presents the paraphrased items, the A weight, and the gross score weights of the items contributing to the multiple.

**Interrelationships Among the Items Entering the Three Prediction Equations**

Supervisors' overall ratings and their ratings of complaints versus compliments were highly correlated, and both showed a modest positive correlation with peer ratings. The high correlation between the first two criteria was evident in the fact that 17 predictors out of a combined total of 46 for the first two equations (or approximately 37%) were common to both. Since the correlations between both types of supervisors' ratings and peer ratings were low, it might be expected that the number of items common to supervisors' overall ratings
<table>
<thead>
<tr>
<th>b weights</th>
<th>Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>.18*</td>
<td>9. Recognize indications of foul play at death scene.</td>
</tr>
<tr>
<td>-.16</td>
<td>13. Settle fight by talking with both parties.</td>
</tr>
<tr>
<td>.18</td>
<td>16. Defend self with nightstick, blackjack, etc.</td>
</tr>
<tr>
<td>.17</td>
<td>18. Observe evidence of offense in homes or businesses.</td>
</tr>
<tr>
<td>-.14</td>
<td>19. Warn or advise offender when observe offense in home.</td>
</tr>
<tr>
<td>-.08</td>
<td>20. Warn or advise offender in any circumstances.</td>
</tr>
<tr>
<td>.03</td>
<td>21. Tell difference between admissible and inadmissible evidence.</td>
</tr>
<tr>
<td>-.33*</td>
<td>23. Determine that the search warrant is valid.</td>
</tr>
<tr>
<td>.09</td>
<td>28. Tell why minor complaint is not a police matter.</td>
</tr>
<tr>
<td>.14</td>
<td>33. Judge the amount of force necessary to make an arrest.</td>
</tr>
<tr>
<td>.19</td>
<td>35. Estimate odds that subject is dangerous.</td>
</tr>
<tr>
<td>-.48*</td>
<td>40. Make preliminary search of a prisoner.</td>
</tr>
<tr>
<td>.19</td>
<td>41. During search, discriminate weapons from non-weapons.</td>
</tr>
<tr>
<td>.07</td>
<td>42. Handcuff a single prisoner when alone.</td>
</tr>
<tr>
<td>.16</td>
<td>43. Put prisoners in conveyance after searching.</td>
</tr>
<tr>
<td>-.17</td>
<td>44. Administer first aid.</td>
</tr>
<tr>
<td>-.18*</td>
<td>45. Arrest offender responsible for possible fatal injury.</td>
</tr>
<tr>
<td>-.26*</td>
<td>49. Approach offender's automobile at a roadblock.</td>
</tr>
<tr>
<td>.22*</td>
<td>50. Use chemical mace.</td>
</tr>
<tr>
<td>.25*</td>
<td>53. Protect and preserve evidence by guarding area.</td>
</tr>
<tr>
<td>.39</td>
<td>55. Protect and preserve evidence by making plaster cast.</td>
</tr>
<tr>
<td>.19</td>
<td>56. Direct motorist to curb and issue traffic citation.</td>
</tr>
<tr>
<td>-.31*</td>
<td>57. Observe motorist for intoxication.</td>
</tr>
<tr>
<td>-.20</td>
<td>59. Interview witnesses when taking accident report.</td>
</tr>
<tr>
<td>-.33*</td>
<td>60. Collect evidence in fatalities by taking photographs.</td>
</tr>
<tr>
<td>.19*</td>
<td>63. After arresting violator, request blood sample.</td>
</tr>
<tr>
<td>-.24*</td>
<td>64. Witness collection of a urine sample.</td>
</tr>
<tr>
<td>.23</td>
<td>67. Determine proper charge to be brought against prisoner.</td>
</tr>
<tr>
<td>-.22*</td>
<td>72. Get acquainted with people in your patrol area.</td>
</tr>
<tr>
<td>-.11</td>
<td>75. Check homes and places of business.</td>
</tr>
<tr>
<td>.17</td>
<td>76. Deal with intoxicated persons.</td>
</tr>
</tbody>
</table>

* (p < .05)
Table 9
Paraphrased Items, A Weight, and Gross Score Weights Used to Predict Supervisors' Ratings of Complaints vs Compliments

A weight = 1.80

<table>
<thead>
<tr>
<th>Item</th>
<th>A weight</th>
<th>Gross Score</th>
<th>Item Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>5. Assist in parking and leaving at a public gathering.</td>
<td>-.09</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Recognize indications of foul play at a death scene.</td>
<td>.19*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Get next of kin or other to identify a body.</td>
<td>.33*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Settle fight by talking with both parties.</td>
<td>-.06</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Defend self with nightstick, blackjack, etc.</td>
<td>-.41*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18. Observe evidence of offense in homes or businesses.</td>
<td>-.29</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19. Warn or advise offender when observe offense in home.</td>
<td>.10</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20. Warn or advise offender in any circumstances.</td>
<td>.17*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>22. Get a search warrant.</td>
<td>.46*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23. Determine that the search warrant is valid.</td>
<td>-.53*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>29. Determine whether or not you have legal authority to act.</td>
<td>-.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>37. Hold weapon on a subject when he is in close proximity.</td>
<td>-.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>39. Make multiple arrest.</td>
<td>-.17*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>44. Administer first aid.</td>
<td>-.18*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>46. Obtain description of offender and pass to dispatcher.</td>
<td>.14</td>
<td></td>
<td></td>
</tr>
<tr>
<td>47. Follow contingency plans.</td>
<td>.07</td>
<td></td>
<td></td>
</tr>
<tr>
<td>48. Halt offender's automobile at a roadblock.</td>
<td>-.27*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>50. Use chemical mace.</td>
<td>.30*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>51. Use a blackjack.</td>
<td>-.20*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>55. Protect and preserve evidence by making plaster cast.</td>
<td>-1.04*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>56. Direct motorist to curb and issue traffic citation.</td>
<td>.31*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>57. Observe motorist for intoxication.</td>
<td>-.37*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>59. Interview witnesses when taking accident report.</td>
<td>-.59*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>61. Direct traffic at an accident scene.</td>
<td>.25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>62. Safeguard personal property at an accident scene.</td>
<td>.49*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>64. Witness collection of a urine sample.</td>
<td>-.20*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>67. Determine proper charge to be brought against prisoner.</td>
<td>.32*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>70. Inspect establishments in which liquor is sold.</td>
<td>-.17*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>71. Recognize conditions conducive to crime and advise, warn, or arrest appropriate parties.</td>
<td>-.13</td>
<td></td>
<td></td>
</tr>
<tr>
<td>76. Deal with intoxicated persons.</td>
<td>.31*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*(p < .05)*
Table 10
Paraphrased Items, A Weight, And Gross Score Weights Used
To Predict Peer Ratings

<table>
<thead>
<tr>
<th>Item</th>
<th>A Weight</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>.18</td>
<td>Testify in court.</td>
</tr>
<tr>
<td>8</td>
<td>.31*</td>
<td>Take a corpse to the hospital.</td>
</tr>
<tr>
<td>15</td>
<td>-.14</td>
<td>Defend self by firing firearm with intent to hit the subject.</td>
</tr>
<tr>
<td>17</td>
<td>-.24*</td>
<td>Provide for care of minor children.</td>
</tr>
<tr>
<td>23</td>
<td>-.33*</td>
<td>Determine that the search warrant is valid.</td>
</tr>
<tr>
<td>24</td>
<td>.29</td>
<td>Call for search warrant when you see evidence of another offense or fruits of a crime.</td>
</tr>
<tr>
<td>30</td>
<td>-.22*</td>
<td>Advise complainant to contact appropriate agency in case of minor complaint that is not police business.</td>
</tr>
<tr>
<td>33</td>
<td>-.26*</td>
<td>Judge the amount of force necessary to make an arrest.</td>
</tr>
<tr>
<td>34</td>
<td>.14</td>
<td>Estimate odds that innocent person may be harmed if arrest is made immediately.</td>
</tr>
<tr>
<td>35</td>
<td>.21</td>
<td>Estimate odds that subject is dangerous.</td>
</tr>
<tr>
<td>36</td>
<td>.19</td>
<td>Approach subject who is known to be dangerous.</td>
</tr>
<tr>
<td>37</td>
<td>-.13</td>
<td>Hold weapon on a subject when he is in close proximity.</td>
</tr>
<tr>
<td>39</td>
<td>-.15</td>
<td>Make multiple arrest.</td>
</tr>
<tr>
<td>40</td>
<td>-.18</td>
<td>Make preliminary search of a prisoner.</td>
</tr>
<tr>
<td>43</td>
<td>.21</td>
<td>Put prisoners in conveyance after searching.</td>
</tr>
<tr>
<td>44</td>
<td>-.27*</td>
<td>Administer first aid.</td>
</tr>
<tr>
<td>46</td>
<td>.19*</td>
<td>Obtain description of offender and pass to dispatcher.</td>
</tr>
<tr>
<td>49</td>
<td>-.52*</td>
<td>Approach offender's automobile at a roadblock.</td>
</tr>
<tr>
<td>50</td>
<td>.36*</td>
<td>Use chemical mace.</td>
</tr>
<tr>
<td>52</td>
<td>.14</td>
<td>Use a nightstick.</td>
</tr>
<tr>
<td>53</td>
<td>.17</td>
<td>Protect and preserve evidence by guarding area.</td>
</tr>
<tr>
<td>58</td>
<td>-.17</td>
<td>Explain what a traffic violator must do.</td>
</tr>
<tr>
<td>71</td>
<td>.30*</td>
<td>Recognize conditions conducive to crime and advise, warn, or arrest appropriate parties.</td>
</tr>
<tr>
<td>73</td>
<td>-.18</td>
<td>Help people in crisis.</td>
</tr>
<tr>
<td>75</td>
<td>-.25*</td>
<td>Check homes and places of business.</td>
</tr>
<tr>
<td>76</td>
<td>.16</td>
<td>Deal with intoxicated persons.</td>
</tr>
</tbody>
</table>

*(p<.05)*
and peer ratings, and complaints versus compliments and peer ratings would be less than the number of items common to the two types of supervisors' ratings. Such was the case. Of the total of 47 items entering the multiples predicting supervisors' overall ratings and peer ratings, only 10 (20%) were common. Of the total of 49 items entering the multiples predicting complaints versus compliments and peer ratings, 9 (18%) were common to both.

Only four items were common to all three prediction equations. Of these four items, Items 23 and 50 had significant negative weights on all three criteria, Item 44 had significant negative weights on complaints versus compliments and peer ratings, and Item 76 had a significant positive weight only on peer ratings.

The signs of the item weights can be best interpreted in terms of the relationships between the factor analysis and the multiple regression analyses.

Relationships Between the Factor Analysis and the Multiple Regression Analysis

The signs of most of the beta or "b" weights can be accounted for by referring to Table 4, the factor matrix. Disregarding the general factor, for most items, if the sign(s) of the highest factor loading(s) agree(s) with the sign(s) of the criterion loading(s) on that/those factor(s), the weight is positive. If not, the weight is negative. For example, in the equation predicting supervisors' overall ratings, the sign of the weight for Item 59 is negative. Its highest loading is .49 on Specific factor I and the sign of this, the highest loading, is different from the sign of the loading of the criterion item (Item 77) which is -.08. The highest loadings on Item 45 are .34 on Sub-general II and .27 on Specific factor V, both of which have the same sign as the criterion loadings (Item 77) of .17 and .17 on those factors. The sign of the beta weight for Item 45 is positive. With respect to the peer ratings (Item 79), similar relationships hold.
The sign of the weight of Item 52 is positive, and so are the signs of its highest loading (on Specific factor III) and the loading of the criteria. Item 49 has its highest loadings on Sub-general II, .49, and Specific factor IV, both of which are negative with their respective criteria, -.03 and -.34. As can be expected, the item weight is negative.

In some cases, this relationship does not hold; but in most instances in which it does not, an alternative interpretation can be invoked. None of the criteria had significant loadings on the general; in fact, the highest of the three criterion loadings was -.08. In some instances, items that had high general factor loadings and low or moderate loadings on the other factors had significant weights due to the operation of a suppressor effect. For example, Item 18 had its highest loading of .25 (except for the loading on the general factor) on Sub-general II which was negative with the loading of -.17 on the first criterion (Item 77). Yet the weight was positive—and significant. The general factor loading for that item was .51, which suggests the operation of a suppressor since the criterion loading was only -.04.

By examining each item in the multiple in this way, the relative contribution of each factor can be estimated. Most of the variance in the criterion of supervisors' overall ratings was contributed by items with highest loadings on Specific factors I, Routine traffic accidents, III, Controlling dangerous and/or unpredictable non-felons, and V, Harassment versus service. Factor I seems to be associated with negative weights, and the criterion item (77) has a negative loading on that factor.

The criterion of supervisors' ratings of complaints versus compliments is also heavily weighted by Specific factor I and both sub-generals.

Specific factors III, Controlling dangerous and/or unpredictable non-felons, and IV, Belligerence in dealing with offenders and potential offenders, seem to account for most of the items on the peer rating criterion (Item 79). It can be seen that the criterion loading is positive for factor III, as are many of the weights in the
prediction equation which are influenced by factor III. The converse is true of IV; its criterion loading is negative, and so are the weights of many of the items in the prediction equation which are influenced by factor IV.

Conclusions

1. With the exception of Specific factor V, the factors were clear and reasonable in the context of the policeman's job. Moreover, they were consistent with those found in the earlier research.

2. The use of time-spent data collected by self reports was highly effective in concurrently predicting police job performance as measured by supervisors' overall ratings, supervisors' ratings of complaints versus compliments, and peer ratings in a large, urban department.

3. The technique of using time-spent data has good face validity. Informal discussions with police officials and with the rank and file indicated that police officers intuitively accept the notion that distribution of discretionary time across various duties is systematically related to effective job performance.

Suggestions for Further Research

Further research is needed to clarify the nature of Specific factor V. Three possible interpretations of factor V were offered: (1) officers who were low on peer ratings may be officious, suspicious officers who tend to harass citizens, whereas those who were high may be friendly, protective, and service-oriented; (2) those who were rated low by peers tend to spend time performing duties that require little thought and judgment, while those rated high may spend time performing duties which require a high degree of professional skill; (3) peer ratings may be related to task preference. One method of attack might be to develop paragraphs describing officious, suspicious officers; friendly, protective officers; officers who exercise
very little thought and judgment; and expert officers. A "guess who" technique might be used to identify specific individuals, and these data could be related to peer ratings. A second aspect of this project might be to develop "task preference" items which would also be related to peer ratings. The descriptive paragraph and task preference data and the peer ratings could be intercorrelated and factor analyzed. Interpretation of these factors might be helpful in explaining the nature of Specific factor V.

The questionnaire should be re-administered in the Columbus Police Department to determine the stability of the findings, and administered in other departments of various sizes to determine the generality of the results.

The technique should be extended to other occupations to determine whether or not time-spent data can be used to predict performance evaluations.

If stability and generality can be demonstrated, studies of predictive validity should be undertaken. This technique could be used to identify potential supervisors, for example. Under the present system, police officers must wait several years until they are permitted to take promotional examinations. If predictive validity is established, officers who score well on the instrument could be offered the possibility of early advancement. If this were done, it might prevent attrition of potentially effective supervisors due to boredom with the job of patrolman or discouragement due to slow advancement.

Finally, research should be undertaken to determine the value of these findings to police training. For example, profiles of effective and ineffective officers could be developed and used as teaching aids in an experimental training group, whereas the control group might be trained in the usual manner. Recent graduates of the experimental group could be given periodic opportunities to compare their distributions of time spent in the performance of various tasks with the ideal distribution so that they could make appropriate adjustments. Officers in the control group periodically might review
their performance with the aid of "inspirational literature" of the type frequently encountered in police departments. After a reasonable period of time, job performance of the two groups could be measured and compared in order to determine whether or not the experimental treatment was effective.
CHAPTER V

SUMMARY

It is extremely difficult to evaluate job performance of workers in complex service occupations, especially of those whose contact with supervisors is limited and who have discretionary use of time. The purpose of this research was to determine whether or not a systematic relationship between the way in which a police officer utilizes his discretionary time and certain measures of his job effectiveness could be demonstrated.

A 155 item questionnaire was used in a previous project to determine job content of police officers. These data were factor analyzed and interpreted. Seventy-one items were selected from the original 155 item questionnaire on the basis of job relevance, factor representation, and high factor loadings. Some of the items were modified slightly, and five additional items reflecting the job of the urban police officer were written.

The 76 item questionnaire was administered to 118 Columbus, Ohio police officers who were requested to respond to the questionnaire items in terms of the time they spent performing the tasks denoted by each item. Supervisors were asked to rate each officer in terms of (1) overall performance, and (2) relative number of complaints versus compliments made by the public or by other police. Peer ratings were also collected.

The 76 predictor and three criterion items were intercorrelated and the resulting matrix was subjected to a Wherry-Wherry hierarchical factor analysis. Nine factors were extracted: a general law enforcement factor; Sub-general I, Determining contingencies before taking action; Sub-general II, General procedures allied with
arrest, search and seizure; Specific factor I, Routine traffic accidents; Specific factor II, Legal search and seizure; Specific factor III Controlling dangerous and/or unpredictable non-felons; Specific factor IV, Belligerence in dealing with offenders and potential offenders; Specific factor V, Harassment versus service; and Specific factor VI, Traffic control related to public gatherings.

Three Wherry test selection multiple regression analyses were performed in order to determine the best combination of the 76 items to predict to each criterion. The $R$'s between each set of predictor items and supervisors' overall ratings, supervisors' ratings of complaints versus compliments, and peer ratings were .64, .68, and .64 respectively.

The interrelationships among the items entering the three prediction equations were discussed in terms of the intercorrelations between the three criteria. The signs of the beta weights were interpreted in terms of the relationships between the factor analysis and the multiple regression analyses. Finally, the relative contribution of each factor to the multiples was discussed.

The major conclusions were (1) that the factors were clear and reasonable in the context of the police officer's job, and were consistent with factors found in previous research; (2) that the use of time-spent data collected by self reports was highly effective in concurrently predicting police job performance evaluations; and (3) that the technique of using time-spent data for performance evaluation has high face validity.

Suggestions were made for further research.
APPENDIX A
QUESTIONNAIRE
POLICE TASK INVENTORY

This task inventory is a means for determining how much time is spent performing various police duties. It is not a test, and the results will not be used to evaluate you, your supervisors, or your platoon. Even though the inventories will be collected by the Department, they will be analyzed by a researcher from Battelle Memorial Institute. The information you provide may help to improve police basic training.

Your entire platoon is being surveyed. Your contribution is important to the Columbus Police Academy and to the Department as a whole. Please follow the instructions carefully and give as accurate information as possible.

In completing this inventory you are to respond in terms of how much time you typically spend performing each task listed in comparison with all your duties. Use the following scale:

Compared with other tasks I do in my job, the time I spend on this task is:

0 I have never performed this task
1 below average
2 slightly below average
3 about average
4 slightly above average
5 above average
6 very much above average

Not all the duties you perform are listed, but rather only a sample of 76 duties. Complete the personal information sheet first, then rate the tasks according to the scale above. Do not write in the spaces between items 24 and 25, 47 and 48, and 71 and 72. These spaces are set off by lines and are marked "For clerical use." When you have completed the task inventory, print your name in the upper left hand corner of each of the attached 3 x 5 cards according to the sample below, and put the inventory and the cards in the envelope provided. Put the envelope in the departmental mail within 72 hours after you receive this.

Smith, Samuel C.

Please do not discuss your responses with officers who have not yet completed the inventory. Later on the results of the survey will be made available.
Personal Information Sheet

1. Name _______________________________________________________

2. Badge No. _____________

3. Sergeant's name _____________________________________________

4. Years of service with Columbus Police Department (to nearest month) ____________

5. Age ______________

6. Years of education (Circle one) High School College
   1  2  3  4  4+
Please respond according to the following scale:

Compared with other tasks I do in my job, the time I spend on this task is:

0 I have never performed this task
1 below average
2 slightly below average
3 about average
4 slightly above average
5 above average
6 very much above average

1. Clear intersections while escorting a parade, a public figure, or a funeral.
2. Keep pedestrians under control during a parade, a funeral, or while escorting a public figure.
3. Halt or direct traffic during a parade, a funeral, or while escorting a public figure.
4. Guard visiting dignitaries such as presidents or senators and so on by watching the crowd for suspicious people and events, turning your back on the VIP when he is close, and so on.
5. Assist in parking and leaving at a public gathering such as an athletic event, a church service, or a play at Veterans Memorial.
6. Testify in court.
7. Make notes for testifying in court.
8. Take a corpse to the hospital.
9. Recognize indications of foul play at a death scene.
11. Drag for a body in case of a drowning.
12. Get next of kin or other to identify a body.
13. Try to settle a fight by talking with, warning, or advising both parties.
14. Warn or advise disputants or bystanders in case of a verbal assault on an officer or other person.
15. Defend yourself or other in case of physical assault with a firearm by actually firing a shot with intent to hit the subject.
Please respond according to the following scale:

Compared with other tasks I do in my job, the time I spend on this task is:

0 I have never performed this task
1 below average
2 slightly below average
3 about average
4 slightly above average
5 above average
6 very much above average

16. Defend yourself or other in case of physical assault with a nightstick, flashlight, or blackjack, etc.

17. Provide for care of minor children when parents or guardians are arrested, or hospitalized, or for some other reason are incapable of providing care.

18. Observe evidence of another offense in homes or businesses while on other business. For example, you go to a residence to advise a citizen that his car is illegally parked. When he answers the door, you observe illegal gambling.

19. Warn or advise offender or potential offender when you observe an offense in a home or place of business while performing other unrelated duties.

20. Warn or advise offender or potential offender in any circumstances.

21. Tell the difference between legally acceptable evidence of another offense and evidence that is not admissible in court. For example, you go to a residence to advise a citizen that his car is illegally parked, and you observe illegal gambling.

22. Get a search warrant.

23. Determine that the search warrant is valid.

24. Call for a search warrant when you see evidence of another offense (gambling devices) or fruits of a crime (3 or 4 color TV sets in a room).

25. Guard evidence until a search warrant arrives.
Please respond according to the following scale:

**Compared with other tasks I do in my job, the time I spend on this task is:**

0 I have never performed this task
1 below average
2 slightly below average
3 about average
4 slightly above average
5 above average
6 very much above average

26. Gauge whether a complainant is of sound mind or mentally ill. For example, a woman complains that "tons and tons of gunpowder are being poured under my door."

27. Advise a complainant that his complaint does not justify police action.

28. If a complaint is justified, but minor in nature, advise the complainant that there is nothing that the police can do and give reasons why not.

29. Determine whether or not you have legal authority to act in handling a complaint.

30. Advise a complainant to contact the appropriate agency such as the Health Department, Prosecutor's office, or an attorney if the complaint is justified, but it isn't a police matter.

31. Determine the proper charge to bring against an offender.

32. Determine whether or not assistance is necessary in making an arrest.

33. Judge the amount of force necessary to make an arrest.

34. Estimate the odds that an innocent person may be harmed if an arrest is made immediately.

35. Estimate the odds that a subject whom you are about to arrest is dangerous.

36. Approach a subject who is known to be dangerous.

37. Hold weapon on a subject when he is in close proximity.

38. Inform a subject that he is under arrest.

39. In a multiple arrest herd subjects into a doorway, force to lie on the floor, or sit down, while waiting for assistance in order to maintain control.
Please respond according to the following scale:

Compared with other tasks I do in my job, the time I spend on this task is:

0 I have never performed this task
1 below average
2 slightly below average
3 about average
4 slightly above average
5 above average
6 very much above average

____ 40. Make a preliminary search of a prisoner for weapons, evidence, or contraband.

____ 41. During a search, tell the difference between objects that could be used as weapons and those that would probably not be.

____ 42. Handcuff a single prisoner when alone.

____ 43. Put prisoners in a conveying vehicle after a preliminary search is made.

____ 44. Administer first aid.

____ 45. Arrest person responsible for a personal injury if an offense has been committed, if offender is present, and if victim appears to be fatally injured.

____ 46. Obtain a description of the offender and pass to dispatcher with instructions to arrest if it is reasonable to believe that a felony was committed in a personal injury case.

____ 47. Follow contingency plans by responding to dispatcher's orders. For example, dispatcher says, "Ohio National Bank at _______ and _______ has been held up." At that point you follow a pre-arranged plan.

_____________________________For clerical use________________________

_____________________________2 sequence number

____ 48. Halt offender's automobile at a roadblock.

____ 49. Approach an offender's automobile at a roadblock.

____ 50. Use chemical mace.

____ 51. Use a blackjack.
Please respond according to the following scale:

Compared with other tasks I do in my job, the time I spend on this task is:

0 I have never performed this task
1 below average
2 slightly below average
3 about average
4 slightly above average
5 above average
6 very much above average

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>52.</td>
<td>Use a nightstick.</td>
</tr>
<tr>
<td>53.</td>
<td>Protect and preserve evidence by guarding area to prevent further loss of property, etc.</td>
</tr>
<tr>
<td>54.</td>
<td>Protect and preserve evidence by lifting fingerprints.</td>
</tr>
<tr>
<td>55.</td>
<td>Protect and preserve evidence by making a plaster cast of a tire print, a footprint, etc.</td>
</tr>
<tr>
<td>56.</td>
<td>Direct motorist to curb, approach vehicle, inform violator of nature of violation, and issue a traffic citation.</td>
</tr>
<tr>
<td>57.</td>
<td>Observe a motorist for intoxication (either drugs or alcohol).</td>
</tr>
<tr>
<td>58.</td>
<td>Explain what a traffic violator must do, when he must appear, etc.</td>
</tr>
<tr>
<td>59.</td>
<td>Interview witnesses when taking an accident report.</td>
</tr>
<tr>
<td>60.</td>
<td>Collect and preserve evidence in fatals or apparent fatals by taking photographs.</td>
</tr>
<tr>
<td>61.</td>
<td>Direct traffic at an accident scene.</td>
</tr>
<tr>
<td>62.</td>
<td>Safeguard personal property at an accident scene.</td>
</tr>
<tr>
<td>63.</td>
<td>After arresting violator, request blood sample.</td>
</tr>
<tr>
<td>64.</td>
<td>Witness collection of a urine sample.</td>
</tr>
<tr>
<td>65.</td>
<td>Seal a urine sample bottle.</td>
</tr>
<tr>
<td>66.</td>
<td>Convey a urine sample bottle to storage.</td>
</tr>
<tr>
<td>67.</td>
<td>Determine the proper charge to be brought against a prisoner based on the elements of the offense.</td>
</tr>
</tbody>
</table>
Please respond according to the following scale:

Compared with other tasks I do in my job, the time I spend on this task is:

0  I have never performed this task
1  below average
2  slightly below average
3  about average
4  slightly above average
5  above average
6  very much above average

68. Question a suspicious person.
69. Determine whether or not a suspicious person is wanted.
70. Inspect establishments in which liquor is sold.
71. As a result of recognizing conditions that are conducive to crime, advise, warn, or arrest appropriate parties.
A known child molester is observed near a playground.
You warn or arrest him, and advise parents to watch their children.

For clerical use

3  sequence number

72. Get acquainted with people in your patrol area.
73. Help people who are having serious personal problems—crises.
74. Fill our reports or other written forms.
75. Check homes and places of business.
76. Deal with intoxicated persons.

You are finished at this time. Please check to see that you have not left any spaces blank. Make sure that you have printed your name on the attached cards, then put the inventory and the cards in the envelope provided and put it in the departmental mail. Ignore blanks 78, 79 and 80. Thank you for your cooperation.
APPENDIX B

COVER LETTER FROM MAJOR JOSEPH
September 27, 1968

TO: "B" PLATOON PERSONNEL

The law enforcement profession has changed very rapidly in the last few years. Staying current is and has been a very difficult thing for us. In an attempt to meet this problem we have stepped up training in all areas.

Battelle memorial institute is doing a study to determine what the typical tasks of a Police Officer are in our ever changing society. The results of this study will be made available to us so that we can evaluate our training programs in light of what you actually do.

I know that your days are very busy and that this is more "paper." Nevertheless, this can be important to all of us and it is my wish that you carefully fill it out and return it to the Training Bureau in the envelope provided no later than October 11, 1968.

(Signed)
Maj. Dwight W. Joseph
Uniform Subdivision

DWJ:emb
APPENDIX C

INSTRUCTIONS TO SERGEANTS
INSTRUCTIONS TO SERGEANTS

You are being asked to participate in a research project which the Columbus Police Department considers important. In order to avoid the possibility of influencing the results of the project, we ask that you avoid discussing the project with anyone. Later on the results will be made available.

You are being asked to evaluate your men. These evaluations will not be used administratively by the Department; no action will be taken either for or against men you rate as effective or ineffective. The ratings will be completely confidential.

Please follow these instructions carefully:

1. Assume that you are organizing your own police department with some of the officers you have in your precinct. These officers' names are on the cards you have in front of you.

2. Choose the officers that you would most like to have on your force and put their cards on your right. Adjust the numbers in such a way that about 25% of your men will be in this pile.

3. Choose the officers that you would least like to have on your force and put their cards on your left. Adjust the numbers in such a way that about 25% of your men will be in this pile.

4. Place the remaining cards in the middle. These will be about half your men.

5. You now have three piles of cards: a pile on your right representing the officers you would most like to have on your force, a pile in the middle, and a pile on the right right representing the officers you would least like to have. The left hand and right hand piles should each contain about 25% of the cards, and the pile in the middle should contain 50%. If you have 12 men, the distribution should be 2-8-2; if you have 9 men, the distribution should be 2-5-2 or 3-4-2, or 2-4-3; and so on.

6. Mark each card in the left hand pile with a 2 in the lower right hand corner. Mark a 3 in the same place on each card in the middle pile, and a 4 on each card in the right hand pile. These marks should be on the front of the card.

7. Now shuffle the cards. The next task is similar to the first, but you need not assign the same officers to the same piles. You may do so, but it isn't necessary. If you don't assign the same officers to the same piles, don't worry about the inconsistency.
(Instructions to Sergeants continued)

8. Put the cards representing the officers who receive the most complaints and the fewest compliments from the public or from other officers in the left hand pile. About 25% of your officers should be in this pile.

9. Put the cards representing the officers who receive the fewest complaints and the most compliments in the right hand pile. Again this will represent about 25% of your officers.

10. In the middle pile put all the other cards—the remaining 50%.

11. Now, in the upper left hand corner on the back of each card in the left hand (high complaint) pile, put a 2. Put a 3 in the upper left hand corner on the back of each card in the middle pile, and a 4 on the back of each card in the right hand (low complaint) pile.

12. Turn your cards over to me as soon as you've finished. No police officer will see these cards. Thank you very much for your cooperation.
APPENDIX D

INSTRUCTIONS TO LIEUTENANTS
INSTRUCTIONS TO LIEUTENANTS

You are being asked to participate in a research project which the Columbus Police Department considers important. In order to avoid the possibility of influencing the outcome of the project, we ask that you avoid discussing the project with anyone. Later on the results will be made available.

You are being asked to evaluate certain men in the Department. These evaluations will not be used administratively by the Department; no action will be taken either for or against men you rate as effective or ineffective. The ratings will be completely confidential.

Please follow these instructions carefully.

1. You have a list of 86 or 32 names. Look through the list to familiarize yourself with these names.

2. Imagine that you are organizing your own police department with some of the officers whose names appear on this list.

3. Choose 8 or 3 officers who you would like to be on your police department—men who are outstanding officers. Put a plus sign in front of the names of these ten men.

4. Choose 8 or 3 officers who you would like to be on your police department—men who probably ought to consider a career different from police work. Put a minus sign in front of the names of these men. This is the end of the first task.

5. The second task is similar to the first. Think of the 8 or 3 men who have had the least number of complaints and the greatest number of compliments from the public and from other police in the past year or so. Put an arrow next to their names. Make sure it doesn't look like a minus sign.

6. Think of the 8 or 3 men who have had the greatest number of complaints and the fewest compliments from the public and from other officers. Put a circle around their names.

Thank you very much for your cooperation.
APPENDIX E

PEER RATING INSTRUCTIONS
PEER RATING INSTRUCTIONS

A short while ago you were asked to complete a questionnaire regarding the time you spend in the performance of certain duties. As part of that project, you are asked to do one more task.

Imagine that you were assigned to carry out a difficult and dangerous assignment. As a condition of that assignment, you were allowed to choose three men from the attached list to accompany you. Put a plus (+) sign in front of the names of the three men you would choose to accompany you on this assignment. The names of the men you choose will be kept confidential, and you are not to sign your name to the list or to this sheet of directions.

Also as part of the difficult and dangerous assignment you were instructed to choose three men from the attached list who you would least like to accompany you. Put a minus (−) sign in front of the names of the three men you would least like to accompany you on the assignment. The names of these men will also be kept confidential. No administrative action whatsoever will be taken as a result of your nominating these men.

As soon as you have completed this task, seal the list in an envelope and send it to the Training Academy. Please do this within the next 24 hours. As you can imagine, no one can check on you to see that you have done this because you are asked to do this anonymously. Therefore we ask your earnest cooperation in completing this task by the time requested. Thank you very much.
REFERENCES


