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THE RELATIONSHIP BETWEEN A TIME SCORE AND ANXIETY SCORE ON THE TAYLOR ANXIETY SCALE

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Since Taylor(6) derived her anxiety questionnaire as a quantitative method for measuring relative drive level among human subjects, a number of studies (e.g., 4,5, 7) have appeared employing her questionnaire as a criterion measure of drive level. These studies have characteristically used the questionnaire in the testing of some hypothesis relative to drive and learning.

In addition, there have been many reported studies on the questionnaire per se (e.g., 2, 3, 6). They have focused chiefly on the problem of reliability, validity (as measured by correlation with other indices of anxiety), and the relationship of anxiety level to other independent attributes (such as intelligence). As part of a broader study involving the questionnaire, the writers took the opportunity to investigate a performance factor other than item selection or test score. The variable examined was the time required to complete the questionnaire. The study was concerned with investigating the relationship of this variable to the quantitative score on the anxiety questionnaire.

Thus, this research should be viewed as a pilot study, mainly to tap the feasibility of using a more refined time measure in future experimental work.

METHOD

Eighty-six students, approximately the same number of each sex, in two sections of an undergraduate course in abnormal psychology at the University of Arkansas were given the short form of the Taylor Biographical Inventory. The subjects were told that the purpose of the questionnaire was to collect and compare biographical information among typical college students in different sections of the country, and that they were part of the sample drawn from the south-central sector. The specific instructions for the questionnaire followed very closely those outlined by Taylor and were as follows:

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The statements in this test booklet represent experiences, ways of doing things, or beliefs or preferences that are true of some people but are not true of others. You are to read each statement and decide whether or not it is true with respect to yourself. If it is true or mostly true, mark a plus sign on the answer sheet. If the statement is not usually true or not true at all, mark a zero sign on the answer sheet. Answer the statement as carefully and honestly as you can. There are no correct or wrong answers; we are interested in the way you work and in the things you believe. Are there any questions?

As the answer sheets were returned to the administrator (the subjects were told to return the answer sheets as soon as they were finished), they were given a rank based on the order of completion. That is, the first answer sheet returned was given rank one, the second, rank two, etc. Time of completion ranged from approximately five to thirty minutes.

There are 90 items on the questionnaire of which 50 are keyed as anxiety responses. An individual's score is the total number of keyed items answered by the individual in the direction indicated by the key. The underlying hypothesis of the questionnaire is that high scores are indicative of high anxiety drive; low scores are indicative of low anxiety drive.

### RESULTS AND DISCUSSION

The subjects were divided into four quartiles based upon the order of return answer sheets. The first quartile ( $Q_1$ ) consisted of the first 22 subjects to complete the questionnaire; the second quartile ( $Q_2$ ) consisted of the next 21 subjects; the third quartile ( $Q_3$ ) of the next 21 subjects; the fourth quartile ( $Q_4$ ) consisted of the last 22 subjects to complete the questionnaire.

For each quartile the mean and standard deviation of the total anxiety scores were determined. These means and standard deviations are as follows: For  $Q_1$  the mean is 16.18 and standard deviation is 7.90. For  $Q_2$  the corresponding values are 13.62 and 6.34. For  $Q_3$  they are 14.86 and 7.44. For  $Q_4$  they are 16.95 and 6.12.

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Following the procedure given by Edwards(1), a simple analysis of variance was performed to test the significance of differences between means for the four quartiles. This analysis yielded an F of .99 which is not significantly beyond chance expectancy.

The nature of the quartile means, however, suggested that the first and fourth quartiles combined represent a different population of anxious subjects than do the second and third quartiles combined. Consequently, the anxiety scores for the first and fourth quartiles ( $N=44$ ) were pooled together, as were the anxiety scores for the second and third quartiles ( $N=42$ ). For the first and fourth quartiles the mean is 16.57 and standard deviation is 7.90. For the second and third quartiles the mean is 14.24 and the standard deviation is 6.94. A  $t$  test was made of the difference between means, where  $t = \text{Mean 1} - \text{Mean 2} / \text{Standard Error of Difference}$ . The obtained  $t$  of 1.52 ( $p < .13$ ) does not permit us to reject the null hypothesis (no real differences between means) at the .05 level of confidence, but does suggest a trend worthy of further investigation with a more refined methodology.

From this exploratory study the hypothesis is offered that high anxiety drive subjects form two extreme groups in their performance on the Taylor anxiety questionnaire. They tend to complete the questionnaire very rapidly; that is, test time is short, or they tend to require considerable time to complete the questionnaire; that is, test time is long. Low anxiety drive subjects are more likely to take intermediate durations of time to complete the questionnaire. This hypothesis follows also from the nature of anxiety itself and its differential effects upon human behavior. It may be expected that high anxiety drive subjects, possibly the controlled type, might speed through the questionnaire as an escape technique to an anxiety provoking situation. Other high anxiety drive subjects, possibly the free-floating type, may experience more directly their anxiety and have difficulty completing an anxiety provoking task.

To adequately test this hypothesis a more rigorous procedure for measuring time score should be used. An individual administration of the questionnaire would be desirable. This would permit

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a precise measure of the time taken by a subject to complete the questionnaire.

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