THE VALIDITY OF A PERSISTENCE TEST

JOHN W. FRENCH
EDUCATIONAL TESTING SERVICE

In order to raise the predictive efficiency of its college entrance test battery, the Educational Testing Service is working on the development of non-academic measures to supplement the standard aptitude and achievement examinations. A test of difficult number series problems was set up to measure persistence by tempting the students to give up early; the students were informed that some of the problems had no solution, and that full credit would be received by so marking them. This test was tried out and found to have some correlation with grades, while having no correlation with the other tests. Adding this test to the battery showed an appreciable rise in the battery's multiple correlation with grades.

As a part of its research program for increasing the efficiency of college entrance tests the Educational Testing Service has been working on the development of suitable tests of a non-academic sort. One such type of test comprises those which are called persistence tests, since they are designed to test persistence or something close to it. It was hoped that the efficiency of predicting college success could be increased by the use of such tests in conjunction with the regular academic tests, the purpose being to raise the multiple correlation of the test battery with a grade criterion above that which could be obtained by academic tests alone. A tendency for persistence tests to correlate to some extent with grades but to show only vanishing correlations with academic or intelligence tests has been shown by Howells (1) and by Ryans (2).

There has been some confusion of persistence with perseveration. Persistence (or sometimes “volitional perseveration”) has most properly been understood to refer to action resulting from deliberate volition or will. Perseveration, on the other hand, properly refers to the frequently unfavorable tendency for one type of activity to continue after it has ceased to be called for. It tends to interfere with the establishment of a new activity. The distinction between persistence and perseveration has been made clear by Ryans (4), who has also found that there appears to be no relation between them.

The Test
Two investigators, Thornton (5) and Rethlingshafer (3), used
the centroid method of factor analysis with rotated axes to find “per-
sistence” factors. They both distinguished a factor involving length
of time spent on a test from a factor involving willingness to with-
stand discomfort. Thornton’s best measure of the former was the
length of time that students were willing to spend reading a story,
where the lettering and punctuation became more and more confus-
ing until reading became impossible. The test used in this study is
probably a measure of this factor which was found by Thornton and
called by him “keeping on at a task.” It was designed to measure per-
sistence by presenting a difficult task which unpersistent individuals
would be tempted to give up.

The students taking the test were to remain unaware of its pur-
pose. Accordingly, the test was given a false name suggested by its
content material, number series problems. It was called the “Nu-
merical Ingenuity Test.” Directions and sample problems were given
on one side of the test sheet. The test, constituting thirty number se-
ries problems, was presented on the other side. The Appendix shows
the problems as they appeared. After finding the rule governing the
construction of a series of six numbers, the students were to write
down the seventh and eighth numbers in the series. The items ranged
from medium difficulty to extremely difficult, with two items having
no solution whatever (number 3 and number 8). In the directions
the students were told that some of the items had no solution. They
were to respond to such items by entering an X in the appropriate
space. This feature was designed to encourage the unpersistent stu-
dents to give up early in the hour, using a large number of X’s.

This was a one-hour test. To keep track of the amount of time
that the students worked, they were directed to write down a “time-
number” whenever they wrote down or changed an answer, whether
the answer was a number or an X. The time-number was that shown
on a card at the front of the room. These were the numbers 1 through
60, numbering consecutively the minutes of the test hour and ex-
hibited in sequence by the test supervisor

Scoring

The test was scored in six different experimental ways as fol-
lows (a high score in each case was supposed to be an indication of
high persistence):
1. The highest time-number, a measure of the amount of time
during which productive work was done. The range of this
score was 13 to 60.
2. The number of reversals in the series of time-numbers, an
indication of the amount of trying and retrying items pre-