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## A METHOD OF POLICE PERSONNEL SELECTION\*

NICK J. COLARELLI AND SAUL M. SIEGEL

Dr. Nick J. Colarelli and Dr. Saul M. Siegel are both Staff Psychologists at the Topeka State Hospital, Topeka, Kansas. Their present paper reports on research in the selection of police personnel which was carried on in association with the Kansas State Highway Patrol.—EDITOR.

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

Within the past three years the authors have had the opportunity to work closely with the Kansas State Highway Patrol in an effort at improving personnel selection. During this period, the authors had been impressed with the fact that the officers within this organization have had an excellent, well conceived picture of the attributes and performance that made for an effective patrolman. However, the problem appeared to be one of applying this knowledge and information to the rather large number of individuals applying for the few positions available. This organization had, like most, a selection system composed of a series of stages through which the applicant had to pass. At each of these stages, certain selective criteria were employed.

At the first stage the requirements to be met concerned residential status, age, height, weight, physical defects, etc. This information was determined from the applicant's application blank. The second stage was one of testing, i.e., a job performance test, and an intelligence test, that were assumed on an *a priori* basis to select desirable applicants. The third and possibly most important stage was that of an oral interview by a board of knowledgeable interviewers who then rated the applicant's fitness. The final stage was a comprehensive and intensive investigation of the applicant's background. If the applicant had cleared all of these stages, he was then seen as a "good" candidate.

When applicants were omitted at each of these

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stages, the assumption was that undesirable applicants were being rejected and desirable ones accepted. However, as is frequent in personnel selection, the individual selection devices did not do their task, especially the test procedures. Quite frequently undesirables would be accepted and desirables rejected. The last two stages—the interview board and the extensive investigation of background—were felt to be the most effective, but also impossibly expensive to be applied to the entire applicant group. It is at this point that the knowledge and the experience of the police organization about what makes a good applicant can be brought to bear most intensively and most keenly, and it is at the first two stages, especially the stage of testing, that police organizations experience most difficulty in using their experience.

It is the impression of the authors that recent advances in test construction and in test methodology within the area of psychology now makes it possible to glean more of the law enforcement organization's experience about what makes desirable applicants. This experience can be translated into test language, and applied more effectively at the earlier stages of the selection procedure. Through the use of tests, the organization's experience about desirable applicants can be economically and fruitfully utilized. It is the purpose of this paper to describe a method whereby this was accomplished.

### METHODOLOGY

The purpose of the joint study undertaken by the Kansas State Highway Patrol and the Psychology Department of Topeka State Hospital was seen as that of articulating, in a systematic fashion, the Patrol's experience in selecting desirable applicants. This experience could then be applied economically to the entire range of candidates for positions in the Kansas State Highway Patrol. The project was conceived of and carried out in five successive phases.

*Phase 1—Selecting the Tests.* The task here was

that of obtaining adequate measurements on patrolmen that would enable one to make predictions about their future performance. The attempt would be to measure characteristics such as intelligence, personality, etc., that have generally been considered important factors in an officer's capacity to adequately perform his duty. Psychological testing was most useful here primarily in terms of describing, in test language, what those factors might be. Initially, the researchers thought in terms of a broad battery of tests including some of the more well known projective techniques. It soon became apparent that although some of these techniques could be valuable, the amount of time and the cost involved in testing a large group in this way made their use impractical. Instead it was decided to develop a battery made up of objective paper-and-pencil tests that could be easily and economically administered to a large group of applicants at one sitting. Other advantages of the use of these tests were that they could be easily programmed for electronic data processing, and that further they did not require interpretation on the part of a skilled psychologist. The final battery agreed upon was comprised of four tests. The first of these, the California Test of Mental Maturity, is a rather comprehensive test of intellectual functioning. The second, the Allport-Vernon Study of Values, evaluates the individual's value system or, in a more general sense, his philosophical orientation towards life. A third, the Edwards Personality Preference Schedule, is a test of personality traits that permits an assessment of the individual's basic psychological needs and to some extent the manner in which these needs are integrated into the individual's personality functioning. The final test, the Minnesota Multiphasic Personality Inventory, provided data on the state of the individual's mental health.

This battery was then administered to all patrolmen in the Kansas State Highway Patrol. The tests were scored and averages were then computed on each of the scales of each of the tests for the total patrol force. At this point, in terms of test language, a description was then available of the average Kansas State Highway Patrolman.

*Phase 2—Evaluating Performance.* While a description of the average patrolman was available in terms of the test language, there was still no means whereby those men who performed in an above average manner on their jobs could be differentiated from those who performed below average. To obtain this information it became necessary to

select some criterion whereby a man could be judged as "good" or "poor." After extensive interviews with the headquarters staff of the Highway Patrol, the researchers turned to the statistics and data collected monthly by the patrol headquarters on the individual patrolman's job performance. (It is important to note at this point that a good record keeping system turned out to be an absolute necessity in the disposition of this study.) From the monthly report a list of job performance items was obtained. This list of variables was then rated in order of usefulness in differentiating "good" from "poor" men by the headquarters and field officers of the patrol. A final list of eight variables, including moving hazardous arrests, moving hazardous warnings, other arrests, services rendered, light correction, miles per contact without radar, miles per contact, and hours per arrest, were agreed upon as being important in determining whether or not a patrolman was doing a good job.

At this point, this data was collected for each patrolman in the Kansas State Highway Patrol for the year previous to the inception of the study. Average monthly performance on each of these eight variables was computed for each patrolman on the force. It became evident that differences in performance were not due solely to whether or not the individual was a "good" or "poor" man, but also in part due to the opportunities available to him. Those men who patrolled in large urban areas had many more enforcement and service opportunities available to them than did men in low traffic volume districts. Consequent to this, a measure of "opportunity" was devised and each man's score on average monthly performance was recomputed as a function of the opportunity available to him. In this manner it was hoped that the opportunity variable had been equated for all of the men on the patrol.

*Phase 3—Interrelating Test and Performance Scores.* Two sets of data were now available on each man in the patrol. One, his scores on a series of tests that provided measures of his intelligence, his value system, his personality, and the status of his mental health; the other, eight measures of his actual job performance during the previous year. These two sets of data were then submitted to IBM electronic data processing wherein the statistical relationship between the test scores (the predictor variables) and the job performance scores (the criterion variables) was established for the patrol as a group. In this way the researchers were now able to determine what test scores were related to

high job performance, and therefore indicative of a "good" patrolman, and what test scores were related to low job performance and therefore indicative of a "poor" patrolman. By virtue of these computations a psychological test description was available not only of the average, but also of the "good" and "poor" patrolmen.

*Phase 4—Predicting the Performance of Applicants.* It was now possible to utilize the data that had been arrived at through electronic data processing to establish mathematical equations that could be utilized in predicting the future performance of an applicant on the basis of his psychological test results. The same battery of tests that was administered to the total patrol was administered to incoming applicants. Their scores were computed and entered into the predictive equations that had been established. On the basis of these tests then one could predict the applicant's probable future performance on each of the eight criterion variables. In effect, one could make a prediction about the number of arrests he could make, the warnings he would issue, the number of miles he would drive, the number of services he would render, etc., on the basis of his psychological test scores. These could then be combined into a single score with which one could predict the probability that he would be a "poor," "average," or "good" patrolman.

*Phase 5—Checking the Validity of the Predictions.* To this point this study has made it possible to predict the future performance of a patrol applicant. The question, however, still remains—does the individual who, on the basis of his psychological test performance has been predicted to be a "good" patrolman, in actuality turn out to be so once he has been hired and placed in the field? The process of checking the predictions made has been the task of Phase 5—Validation. Here again, through the use of electronic data computers, the researchers are in the process of collecting each man's current monthly job performance on the eight criterion

variables selected and correlating this with his predicted scores on each of these eight variables. In this way, each month it will be possible to obtain a check between what has been predicted for the individual patrolman and what he is actually doing. This aspect of the study is not completed at this time and is unavailable for reporting.

However, other validation data are available. During the period in which the study has been operating, four groups of applicants have been hired by the State Highway Patrol. All of these applicants were tested on the psychological test battery described and predictions were made for each of them. Even though some of these men were predicted to be "poor" men, they were hired on the patrol force so that the predictions could be checked against their later performance as observed by their supervisors who were unaware of what had been predicted. Of this group of approximately 60 men, there has been no substantial disagreement between the psychological test predictions and the supervisor's judgment as to the man's performance in the field in ninety percent of the cases. With one exception, every man predicted to be a "poor" patrolman has either been terminated or is seen by his supervisor as poor or marginal in his job performance. Similarly, those men judged to be excellent or above average have generally proven to be so. It is within the middle range, i.e., for the man predicted to be average, that the predictions hold up least well.

In summary, the experience of the Kansas State Highway Patrol would indicate that the application of scientific principles of psychological assessment and prediction to selecting applicants has resulted in improved selection.

According to the data now available, it would appear possible for law enforcement organizations, through the use of paper-and-pencil batteries of psychological tests, to make useful predictions on the future performance of applicants in terms of the criteria utilized by that organization.