

LEVEL OF ASPIRATION IN STUTTERERS AND NONSTUTTERERS

JOSEPH G. SHEEHAN

University of California at Los Angeles

AND SEYMOUR L. ZELEN

Patton State Hospital, Patton, California

THAT many kinds of neurotic or maladaptive behavior have defensive or protective functions is by now quite well established. When the symptom strikes such a crucial area for social living as that of speech, in the case of stuttering or stammering, it may serve a number of such functions. Many of these have been described in the past by such writers as Fletcher (2), Fenichel (1), Travis (11, 12), Solomon (10), and Glauber (3).

Recently Sheehan analyzed some of the defensive functions of the disorder in developing a theory of stuttering as approach-avoidance conflict (7, 8). As part of its protective function, the disorder automatically keeps its possessor out of many kinds of dangerous competition. Through the stuttering, certain aspirations must be abandoned which would involve threat of failure, or threat of success. The boy who feels impelled to follow his father's footsteps in becoming an eloquent lawyer, radio announcer, or community leader is spared the conflicts of successful or unsuccessful striving in these areas.

So important is the goal-setting and aspiration behavior of stutterers that therapy usually involves, at some point, dealing with the adaptiveness of the stutterer's goals, and the relation of these to the disorder.

Among the mysteries of stuttering is the sex ratio in its occurrence; it is three or four times more common in males. In investigating goal-setting behavior and possible defensiveness of stutterers it is important to explore sex differences at the same time.

A previous report (9) by the authors, employing twenty stutterers and twenty controls, left the level of aspiration of stutterers in a statistical "zone of uncertainty," so that the hypothesis of no difference could be neither accepted nor rejected with assurance. In the present study the experimental group has been doubled and the control group tripled, with more precise matching and a better approxima-

tion of the sex ratio in the stuttering population.

What is the nature of the goal-setting behavior of stutterers? Do they set up impossibly high goals for themselves, and then develop the symptom as a defense? Or do they tend, as do the physically crippled (6), toward inadequacy feelings, and underestimate their capacities? How do stutterers and the normal population compare with respect to sex differences in level of aspiration?

As the instrument most suitable for providing answers to these questions, the authors selected the Rotter Level of Aspiration Board (5, 6). Among the advantages of this technique are: (a) the goal-setting behavior of the subject is operationally defined and quantified in terms of Discrepancy Score, Frequency of Success, and other measures; (b) the novelty of the motor task, a modified pinball apparatus, fosters interest and facilitates ego involvement; (c) the aspirations evolve around a non-language task, and speech handicaps cannot directly interfere with performance; (d) although the task usually appears to the subject as a game of skill, learning is negligible after the initial practice period, and aspiration scores are relatively independent of the subject's motor performance; (e) extensive validity studies by Rotter have shown that the obtained scores are reliably consistent for individuals, that they correlate highly with other level of aspiration measures, and that characteristic patterns appear in different socioeconomic and nosological groups.

What of the generality of such experimental level of aspiration results to real life aspiration behavior? Once the subject becomes ego involved in the task before him, he can attack the problem only through methods he has learned, and handle the situation in his unique and characteristic fashion. In this respect the Rotter board is like a projective technique. In his response to the level of aspiration situation, an individual inevitably reveals much of the

nature of his defenses. Such behavior is necessarily a part of the individual's personality organization and cannot be isolated from it.

In setting goals on the level of aspiration board, the subject constantly reveals the discrepancy between what he demands of himself and what his immediate experience tells him he can accomplish.

The level of aspiration behavior of stutterers is of general theoretical interest in that stutterers are inevitably individuals with long experience in failure of various kinds. What methods have these individuals developed to deal with the failure or threat of failure they meet so frequently?

METHOD

Subjects and Procedure. The experimental group was composed of 40 adult stutterers enrolled in a university psychological and speech clinic. Thirty were males and 10 females, so that a 3:1 sex ratio obtained. A control group of 45 males and 15 females was drawn from the student and extension student populations of the same university. The groups were roughly equated for education, socioeconomic status, and age, which ranged in both groups from 17 to 38.

The goal-setting behavior of each subject (*S*) was measured by means of the Rotter Level of Aspiration Board, employing a slight modification of the instructions used by Rotter (*S*). To obviate questions by the *S* during the performance, it was explained in the original instructions that rebounds (when the ball went beyond the number range of the board and returned) would be scored as zero. Except for this addition, Rotter's instructions were used throughout.

The Rotter board itself is a modified pinball apparatus, on which *S* is asked to predict the scores he will make in a series of 21 trials. The results of the present experiment are based on three of Rotter's level of aspiration measures:

First, "*D score*," the average of the deviations of bids from performance, reflects discrepancy between aim and accomplishment. In each case the *D* score is the difference between the performance or actual

score just made and the bid following it. When *S* bids higher than the score he has just earned, his *D* score will be positive. Whenever *S* bids lower than his previous performance, his *D* score will be negative.

The *D* score provides not only a measure of the individual's aspirations but also of his adjustment to the reality of his own performance. A high positive *D* score indicates level of aspiration difficulty. A low *D* score implies somewhat better contact between goal and accomplishments. A negative *D* score indicates an unwillingness to risk failure, perhaps associated with feelings of inadequacy and inferiority.

Second, *range of aspiration*, the distance between *S*'s highest bid and his lowest.

Third, *frequency of success*. This measure reflects the number of times the subject makes his bid. It is negatively correlated with *D* score.

Because of apparent skewness in the *D* scores and the other measures in the raw data, the results were analyzed by means of a nonparametric technique, a "distribution-free test for one-factor experiments," as outlined by Mood (4).

RESULTS AND DISCUSSION

On the principal level of aspiration measure, the discrepancy between aim and accomplishment (*D* score), the stutterers scored significantly lower than the controls. They ranged more widely in their aspirations and succeeded more frequently. These findings are summarized in Table 1.

These differences appear to stem from a common source, viz., that stutterers tend significantly to avoid threat of failure. They view their potential accomplishments more cautiously. Perhaps because of their more extensive experience with failure, they try harder to avoid it. In this respect their attitudes approach those of conflict-tension, defeated, and physically handicapped groups studied by Rotter (6).

The cluster of differences between stutterers and nonstutterers in their level of aspiration behavior, as seen in Table 1, may be brought into focus with one another by the following interpretation. The most impressive difference statistically ($p = .02$) was in Frequency of Success. The stutterers kept themselves within the success area of goal setting to a significant degree, ranging their estimates of performance more widely in the process. They set less exacting (though more realistic) goals for themselves, predicted more modest performances, and showed in general a lower level of aspiration.

The resulting cluster, then, is that stutterers show a lowered level of aspiration and a wider

TABLE 1
LEVEL OF ASPIRATION DIFFERENCES BETWEEN
STUTTERERS AND CONTROLS

Measure	Stutterers* (<i>N</i> = 40)		Controls* (<i>N</i> = 60)		χ^2	<i>p</i> **
	Mean	Median	Mean	Median		
<i>D</i> Score	2.25	1.92	3.24	3.17	4.12	.05
Range	13.7	15.0	12.6	10.0	4.12	.05
Frequency of Success	9.2	9.5	8.0	8.0	5.94	.02

* Sex ratio (male to female) equaled 3:1.

** All probabilities obtained from chi square with 1 degree of freedom.

TABLE 2
SEX DIFFERENCES IN *D* SCORE

	Male			Female			χ^2	<i>p</i>
	<i>N</i>	Mean	Median	<i>N</i>	Mean	Median		
Stutterers*	30	2.76	2.55	10	.71	.62	10.48	.01
Controls	45	3.36	3.17	15	2.87	2.10	.868	.50
Exp. plus Control*	75	3.12	2.85	25	2.01	0.95	4.27	.05
All nonstutterers**	45	3.14	3.10	38	2.83	3.10	.586	.50
All subjects**	75	2.98	2.80	48	2.38	2.80	3.99	.05

* Sex ratio (male to female) equaled 3:1.

** For these comparisons 23 new female nonstutterers were added to the original data to reduce the size discrepancy between male and female groups. Two male controls were then replaced with new subjects in order to keep age and socioeconomic status comparable.

range of aspiration, probably as a result of their special efforts to avert failure and ensure success. Sex differences for stutterers and nonstutterers are summarized in Table 2.

For the comparison of sex differences, an additional group of 23 normal females was added to reduce the size discrepancy between male and female groups. The controls used in the comparisons of stutterers with nonstutterers presented in Table 1 had been selected to match the sex ratio among the stutterers.

For all nonstutterers, as for the controls, there were no significant differences in level of aspiration. The mean and median differences in Table 2, possibly suggesting a trend toward lower *D* scores in normal females, may be readily explained by chance. Those differences which do appear are largely the result of the strikingly low *D* scores of the female stutterers.

The most significant sex difference, both statistically and interpretively, is that between male and female stutterers. From Table 2, it appears likely that two factors may operate to lower the aspiration level: (a) being a stutterer; (b) being a female and a stutterer at the same time.

From the table, it may be seen that the highest *D* scores are found in the nonstuttering males. Next highest are the stuttering males, followed by the nonstuttering females. The lowest *D* scores are then found in those who are both stutterers and female.

The low aspiration scores of the female stutterers are quite striking. Since the difference shows up at the .01 level with only ten

female stutterers in the study, it appears to be a substantial difference.

In view of the fact that stuttering is much less common in females than in males, and that the symptom is generally viewed as having defensive functions (11), the finding that female stutterers have especially low aspirations is quite intriguing. The exact nature of this relationship invites further study.

SUMMARY

The defensive nature of the stutterer's symptom and the significance of unadaptive goals in the psychology of stuttering suggest that stutterers may differ from nonstutterers in goal-setting behavior.

Forty adult stutterers were compared with sixty normal speakers on three dimensions of their performance on the Rotter Level of Aspiration Board. Sex differences were analyzed within the stuttering group, within the nonstuttering group, and for all Ss. For the latter comparisons, 23 female normal speakers were added.

The stutterers were significantly lower in average *D* score, or discrepancy between aim and accomplishment. They ranged more widely in their aspirations, and succeeded more frequently. In order to stay within the success area of goal setting, they predicted more modest performances and showed in general a lower level of aspiration. All of these differences appeared to stem from a common source: to a greater extent than the normal population, stutterers avoid even the threat of failure.

Within the normal group, there was no significant sex difference in *D* score. Within the stuttering group, the females were strikingly low. This may have special significance, since stuttering among females is a comparative rarity.

REFERENCES

1. FENICHEL, O. *The psychoanalytic theory of neurosis*. New York: W. W. Norton, 1945.
2. FLETCHER, J. M., *The problem of stuttering*. New York: Longmans, Green, 1928.
3. GLAUBER, I. P. Psychoanalytic concepts of the stutterer. *Nerv. Child*, 1943, 2, 172-180.
4. MOOD, A. M. *Introduction to the theory of statistics*. New York, McGraw-Hill, 1950.
5. ROTTER, J. B. Level of aspiration as a method of studying personality: II. Development and evaluation of a controlled method. *J. exp. Psychol.*, 1942, 31, 410-422.

6. ROTTER, J. B. Level of aspiration as a method of studying personality: III. Group validity studies. *Charact. & Pers.*, 1943, **11**, 255-274.
7. SHEEHAN, J. G. The modification of stuttering through nonreinforcement. *J. abnorm. soc. Psychol.*, 1951, **46**, 51-64.
8. SHEEHAN, J. G. Theory and treatment of stuttering as an approach-avoidance conflict. *J. Psychol.*, 1953, **36**, 27-49.
9. SHEEHAN, J. G., & ZELEN, S. A level of aspiration study of stutterers. *Amer. Psychologist*, 1951, **6**, 500. (Abstract)
10. SOLOMON, M. Stuttering as an emotional and personality disorder. *J. Speech Disorders*, 1939, **4**, 347-357.
11. TRAVIS, L. E. The need for stuttering. *J. Speech Disorders*, 1940, **5**, 193-202.
12. TRAVIS, L. E. My present views on stuttering. *West. Speech*, 1946, **10**, 3-5.

Received April 30, 1954.