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## The Relationship Between "Achievement Imagery" and Stuttering Behavior in College Males<sup>1</sup>

By LEONARD D. GOODSTEIN, JOHN G. MARTIRE AND  
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In recent theories (4, 5) about the etiology of stuttering, it has been hypothesized that stuttering behavior has its onset when the parents of a *normally* nonfluent child become concerned with these normal nonfluencies and direct the child's attention to these repetitive sounds. These parents, having set excessively high standards for their children, are over-critical and apprehensive about the adequacy of the child's speech; these parental concerns produce considerable anxiety and tension in the child. This resultant anxiety and tension is regarded as crucial for the learning of the stuttering response.

The empirical work of Johnson (3), Darley (1), Moncur (9) and the yet unpublished research recently completed at the University of Iowa Speech Clinic under a grant from the Hill Family Foundation lends considerable support to these speculations. These studies have reported that the parents of stuttering children, as compared with the parents of non-stutterers, are generally more perfectionistic, have higher standards and expectations both for themselves and their children and are less well satisfied with the progress they and their children make in achieving these expectations.

While this early emphasis upon perfection and the maintenance of high standards may result in the occurrence of stuttering behavior, it should presumably also have other behavioral consequences.

These individuals would be expected to develop, through introjection, standards of achievement and excellence very similar to those originally held by their parents. The importance of such attitudes and the role that they play in adult personality have recently been given theoretical prominence by McClelland and his coworkers (8). They have also reported empirical results demonstrating that these attitudes, as measured by the amount of "achievement imagery"

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in projective test responses, are positively related to a large number of performance measures, including academic success.

On the basis of the above considerations, it may be hypothesized that adult stutterers, as compared with adult nonstutterers, should have higher standards for achievement as measured by the frequency of achievement imagery responses in projective tests. The purpose of the present investigation is to test this hypothesis, using two independent achievement imagery scores.

#### PROCEDURE AND RESULTS

##### **Achievement Imagery and the Thematic Apperception Test (TAT)**

As part of a study of the verbal fluency of college males (6), the responses of 50 male stutterers and 50 male nonstutterers to card 10 (a young woman's head against a man's shoulder) of the Thematic Apperception Test (TAT) were electronically recorded; typescripts were then prepared from these recordings. All *Ss* were told to make up a dramatic story about the picture, talking for at least five minutes; they were urged to continue if they stopped before three minutes and were halted after six minutes had elapsed. They were not interrupted or questioned in any other way, even if they did not fully comply with the instructions to tell what had led up to the events pictured, what was occurring at the time, what the characters were feeling and thinking, or what the outcome would be.

The mean number of words for the nonstutterers' protocols was 479 ( $SD = 151$ ) while the mean for the stutterers was 355 ( $SD = 177$ ); the *t*-value for the mean difference is 3.74, significant beyond the .01 level of confidence for 98 *df*, and demonstrates that the stories of the nonstutterers were significantly longer than those of the stutterers.

For the purposes of the present study all the typescripts were edited, eliminating all identifying data as well as the nonfluencies and pauses that had appeared in the original copies, and then re-typed, placed in a random order, and given to one of the authors to be scored for achievement imagery according to McClelland's (8) scoring scheme.

Extremely little achievement imagery was found in these particular protocols and this precluded the exact use of the McClelland scoring scheme; the protocols were, therefore, simply dichotomized as involving or not involving achievement imagery. As a check on reliability, 25 protocols were selected at random and independently rescored with 96 per cent agreement as to the scoring. Three of the

50 stutters' protocols and 8 of the 50 nonstutterers' protocols involved achievement imagery. These results are negative with respect to our hypothesis; the difference is opposite to the predicted direction, although this difference is not statistically significant ( $\chi^2 = 1.63$ , adjusted for Yates correction, with 1 *df*). There was no indication that stuttering *Ss* show more achievement imagery, as measured by these TAT stories, than nonstuttering *Ss*.

### **Achievement Imagery and the Iowa Picture Interpretation Test (IPIT)**

Spielberger (10), in an entirely unrelated experiment, administered the Iowa Picture Interpretation Test (IPIT) (2, 7, 11) individually to a group of 30 male college nonstutterers and 30 male stutters who were enrolled at the State University of Iowa Speech Clinic. Many of the stuttering *Ss* were, however, not college students; they were more heterogeneous in age and educational attainments than the college *Ss*. As the IPIT was used merely as an interpolated task, he did not report these results although they were available to the present writers.

The IPIT is a multiple choice form of the TAT that has been developed at the University of Iowa Psychological Laboratories to provide a simpler method of presentation and a more objective method of scoring than the usual TAT procedures. Ten TAT cards were selected from the total pool and four alternative responses were prepared for each picture; each response was composed of a single statement involving the following types of themes: achievement, anxiety, hostility, and blandness.

In administering the IPIT, *Ss* are asked to rank-order the four alternative responses according to the interpretation they would likely give. The score for each alternative is the sum of the assigned ranks over the ten cards; it should be noted that, due to this ranking procedure, the lower the numerical score for the alternative, the higher the preference for that particular alternative.

On the achievement alternative of the IPIT, the response pertinent to our present discussion, the mean for the 30 stuttering *Ss* was 19.5 ( $SD = 2.5$ ) while the mean for the 30 nonstuttering *Ss* was 20.6 ( $SD = 3.3$ ). The mean for these randomly selected nonstuttering *Ss* is not significantly different from the mean of 20.8 ( $SD = 3.9$ ) reported by Hurley (2) in the original standardization of the IPIT. The *t*-value for the mean difference between the stuttering and nonstuttering *Ss* was 1.45, which is not significant for 58 *df*. This indicates that the stuttering *Ss* showed more achieve-

ment imagery, as measured by the IPIT, than nonstuttering *Ss*, although the difference was not significant at an acceptable level of confidence.

#### DISCUSSION

The present results are essentially negative with respect to the hypothesis that stutterers would give more achievement imagery responses than nonstutterers on projective tests. While the results with the achievement alternative of the IPIT are somewhat suggestive, the findings with the TAT clearly do not support our hypothesis. In this context it should be noted that there are several differences between the TAT procedures usually employed by McClelland *et al* and those employed in the present investigation.

First, the general orienting instructions used in the present study differ from those used by McClelland, and several other verbal tasks not usually used had preceded our presentation of the TAT card. Second, the card used in this investigation is not typically used by McClelland and his colleagues and they always use more than one card. The particular card used in the present study (Card 10—a young woman's head against a man's shoulder) evoked mainly affectional imagery responses rather than achievement imagery responses. Third, our *Ss*'s responses were obtained orally while the usual procedure is to have written responses. These modifications in procedure may be more important than has been thought and, consequently, may have obscured whatever differences in achievement imagery may have otherwise existed between the two groups of *Ss*.

It is reasonable to suppose that the kinds of imagery, i.e., the number of different themes, occurring in TAT responses are partly a positive function of the number of words in those responses. Short stories usually involve a single theme with only one kind of imagery while longer stories usually involve several themes with more than one kind of imagery. In the present study the stuttering *Ss*, reporting their responses orally under a time limit, as a function of their disability give shorter stories than nonstuttering *Ss*. It would appear that, under these conditions of oral report, stuttering behavior is confounded with other variables such as story length and number of themes and this confounding may obscure any relationships that might otherwise be found. A replication of at least the TAT part of the experiment, involving written stories and presenting those

cards typically used by other investigators would now seem necessary.

At least one additional interpretation presents itself as a consequence of any positive relationship that might be found between achievement imagery and stuttering. If the stuttering *Ss* show more achievement imagery than nonstutterers, it is possible that these differences do not result from the early childhood experiences discussed above but rather are a general compensatory reaction to a specific *handicap*. Additional research findings, e.g., studies of differences in achievement imagery between normals and other handicapped groups or between parents of stutterers and nonstutterers would be required to clarify this issue.

#### SUMMARY AND CONCLUSIONS

On the basis of theoretical speculations and some earlier research evidence, it was hypothesized that stutterers, as compared with nonstutterers, would show more achievement imagery in projective test responses.

The responses of 50 male stutterers and 50 male nonstutterers to Card 10 of the Thematic Apperception Test were scored for achievement imagery. A comparison of these two groups did not yield any significant differences in achievement imagery.

In a second experiment, the responses of a different group of 30 male stutterers and 30 male nonstutterers to the achievement alternative of the Iowa Picture Interpretation Test were compared. The stutterers evidenced more achievement imagery than the nonstutterers as shown in their stronger preference for the achievement alternative but the difference between the two groups was not significant at an acceptable level of confidence. The present results may, however, be considered "suggestive", i.e., encouraging additional exploration.

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