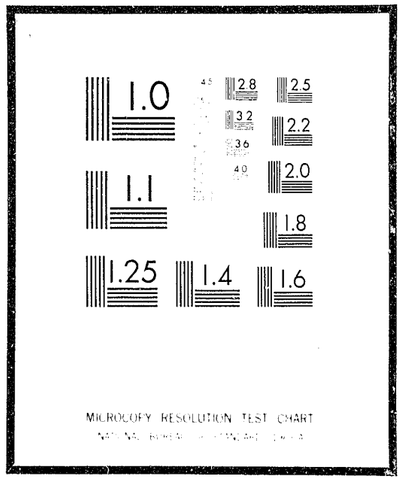




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# ACHIEVING JOB-RELATED SELECTION FOR ENTRY-LEVEL POLICE OFFICERS AND FIREFIGHTERS

Civil Service Commission

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## THE CURRENT SETTING FOR POLICE AND FIREFIGHTER SELECTION

### Purpose of this Booklet

As never before, those who recruit and select public servants are being challenged to insure that their methods are responsible and relevant. How a community selects its police officers and firefighters has become a particularly sensitive concern. Information about well-developed approaches to appraising candidates for these essential public functions is still disappointingly scarce. Yet, a number of promising developments are underway. However, information about these has not been readily available in a useable form in one document. Hence, this booklet has been prepared to summarize and highlight pertinent examples. We hasten to add that endorsement of the particular techniques and methods described should not be inferred. Rather, they are presented as suggestions for study and consideration, perhaps with adaptations, by any given jurisdiction.

### Intended Audiences

In developing the material in this discussion, we have had in mind the differences in background among public officials who have day-to-day responsibility for recruiting and hiring America's police and firefighter personnel. We have tried to present the information in a nontechnical, yet not oversimplified way. But this is not to say that individuals with no background in personnel measurement should proceed entirely on their own. Increasingly, selection methods must be professionally developed and applied. How to initiate such an undertaking, and where to turn, are critical questions in many jurisdictions. By presenting some examples of what it takes to develop job-related selection processes, it is hoped that this booklet can aid in upgrading current practices.

### Organization of this Booklet

This booklet consists of five major sections. The opening chapter points up the critical need for responsible selection of entry-level police officers and firefighters. It also discusses what is required for selection to be job-related and valid. Expected values and limitations of the booklet are noted.

The second section identifies the role of management and its impact on EEO programs. Responsible personnel administration requires management concern. This section addresses factors which should be considered in attempting to improve equal employment opportunity programs for police and firefighter occupations.

The third section consists of a guide which deals with conditions and techniques for adequate job analysis, which is the necessary base for appropriate selection practices. Examples of different approaches to job analysis are presented.

The fourth section consists of project summaries. We are using the term "project" to mean both special developmental activities in particular jurisdictions and research studies in operating situations. These are intended to identify methods and techniques which you may wish to consider for adaptation to your own circumstances. Some of the project summaries illustrate job analysis approaches; others refer primarily to applicant appraisal methods and devices. In each case there is an indication of how to get further information about the particular project.

The final section of the booklet constitutes a self-evaluation checklist. This is intended to provide you a tool for helping to identify strengths and weaknesses in your selection practices for police and firefighter classes.

## Importance of Police and Firefighter Classes

In this booklet we are focusing on entry-level police officers, both local and State, and entry-level firefighters. Besides the critical nature of the functions performed by individuals in such positions, several other factors prompt attention to these jobs. Typically they represent a substantial portion of the public employees and of the hiring in their jurisdictions. Another key factor is the equal employment opportunity (EEO) aspects of police and firefighter hiring, with respect to both ethnic groups and women. These occupations more than any others in public employment, have been the subject of court cases which contend selection discrimination on bases which are not job-related. Closely associated with EEO is heightened concern about the community relations aspects of police and firefighter work, especially in inner cities. Another problem is the fact that current methods for appraising suitability for these jobs leave much room for improvement in a large number of jurisdictions. Our aim then is to provide an assist in getting on with the improvement.

## Basic Requirements for a Job-Related Selection Process

Job analysis which is comprehensive and thorough is the essential base for a sound selection process, as it is for most aspects of effective personnel management. The analysis must give attention to not only the frequency of tasks but also their relative importance, whether or not required more than occasionally. Standards of performance--i.e., how well the tasks must be accomplished--need to be considered also. How frequently new tasks must be learned, and what kind, should not be overlooked. In conducting the job analysis study, it is essential to carefully document the procedures and findings. With this data at hand, the next key step is to identify what knowledges, skills, abilities and other worker characteristics need to be possessed by those who will be hired. The job-relatedness of the selection process clearly hinges critically on how well this step is carried out. Examples of job analysis approaches are given in the third section of this booklet.

In developing or choosing the actual testing or appraisal instruments, there are several necessary conditions. They clearly must be job-related to be appropriate. This is achieved through the steps just noted above of job analysis and identification of the essential candidate qualifications. The methods used for assessing the extent to which applicants meet these qualifications must be valid; that is, the methods must measure what they purport to measure. Thus, if a certain kind of physical agility has been shown by the job analysis to be a critical requirement, the testing of agility must be of that kind, not some other kind of agility. Or it might be demonstrated



that the skill demanded in the test, while not entirely parallel with that required on the job, has a substantial correlation with it. Validity thus needs to be established through a direct tie-in with the job analysis. In some situations it may also be possible to determine validity through statistical comparisons of test scores and scores on measures of training performance and job performance. The technical feasibility for such a study depends on several conditions, and its proper conduct requires substantial knowledge of personnel measurement and research methods.

Validity is concerned with measuring the appropriate characteristics. Another requirement of sound selection methods is reliability, which is concerned with measuring accurately whatever is measured. Technical books on testing discuss many factors which affect reliability, including the standardization of the testing method and its administration, to insure that each applicant is being appraised on the same basis. Moreover, the sample of behavior which is being measured must be sufficiently extensive and representative to insure reliability. Thus, in appraising ability to lift certain kinds and weights of objects, one trial may not give a very accurate reading while a combination of three may. What is required in this regard needs to be determined by research.

Objectivity is an important requirement of sound testing methods, particularly because it affects the reliability of the measurement. Some characteristics can be measured with a high degree of objectivity. In other cases, the degree of objectivity which can be achieved is considerably less, yet the characteristic to be measured is so important to the job that its appraisal needs to be undertaken. Any assessment of human beings involves judgments. The degree of objectivity can be enhanced in several ways: (1) by structuring the bases and methods for making the judgments; (2) by involving individuals best qualified to make the pertinent observations and derived judgments; and (3) by inclusion of several independent judgments. The whole point of this is to insure that the compararative appraisal of the applicants will reflect primarily job-related differences among them rather than differences among those making the judgments.

Whatever testing methods are used, their adequacy, then, is a matter of their objectivity, reliability, job-relatedness and validity. In considering how to test and select entry-level firefighters and police officers, there is often a tendency to focus almost entirely on the suitability of individual appraisal methods. At least as important to the soundness of selection is its overall job-relatedness and validity. There is no more critical question than whether the scope of the total process encompasses appraisal of all key characteristics. When any essential elements are omitted, the resulting eligibility list is not a balanced reflection of the candidates' relative total potential. The determination of who gets on the register, and at what position, must be based on an appraisal process that taps all significant areas of job-related qualifications.

One of the more difficult problems in carrying out a selection process is how to combine scores or ratings on the various components of the examination process. In some cases it may be possible to determine weights on a statistical research basis as to the relative contributions of the parts. Such analysis again requires substantial technical competence in personnel measurement and

statistics. More often the weights have to be determined on a judgmental basis, with steps taken to maximize the adequacy of the judgmental process. The factors which we noted earlier as ways of achieving reasonable objectivity in selection instruments are equally appropriate to the process of determining weights. It is essential to document in detail the way the weights are determined and applied.

Closely associated with the matter of weighting the components of a selection process is the determination and use of passing points on the separate devices. In selecting firefighter and police personnel, it is a common practice to have a passing point separately on each part of the examination, such as a written test, physical performance test, and oral examination. For some applicant characteristics, a minimum level of required proficiency can be established with considerable confidence. Responsible selection would call for setting passing points separately for each such characteristic. However, to set passing points above such a level, or to set them for components where a minimum proficiency can be established with less certainty, may be counterproductive.
The findings of selection research often suggest that a passing point only on a combined score may be more justified. Another approach used by some jurisdictions is to use somewhat less demanding passing points on separate components of the examination than on the total combined score, thus allowing for balancing out of somewhat lower abilities in one respect by stronger ones in others.

Relative Roles of Personnel Agency and Appointing Agency.

To achieve a sound selection process in any instance, the responsible personnel agency and the firefighting or police agency must work hand-in-hand. Thus, in undertaking job analysis and in developing various examination components and methods, both kinds of agencies need to be involved. In the actual conduct of the examination the personnel agency by the law and rules governing its operations would normally have primary responsibility. Even here, however, firefighter or police officials might participate, for example, in an oral examination process. It is desirable, however, to maintain independence between the merit system examining process and the appointment process. Thus, if an official will have responsibility for choosing candidates from a selection certificate, he should not ordinarily have been involved in making any of the judgments on individual candidates prior to the appointment judgment.

Under its law the personnel agency normally is directed to carry out an examination which is job-related and valid. That agency is most fully carrying out its responsibility by conducting a balanced or rounded examination. To leave much of the basic assessment to the appointing agency is not fair to candidates, to that agency, or to the public. The personnel agency has a responsibility to develop registers of eligibles, and selection certificates, which reflect relative overall suitability of the candidates. Then, as shown by findings from the body of selection research, appointing officials have the greatest opportunity for maximizing the selection "batting average."

Limitations of this Booklet

**This booklet is intended to be of practical help in suggesting ideas and methods for possible use in the selection of entry-level firefighter and police personnel.**



But it can clearly be only a beginning, not a substitute for the jurisdiction's unique responsibilities. Each jurisdiction must undertake its own job analysis for the respective classes. Job analysis information presented in this booklet may be of considerable help in determining how to do the analysis, either in a general way, or sometimes more specifically, perhaps even to the point of providing a checklist as a basic tool.

Nor can the booklet be a substitute for a jurisdiction's doing its own identification of knowledges, skills, abilities and other worker characteristics needed to carry out its firefighting and police functions. But here again information in the booklet may provide a valuable framework.

Each jurisdiction, too, must choose or develop its own selection methods. Information in the booklet may enlarge the base for that responsibility. If selection processes described in later sections of this booklet are to be considered for use or adaptation, further, detailed information should be obtained about them.

We cannot, of course, take credit for the information and methods described in this booklet, since we are simply assembling and summarizing all of the promising developments undertaken by others. To them belong any thanks for what value you may find here. You have critical responsibilities for selecting our country's firefighters and police officers. It is our hope that this booklet may in a number of instances give you some head start.

# EQUAL EMPLOYMENT OPPORTUNITY IN POLICE AND FIREFIGHTER SELECTION

Public employers have a mandate to develop programs which will assure equal employment opportunity for all employees and applicants for employment. The responsibility for equal employment opportunity derives from the fact that it is the right and just thing to do; it is good personnel management, and it is the law of the land under the Equal Employment Opportunity Act of 1972 (which amended the Civil Rights Act of 1964).

Any State or local equal employment opportunity program must be responsible and acutely sensitive to the social, economic and political needs of its jurisdiction. It must be developed by those who are to administer the program, with the knowledge and help of those who are expected to benefit from it.

## The Planning Process at Top Level

The positive support of top management is required as the basis of an effective EEO program. At the local level this should be the mayor, city or county manager, or commissioner. At the State level the Governor must set the tone and the guidelines for equal opportunity in the executive branch.

The kind of top-level EEO mandate which is needed is one that accomplishes the following:

(1) It establishes a broad, attainable goal that can serve as the foundation for planning at every level of the organization.

(2) It delegates responsibility for the development of specific plans to lower levels of organization.

(3) It provides for top-level supporting services by persons with knowledge, contacts and technical skills.

(4) It establishes a liaison through which principal officers can have access to information and supporting services.

(5) It provides for appointment of staff who will have immediate EEO responsibility throughout the organization. The need for such staff depends upon many factors, such as the work-load and skills of those personnel officials who might otherwise carry the responsibility, the need for concentrated action or the need for someone who can give a new look to the equal opportunity aspect of employment.

(6) It provides for review of plans at top level. Such review assures coordination throughout the organization and lends to the planning the perspective available only to top management.

(7) It sets principal target dates for accomplishment.



## EEO Planning at the Department Level

Before an EEO plan for the department is approved by management, it might well be examined against the following criteria of good planning:

(1) The goals and objectives should include any that are stated by top management.

(2) Policy statements should always refer to the appropriate racial, ethnic, and sex groups in the relevant labor market. Planning should provide for a review of all aspects of personnel administration--recruitment, job analysis, and design, training, promotion, union relations and many more.

(3) Each proposed action should be as specific as possible and should be traceable to facts and figures regarding the EEO posture of the department.

(4) The plan should specify target dates for completion of each proposed action.

(5) There should be definite provisions within the plan for periodic review and revision.

## Sound Support Planning

Facts and figures are generally useful to support affirmative action planning. Such information which is necessary in meeting equal employment opportunity goals would include.

(1) A review of departmental staff currently employed; breakdown as follows:
   (a) Groups by --
      -- Sex;
      -- Race/ethnic categories;
   (b) These subgrouped by:
      -- Salary;
      -- Type of Assignment;
      -- Employment Status.

(2) Review women and minority group members employed during the past three fiscal years, breaking the information down as suggested in No. 1;

(3) Review separations in women and minority groups, reporting as suggested Nos. 1 & 2;

(4) Review women and minority group promotions, reporting as suggested in Nos. 1 & 2;

(5) Review training provided to women and minority groups and report as suggested in Nos. 1 & 2;

(6) Comparison of the current age profiles of minority staff and women with the jurisdiction's general work force;

(7) Review of minorities and women directly involved in recruitment.

(8) Percentage and names of minorities and women not receiving promotion during the past year but qualifying for promotion under current agency requirements as compared with the jurisdiction's general work force.

(9) Anticipated attrition rate for all currently employed staff for the forthcoming five years.

(10) Anticipated changes in the staffing profile for the next five years in the light of:

-- Trends in crime rates within the jurisdiction;
-- Probable population changes;
-- Anticipated changes in equipment and systems;
-- Planned or needed reorganization or job restructure;
-- Anticipated legislation or court action affecting staffing.

(11) Probable salary changes of officers within the coming five years.

(12) Estimates of probable revenue within the coming five years, including information on available State and Federal revenue sources.

(13) Possible artificial barriers to recruitment, selection and upward mobility in existing management policy.

(14) Recruitment sources and techniques utilized within the past year.

(15) Supervisory training in EEO provided during the year, including number or percentage of supervisors attending by rank.

Informing the Parties Concerned

Once the EEO affirmative action plan is approved by top management, the chief must see that all the persons and groups concerned are informed in appropriate detail. The methods used in communicating the plan should be as carefully conceived as the plan itself. Among them might be:



(1) An orientation for directors and other key staff.

Orientation and training of all staff in supervisory positions. Experience indicates that the supervisor is a key element in the success of the plan. Recognizing this, some departments have set up orientation and training course covering the historical background of affirmative action, organizational responsibility for EEO planning, the supervisor's responsibility, cultural differences, and the orientation, supervision, counseling, training and upward mobility of women or minority employees.

(3) A message from the chief to each member of the staff by letter or through personal appearances.

(4) Prompt inclusion of policy statements in instructional manuals.

(5) Consultation with unions covering the broad provisions of the plan.

(6) A letter to principal recruiting sources indicating proposed new directions in recruitment and including a request for assistance.

(7) A prepared press release indicating general types of changes contemplated.

(8) Transmission of copies of the plan to appropriate offices of State and Federal agencies that can provide appropriate assistance.

Resource for Planners

Those who are responsible for EEO planning for a police or firefighter force may call upon the U.S. Civil Service Commission for technical assistance.

The Commission, in accordance with the Intergovernmental Personnel Act of 1970 (Sec. 205), may furnish technical advice and assistance on request to State and general local governments seeking to improve any and all aspects of personnel administration.

By-products of a Sound EEO Plan

A sound plan has these managerial side effects:

(1) It provides a framework for decision-making. This is important because ill-founded EEO decisions can have long-lasting and far-reaching consequences.

(2) Communication is strengthened both horizontally and vertically. Participation in EEO planning of the department offers a "listening device" for the chief. It provides long-range vision to the employee, who may have looked at employment of minorities only from his own viewpoint rather than as a requirement of law which his superiors must find a way to meet.

(3) By making each person in the planning process a potential change agent, it makes change a challenge rather than a threat.

(4) It provides one basis for assessing the performance of supervisory staff.

Requisites of a Sound Recruiting Program

Analyzing jobs and the application of job-related selection devices is discussed elsewhere in this booklet. An essential part of the EEO program that has not yet been covered, however, is recruitment.

A soundly conceived and comprehensive recruitment program is one which:

(1) Is based upon information about current and anticipated hirings.

(2) Is a continuous effort rather than a series of spur-of-the-moment attempts to meet immediate needs.

(3) Directs its messages so that they will reach all potentially qualified people after making a sound determination of what the geographic boundaries of the recruiting efforts should be.

(4) Provides adequate personnel for the recruitment job, including minority recruiters where feasible, as well as persons with bilingual ability wherever indicated.

(5) Determines optimum methods for reaching as many minority and other candidates as possible within the determined recruitment area and provides for evaluation of the effectiveness of the methods at stated intervals.

(6) Provides for recruitment tools -- e.g., literature and films -- that reflect in every possible way the fact that jobs are open to all.



The following are among those recruitment approaches generally conceded to be productive:

(1) Cadet programs, which provide a ready reservoir of potential careerists;

(2) Cooperative education programs, which provide for alternating periods of study and study-related work. Some 300 four-year colleges have such programs, including about 40 predominately Negro colleges. Many two-year colleges have either started programs or have expressed interest in doing so. There would be special advantage in arranging programs with two-year colleges that have or are willing to institute, law enforcement or fire training courses;

(3) Enlistment of minority and women's groups in recruitment efforts;

(4) Information about police officers and firefighter jobs in occupational guide and at counseling centers;

(5) Stories and advertisements in minority newspapers and on minority-oriented radio stations;

(6) Television presentations of the police officers' and firefighters' jobs and the recruitment effort;

(7) Attempts to introduce grade-school and high-school students to police and fire work as an occupation. Youth organizations as well as schools often welcome participation in such programs;

(8) Establishment of outreach recruitment centers in areas heavily populated by minorities. Mobile vans are often used for this purpose.

# GUIDE FOR ANALYZING JOBS

# IN

# POLICE OFFICER AND FIRE FIGHTER CLASSES

This guide for analyzing jobs was developed for use in personnel selection. Although it is likely to be useful in other areas of personnel management decision making where job analysis is necessary, it is intended for those who are involved in using the data collected in job analysis for the design and development of selection devices and applicant appraisal methods.

The guide is very brief and only intends to provide a minimum of what is necessary in the process of job analysis. More information and in-depth guidance on how to do job analysis will be found in the references at the end of this section.

Analyzing a job for selection purposes involves a systematic collection, verification, and evaluation of information about the work being performed in the job being analyzed. This should include:

(1) current, accurate, and descriptive information about the work performed;

(2) a presentation of this information in a systematic fashion that will facilitate using the information for further analysis;

(3) a statement of specific job requirements based on the analysis. The requirements should be stated in terms of the skills, knowledges and abilities required of the worker to do the job. They should be supplemented by whatever other job-related worker characteristics are called for and information about the work environment needed for selection.

## TECHNIQUES FOR GATHERING JOB ANALYSIS DATA [1]

There are four basic methods by which data are gathered for job analysis: (1) interviews, (2) directly observing the worker perform, (3) participant logs, and (4) use of a questionnaire. Each method is described and discussed below.

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[1] Major portions of the following have been taken from "Job Analysis for Personnel Selection," The California State Personnel Board.



### A. The Individual Interview with Incumbent

Interviews alone are a sufficient means of data gathering for desk jobs and other jobs involving little observable physical activity; that is, for jobs involving the processing of data as opposed to the manipulation of tools or other objects. Incumbents may be interviewed at their desks or some other convenient location. It is important that the interviewee fully understands the reason for the interview so that the interview not be interpreted as an efficiency evaluation or as only a classification and pay audit.

The interview might be developed on the following lines:

1. Meet with the supervisor to obtain an overview of the job. The supervisor may give an indication of any special problems with the class; and may also select suitable employees for interview. The employees selected should know the job fairly well and range from at least average to superior ability in performing their duties.

2. Meet with the worker alone. The presence of others, particularly a supervisor, is likely to be a distraction.

3. Use an orderly system to structure the interview. The following approaches may be useful:

   a. Begin the interview by asking the interviewee:

      (1) What are the major duties of your position? What exactly do you do?
      (2) What different physical locations do you work in?
      (3) What activities do you participate in? What exactly do these involve?
      (4) What other responsibilities do you have?

      After establishing the job functions through the above or similar questions, the interview should be structured by confining discussion to one duty at a time. In the discussion it will probably be found that each duty is composed of several tasks.

   b. An alternate approach to beginning the interview is to ask:

      (1) What is the purpose of the unit you work in?
      (2) What is the general nature of the job?
      (3) What specific areas (functions, locations, projects, etc.) do you work in?
      (4) How do your responsibilities relate to those of others in your unit?

   c. A third approach is to use the categories of people, data and things to structure the interview. In using this approach, the interviewer first determines all the people with whom the worker

has communications, either in person, by telephone, letter or in any other way. Having determined who these people are, the interviewer then asks the worker what work he performs with respect to each of these individuals or groups of individuals. The indicated work can then be broken down into tasks. The same general procedure is followed in isolating the tasks that relate to data and to things. First, a list is made of the data or the things with which the worker comes into contact and then the specific tasks which relate to each of these items are explored.

d. In nonsedentary jobs it may be desirable to further divide the job into the tasks performed at various duty stations; that is, structure the interview according to work location.

e. For jobs whose duties vary on a seasonal basis or which are nonrepetitive in nature, it may be desirable to structure the interview in terms of individual seasons or months, days of the week, or even in terms of duties performed within the last month or last several months.

f. Some jobs consist largely of project assignments and may be structured by developing a list of projects and discussing the tasks involved in one project at a time.

g. Many audits may be structured by asking for the tasks performed on a typical day or week.

4. Ask the worker to describe his duties in his own words. Insist on a thorough description of each activity. Ask questions about terms which are not understood. Ask to see forms or equipment with which you are unfamiliar.

5. Obtain copies of any forms or other written material including training manuals and regulatory material which may be useful later in formulating exam items. This step is essential in planning and developing a content valid exam.

6. Take complete notes and summarize them to the interviewee from time to time to varify your understanding of the job.

7. Check your interview notes against any available job analytic materials, such as duty statements or allocation standards, as these may prompt new and fruitful questions. Make sure that the indicated duties explain what happens to each form, object, etc., that passes through the employee's hands; that is, anything received that is acted upon by him or transmitted by him, as this may help him to remember additional tasks.

8. Check whether the indicated duties explain the presence of all materials (tools, telephone, files, equipment) at the work station. Questions about these items may bring out additional tasks. Confirm that the duties as indicated account for all the people contacted on the job and all information (data) which is provided or dispensed.



## B. The Group Interview

In many situations, group interviews are a more effective means of gathering job information than are individual job audits or other individualized methods of job analysis. The group approach is especially efficient when jobs at several levels in a single occupation are being subjected to analysis. Each job analysis group should be representative of the organization in which the jobs are located. For example, when the job subject to analysis is a full journeyman position, the group should consist of several journeymen, several subjourneymen (assistants or trainees) and one or more supervisors. So long as the supervisors are not allowed to dominate or inhibit the discussions, such a group can be counted on to give a complete and well-rounded picture of the job including the knowledges, skills and abilities necessary for successful performance.

As is true of any job analysis method, the group method provides the following information: an overall description of the nature of the job; a comprehensive list of tasks; knowledges, skills and abilities required to perform each task; the frequency with which a task is performed; the percentage of time devoted to the task; whether the task has a high consequence of error and whether the task seems appropriate to the total job considering the other tasks which make up the job. It should be understood that all of these areas are usually not covered in one sitting.

While a highly successful group may be able to complete a job analysis in one all-day session, generally several sessions of from two to four hours each are required. Even a highly productive group should be encouraged to hold at least two meetings since a period of reflection after the first meeting may result in the development of additional important information.

At the first meeting of the group, the analyst should explain the purpose of the job analysis. For example, if the job analysis is part of a test validation effort, the analyst should explain the relationship between job analysis and test validation, including the importance of test validation to the selection of the best qualified employees.

The group interview may be conducted by one or two job analysts who serve as facilitators, posing questions to the group when necessary and recording information developed by the group. It may prove useful to tape sizable sheets of paper to the wall to record the information developed in a group session. In this way, the information is visible to the entire group and can serve as a constant stimulus to the development of new information. The other responsibilities of the group facilitators are to provide direction to the group to get the group started and to keep the group moving.

Many groups are easy to start and will respond to requests for a volunteer to give a brief description of the job. Hopefully this statement will start some discussion. The following may be useful if it proves difficult to start or maintain a group process:

1. Ask (a) what are the major duties of the position; (b) what different functional areas must the incumbent work in; (c) does he have any other responsibilities.

2. Give a statement of your own understanding of the job. Misconceptions or inaccuracies will probably be commented on by the group.

3. If you already have some understanding of the job, offer the group a statement which you know does not describe the job well. Members of the group may be prompted to offer a corrected version.

4. Select one or two persons to state their concepts of the job. Even if the group fails to comment on the first statement, they are likely to have comments on any differences between the statements of the two individuals.

Additional useful techniques to initiate and maintain discussion include:

1. Pursue lines of questioning until obtaining all necessary details.

2. Periodically summarize what the group has produced up to that point.

3. Ask one or two group members to answer a general question.

4. Challenge a statement which has been made. You will either get renewed discussion in support of your challenge or discussion in defense of the original statement, or both.

C. Supervisory Interviews

Rather than conducting desk audits or group sessions, one can adequately analyze many jobs by interviewing a number of supervisors. The supervisors interviewed must have a thorough knowledge of the job, either through firsthand experience in the work of the job or through a very close working relationship. This approach is appropriate for new jobs which have not yet been filled, for positions in a homogeneous class, and for highly structured jobs which the employee cannot "modify" by his own style or approach. However, it may also be appropriate to consider the group approach or desk audits in order to supplement the knowledge of the supervisor and to insure the accuracy of the supervisors' impressions of the job.

The supervisory interviews can be conducted in a manner comparable to the standard individual interview.



1. Explain the purpose of the interview.

2. Structure the interview (by functions, people, data, things, location, etc.).

3. Get complete details.

4. Obtain copies of forms and written materials used on the job.

5. Take complete notes.

6. Compare the tasks brought out in the interview to other indicators of possible job duties to be sure that all important tasks are included. Such indicators include (a) the incumbent's job description or class specification (if either of them are available); (b) materials or equipment at the job site; (c) list of people, data, or things encountered on the job.

D. Direct Observation

For most Police and Fire jobs, direct observation can be a useful method of job analysis. The observation method may be approached in two ways:

1. Observe the worker on the job performing a complete work cycle before asking any questions. Take notes of all the job activities observed, including those not fully understood. After accumulating as much information as possible from observation, talk with the worker to clarify points not understood and to determine what the worker does in addition to what has already been seen.

2. Observe and interview simultaneously. As you watch, talk with the worker about what is being done and ask questions about what is observed as well as conditions under which the job is being performed.

Under either approach it is necessary to discuss the analyst's observation with the worker or others. This technique should normally be used only in conjunction with other techniques discussed in this chapter.

E. Participant Logs

In this data-gathering technique, participants are asked to keep daily logs or lists of things they do during the day. As the participant changes from one task to another, he records the task along with the time in a log provided to him. The advantage of this technique is its comprehensiveness. Every minute of work time is assigned to a task.

If the tasks of the job vary over a period of days, weeks, or months, incumbents may be asked to complete logs only for specified representative periods. If it is not certain when changes in duties occur but only that they do occur, the analyst may randomly select periods during which logs are to be completed.

In order to fully understand and be able to use the logs, the analyst should interview one worker or supervisor to clarify the use of terms and to obtain any needed explanations or clarifications concerning the log. A meeting with a group of people familiar with the job may be even more helpful; especially if there are differences in terminology among the logs, as different employees may use different descriptive terms in their logs; making it difficult to compare one position with another.

Tasks indicated on the logs are rewritten as good task statements by the analyst and then analyzed and used in the same manner as interview information.

F. Questionnaire

The questionnaire asks for certain identifying information and provides space for employees to describe their positions in their own words. They may be asked to give duties and tasks performed and to list materials, tools, and equipment used. Employees are required to complete the form independently, but the supervisor may be asked to give some minor assistance or to verify the responses given before the questionnaires are returned to the analyst.

A checklist questionnaire is a special kind of questionnaire. This procedure uses a list of task statements which describe a job. In its simplest form, employees are asked to check the tasks they do in the course of their work. Generally the analyst should avoid using the checklist to collect initial data early in the study. Some other type of job analysis first must be made to develop the checklist. Then the checklist may be used as a kind of task inventory to collect further job information. One possible approach is to collect occupational data by means of an open-end instrument and then develop a checklist from these data for each occupation of concern. Another approach is to use the class specification, when one is available to develop items for the checklist. If properly constructed, the checklist also can provide data on occupational changes and job differences.

Evaluating and Making Judgments About the Information

Once information is gathered about the job through one or a combination of the above methods, the information must be presented in a manner that will make it useable for the purposes intended. This step is just as important as collecting the information. The accuracy with which it is carried out will govern the effectiveness of the next step in the process of job analysis, deriving skills, knowledges and abilities and other worker characteristics from the information presented.

Presenting the Information

(1) Describe what the worker does in simple declarative sentences (task statements) formulated by asking:



(a) Who? --Always implied to be the worker;

(b) Performs what action? --Begin the sentence with an action verb as explicit and concrete as possible;

(c) To whom or to what? --State the immediate object;

(d) To produce what? --Supply the reason "why" in the action being done;

(e) Using what tools, equipment, work aids, methods or processes? --Answer "how" the work is being done.

Once tasks have been formulated in this way, answer the following:

(2) What is the frequency with which the tasks are performed?

(3) What is the relative difficulty of each task as compared with the rest of the tasks of the job?

Answers to questions (1) (a) through (e) above should be stated by using the formula for a task statement as follows:

| Action Verb | Object | Expected Output | Using What Tools Methods, Processes |
|---|---|---|---|
| The verb that begins the sentence--it should be as concrete and as explicit as possible. | This answers the questions "to whom" or "to what" the action is being performed. | Always start with the phrase "in order to" and thus supplies the reason "why" the action is being done. | Answers the question "how the work is being done." |
| Example: Speaks with | participants in domestic quarrels, or other disputes | in order to determine differences involved, whether legal action is necessary and quell disturbance | using knowledge of family and community relations, legal statutes and physical means when necessary. |

Deriving Job Requirements

Deriving job requirements requires going back to each task statement and answering the questions below as precisely as possible. Job requirements should be stated in terms of the characteristics that are required of the job incumbent for successful performance of the job. Job requirements are the basis from which minimum worker qualifications for jobs are developed--the general backgrounds of training, experience, knowledges, skills, abilities and other special requirements that an individual needs for entrance into the job. They should be the minimum needed regardless of the level of the job. The references immediately following this section may be used in conjunction with this section of the guide to assist in developing precise worker requirements.

(1) Skill requirements

(a) What activities must the worker perform with ease and precision?

(b) What manual skills are required of the worker?

(c) What machines, vehicles or equipment must be operated?

(2) Knowledge and ability requirements

(a) What subject-matter areas are covered by the task?

(b) What facts or principles must the worker have an acquaintance with or understanding in these subject-matter areas?

(c) Describe the level, degree, and breadth of knowledge required in these areas or subjects.

(d) What instructions must the worker follow? Are they simple, detailed, involved, abstract?

(e) What mathematical knowledge is needed to perform the duties of the job? Is it basic or advanced? Does it involve simple addition and subtraction or advanced mathematical and statistical techniques?

(f) What is the nature and level of language ability, written or oral, required of the worker on the job? Are there complex oral or written ideas or simple instructional material?

(g) What interpersonal abilities are required?

(h) What reasoning or problem-solving skill must the worker have?

(3) Responsibility

(a) Supervisory (not applicable to entry-level jobs)

(i) How closely are subordinates supervised?

(ii) How many and what kind of workers are supervised?

(iii) Is the supervision direct or indirect?

(iv) What supervision is received by the worker? On what occasions is the worker expected to seek supervisor's guidance?

(b) Nonsupervisory responsibility

(i) What policies, plans, procedures, equipment, standards is the worker responsible for initiating, devising or improving?

(ii) What inquiries can occur as a result of work failure? Provide illustrations and explain the possible results of work failure.

(iii) What safety devices or checks exist?

(iv) With what other workers is this worker required to cooperate?



(4) Other Worker Requirements

Properly prepared task statements should pinpoint other important worker requirements that are directly related to job performance. Adaptability requirements made upon the worker as the tasks are performed; the kinds of interests an individual would be expected to have or develop to sustain satisfactory performance; and physical requirements are most closely related to selection. These characteristics should be specified in the job analysis.

Following is a list of areas covered in the DOL Handbook for Analyzing Jobs,* a source that will be of particular help to the analyst in identifying job tasks that suggest specific worker characteristics in these categories.

Physical Requirements

(a) Physical activities - describe the frequency and degree to which the incumbent is engaged in such activities as: pulling, pushing, throwing, carrying, kneeling, setting, running, crawling, reaching, etc.

(b) Working conditions - describe the frequency and degree to which the incumbent will encounter such conditions as these: cramped quarters, working alone, working with others, electrical hazards, moving objects, vibration, adequate ventiliation, etc.

(c) Hazards - describe the frequency and degree to which the incumbent will encounter such conditions as these: sudden death, loss of parts, burns, bruises, cuts, impairment of senses, collapse, fractures, electrical shock, etc.

* See References immediately following this section.

Adaptability Areas

(1) Situations involving the interpretation of feelings, ideas, or facts in terms of personal viewpoint;

(2) Influencing people in their opinions, attitudes, or judgments about ideas or things;

(3) Working with people beyond giving and receiving instructions;

(4) Performing repetitive work, or continuously performing the same work;

(5) Performing under stress when confronted with emergency, critical, unusual, or dangerous situations; or in situations in which working speed and sustained attention are make-or-break aspects of the job;

(6) Performing a variety of duties, often changing from one task to another of a different nature without loss of efficiency or composure.

Interest Areas

(1) A preference for activities dealing with things and objects;

(2) A preference for activities involving business contact with people;

vs. A preference for activities of a scientific and technical nature;

(3) A preference for activities of a routine, concrete, organized nature;

vs. A preference for activities of an abstract and creative nature;

(4) A preference for working for the presumed good of people;

vs. A preference for activities that are carried on in relation to processes, machines, and techniques;

(5) A preference for activities resulting in prestige or the esteem of others;

vs. A preference for activities resulting in tangible, productive satisfaction.



Summary:

The process of job analysis for selection of entry-level police officers and firefighters described here,

-- requires, first of all, a practical method for collecting and verifying job information.

-- The analyst needs then to describe in specific terms, according to the formula provided, (1) the tasks of the job and (2) required skills, knowledges, and abilities at time of entry. These should be supplemented by other worker requirements such as physical demands and responsibility, necessary information about the work environment such as hazards involved, and finally worker characteristics that describe expected interests and adaptability conditions on the job.

All information gathered, should be reviewed by appropriate authorities who have knowledge of the job. Once this is done the information should be documented appropriately.

This is only a brief outline of what is essential to carrying out job analysis for selection purposes. It is a statement of what should be covered rather than a guide to the actual doing of analysis--which indeed involves more than what may be suggested by the shortness of this guide. Along with the application of techniques described in the references that follow, use of the guide should help the organization develop a sound program of job analysis for selection purposes.

## Job Analysis
## SELECTED REFERENCES


1. Fine, Sidney A. and Wretha W. Wiley. An Introduction to Job Analysis. The Upjohn Institute for Employment Research. Washington, D. C.

2. Purdue Occupational Research Center. Position Analysis Questionnaire (PAQ). Information on the PAQ may be obtained from PAQ services, 1315 Sunset Lane, West Lafayette, Indiana.

3. U.S. Civil Service Commission. The Job Element Method. Information on the job element method may be obtained from the regional offices of the U.S. Civil Service Commission.

4. U.S. Department of Labor, Manpower Administration. Handbook for Analyzing Jobs, U.S. Government Printing Office, Washington, D. C. 1972.

5. California State Personnel Board. Job Analysis for Personnel Selection - A Manual. D.Ramirez and R. Lotero. Sacramento, California, 1973.

6. U.S. Civil Service Commission, Job Analysis: Developing and Documenting Data. A Guide for State and Local Governments. Bureau of Intergovernmental Personnel Programs, Washington, D. C. 1973.




## PROJECT SUMMARIES AND PUBLICATIONS
## RELATED TO POLICE AND FIREFIGHTER SELECTION

### INTRODUCTION

**This section aims to identify key project reports and publications relevant to the selection of entry-level police and firefighters. It is a selective listing of studies covering appraisal techniques and qualifications requirements, with special focus on the findings of job analyses. Published and unpublished reports are included as well as descriptions of major ongoing projects with progress reports.**

The techniques and the results of the studies are not necessarily endorsed but are offered as a source of information and ideas upon which a jurisdiction may build its own job analysis and selection procedures. A jurisdiction may wish to use the job analysis findings as an initial list of task or critical requirements, prior to doing its own analysis. Also, jurisdictions may choose to adopt the approach used in relating selection procedures to critical job requirements.

Each jurisdiction must examine for itself the implications of using commercial tests and of including personality and biographical inventories among its selection procedures. Each must review its own laws and regulations and consider problems of test security, invasion of privacy and test faking. When considering a selection procedure, however, the key consideration needs to be the job-relatedness of the procedure, namely, that the knowledges, skills and abilities assessed be based on critical job requirements determined through a careful job analysis.

AMERICAN JUSTICE INSTITUTE. Project STAR: Systems and training analysis of requirements for criminal justice participants. Project summary for Grant #71-DF-713 of the Law Enforcement Assistance Administration. Marina del Rey, California, October 15, 1971.

This nontechnical list of goals and objectives concerns significant recruitment, selection, training and performance evaluation problems of criminal justice personnel. Included are police as well as custodial officers at jails and institutions, prosecutors and defenders.

Among the general objectives are the following: identification of major functions and determination of knowledge and skill requirements for each role. Included will be a questionnaire survey of role perceptions of operational personnel and a task analysis. Total funding for 39 months is projected at $2.3 million. In addition to California, the States of Michigan, New Jersey and Texas are participating, with the American Justice Institute acting as the prime contractor. The project summary may be obtained from the Project Director at 4818 Lincoln Boulevard, Marina del Rey, California. 90291.



BAEHR, M.E., SAUNDERS, D.R., FROEMEL, E.C. & FURCON, J.E. The prediction of performance for black and for white police patrolmen. Professional Psychology, Winter 1971, 2 (1), 46-57.

This article provides a short technical summary . For technical details see:

BAEHR, M. E., FURCON, J. E. & FROEMEL, E. C. Psychological assessment of patrolmen qualifications in relation to field performance. Washington, D.C.: U. S. Government Printing Office, 1969. (For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington, D.C. 20402, for $2.00)

General summary--The authors aimed to identify selection tests that predict job success of patrol officers working in the Chicago Police Department in 1966 through 1968. As a result of an extensive job analysis which included direct field observation, a list of 20 critical behavioral requirements for patrol success was compiled. Next a four-hour test battery was carefully selected to cover many of the behavioral requirements. This battery of commercially available tests could be administered to large groups using printed materials and could be scored by trained clerical personnel. The tests measured motivational, intellectual and behavioral characteristics, and used highly original questions and test formats. The authors chose not to include measures of general intelligence and did not conduct direct assessment of emotional health since they found the present civil service test and the psychiatric screening procedure to be adequate. Besides, the Chicago police had already met these qualification standards, and therefore were preselected on these characteristics.

A total of 490 patrol officers volunteered to complete the battery of tests. These officers had been rated as being among the top or bottom third in job performance from among a larger group of patrol officers. The paired-comparisons technique was used as the major system of measuring the job performance of the officers. Using this technique, each officer was compared with every other officer known by the supervisor, and one of each pair was judged to perform better on a performance dimension. This rating system was supplemented with seven other performance measures including the regular departmental performance ratings, disciplinary actions, number of arrests and tenure.

The test scores were related to present job performance and statistically meaningful relationships were found and in general verified on a second holdout group. Several selection devices worked moderately well in predicting job success, measured chiefly by the paired- comparisons technique which was subsequently found (Furcon et al, 1971) to be the most stable measure of job performance over a period of two to three years. The three selection devices that worked best involved one instrument assessing background and experience through a biographical data blank, while another appraised ways of dealing with interpersonal or social problems and a third measured temperamental

factors such as self-reliant, social and stable traits. Of all the instruments used, the latter two showed the smallest differences in test performances between black and white police officers. Furthermore, visual perception skills were also found to predict job success, that is, the better patrol officers were better at organizing visual materials and observing differences.

The size of the relationships between tests and job performance were found to be greater when analyses were made separately for the black and white officers, with the highest relationships found for the black officers. The black officers were more often assigned to predominantly black districts where they no doubt were more visible to their supervisors because the districts often turned out to be high crime areas. Black and white officers may well have spent their work time on different duties for which there possibly are different behavioral requirements.

Behavioral requirements--As part of the job analysis, the researchers reviewed published materials in the form of job descriptions, professional journal articles, training bulletins and reports on officers who received awards or were suspended. Meetings were held with patrol officers and supervisors at different levels within the organization. The most direct observation came when the researchers traveled in patrol cars observing districts with high, average and low crime rates at different times of day and night and at various times of the week. As a result of the job analysis, this list of many of the attributes critical to the job success of patrol officers was formed:

1. endure long period of monotony in routine patrol yet react quickly (almost instantaneously) and effectively to problem situations observed on the street or to orders issued by the radio dispatcher (in much the same way that a combat pilot must react to interception or a target opportunity).

2. gain knowledge of his patrol area, not only of its physical characteristics but also of its normal routine of events and the usual behavior patterns of its residents.

3. exhibit initiative, problem-solving capacity, effective judgment, and imagination in coping with the numerous complex situations he is called upon to face, e.g., a family disturbance, a potential suicide, a robbery in progress, an accident, or a disaster. Police officers themselves clearly recognize this requirement and refer to it as "showing street sense."

4. make prompt and effective decisions, sometimes in life and death situations, and be able to size up a situation quickly and take appropriate action.

5. demonstrate mature judgment, as in deciding whether an arrest is warranted by the circumstances or a warning is sufficient, or in facing a situation where the use of force may be needed.

6. demonstrate critical awareness in discerning signs of out-of-the-ordinary conditions or circumstances which indicate trouble or a crime in progress.



7. exhibit a number of complex psychomotor skills, such as driving a vehicle in normal and emergency situations, firing a weapon accurately under extremely varied conditions, maintaining agility, endurance, and strength, and showing facility in self-defense and apprehension, as in taking a person into custody with a minimum of force.

8. adequately perform the communication and recordkeeping functions of the job, including oral reports, preparation of formal case reports, and completion of departmental and court forms.

9. have the facility to act effectively in extremely divergent interpersonal situations. A police officer constantly confronts persons who are acting in violation of the law, ranging from curfew violators to felons. He is constantly confronted by people who are in trouble or who are victims of crimes. Besides his dealings with criminals, he has contact with para-criminals, informers, and people on the border of criminal behavior. (He must also be "alley-wise"). At the same time, he must relate to the people on his beat--businessmen, residents, school officials, visitors, etc. His interpersonal relations must range up and down a continuum defined by friendliness and persuasion on one end and by firmness and force at the other.

10. endure verbal and physical abuse from citizens and offenders (as when placing a person under arrest or facing day-in and day-out race prejudice) while using only necessary force in the performance of his function.

11. exhibit a professional, self-assured presence and a self-confident manner in his conduct when dealing with offenders, the public, and the courts.

12. be capable of restoring equilibrium to social groups, e.g., restoring order in a family fight, in a disagreement between neighbors, or in a clash between rival youth groups.

13. be skillful in questioning suspected offenders, victims, and witnesses of crimes.

14. take charge of situations, e.g., a crime or accident scene, yet not unduly alienate participants or bystanders.

15. be flexible enough to work under loose supervision in most of his day-to-day patrol activities (either alone or as part of a two-man team) and also under the direct supervision of superiors in situations where large numbers of officers are required.

16. tolerate stress in a multitude of forms, such as meeting the violent behavior of a mob, arousing people in a burning building, coping with the pressures of a high-speed chase or a weapon being fired at him, or dealing with a woman bearing a child.

17. exhibit personal courage in the face of dangerous situations which may result in serious injury or death.

18. maintain objectivity while dealing with a host of "special interest" groups, ranging from relatives of offenders to members of the press.

19. maintain a balanced perspective in the face of constant exposure to the worst side of human nature.

20. exhibit a high level of personal integrity and ethical conduct, e.g., refrain from accepting bribes or "favors," provide impartial law enforcement, etc.



COHEN, B. & CHAIKEN, J.M. Police background characteristics and performance Summary. Report prepared for the National Institute of Law Enforcement and Criminal Justice. Grant Award N1-7-030-G. New York, N.Y.: The New York Rand Institute, R-999-DOJ (abridged) May 1972. (May be purchased for $2.00 from the Institute: 545 Madison Avenue, New York, N.Y. 10022.)

In a nontechnical summary, the authors compare the background characteristics of 1,915 officers appointed to the New York City Police Department in 1957, with performance data collected over a period of 11 years following their appointment. Background factors such as age, race, mental ability and personal history are related to performance measures such as career advancement, disciplinary actions and absenteeism. Included are two community-derived measures, the number of civilian complaints against officers, and the number of allegations of harassment.

The research effort aimed at understanding the police selection assignment, promotion and reward policies. They found, for example, that officers with higher intelligence scores showed faster career advancement and also received more departmental awards. Cohen & Chaiken saw their findings as having implications for improving employment practices. Since officers holding college degrees were both good performers and showed a relatively higher turnover rate, they recommended that efforts be made to retain them on the force and aid them in continuing their education. But the authors were also aware of the need for selecting and retaining officers of average intelligence and without college training, knowing that these officers perform traffic duties well and were stable employees.

College graduates also fared well on the community-derived measure of civilian complaints. Officers with more education had fewer complaints filed against them. This led the authors to recommend that officers with advanced education who are also older be assigned to sensitive districts and sent in large numbers to trouble spots.

The background investigation performed at the time of application by the Police Department was predictive of later police performance, with low-rated candidates less likely to be promoted and developing more departmental disciplinary problems than the candidates with higher ratings. In order to avoid potential racial discrimination in this procedure, Cohen & Chaiken recommend having black and Hispanic investigators participate in the background reviews.

Performance at the Police Academy and during the probationary period were the strongest predictors of later poor performance on the job. On the basis of this finding the authors recommended development of a comprehensive performance evaluation program, so that recruits who were performing poorly might be terminated.

DISTRICT OF COLUMBIA METROPOLITAN POLICE DEPARTMENT. Basic officers training system design. Washington, D. C. Training Division September 1972 (OUT OF PRINT).

The Washington, D. C. Metropolitan Police Department undertook a systematic approach to the design of a training program relevant to the basic street officer function, using Educational Systems for the Future as the contractor. A systematic task analysis was undertaken to answer the question, "What will the trainee have to do on the job, under what conditions, and at what level of performance?" The basic street officer function was broken down into its many individual tasks and grouped into six major categories: (1) Scout car operation, (2) Patrol techniques, (3) Arrest and detention, (4) Interviewing, (5) Weapons and self-defense, and (6) Internal.

Additionally, a behavior analysis was undertaken to identify the skill and knowledge requirements for each task and subtask in the cognitive, psychomotor and affective domains. The cognitive behaviors defined were: recall, recognition, multiple discrimination, concepts, principles, and problem-solving. In the psychomotor domain the specific skills required were: writing, verbal (specific to police vocabulary), visual, auditory, touch, and manipulation. In the affective domain five areas were considered: initiative, responsibility, bearing and behavior, resourcefulness, and leadership.

Based on the behavior analysis, certain entry-level behaviors were prescribed as being necessary for the learning of the performance objectives in the Basic Officers Training System. A battery specifying certain types of tests was recommended for use in selecting officers for the training program. For further information contact:

Dr. Peter Esseff
Educational Systems for the Future
7676 New Hampshire Avenue
Langley Park, Maryland 20783



FURCON, J., FROEMEL, E. C., FRANCZAK, R. G. & BAEHR, M. E. A longitudinal study of psychological test predictors and assessments of patrolmen field performance. Report to the Law Enforcement Assistance Administration, Grant No. NI-0010. Chicago, Illinois: The Chicago Police Department, June 1, 1971. (May be purchased for $7.00 from the Industrial Relations Center of the University of Chicago at 1225 East 60th Street, Chicago, Illinois 60637.)

Furcon and coworkers carried out a second study of 212 of the Chicago police patrol officers who were tested in 1966 (Baehr, et. al, 1971) and for whom performance measures were again collected in 1969 to 1970. In addition to verifying the original findings on officers who were still on street patrol, this project also had as its aim assessment of the stability of the job performance measures used earlier. Essentially the same job performance measures assembled originally by Baehr and others (1971) were again collected. Both the paired-comparisons and the administration supervisory ratings showed a desirable level of stability over a period of time, while the arrest and awards measures of job performance also remained quite stable. The possibility of collecting peer ratings was investigated and proved to be feasible.

On the basis of 1966 test scores, it was possible to predict subsequent job performance in 1967, 1968, and 1969. The general findings reported in the earlier study (Baehr et al, 1971) held up, with subsequent job performance predicted on the basis of appraisal of background and experience, interpersonal modes of reaction, temperamental characteristics and visual perception skills. However, the size of the statistical relationships between test scores and measures of job performance decreased but continued to be statistically significant. Again, it was found that the relationships between the test scores and job performance were higher for black than for white officers.

FURCON, J. Some questions and answers about police officer selection testing. Occasional Paper 30. Chicago, Illinois: The University of Chicato Industrial Relations Center, 1972. (May be purchased for $2.00 from the Center: 1225 East 60th Street, Chicago Illinois 60637.)

Furcon answers 20 questions that have frequently been raised about two research projects on polic e selection conducted by the University of Chicago's Industrial Relations Center (see the two project summaries of reports published in 1971, with Baehr and Furcon each listed as first authors).

The author identifies the basis on which the test battery was selected and describes dimensions measured by each test. Included also are the addresses of the publishers of each test and the qualification requirements for test purchasers and users.

The paired-comparison method for obtaining supervisory ratings is described and agencies using the rating method and the selection battery are listed. Furcon indicates how he would go about validating a selection battery and using the test battery validated in Chicago in other jurisdictions.



GHISELLI, E. E. The validity of occupational aptitude tests. New York: Wiley, 1966.

Ghiselli presents an overview of studies of the validity of tests, summarizing both published and unpublished data that spans the period from 1919 to 1964. Only aptitude tests are reviewed because they have wider applicability than tests of specific job knowledge and job skill. Included were tests of: intellectual abilities, spatial and mechanical abilities, perceptual accuracy, motor abilities and personality traits.

The findings are reported separately for occupational groups classified according to the system used in the 1949 edition of the Dictionary of Occupational Titles. For each occupational group, correlations relating test scores to training and job criteria are averaged. Ghiselli acknowledges that the size of the validity measures may be underestimates since employee groups vary considerably in the range of talents represented in different investigations. He also calls attention to the related fact that tests and performance criteria used in different studies are likely to differ greatly in their measured reliability. The author reports that, in general, training success can be better predicted than job proficiency as measured by such criteria as supervisory ratings and units of production.

After reviewing the validities found for firemen, Ghiselli concludes that their training ability may best be measured by spatial and mechanical tests, noting that the tests of intellectual abilities and perceptual accuracy measures also have merit. Immediate memory tests of intellectual ability are the best predictors of job proficiency for firemen.

In predicting training success of both policemen and detectives working for a government agency, tests of intellectual abilities have proven useful, with spatial and mechanical tests predicting reasonably well. The best predictors of job proficiency were tests of intelligence, name comparison and personality inventories.

GRENCIK, J., SNIBBE, N. & MONTGOMERY, H. Physiological fitness standards research project. Interim Progress Report, Law Enforcement Assistance Administration Grant No. NI-70-042. Los Angeles County, California: Sheriff's Department, June 1971.

The aim of the project is to develop standards for both physiological and psychophysiological fitness for the selection of police officers for use nationally The authors report that, nationally, police suffer from a higher incidence of heart disease than do work groups of comparable age, thus indicating need for development procedures to detect and predict the outcome of this disease and others such as back disorders, and peptic ulceration.

The research plan proposes assessing 500 officers each year through a psychological and a medical examination as well as exercise testing which will include a procedure to measure cardiac stress. These measures will be related to actual on-the-job performance using the paired comparisons technique and other departmental data such as disciplinary actions, workmen's compensation claims plus a self-evaluation on specific tasks.

A national survey of 126 agencies was conducted to learn of the physiological and psychophysiological evaluation procedures and standards in use. Ninety-six or 65% of the agencies completed the questionnaire. Significant diversity in procedures was found and many standards were reported to be arbitrary and fragmentary.



HECKMAN, R., GRONER, D. M., DUNNETTE, M.D., & JOHNSON, P.D. Development of psychiatric standards for police selection. Report of First Year's Research, Law Enforcement Assistance Administration Grant No. NI 71-085-G. Minneapolis, Minnesota: Personnel Decisions, Inc., June 1972.

The authors reviewed studies of selection procedures for police officers, covering the diversity of procedures used by civil service and police agencies. These include written civil service as well as situational and aptitude tests. Also reviewed are medical and physical examinations and standards, background investigations, clinical evaluation, weighted application blanks, oral boards, psychiatric interviews, personality and interest measures. Heckman and coworkers observe that researchers have failed to give much attention to job performance measures, particularly failing to call attention to the multidimensional nature of police work.

The authors report that their first year was devoted to the development of four sets of job performance ratings scales to reflect the multidimensional nature of four classes of police jobs: patrol officer, detective, sergeant and the midlevel command personnel. At workshops, held with 101 police officers, 1,600 critical incidents of effective and ineffective police were collected. These incidents formed the bases for developing the rating scales, with 11 rating dimensions eventually emerging for the patrol officer job. The critical incidents were used as an anchor for the designated points along the rating scale.

Heckman and his coworkers proposed developing a Police Career Index based on an experimental battery of tests and personality measures. Plans were also made for developing situational exercises and job simulations to be used to design Police Assessment Centers. The Police Career Index might be used in evaluating applicants for police work. Police Assessment Centers on the other hand could be used in assessing persons who have completed Police Academy training and may have worked as officers.

HUNT, E. C. & COHEN, B. Minority recruiting in the New York City Police Department. New York, N.Y.: The New York City Rand Institute, R-702-NYC, May 1971. (May be purchased for $4.00 from the Institute: 545 Madison Avenue, New York, N.Y. 10022.)

The authors report studies conducted for the New York City Police Department (NYCPD) which aimed at assessing the effectiveness of programs and strategies for recruiting minorities and identifying ways of increasing their representation in the Department. Though these project summaries were not intended to cover recruitment, this project is included as an example of a fact-finding effort critical to furthering equal employment opportunity.

The first part of the study consisted of interviewing 200 black and Puerto Rican minorities who were close in age and education to meeting the entry-level requirements for police officers. Of these, 152 said they knew of openings in the NYCPD and these revealed that the major source of information was the Daily News, a general circulation newspaper.

In addition to the interviews, a questionnaire study was made of 2,652 persons who had applied for but failed to appear for a Patrolman's Examination held on April 5, 1969. Of these, 37% replied, including 288 blacks, 141 Puerto Ricans and 529 whites. The authors found that blacks and Puerto Ricans agreed on the major recruiting sources, listing these among the top three in frequency: friend or family member who is a policeman, The Chief (a New York civil service newspaper), and recruiting teams. The first two of these recruiting sources were also the predominant sources for whites. The Daily News was far more frequently listed as a recruitment source for all three groups than were radio and television announcements.

Both minority groups stated the same two reasons for finding police work attractive: opportunity to help maintain law and order, and feeling that comes from helping people. The white applicants, on the other hand, stressed such matters as fringe benefits and job security. The major reason cited for not taking the examination by all three groups was that they had to work on Saturday, the day the examination was held.

The second part of the study dealt with the retention of applicants in the selection process, based on a followup of an examination held January 21, 1967. The authors found that only 26% of the persons passing the written examinations dropped out of the selection process prior to completing the background investigation form. Recommendations center on reducing the time between which one passes an examination and the time when one is finally appointed, a time-span of 17 months. Included among the recommendations are early scheduling of the medical and physical examinations and speeding up the Personnel Investigations.



KENT, A. D. & EISENBERG, T. The selection and promotion of police officers. The Police Chief, February 1972, XXXIX (2), 20-29.

Emphasizing work conducted in the past ten years, the authors reviewed technical research findings concerning the selection and promotion of local and State police and highway patrol officers. Relationships between assessment devices and measures of job performance were reviewed the variety of assessment devices included ability, personality, background information and civil service examinations. The measure of job performance included police academy evaluations, tenure, supervisory ratings, arrests and citizen complaints. Job analysis was found to have been largely ignored or only superficially related to the selection process. The authors found that operational and research performance measures need to be multi-dimensional to include the many roles that police play.

LANDY, F. J. Police performance appraisal. Quarterly Progress Reports, Law Enforcement Assistance Administration Grant No. NI 71-063-G. University Park, Pennsylvania: Pennsylvania State University, July 1, 1971 to June 30, 1972.

The principal investigator and coworkers plan a three-year project that includes two surveys of present local police personnel and civil service practices, concentrating on developing performance appraisal instruments by involving a nationwide sample of local police agencies. Research literature covering the police function is reviewed and includes recruitment and personnel selection.

A questionnaire surveying the personnel function of police agencies was sent to 381 agencies of which 51% replied. As a result of this effort, 59 performance appraisal instruments were catalogued. Another questionnaire was sent to 214 civil service agencies and of these 60% responded. The authors found that recruiting for patrol officers was done primarily through local newspaper ads and pamphlets. The most heavily weighted selection procedures included background checks, medical examinations and intelligence tests. The written examinations were generally developed by the local civil service agency, with the police department making final decisions on departmental appointments.

Performance appraisal instruments with behavioral descriptions along key parts of the rating scale will be developed using police supervisors, coworkers and civilians as consultants. These will cover technical performance dimensions important in working with partners, and dimensions based on the observations of civilian groups including victims of crimes, prison inmates and small owners.



LAW ENFORCEMENT ASSISTANCE ADMINISTRATION, U. S. Department of Justice, Equal rights guidelines: effect on minorities and women of minimum height requirements for employment of law enforcement officers. Federal Register, March 9, 1973, 38 (46), 6415.

The guideline which applies to all recipients of funds from the Law Enforcement Assistance Administration states that the use of minimum height requirements disqualifying disproportionately women and persons of certain national origins and races, is in violation of the Justice Department's regulations prohibiting employment discrimination.

Exceptions to this regulation will be granted only when there exists supportive factual data such as professionally validated studies showing operational necessity for the jobs involved, that is, that the employment practice is necessary for the safe and efficient exercise of law enforcement duties.

LEVIN, A. S. & ZACHERT, V. Use of biographical inventory in the Air Force Classification Program. Journal of Applied Psychology, 1951, 35 (4), 241-244.

A biographical inventory has been used to select Air Force personnel for training programs. Firefighters and crash rescue workers were among the 24 training groups for which the hour-long biographical inventory was used. A 125-item biographical inventory was developed with the content of the multiple-choice items based on job analysis of job requirements. Item content included preference for the specialty and a description of educational and socioeconomic background and participation in activities related to technical specialties. The questions were factual and dealt specifically with hobbies and with intellectual, physical and social activities.

Eight scoring keys were developed based on the statistical relationship between the answers to the items and the final training school grade. The mechanical, electronics and craftsman keys were found to predict success in technical school training for 91 men engaging in firefighter and crash rescue work.



MILLS, R. B., MCDEVITT, R. J., & TONKIN, S. Situational tests in metropolitan police recruit selection. Journal of Criminal Law, Criminology and Police Science, 1966, 58 (1), 99-106.

The authors describe three situational tests that have been used experimentally to assess the performance of Cincinnati police recruits receiving Police Academy training. The situational tests, modeled after the tests used by the Office of Strategic Services during World War II, were designed to simulate natural field problems that officers might typically encounter. During the five to six hour psychological evaluation, the candidates worked on the tasks while observers rated the candidates' performance under simulated stress conditions. The tasks were designed so that their completion did not depend on skills developed through specialized training or experience. Group activities were included so that the candidates' leadership qualities and capacity for teamwork could be assessed.

One task was called The Foot Patrol Observation Test and in this test the candidates were instructed to walk to a specified building through a busy, predominantly Negro business neighborhood, making observations along the route. Afterwards, they were asked to complete multiple-choice questions and open-ended essays that were getting at attitudes about law enforcement and at the same time providing a writing sample.

The second test was the Clues Test which involved candidates' investigation of a hypothetical city employee. Observations occurred in a roped off area of a simulated office that had clues such as race-track sheets, Scotch bottles, a passport application and a memo from the City Manager requiring audit of certain accounts. The candidates completed a questionnaire that called for factual data as well as hypotheses regarding such matters as the employee's whereabouts and possible basis for prosecution.

The third task called the Bull Session is a group diagnostic procedure in which an evaluation team observes candidates interacting with their peers, after being briefed on the strengths and weaknesses of candidates. The group leaders began the discussion of topics relating to police work including such subjects as the use of force, the handling of fear, and the use of narcotics. The questions were usually presented as personal experiences or as hypothetical situations. At the end, a "debriefing" session was held to restore emotional equilibrium. The Bull Session was considered by the staff to be a most valuable selection technique used at the time.

The authors note that situational testing could be used as a supplement to both written tests and personality inventories once adequate reliability can be established and the test scores are evaluated in relation to measures of effective police field performance. For further information, contact:

Robert B. Mills, Ph.D.
Professor & Head
Department of Criminal Justice
University of Cincinnati
Cincinnati, Ohio

MILLS, R. B. Use of diagnostic small groups in police recruitment, selection and training. Journal of Criminal Law, Criminology, and Police Science, 1969, 60 (2), 238-241.

Mills describes a police selection exercise called "The Prisoner's Dilemma." It takes up the first half of a two-hour "Bull Session." Eight to twelve candidates participate after they have completed all other selection procedures. The four-person evaluation team includes two group leaders and two participant-observers who instruct the candidates to make their views known, and caution them not to "hide" themselves within the group.

The candidates are divided into two teams, with four to six candidates in each group. They are told that the purpose of the exercise is to maximize the number of points their team obtains. But as it turns out, the only strategy that wins points is one in which there is a collaboration on the part of both teams. During the exercise, there are specified opportunities in which the "negotiators" for each team can meet to discuss their strategy, thus providing the evaluation team with opportunities to observe leadership behavior, personal persuasiveness and ability to function under pressure.

Police recruits react differently to this exercise than do college students or members of the clergy. The police candidates are more aggressive in getting points for their team.

The evaluation team uses a combination of objective and projective types of personality tests as well as situational tasks such as the small group technique described in this paper. The team presents to the Civil Service Commission a recommendation on each candidate, describing each as either "acceptable" or as a "high risk" candidate. For further information contact:

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MILLS, R. B. New directions in police selection. Paper presented at the annual meeting of the American Psychological Association, Honolulu, Hawaii, 1972.

Mills stresses the need for selecting a "new breed" of police officers, namely officers who have a human service orientation and who are sensitive in dealing with minority groups and social deviates. He recognized that personality measures such as the Minnesota Multiphasic Personality Inventory (MMPI), popular in police selection, screen out candidates with undesirable qualities such as sadistic traits, noting that little research has been done to identify the positive qualities related to superior job performance.

For ten years a team of psychologists and a psychiatrist have been advising the Cincinnati Civil Service Commission on the selection of police officers. Mills describes this procedure which includes a five to six hour group stress interview with 10 to 14 candidates and involves the use of role-playing, MMPI assessment, peer evaluation and a structured group discussion. This psychological evaluation comes at the end of the Civil Service selection procedure that included a group intelligence examination, polygraph interview, medical examination and background investigation. These positive personality dimensions are assessed in the psychological evaluation: (1) motivation for a law enforcement career, (2) normal masculine self-assertion, (3) emotional stability and good judgment under stress, (4) sensitivity toward minority groups and social deviates, (5) collaborative leadership skills, (6) flexibility, and (7) mature relationship to social authority. A global assessment process is used in which candidates' strengths and weaknesses are taken into consideration.

For more information on the selection procedures used in Cincinnati, contact:

Stephen Shutt
Assistant Personnel Officer
Cincinnati Civil Service Commission
215 City Hall
Cincinnati, Ohio 45202

MILTON, C. Women in policing. Washington, D. C.: Police Foundation, 1972. (May be purchased for $3.00 from the Foundation: 1015 Eighteenth Street, N.W, Washington, D. C. 20036)

Milton describes the role that women police officers have traditionally played since they first joined the Los Angeles police force in 1911. Women have chiefly worked with juveniles and female prisoners and have typed. Now special efforts are being made to use their skills in patrol, traffic control and investigation work.

By recruiting women to perform the same police duties as men have traditionally performed, qualified police officers may be selected from a larger pool of applicants. Such broadening of the recruitment base may be particularly helpful in increasing minority group membership on the police force. Furthermore, women have been found to actively seek service duties that are said to make up at least 80% of police work. Experience in employing a small group of women as security officers in a public housing project is cited to show that women handle domestic disputes sympathetically, defusing potentially violent situations.

A legal analysis of equal employment opportunity requirements is given and case studies detailing ways in which women are carrying out a variety of police functions are reported.



MURDY, L B. & NORTON, R. P. Fire Private test validation study: City of Forth Worth Fire Department. Institute of Behavioral Research. Technical Report No. 72-2, Fort Worth, Texas: Texas Christian University, May 8, 1972.

General Summary--Murdy and Norton report a test validation project in which an experimental battery of tests was administered to 123 Fort Worth Fire Privates and Drivers, and scores related to job performance ratings made by two officers acquainted with the men's work. The regular Civil Service examination was not included in the study because the men were already preselected on that ability measure. Instead, the experimental battery consisted of a three and one-half hour battery of commercially available tests measuring intellectual, perceptual, and mechanical abilities as well as personality characteristics. Personal history was assessed by a specially designed questionnaire. These assessment devices were selected to be relevant to the job behaviors included in the performance evaluation.

The firefighters participating in the study in early 1972 were all Caucasian men, had worked as Fort Worth firefighters for 6 months to 8 years, and averaged 29 years of age, and 12.3 years of education (with one-third having completed one or more years of college).

The paired comparisons rating system was used in such a way as to maximize the consistency or reliability of the ratings. The ratings of the 40 dimensions made by the two raters were added together to provide a single measure of job performance for each firefighter.

Conclusions are based on the analysis of data collected from one group of 123 firefighters, with recommendations made for conducting an additional cross-validation study. Highly rated firefighters can be described as follows: quick to grasp ideas, docile, fastidious, dependent, resourceful, in control of their emotions, and worriers. They were able to comprehend symbolic relationships, make valid deductions, and showed a specialized type of perceptual ability which involves visually tracing a path through a maze of lines. Personal history data dealing with education background and work preferences also predicted job success.

The authors present data predicting the overall success of firefighters and discuss how the passing point might be set, taking into consideration the likelihood of success as firefighters.

Performance evaluation dimensions--The key dimensions of job performance behaviors were identified in connection with the development of the performance rating form.

The existing Efficiency Rating Report forms were reviewed and more specific dimensions were developed in consultation with District Chiefs. The following 40 job behaviors, classified under three broad categories, are the result of the collaborative efforts:

EMERGENCY WORK: relates to combatting and extinguishing fires and operation in other emergencies such as rescue work and protection of life and property.

1. Knowledge and use of apparatus, tools. and equipment.
2. Cooperation with members of his company.
3. Awareness of the position and tasks of every member of the team.
4. Demonstrated knowledge of auxiliary extinguishment aids including sprinklers, standpipes, etc. in first and multiple alarm territory.
5. Indication of competitive team spirit in relation to other companies.
6. Demonstrated knowledge of streets, hydrants, and buildings in first alarm and multiple alarm territory.
7. Dependability in producing consistently good results with a minimum of wasted effort.
8. Willingness to accept authority in receiving and executing orders promptly.
9. Demonstration of good public relations in general behavior and speech at the emergency scene.
10. Recognition of emergency problems and readiness to adjust strategies in view of changing conditions.
11. Utilization of safety equipment and clothing and observation of standard safety procedures.
12. Making logical decisions based on available information and the use of common sense.
13. Alertness to hazardous conditions and taking precautions to prevent accidents to himself and others.
14. Skill in using standard techniques of fire suppression to produce desired results.
15. Skill in using standard techniques in emergencie other than fire suppression to produce desired results.
16. Indication of physical stamina (toughness) by enduring hardships and heavy workloads.
17. Aggressiveness in attacking a fire or emergency situation as opposed to holding back.
18. Indication of courage by encountering danger and physical abuse knowingly and willingly.



SUPPORT FUNCTIONS: relates to station work, preparedness and fire prevention

1. Promptness in beginning scheduled work, watch duty, drills and other meetings.
2. Reflection of dependability and consistency in the attendance record.
3. Maintenance of quarters in a clean and orderly fashion in preparation for the oncoming shift.
4. Maintenance of protective gear and clothing in a good state of repair.
5. Maintenance of tools and apparatus after use for proper storage and operation according to specifications and Department policy.
6. Observation of company rules and regulations during nonemergency operations.
7. Proper maintenance and utilization of reports and records.
8. Participation during overhaul operations.
9. Demonstration of knowledge and application of standard techniques during participation in basic drills.
10. Recognition of potential fire hazards and possible extinguishment problems while on inspections.
11. Attention and receptivity to orders and instructions in drills, training and school.
12. Indication of good public relations during inspections by describing and explaining code provisions and purposes.
13. Preparation for the future by studying to improve knowledge of procedures, regulations and other aspects important to fireman effectiveness.
14. Proper interpretation and application of city codes during inspections.

SOCIAL AND PERSONAL ASPECTS: relates to behaviors reflecting some aspect of social interaction or personality important for effective functioning

1. Demonstrating an ability to get along well with the general public
2. Showing a willingness to get along with other members of the Department.

3. Indication of a willingness to get along with superiors.

4. Demonstration of favorable attitudes toward the Department, reflecting positive identification as a member of the fire service.

5. Having personal hygiene habits agreeable to station members with whom he lives.

6. Personal appearance reflecting an adherence to Department regulations.

7. Off-duty behavior reflecting favorably on the fire service in accord with civil service policy.

8. Demonstrated ability to work and live as a considerate member of the company.



PERSONNEL DECISIONS, INC. Report on test validation study: Minneapolis Civil Service firefighter jobs. Minneapolis, Minnesota, November 1971.

General summary--Test scores were related to job performance ratings for 168 Caucasian firefighters. These men had been preselected on the basis of a Civil Service written examination and 44% of them had attended college. The tests were commercially available measures of personality, interests, general mental ability, mechanical comprehension and a specially designed personal history form. It was found that firefighters who did better on the job were likely to be organized, dependable, hard-working, cautious and followed the directions of others. These findings were verified on a hold out group, making up part of the group of 168 firefighters.

Performance evaluation dimensions--The performance evaluation form used for rating the men was designed in consultation with the training captain and others familiar with the job. Precinct captains rated the firefighters on these rating dimensions that emerged, referring to behavioral descriptions that "anchored" points along the rating scales:

1. Understanding buildings, constructions, and fire behavior. Ability to evaluate buildings and construction; to recognize possible fire hazards; having good "fire sense."

2. Mechanical ability. Ability to understand and operate apparatus and equipment, repair tools, etc.

3. Ability to profit from training. Ability to learn quickly, to "catch on" to instructions, learn from observation, etc.

4. Flexibility in performing different positions of a crew. Capacity to perform the different crew positions; interchangeability from activity to activity in firefighting.

5. Holding up under pressure and stress. How well the individual "holds up" under emergency situations; staying calm and dependable; not wasting time during emergencies.

6. Carrying out orders under firefighting conditions. How well an individual carries out orders while firefighting, even where he disagrees with them.

7. Thoroughness in carrying out procedures when searching for hot spots. Searching for "hot spots" after the flames of a fire have apparently been extinguished.

8. Getting along with other firefighters and employees. Ability to get along with others, sociability, friendliness, etc.

9. Showing teamwork. Making efforts to build teamwork and have a cohesive effect on other members of his company.

10. Amount of supervision necessary. Amount of supervision and direction needed.

11. Maintaining public relations. Ability to impress the public favorably; maintain public relations.

12. Overall job effectiveness. A firefighter's overall value as a member of the firefighting unit.



POLICE FOUNDATION. Experiments in police improvement: a progress report. Washington, D. C., November 1972.

The Police Foundation, set up in 1970, as a five-year project under a thirty million dollar Ford Foundation grant, aims to aid police agencies in developing and funding promising programs which affect the quality of police services delivered on the street. Chief among its projects are efforts to evaluate the employment of women as regular police officers and experiments in neighborhood team policing in Cincinnati. The project in Dallas called for the identification of community needs and a structuring of police services to respond to these needs. The Dallas plan focuses on validating new screening criteria for candidates and deals with recruiting of officers, particularly from the minority groups. The effectiveness of these projects will be evaluated to determine which new approaches prove to be constructive.

The Foundation calls attention to two aspects of police work, noting that police teamwork and the roles played in helping citizens who are not necessarily involved in crime require special skills that need to be considered in selection as well as training procedures. The Foundation is concerned with testing assumptions underlying personnel practices. They ask, "Do college graduates make better police officers? Will increasing minority officers produce better police service? Can female officers perform as well as, or better than, male officers? And what does 'better' mean?" For more information, contact the Foundation at 1015 Eighteenth Street, N.W., Washington, D.C. 20036.

SALMON, L. W. The development of a biographical data inventory for predicting success as a State Police Trooper. Michigan Department of Civil Service Research Report. Lansing, Michigan, July 1972.

An experimental 111-item biographical data inventory was tried out on 110 white Michigan State Police Troopers and related to performance ratings obtained through the routine performance rating system. This pilot effort aimed at covering information generally obtained through an oral examination such as school work, and recreational and work preferences.

The scored data blank was found to predict job performance ratings for white troopers from Michigan, with the findings verified on another group of 49 Michigan troopers. It was also tried out on troopers from Pennsylvania and New York, The scoring key did not predict job performance for a small group of 22 black troopers from Michigan and Pennsylvania. But it is worth noting that the black and white troopers obtained similar scores on the inventory. A revised biographical inventory will be tried out on applicants.



SKINAS, N. & HALL, W. S. An experimental test construction for the position of patrolman. Trenton, New Jersey: Department of Civil Service, Division of Examinations, Research Unit, June 1972.

The authors describe the development of a patrol officer examination based on a job analysis and analysis of data from three forms of the examination administered to large groups of candidates that included 427 blacks and 130 Spanish speaking persons.

The job analysis was conducted through individual interviews with 40 experienced patrol officers representing eight local jurisdictions located throughout the State. These officers were themselves chiefly involved in patrol work and came from various ethnic and cultural backgrounds. They were asked to list the duties of police in descending order of importance on a scale from one to ten. This list of 16 duties or tasks resulted, with the most frequently mentioned ones appearing first:

1. service to the public
2. report writing
3. public relations
4. prevention of crime
5. court appearances
6. law enforcement
7. apprehension of violators
8. investigations
9. protection of life and property
10. patrol
11. domestic disputes
12. traffic control
13. first aid
14. juvenile offenses
15. summonses
16. escort duty

These 16 duties were then placed into four comprehensive categories: enforcement of the law, public relations, report writing and court appearances. For each group of duties, a list of required characteristics was compiled by the authors. They noted, for example, that in order to do a good job in making "court appearances" an officer would need to be verbally fluent, grammatically correct in language usage, have an adequate vocabulary, show confidence as well as have a good memory.

A written and oral examining procedure was developed to assess the critical characteristics needed to carry out the four types of job duties derived from the job analysis. In order to assess abilities in the "enforcement of the law," the examination specialists compiled a series of written subtests that included the following types of test items: Discretionary Situations, Reading Comprehension, and Figure Analogies.

The Discretionary Situations were presented to candidates in one-paragraph descriptions of crucial situations that called for decisive action and which were appropriate for candidates inexperienced in police work. Results from the test administrations show that white, black and Spanish-speaking candidates scored similarly on these judgment items. These job-related items were among the six types of written test items recommended for inclusion in future patrol officer tests.



VERDUCCI, F. & MEEKINS, T. Proposed physical aptitude examination for San Francisco firemen, City and County of San Francisco, California, January 28, 1971.

The authors have developed and proposed seven physical aptitude measures assessing motor ability requirements for firefighter work in San Francisco. A survey was conducted to identify the physical skills required of San Francisco firemen in emergency situations. Involved in the survey were 40 firefighters, officers, and chiefs who identified the amount of time spent on each of the physical skills.For each skill, the relative importance of each of nine body parts, and of each of nine physical movement components (e.g., balance, and cardiovascular endurance), was rated by a kinesiologist, two physical educators, and two firefighter administrators. The rating results were next related to the amount of time each skill was used in emergency conditions. It was against this performance criterion that the adequacy of the proposed physical aptitude measure was assessed. The proposed physical aptitude measures were established by comparing the test item requirements to the performance criterion that was established on the physical requirements of firefighter emergency work.

The proposed physical aptitude measure has now been copyrighted, and there will be a minimal fee for use of the test by merit system agencies. The examination consists of seven types of test items:

(1) coupling coordination test;

(2) bent-knee sit-ups;

(3) a hand grip strength test;

(4) a sand dodge run;

(5) a bend, twist, and touch measure;

(6) a chins measure, and

(7) a 500-yard shuttle run.

For more information about the Physical Aptitude Examination for Firemen contact:

Dr. Frank Verducci
Chairman, Dept. of Physical Education
for Men
California State University, San Francisco
1600 Holloway Avenue
San Francisco, California 94132

WOLF, W. M. & NORTH, A. J. Selection of municipal firemen. Journal of Applied Psychology, 1951, 35, 25-29.

This is an example of a published validity study relating test scores to job performance of 144 privates employed by a large Texas municipality. These men were preselected on the basis of a commercially available general mental ability test as well as on the regular civil service written examination measuring general knowledge and elementary information concerning firefighting. Job performance was measured by a special ranking system in which captains ranked the men whose abilities they knew best. The civil service examination as well as the Bennett Mechanical Comprehension test was found to differentiate between higher and lower ranked firefighters, with the higher ranked receiving higher scores.



## SELF-EVALUATION CHECKLIST FOR POLICE AND FIREFIGHTER SELECTION PRACTICES

### Job Analysis

Has a systematic, comprehensive and thorough analysis of our entry police (or firefighter) job, including the formal and informal training, been carried out?

Is this job analysis kept up-to-date?

Is the job analysis obtained directly from the work situation (for example, through observation, and systematic recordkeeping)?

Does the job analysis provide for a sufficient and representative sample of observations?

Does the job analysis describe in specific terms:

- each of the various kinds of duties performed by incumbents?
- the required level of performance for each of the kinds of duties?
- which of the duties are critical; that is, duties where competent performance is essential?

Has the job analysis been carefully documented, including a description of the methods used, the date, and the results?

### Identification of Needed Worker Characteristics

Has there been an identification of knowledges, skills, abilities and other worker characteristics (KSA's) necessary for successful performance of the job?

Are these clearly related to each of the critical duties identified in the job analysis?

Are the KSA's focused on characteristics required upon entry to the job, and on potential for career advancement to the extent appropriate?

Is there a documented description of the procedures for identifying the KSA's?

Does the procedure provide for sufficient objectivity?

### Appraisal of Applicant Characteristics

Does the selection process include appraisal of each critical KSA?

Does the selection process exclude appraisal of any characteristic not identified as a critical KSA?

Has each appraisal method been established as valid by a method of validation appropriate to the circumstances?

Is each method of appraisal sufficiently reliable?

Is each appraisal method sufficiently objective?

Does the final rating of each applicant reflect relative standing on all critical KSA's?

Are scores or ratings from the various appraisal methods combined with appropriate relative weights?

Is each aspect of the appraisal process carefully described and documented? (This should include each appraisal method, plus the procedure for establishing relative weights and combining scores on the individual components.)

Coordination

In undertaking job analysis, identifying needed applicant characteristics, and developing and applying methods for appraising candidates, is there close coordination between the personnel agency and the police or firefighter agency?

Appointment Process

Are the respective roles of the personnel agency and the appointment agency explicit and clear?

Does the process provide for appointment from among those ranking highest on overall suitability as determined by the applicant appraisal process?

Are the judgments made during the appointment process independent of those made during the applicant appraisal process preceding appointment? (Officials responsible for appointment decisions should not ordinarily have a part in making judgments on individuals during the applicant appraisal process.)

END