

The study of psychological variability gained recognition as a field for scientific investigation with the publication in England in 1883 of Francis Galton's classic "Inquires Into Human Faculty and Its Development." The impetus for work in differential psychology in the United States was furnished by a paper titled "Mental Tests and Measurements," the first use of this terminology, by James McKeen Cattell in 1890. By 1910 Whipple had published a two-volume "Manual of Physical and Mental Tests."

These are the scientific origins. Interest was soon aroused in the practical uses of these measurement procedures which had been developed for strictly scientific purposes. In 1904 the French Minister of Public Instruction sought to find ways of insuring the benefits of education for educationally retarded children. This humanitarian concern led Alfred Binet in 1905 to publish his now famous individual test of intelligence. By 1910 Munsterberg, at Harvard, was able to write a book on industrial psychology which summarized the application to that date of psychological testing in business and industry. And then came World War I and the wide-scale use of psychological testing in the U.S. Army. It was at this time, incidentally, that personality testing received increased attention.

However, it is not my purpose to trace in detail this history. I do want to make these points:

1. Psychological testing, historically and presently, is closely related to questions of scientific interest and therefore ordinarily has had to meet rigorous requirements as a tool for research.

2. The utility of psychological testing in practical matters affecting human welfare was early recognized.

3. Psychological testing has a reasonably long history during which many technical, scientific, practical, and ethical problems and issues have been identified, recognized, and in some measure resolved.

Now I should like to turn again to the major questions of this hearing.

It is at this point that the unique contribution of the psychologist becomes apparent, for it is he who has insisted so vigorously that all personnel procedures should be able to demonstrate their effectiveness. That is, the psychologist requires evidence that the use of any given personnel procedure be demonstrated to have a relationship to the outcome of the employment process—to predict subsequent job performance.

A central question is: "What does a test score mean?" The rationale of the answer is straightforward although the procedures for answering the question in any given instance may be complicated. In general, the relationship which has been observed to exist between one's relative standing on a test—that is, scores—and some human performance—that is, transcribing shorthand notes—or some status—that is, success or failure in law school—or some mode of behaving—that is, hypersensitive, suspicious—tells what the test score means. That is, responses in the test situation are shown to be related to responses or behavior outside the test situation.

Let me illustrate by describing a rigorous "test of the tests" which was conducted in the Air Force during 1943-45.

A sample of more than 1,000 men was selected by representative AAF examining boards throughout the country without reference to their test scores—the test battery included tests of coordination and