

contracts indicates a general, deplorably low level of understanding for scientific approach to human work in industry and lack of confidence in its ethical administration. Thus the fact and fable of employers' misusing the medium of physical examinations to get rid of men active in organizing the labor unions seriously handicaps the application of techniques that would not only decrease—through selective placement—the risk of the employer but also significantly enhance the health of the worker.

B. PSYCHOLOGICAL FACTORS

Men concerned with the optimal utilization of manpower are beginning to realize more clearly than formerly the need for placement of the workers in accordance with individual physical as well as mental capacities. In order to determine how extensively employment testing is used in American industry a brief questionnaire on employment procedures was sent to the members of the Personnel Division of the American Management Association.¹² The firms that responded were regarded as approximately representative of American business: 69 per cent of the returns came from manufacturing companies, 11 per cent from banking and insurance organizations, 9 per cent from food and trade fields, 8 per cent from transportation and communication companies, 3 per cent were unclassified. The number of employees per organization varied from 50 to over 20,000, with an average around 2000. Out of the 147 companies, a total of 94 reported use of tests; 77 used tests for plant workers, 90 for office workers, 35 for salesmen, and 49 for supervisors. The relative frequency with which various types of tests were used for the four occupational categories is indicated in Table 2.

TABLE 2
Frequency of Use of Various Types of Employment Tests as Percentage of the Total Number of Firms Using Tests¹³

Type of test	Occupational group			
	Plant workers	Office workers	Salesmen	Supervisors
Intelligence	40	57	29	35
Attitude	44	38	29	16
Personality	16	18	31	31
Interest	8	11	17	16
Proficiency	24	53	14	20
Not specified	8	3	14	8

The use of employment testing in industry was definitely intensified by the wartime needs for hiring large numbers of new workers¹⁴ and this impetus has largely carried over into peacetime. Of particular value to business and industry may be experience obtained in such war activities as the civilian testing in the

¹² P. S. Achilles, *Personnel*, 19, 609 (1943).

¹³ H. Borow, *J. Consult. Psychol.*, 2, 70 (1944).

Quartermaster Corps.¹⁵ The testing program included the following points: (1) selection of specific test batteries set up for job classes or specific jobs; (2) administration, scoring, and interpretation of the tests given in connection with the service units for the Placement Branch, the Training Branch, and the Employee Relations Branch; (3) provision of reports and maintenance of records; (4) conducting of research necessary for the establishment of local norms and determination of the validity of tests used experimentally. Testing was just one aspect of the Civilian Personnel program in the Quartermaster Corps and was co-ordinated with other personnel activities. The value of tests was summarized as follows: "Tests used wisely and with due consideration to their limitations enable the immediate location of the more apt workers and more trainable employees. Tests are making an important and vital contribution to the war effort by insuring the maximum utilization of manpower."¹⁶

The administration of standard psychological tests appears very simple. This simplicity is largely deceiving. Performance tests are meaningless unless the examiner is able to create an atmosphere of optimal motivation. The creation of this atmosphere is a particularly delicate task when one examines, in the process of validating a test, a group of men already employed on the job. The validation of selection tools, an indispensable part of every sound testing program, as well as the improvement of the existing tests and development of new instruments, is a technical job and should be handled by competent men. When the industrial testing in a smaller plant is being set up by an outside agency, care must be taken to obtain consultants of professional caliber.

It is not feasible to attempt a comprehensive survey of psychological employment procedures and their results. The information has been summarized by Burt¹⁷ and by others. An up-to-date annotated bibliography of employment tests used in industry and business was prepared by Benjamin.¹⁸ In addition to books and pamphlets on the general topic, it lists materials concerning specific types of tests: aptitude tests for industrial and clerical jobs, trade tests, tests of intelligence, of interests and personality, and of accident proneness. It also includes reports of research on the application of tests and reports of company experience with their testing programs. Another useful bibliography was compiled by Cronbach.¹⁹ It considers not only the problem of selection tests and of rating, but also other fields in which employment psychology has expanded, including job satisfaction and problems of motivation, labor relations, group morale, leadership in industry, and handling of personality problems. It has special sections on woman power, training, and environmental and physiological influences.

¹⁵ W. C. Kvaraceus, W. N. Durost, and R. F. McClellan, *Educ. Psychol. Measurement*, 5, 47 (1945).

¹⁶ H. E. Burt, *Principles of Employment Psychology*. Harper, New York, 1942.

¹⁷ H. C. Benjamin, *Employment Tests in Industry and Business: A Selected, Annotated Bibliography*. Princeton Univ. Press, 1945.

¹⁸ L. J. Cronbach, *Manpower Psychology: An Annotated Bibliography*. State College of Washington, 1943.

¹⁹ L. J. Cronbach, *Manpower Psychology: An Annotated Bibliography*. State College of Washington, 1943.