CHAPTER VII.

THE STRUCTURING PHASE - EXPERIMENT IV

CHAPTER VII.

7. THE STRUCTURING PHASE - EXPERIMENT IV

A GROUP STUDY:

Standardised desensitization for 9 speech situations.

7.1. INTRODUCTION

The previous study examined specific desensitization as a treatment mode amenable to the modification of the stuttering R complex. Operant manipulation of nonfluencies was also under examination. However, only one type of speech situation was tested, viz. "Talking to a Stranger". The findings could only be interpreted to suggest that further efforts in improving the therapy process might well centre on the desensitization treatment mode. No clear evidence of a desensitization effect was obtained. Yet, the Advanced Program appeared to indicate desensitization might be effective. It is possible that there was an inadequate number of Ss in treatment groups and that there was insufficient practice for a treatment effect to emerge. Accordingly the present study was designed to extend both the number of Ss under a given treatment condition and the time and scope given to desensitization.

A standardised taped procedure similar to that of the previous study was used, yet with incorporation of massed practice in presenting 9 speech situations for desensitization (as opposed to only one speech situation). Massed presentation

of relaxation training was also given. Only two treatment sessions were attempted yet with total treatment time within a session extended. Multiple assessment of the different aspects of the speech R complex was made a week prior to treatment and a week after treatment. Measurement of additional variables and associated R changes required the extension of the test battery used in Experiment III.

The same rationale as followed in Experiment III was applied to support the use of:

(1) taped instructions for relaxation and desensitization,

(2) massing of stimulus presentations of the situations to be imagined,

(3) graded presentation of stimuli, in terms of the time of presentation sequence for each speech item,

(4) a short-term desensitization procedure,

(5) incorporation of cognitive and social variables to enhance the desensitization effect, especially in relation to the therapist's role (with recognition of the inherent demand characteristics invoked (Meyer and Chesser, 1970)),

(6) expected generalization of experimental effects to real life situations,

(7) desensitization of items without reference to the individual S's ordering of the items in a hierarchy.

In addition, the growing evidence of the effectiveness of group desensitization procedures for other disorders (Ihli and Carlington, 1969; Mann and Rosenthal, 1969;

Miller and Nawas, 1970; Nawas, 1971; Nawas, Fishman and Pucel, 1970) implied this approach might be a viable proposition. The skill of the therapist was consciously involved in developing the S's expectancy of therapeutic gain, and as a social reinforcing agent for improvement. The aim was to enhance treatment outcome (Kahn and Baker, 1968; Lang, 1969; Migler, 1968; Migler and Wolpe, 1967; Rardin, 1969), as advised by Meyer and Chesser (1970). Accordingly, demand characteristics would be expected to influence the R change (Rosenthal, 1969). Given limited time and opportunity available to the E, the extent to which this happened could not be differentiated within the limits of the present study. Suggestions as to future research giving adequate consideration to this factor are made in later discussion.

Overall the procedure used the three relaxation training tapes from Experiment III, combining them for the first treatment session. A week later the third tape was repeated, followed by a desensitization tape covering the 9 separate speech-related items for specific desensitization. Male Ss allowed comparison with the earlier studies. By using both massed and group treatment, the program allowed for a possible later extension to a wider variety of speech situations covering a more representative range of the usual speech demand situations met by the stutterer in his daily life.

In addition, principles from cognitive therapy (Beck, 1970; Cautela, 1970, 1971; Homme, 1965, Mahoney, 1970;

Proctor and Malloy, 1971) were adopted into the basic desensitization program in order to reinforce the acquisition of the new learning processes involved in desensitization. This assumed that both operant and associative learning processes could be invoked at a cognitive level. Two techniques were employed — covert reward (Cautela, 1970) and systematic introduction of Idealized Self-Imagery (Susskind, 1970). The growing interest in the role of cognitions as possible instrumental tools in behaviour therapy (Ullmann, 1970) prompted their use in this study as an agent to enhance therapeutic effectiveness. Basic to the assumptions made is the physiological evidence from Proctor and Malloy (1971) with regard to cognitive control of conditioned emotional Rs. Several investigators have proposed the expansion of behaviour therapy per se to include parameters from the experimental psychology of cognition. This study in part represents an attempt to do so. It is fully recognised that in the present context purely tentative findings are possible. Both the confounding influence of demand characteristics and the bias introduced by such a broad spectrum combined behavioural and cognitive program precludes the isolation of the active treatment variables. Scientific rigour is not exercised as much as would be hoped. However, at the late stage of this investigation little choice was left to the experimenter but to use the time and subjects available. Further research into determining more closely the effective variables is anticipated at a future date and is considered in the final discussion.

7.2. METHOD

The 12 Ss come from Groups 7 (O) and 8 (Pr) of Experiment III in which no desensitization or relaxation were experienced. Their final scores became the "before-treatment" R indicators for the JJT, SST, ISS, MAS, SCT, Spec SUD and 16PF tests. Stuttering instances were defined by the 8 criteria of Johnson et al.(1963). In addition 6 more tests were administered for before/after assessment, giving a total of 13 tests. A summary of these R measures follows:

(1) Eysenck Personality Inventory - Form A: EPI. (Eysenck and Eysenck, 1964) - see Appendix IV:1. This gave three indices:

Ex- the degree of extraversion represented by the S's score on the introversion-extraversion continuum,

N- an estimate of the S's tendency toward neuroticism, with high scores suggestive of pathological disturbance,

L- a "lie-detector" index estimating whether the S was "faking good" on the E and N scales.

As stutterers are not characteristically seen as psychotic the orthoganility of the three factors was assumed in the present instance (see review by J.C. Lingoes in Buros, 1970). However, the lack of substantial normative and reliability data, along with conjecture as to whether intelligent Ss can discern the use of the L scale and fake non-deception, suggests that this inventory be used along with other possible indicators of N and E. In this study the 16PF and Will Q described below provided the alternative measures.

(2) Willoughby Questionnaire : Will Q.

(Wolpe, 1969, pp. 28, 281-282) - see Appendix IV:2.

The revised version for self-administration gave a total of 25 questions answered on a 5-point scale (0-4). Neurotic reactivity and general emotional sensitivity were sampled, with the total score giving another indicator of neuroticism (Wolpe, 1958, p. 110). All areas of neurotic tendencies were not covered, as a S can be high on N in the EPI and second-order N on the 16PF yet not be extreme on the Will Q. The validity in using the Will Q was assumed from the extensive clinical validation reported by Wolpe (1969) in using the shortened form of the Clark-Thurstone Inventory to indicate degrees of general emotional sensitivity especially in relation to the interpersonal context. Apart from providing a highly significant indicator of neuroticism (Wolpe, 1958, p.110), change scores appear to be correlated with improvement subsequent to therapy interaction (Wolpe, 1969, p. 28).

Face validity in using this scale with a group of stutterers can readily be seen from the correspondence between the items listed and the reactions and fears commonly reported by the stutterer. Since stuttering must invariably invoke restrictions on the person as a "social being" by hindering the communication process, one might predict the Will Q to be an appropriate indicator of sensitivity arising from the interpersonal demands met in everyday communication. Assuming that decreases in scores are correlated with improvement toward a more stable personality (as proposed by

Wolpe), the test can be seen to provide a quick estimate of any therapy progress made in the present study.

(3) Bernreuter Self-Sufficiency Inventory - BSS (Wolpe, 1969, pp. 287-290) - see Appendix IV:3. The S scored 60 items "yes", "no", or "uncertain". Dependency was the main variable measured. As an indicator of self-assertiveness, this index could be compared with 16PF Independence (second-order) and self-sufficiency (Q_1). It was assumed that a score less than 20 indicated a S had considerable difficulty in acting on his own initiative, with normal scores falling between 24 and 42.

In supporting the use of the BSS, Kelly (1955) has demonstrated stability on retest after 20 years of an order exceeding .60. However, as a diagnostic screening measure it lacks reliability in determining individual cases of maladjustment. Its main virtue is seen in use with groups seeking assistance rather than uncooperative individuals requiring therapy (Stogdill and Thomas, 1938). In the present instance the groups of stutterers under study were seen as fulfilling this requirement. The problems raised by Tyler's review (Buros, 1970) did not seem to have direct relevance to the present S sample of stutterers. Such possible invalidations in answers as obtained from psychiatric Ss, and the response desirability set to appear adjusted by giving "good" answers, were considered unlikely substantially to affect present results. The aim was not to isolate individuals in need of more intensive clinical and experimental study (see Newcomb's review in Buros, 1970)

nor to differentiate psychoneurotic and neurotics from normal Ss (see Mosier's review in Buros, 1970). Since the measure was adopted purely as an indicator of group change, it was considered valid for present purposes.

(4) Fear Survey Schedule - FSS

(Wolpe and Lang, 1964; Tasto and Hickson, 1970; Tasto, Hickson and Rubin, 1971) - See Appendix IV:4.

This listed 87 stimulus situations to which anxiety is unadaptive. The S indicated on a 5-point scale how disturbed he would become in the situation. Neurotic sensitivities were revealed. Also it provided an independent tension rating for a number of items directly related to interpersonal interactions and perceptions of the stutterer concerning his speech problem. 25 items were considered relevant, as summarised in Appendix IV:5. As a nominal measure of severity the number of items scored 3 to 5 was derived, i.e. feared "a fair amount" (3), or "much" (4), or "very much" (5). A more ordinal means of measurement was derived by a cumulative score of the ratings for each of the items. The resultant maximum "fear-associated-with-speech" score was 125, the minimum 0. The more recent standardization and scaling of the extended FSS to a 122 item inventory (Tasto and Hickson, 1970) provided support for the validity in using this rating scale. Normative data has been made available, with Z-score transformation making possible the conversion of individual ratings relative to average ratings. A particular use has

developed in building hierarchies when systematic desensitization is employed without necessarily having to include all items in the scale. This lent itself to present purposes in that desensitization was a basic treatment mode and could be seen as quite probably effecting the particular 25 items selected from the schedule, as discussed above.

(5) Comprehensive 71 item SUD Scale - 71SUD

See Appendix IV:6

Ss in Experiment III had been asked to list the 10 situations in which they stuttered most and/or felt the most tension or embarrassment. From this and the individual hierarchies of Experiment II, an inclusive range of 71 speech stress situations was derived as representative of the speech R anxiety complex. It was envisaged that desensitization to all the items would enable generalization to almost any speech demand met by the S. The 71 items were rated by the S on the 0 to 100 SUD scale as an index of "subjective units of disturbance". Individual items scores were cumulated to provide a mean overall estimate of specific speech anxiety, before and after treatment.

More specifically the first 9 of the 71 items became the target situations for the group massed desensitization process. As for the Spec SUD Scale, the mean "sud" score for these 9 items was expected to decrease if the perceived tension level was successfully modified. For the total scale each successive 9 items were related according to the E's judgment, but ordering within the 9 items and successive

ordering of sets of items was done randomly. Perceived meaningfulness in terms of affect was predicted to differ between Ss. Since this scale was devised to meet the particular needs of this study, no estimates of reliability or validity in using such a scale are available. The assumed validity rests on Wolpe's (1969) claim that individuals can reliably estimate their subjective disturbance on a rating scale, and that on subsequent testing the implicit scale retains subjectively equal units that are meaningful to each particular S.

(6) Personal "10 item" SUD Scale - Pers SUD

See Appendix IV:7

As mentioned in (5) above, Ss were asked to list the 10 situations in which their speech problem evoked the highest perceived tension and/or experiences of embarrassment. Ratings from 0 to 100 on the predicted "suds" were also taken. Decreases in "suds" for personal items after treatment for the 9 standard situations would be suggestive of generalization of treatment effects.

Experimental Procedure

Ss were treated in 3 groups of 4 Ss allocated at random. The 2 experimental sessions were spaced by one week, beginning at 7 p.m. Treatment took place in a "warm", "non-clinical" atmosphere in a 15' x 11' therapy room. High quality stereophonic equipment presented background music before, after, and between treatment segments; and also the relaxation and desensitization tapes. Ss could listen

to their choice of music when therapy was not in progress. In this "minimal stress" setting it was thought that Ss in the group might "unwind", get to know each other, and direct questions to the E. The aim was to reduce general situational stress associated with the therapy situation in order to facilitate the achievement of deep relaxation by the Ss within the shortest possible time. Anecdotal evidence suggested that Ss appreciated the "total environment" created as "warm", "relaxing", and conducive to easy conversation within the groups.

Relaxation was induced while Ss rested on three inch foam mattresses each fitted with yellow linen and an autumn tone rug. The room had a tangerine carpet, mahogany wood-panelled walls, dimmed wall-lighting, and central heating creating the "tone" for the relaxed therapy setting. In the first session the 3 relaxation tapes from Experiment III were presented, with approximately 15 mins. allowed between tapes for "question time". Coffee and biscuits were served in the Rel_2 - Rel_3 interval. This break was planned to facilitate both the trying out of the speech behaviour under observation and the general acceptance of the therapy process as a "pleasant, rewarding experience". Relaxation summary sheets (Appendices II:2, III:4) were given to the S at the end of the session, with instructions to practise daily 20-30 mins. of relaxation "only" (i.e. no tension exercises). Encouragement was given for the adoption of relaxation as an integral part of the S's attitude and reactiveness to every-day life. This would

hopefully enhance the carryover of treatment effects from therapy setting to real life situations. Total session time was approximately 3 hours (i.e. 7-10 p.m.).

The second and final treatment session repeated Rel_3 with its emphasis on mental relaxation. During a coffee break, a check was made that all Ss understood both the relaxation and imagination processes involved. This break also provided the opportunity for Ss to try out their speech behaviour within an accepting atmosphere. They could give subjective comments on any changes noticed either in their fluency or speech-avoidance tendencies as a possible result of reduced anxiety over speaking subsequent to the treatment tapes. The general rationale for desensitization was then presented as in Experiment II. Immediately afterwards Ss listened to the hour-length desensitization tape. This tape initially re-induced relaxation for the first 10 mins., and then presented each of the 9 speech items three times for desensitization. Before each new item, a 10 sec "think about Item X" period was allowed for orientation of thoughts to the imagery task. The following sequence was used:

Speech Item X: Presentation format

"Think about X"	:	10 sec.	
1st presentation	:	IMAGINE	15 sec.
		RELAX	15 sec.
2nd presentation	:	IMAGINE	30 sec.
		RELAX	15 sec.
		REWARD	10 sec.
3rd presentation	:	IMAGINE	60 sec.
		RELAX	30 sec.

The 60 sec. upper limit was adopted from the previous study and Nawas, Welsch and Fishman (1970). A 15 sec. lower limit was used, as shown by Miller and Nawas (1970) to be an effective exposure time.

The contingency of <u>covert reward</u> was introduced to reinforce the "imagine-relax" association with an operant stimulus. Prior instructions asked the S "whenever the command REWARD is heard" to immediately imagine himself doing something he "really enjoys" or as though he were in a "personally pleasurable situation". The overall principle of possibly facilitating the counterconditioning process by operantly reinforcing a "desirable" associative connection was adopted from Cautela (1970). In this case one has to assume that mediational processes provide stimuli that act as representatives of external stimuli (imagery). Assuming that "operants of the mind" obey the same laws as observable operants (Homme, 1965), the parameter of immediate reinforcement on a FR3 schedule was employed as seen in the above presentation sequence. It was assumed that the antecedent R of the "calm" produced by relaxation was the behaviour reinforced, and in turn, this same "calm" R was being linked through desensitization to imaginal speech stimuli to counteract the associated anxiety R. The introduction of the operant REWARD symbol would then function to increase resistance to extinction of the basic desensitization process, and by employing the principle of intermittent reinforcement at a cognitive level (Lewis, 1960), render the final response pattern more resistant to spontaneous change.

Another cognitive procedure was used to enhance the probability of R change. This was the confidence training technique outlined by Susskind (1970). Based upon concepts of positive reinforcement and the "self-fulfilling prophecy", the "Idealized Self-Image" (ISI) process is also induced mainly via imagery. In the present context, the S was instructed to imagine himself as "the ideal you in relation to your speech problem". This ideal was characterized by fluency, confidence and "control" over nervous reactiveness. The S was encouraged to believe in this idea as a highly probable consequence of the therapy process - it would only be a "matter of time" before the active learning processes of desensitization and consequent self-assertion made this possible. This rationale can be seen as a motivating influence for the S to follow the treatment instructions. However, expectancy thereby becomes integrally involved in the production of change. Such demand characteristics as invoked in both the setting and procedure of this study can be accepted as feasible on a practical plane where treatment outcome is the crucial issue. In the therapy sense any facilitative process is advantageous in helping the client toward more speedy achievement of progress (Meyer and Chesser, 1970). It must be recognized, however, that in the present context the sacrifice of scientific rigour has been made until further investigation is possible.

In the last stage of the desensitization tape, the 9 previously presented items of the desensitization sequence were re-introduced using ISI in conjunction with covert reward.

The S was first instructed to imagine himself as his ISI in each speech situation as the E's voice presented the 9 item sequence twice, each presentation spaced by 10 sec., i.e. a total of eighteen 10 sec ISI presentations. This was then reinforced by a subsequent procedure. The S was instructed to imagine himself as his ISI in a given speech situation for 5 sec. This was immediately reinforced by the REWARD symbol command for 10 sec. One "ISI (5 sec) - REWARD (10 sec)" presentation was given for each of the 9 items successively.

In this way cognitive therapy was systematically incorporated into the group massed desensitization procedure (Beck, 1970; Bergin, 1970; Ullmann, 1970), with the aim of increasing therapeutic gain. The desensitization session concluded with relaxation induction. Ss were instructed to practise daily both relaxation and the adoption of the individual's ISI into an overall attitude to life of calm, confidence and adaptability in R to stress situations. The implied expectancy of therapeutic gain is recognized as probably confounding the treatment variable effects. In addition the multiple use of treatment variables with only one group of Ss does not allow actual delineation of the variables responsible for change. At this stage the practical consideration of treatment outcome was considered primary. The more intensive analysis is left to later experimentation within more clearly defined limitations.

The current 2 sessions can be summarised:

Session I: (a) 15 min. general orientation

(b) Relaxation Tape I - 15 min. break

(c) Relaxation Tape II - 15 min. "coffee break"

(d) Relaxation Tape III

(e) Instructions for practice

Session II: (a) 15 min. general orientation

(b) Relaxation Tape III repeat - 15 min. "coffee break"

(c) Desensitization tape:

1. 9 items each presented 3 times
2. 10 sec. ISI presentation for each item twice
3. "5 sec ISI - 10 sec REWARD" presentation for each of the 9 items
4. Relaxation

(d) Practice instructions

7.3. ANALYSIS AND DISCUSSION

Data from some Ss was not available for analysis. Failure to return test questionnaires through the mail that were not completed in the therapist's office and circumstances preventing speech samples being taken from Ss within 10 days of therapy accounted for the data loss. Reliability of E speech recordings was assumed from the previous study. Table IV:1 presents a summary of the mean and standard deviation scores obtained on the different tests on which the following analysis was based (variable N as indicated).

The two direct speech tasks JJT (spontaneous speech) and SST were first examined for fluency changes, using Ss as their own controls and considering both stuttering percentage and total word rate (TWR). Data for before and after measures and corresponding percentage changes appear in Appendices IV:8,9.

JJT (Appendix IV:8): There was a 41.9 percent decrement in stuttering instances (SD = 26.5), and a 29.0 percent increment in TWR (SD = 22.4). Support for fluency enhancement came from results of the one-tail "related samples" t test, i.e. 3.42 and 3.48 respectively ($p < .005$, $df = 8$). Average final performance was 13.6 stuttering percentage (SD = 7.0), at average rate of 122.4 words/min. (SD = 18.7). This approached the 6.5 percent nonfluencies (range 0.4 to 20.1) at 140 ± 24 words/min. reported for nonstutterers by Johnson (1961). However, it should be considered that some of the shift in R may be attributable to regression toward a more stable R over practice and time. Absence of a no-treatment control precludes the determination of the extent to which this may be true.

SST (Appendix IV:9): A mean 27.7 percent (SD = 50.5) stuttering decrement was observed with a mean increase in TWR of 44.2 percent (SD = 33.4). Bearing in mind the stranger's role in the interaction, the final mean word rate of 94.8 words/min. (SD = 20.7) with a mean of 14.5 (SD = 6.6) percent stutters gave support of fluency enhancement. The one-tail "related samples" t test values

TABLE IV:1 Summary of mean and standard deviation (SD) scores obtained on the various measures in the test battery.

TEST	Score Represents	N	Before $\bar{X}$ (SD)	After $\bar{X}$ (SD)
JJT	percent stutters	9	25.6 (10.8)	13.6 (7.0)
	TWR	9	97.5 (22.1)	122.4 (18.7)
SST	percent stutters	9	24.4 (12.0)	14.5 (6.6)
	TWR	9	67.6 (14.2)	94.8 (20.7)
LSS	stuttering severity	9	41.0 (7.7)	37.0 (13.5)
MAS	manifest anxiety	10	17.5 (7.3)	16.4 (7.4)
SCT	concern over speech	9	18.9 (6.5)	18.6 (5.2)
Spec SUD	mean specific "suds" over 7 items	11	45.0 (14.4)	42.8 (20.3)
16PF	(see main text Table IV:2,3)	9		
EPI	N: neuroticism	9	11.3 (5.0)	10.6 (3.3)
	Ex: extraversion	9	14.1 (3.6)	14.1 (3.1)
	L: lie index	9	2.7 (1.2)	2.4 (1.6)
Will Q.	emotional sensitivity	9	36.7 (8.5)	34.4 (11.2)
BSS	self-sufficiency	9	23.3 (8.3)	23.6 (8.5)
FSS (nominal)	number speech-related fears	9	8.8 (4.9)	10.4 (5.8)
(ordinal)	"fear-associated-with-speech" over 25 items	9	33.5 (19.4)	36.7 (23.6)
71 SUD	mean "suds" over 1st 9 items (desensitized)	9	43.4 (7.3)	42.6 (14.0)
71 SUD	Overall mean "suds" over 71 items	9	45.3 (6.8)	45.4 (14.0)

were 2.56 and 3.57, respectively ($p < .025$ and $p < .005$, $df = 7$) suggesting that the treatment effects measured by the JJT generalized to this approximation to a real life situation, viz. "Talking to a stranger" under SST. (Data was not available from one of the Ss used in the JJT analysis due to a tape-recording failure on the after-treatment measure.) This strongly suggests that the apparent treatment effect observed under JJT is distinct from a mere practice effect, in that generalisation of learning was supported.

LSS, MAS, SCT: (Data summary in Appendix IV:10) Nonparametric Sign test analysis gave no indication of performance change on before/after measures. The Wilcoxon Matched-Pairs Signed Ranks test confirmed these findings.

LSS : $x = 4$, $N = 9$ $T = 18$, $p > .5$

MAS : $x = 4$, $N = 10$ $T = 21.5$, $p > .377$

SCT : $x = 4$, $N = 9$ $T = 23$, $p > .5$

Expected decreases in judged stuttering severity, manifest anxiety and concern over speech were not supported ($\alpha = .05$).

Spec SUD: (Data summary in Appendix IV:11): Mean change in performance over the 7 SUD scale items was converted to a percentage of initial mean ratings. Over all Ss percentage change was 6.61 percent in the direction of decreased "suds" (SD = 33.5). There was no evidence of a significant R change since the "related samples" t test gave a value of 0.50 ($p > .26$, $df = 10$). Before-treatment mean "sud" score was 45.0 (SD = 14.4); post-treatment

mean was 42.8 (SD = 20.3). A split-analysis for each of the 7 component items was not warranted.

16PF - Form A: "Related samples" t test analysis compared before and after measures on the 16 primary factors for 9 Ss - see Table IV:2.

This implied a change in the presenting group personality. The extent of change appeared considerable in relation to such a short treatment program. 8 of the 16 primary factors changed significantly. With regard to direction of change, general predictions based on desensitization effects were upheld. However, in each instance possible regression toward the mean should be considered in attributing changes to treatment effects. In two cases (Factors E and Q_1) both initial and final scores were within a standard deviation range of the mean 5.5, making any interpretation of change as attributable to a treatment effect somewhat dubious.

Generally changes suggested Ss became less emotionally unstable (C), less suspicious (L), less bohemian (M), more sophisticated (N) and less tense Q_4). The change in general ability (B) was probably an increased sensitivity effect on the second test. However, all changes must be viewed in the light of possible "regression toward the mean" even though initial scores on C, L, M, N and Q_4 were somewhat removed from the expected mean of 5.5 and SD range 4.5 to 6.5.

TABLE IV:2 Comparison of 16PF before/after measures.

* implies significant at .05 level for two-tail test.

FACTORS		A	B*	C*	E*	F	G	H	I
BEFORE	Mean	6.89	5.67	2.89	4.55	6.78	4.55	5.33	6.33
	SD	1.73	1.56	2.23	2.16	2.20	2.41	1.94	1.82
AFTER	Mean	5.89	7.55	6.33	6.55	5.11	4.78	5.11	5.78
	SD	1.73	0.95	1.82	1.95	1.29	1.93	1.66	2.39
(df=8)	t	1.90	2.71	5.50	2.40	1.36	0.28	0.43	0.96

L*	M*	N*	O	Q_1*	Q_2	Q_3	Q_4*
7.22	7.11	3.00	6.44	4.55	6.22	4.22	8.00
1.93	2.73	0.67	2.11	1.07	2.48	2.44	1.25
4.78	4.55	6.33	5.33	6.33	4.78	4.78	5.67
1.75	1.95	1.41	1.70	2.05	2.20	1.31	1.70
8.31	2.59	6.67	1.10	2.98	2.23	0.58	3.21

For further investigation of change, the second-order and criterion measure estimates were derived (Data summary in Appendix IV:12). The means and standard deviations for 9 Ss are cited with the one-tail "related samples" t test values in Table IV:3, for all except the two-tail test for Independence.

TABLE IV:3 Second-order and criterion measure scores for 16PF before/after comparisons. * implies significant at .05 level.

		EXVIA	ANX.*	INDEP.	NEUR.*	LEAD.*	PSYCHO.*
BEFORE	Mean	5.98	7.71	6.18	7.34	3.95	7.27
	SD	1.84	1.53	1.29	1.53	1.66	1.23
AFTER	Mean	5.56	5.28	6.11	5.28	5.51	5.79
	SD	1.30	1.50	1.44	1.71	1.62	2.22
% change		-6.9	31.5	-1.1	28.1	39.5	20.4
(df=8)	t	1.07	3.91	0.22	4.39	3.59	2.53

Predictions with relation to the positive benefits of therapy suggested an Exvia (Ex) increase, Anxiety (A) decrease, Independence (I) no change, Neuroticism (N) decrease, Leadership (L) increase, and Psychoticism (Ps) decrease. The changes observed were all significantly in these directions, except for no change with Ex. This was initially within "normal" range and remained so. All final R levels were in the 4.5 to 6.5 average range given by one SD from the expected mean 5.5, except for the slightly higher value for I. This represents a final stable personality type. It would seem that the therapy process to some extent reached underlying personality dimensions, in spite of its brevity. However, expected "regression toward the mean" must be taken into account before making any inferences as to extent of change. It is of interest to note the comparability of the before figures from the 48 Ss in Experiment III with this smaller sample, cf. Ex 4.16 (SD = 2.25); A 7.74 (SD = 1.85);

I 6.33 (SD = 1.53); H 8.13 (SD = 1.89); L 3.08 (SD = 1.97); Ps 7.18 (SD = 1.95).

EPI, Will Q., BSS: (Data summary in Appendix IV:13)
Sign test and subsequent Wilcoxon Matched-Pairs Signed Ranks test analysis gave no indications of change for any of the scales sampled. Results follow with zero differences reducing total N:

EPI: N $x = 3$, $N = 7$, $T = 12$, $p > .5$
Ex $x = 2$, $N = 6$, $T = 10.5$, $p > .344$
L $x = 3$, $N = 8$, $T = 13$, $p > .363$

Will Q.: $x = 3$, $N = 9$, $T = 17$, $p > .254$

BSS: $x = 3$, $N = 6$, $T = 10$, $p > .656$

As with the 16PF Ex did not change. The 2 measures of neurotic sensitivity (EPI-N and Will Q.) also showed no change, whereas the 16PF index for N did. Self-sufficiency (BSS) remained the same, as observed also for Q_2 in the 16PF.

FSS: (Data summary in Appendix IV:14)
Data from 9 Ss was examined. Number of items rated 3 or higher over the 25 selected items did not decrease as expected. Individual Ss varied in their Rs by rating 3 to 17 items as either 3, 4 or 5 before treatment, and 1 to 20 items after treatment. The Sign test gave $p > .05$ for $x = 3$ and $N = 9$, whereas the Wilcoxon T value was 14.5. Correspondingly the ordinal R measure represented by the cumulative score of the 25 ratings showed no significant change ($x = 4$, $N = 9$: $T = 19$). These results, using a particular estimate of "fear-associated-

with-speech", failed to give evidence of any decrease in anxiety concomitant with the desensitization process.

71 SUD: (Data summary in Appendix IV:15). The mean over all items gave an overall estimate of specific speech anxiety for each S. For 9 Ss the before-treatment mean SUD score was 45.3 (SD = 6.82); after treatment mean was 45.4 (SD = 14.0). A "related samples" two-tail t test gave no indication of a significant change ($t = 0.03$, $p > .4$, $df = 8$) as would be expected from a glance at the mean scores.

Looking at the first 9 items which were specifically desensitized, the before-treatment mean was 43.4 (SD = 7.34) and after-treatment mean was 42.6 (SD = 14.0), giving $t = 0.12$ ($p > .4$, $df = 8$) for a "related samples" test. As for the previous more general index, this specific speech anxiety index did not appear to change with the desensitization process over the time period sampled. This is not to indicate that no change took place in anxiety corresponding to the observed fluency changes. It could well be that this particular index was not sensitive to the changes as perceived by the Ss, especially since subjective ratings were the basis of observation.

Pers SUD: Results for this test could not be cumulated for before/after comparison across the group, since speech items mentioned by the different Ss varied. Also Ss tended to list different items after treatment from before. On a subjective basis it was observed that on the whole Ss did

list fewer items after treatment. Items which Ss mentioned in both tests were rated lower on final "suds" in a majority of cases. In this case Ss could be more sensitive to situations which are meaningful to them personally in being perceived as stressful. The previous two measures involve standardized situations which may or may not be an integral part of a particular S's interactive environment. However, one must not overlook the possibility that on such a subjective measure as the Pers SUD, Ss may have produced lower scores after treatment in order a) to meet E expectations of change (i.e. in an effort, be it either conscious or unconscious, to please the therapist) or b) even perhaps to convince the S himself that he had improved after the expenditure of effort in attending therapy.

7.4. CONCLUSIONS

Although R changes were not evident on the majority of the 13 tests, those that did show changes indicate the importance of using a test battery to obtain an integrated assessment of the stuttering R complex. In view of the brevity of the study, the changes observed support the viability of further examination of the desensitization and cognitive variables employed in this study. It is recognized that the changes identified may have been attributed to either by a common treatment variable or various combinations of a number of potentiating factors. At this stage, however, the emergence of an overall "treatment effect" is considered an empirically sound basis from which to launch into the more

stringent specification of effective variables by subsequent investigation.

Considering that treatment was directed at the anxiety aspect of the stuttering R, the absence of changes on any of the specific speech anxiety dimensions does not directly imply that anxiety is not modifiable by these treatment processes. For instance, a longer period intervening between desensitization and post-treatment assessment might have allowed Ss to "cognitively" appreciate their own internal changes and report them in terms of reduced fear Rs (Proctor and Malloy, 1971). Also the intensive nature of the therapy, especially in massing the relaxation training, may have lowered the probability of cognitive appreciation of changes in nervous system reactivity within the time interval under study.

Nevertheless, the evidence strongly suggested that the speech component of the stuttering R complex was significantly modified. A "true" fluency change was supported (Wingate, 1969), with total word rate increasing as stuttering percentage dropped. The emerging speech pattern appeared to tend toward the norm, with speech rate already within the nonstutterers' range (Johnson, 1961). The SST, in more closely resembling everyday life speech demands than the JJT, implied a generalization of treatment effects. Subjective reports and scrutiny of daily practice reports supported this interpretation. A monthly check over a three month follow-up showed that the effects were maintained and Ss were continuing to practise relaxation and self-desensitization.

With regard to this self-desensitization the "advanced program of therapy" was outlined for Ss to follow as described in Experiment III. Specific instructions showed how to incorporate the desensitization sequence into daily relaxation practice sessions (Appendix III:6). Monthly progress checks were taken by sending the Ss Advanced Progress Report Sheets (Appendix III:7) to complete and return. Subjective answers showed enthusiasm toward the therapy process was maintained. Ss often made spontaneous phone calls to the E to overcome difficulties encountered and report "significant" events. The information gained greatly assisted the E in formulating the possible extensions to this approach as outlined in the final chapter.

Before concluding this section, the personality changes observed in this study warrant closer attention. Considering the possibility that these do represent true changes effected over such a short time period, the potential benefit of investigating more intensively the variables invoked by the present line of approach, presents an immediate challenge in terms of both practical planning and analytical considerations. It was initially postulated that changes in personality dimensions concomitant with specific speech R changes might in themselves become secondary reinforcers and act to bring about further modification in both the speech of the stutterer and the "person aspects" of the R complex. If it could be shown that changes of this nature are a probable consequence of therapy, it becomes viable for

the therapist to mention them in order to elicit and maintain the S's motivation (Friedman, 1963). The implied cyclic effect of E demand and S expectancy in enhancing treatment progress would thus be employed to produce overall gain to the S by economising time and effort required of both S and therapist. This is a practical consideration important to every clinician (Bednar, 1970). If the client is to gain by employing a procedure that has been shown empirically to work, this should not prevent one using such a procedure even if the operative variables are not clearly defined. The researcher can always continue to isolate the variables and hopefully improve the procedure. Later discussion returns to the feasibility of this contention.

Considering the deliberate adoption of a "holistic" approach to treatment planning in this program, it follows that multi-faceted consideration of the stuttering R complex would be an integral part of treatment planning, determination of R changes, and analysis of treatment effects. In the present instance the influence of cognitive factors in the form of S perceptions, expectancies, and motivational tendencies, were not only recognised but incorporated in the treatment program with the object of enhancing treatment outcome. Inherent in the program was the probable active role of the therapist (Wilkins, 1973) in mobilizing and catalysing expectancy effect as a facilitative agent.

Differential determination of the effectiveness of the above-mentioned factors was not possible in this study. Their precise operation must at this stage remain

a matter of conjecture until more explicit investigation is made. Yet it will be recalled that throughout this total investigation clinical considerations have been contributed ascendency, simply because the complexity of the stuttering R made practical implementation of precise determination of effective variables an ideal rather than an attainable clinical reality. Limited not only by the available measuring instruments, but also by no precedent of the scope of this approach in the literature to give a guiding influence, the imprecision that became inevitable in this study is only to be expected from the very investigatory nature of the total approach.

Ullmann (1970, p. 204) states: "Treating (cognitions) at a theoretical, clinical and experimental level in the same manner used with behaviours in general may well increase the scope and quality of our services to clients." Use of such processes as covert reward and the ISI to reinforce desensitization linkages, and as methods in their own right, may open new opportunities for treatment advancement in stuttering therapy in the future. The present investigation has made a preliminary into the area. It certainly appeared that the basic cognitive concepts were not only acceptable to the Ss but were executed with perhaps surprisingly little difficulty. Autogenic training (Luthe, 1969) has long assumed the cognitive control of internal responses. Psychological practice now appears to be attributing a greater role to such processes as conditioned emotional responses (Proctor

and Malloy, 1971) and the basic modifiability of autonomic reactivity (Costello, 1971; Lovibond, 1970). Since stuttering appears to have both recognised cognitive and emotional factors, we might look to the future modification of this socially inhibiting behaviour by judicious employment of cognitive control mechanisms as they interact with the affective state (Wolpe, 1970).

CHAPTER VIII.

COLLATING AND EVALUATING THE EVIDENCE

CHAPTER VIII.

8. COLLATING AND EVALUATING THE EVIDENCE

Over the course of this investigation a shift was made from a relatively narrow-band operant outlook on stuttering behaviour to a more holistic approach considering the personalistic aspects of the stutterer's problem. The aim was to develop an effective therapy program. In viewing the observed changes in fluency and associated cognitive and affective variables, it is maintained that at least in terms of a "clinical trial" (Lazarus, 1971) this aim was achieved. The more intensive isolation of the effective and facilitative variables provides the substance for subsequent investigation. This final discussion overviews the general findings made across the investigation, the part played by the group process, the possible operation of demand characteristics and expectancy, the influence of suggestion in its own right, and concludes with recommendations for future lines of investigation, each under appropriate sub-headings.

8.1. Overview of Current Findings

Initially the first study of the investigative phase indicated that not only did operant manipulation prove inadequate in producing a consistent R change in speech behaviour, but it also failed to affect the tension and personalistic aspects of the stutterer's problem (Bar, 1969). Stutterers reported considerable anxiety and tension levels both throughout the study and at its termination. By the

fifth session a "plateau of recovery" was observed in the speech R itself, with no appreciable later change toward fluency by the ninth session.

Yet these results cannot be regarded as implying operant manipulation per se is an unsuccessful treatment procedure with stuttering. In the present instance a very restricted procedure was used with heavy reliance on the assumed properties of secondary reinforcers (Kimble, 1961). Evidence as to the possible influence of the procedure on the results comes from considering why only the contingent secondary "punishment" condition could be regarded as an effective treatment variable. Both fluency and non-fluency aspects of the R had been subjected to conditioning (Bar, 1971; McReynolds, 1970) by secondary "reward" and "punishment" procedures, respectively (Skinner, 1953). Yet no "reward" effect (Goldiamond, 1965; Yates, 1970) was established. It is possible that a differential "discrimination" process operated to enhance the influence of the punishment variable as opposed to that of the reward variable. The "game" type procedure (Clarke, Montgomery and Viney, 1961) of keeping green lights on representing "reward" and red lights off representing "punishment", may have been greatly affected by the connotative meaning of the red vs. green lights. Association with past-conditioned reactions in responding to "red lights", as with "stop" and "danger" signs, fire, etc., may have made the red stimulus lights more salient to the Ss, apart from their introduced secondary meaning in the treatment program.

The actual change observed in the speech aspect of the stuttering R did not meet the criteria of a "true" fluency change (Wingate, 1969). This observation, along with the subjective tension levels reported by the stutterers, strongly implied that a restricted operant focus might not be the most beneficial therapy mode to adopt in producing an economical treatment procedure, either in terms of necessary time expenditure or S motivation.

Accordingly, the second experiment considered instead the tension component of the stutterer's problem. Desensitization for individual Ss was adopted as the treatment mode. This focussed on reducing anxiety associated with speaking behaviour in general, and more particularly the various speech situations regarded as stressful to the individual S. Initially it was thought that by reducing speech-associated anxiety any later modification of the speech behaviour itself would be facilitated. However, the observed enhancement in fluency that also attended the tension reduction made any specific speech modification unnecessary. It is postulated that desensitization effectively broke into the "vicious circle" (Sheehan, 1969) of stutter→tension→ stutter, etc. by providing a controlling influence on autonomic reactivity (Costello, 1971) and the institution of "anxiety management" (Locke, 1971). With a release from tension the stutterer can be seen to gain both self-confidence and self-esteem (Combs, Avila and Purkey, 1972) that would enable him to face previously avoided speech demands (Fransella, 1968) with a consequent experience of fluency

enhancement. As he came to believe he could be fluent, a self-fulfilling prophecy would be set in operation whereby fluency enhancement boosted self-confidence and in further alleviating tension made the progression toward total fluency even more probable (Frank, et al, 1959; Gindes, 1951, p. 85). A constructive counter-reaction to the previous stutter-tension cycle can be seen as effecting the change process along the lines of relaxation → calm → confidence → fluency → confidence, etc. Essentially the Ss of this study can be regarded as having been "cured" without any specific treatment of the speech R. The positive nature of the findings suggested further enquiry into the use of desensitization as a treatment mode.

However, as a progression in this direction seemed to necessitate a further appreciation of the "person" presenting for treatment in addition to his nonfluency characteristics, a general change in approach was made away from the initial strictly behavioural orientation. Accordingly, a Structuring phase was designed to follow the first two studies constituting the Investigative phase. Adopting a broader outlook, the resulting two studies incorporated considerations of emotional reactiveness and personality dimensions into treatment of the stuttering R complex. The development of multiple R measurement procedures became essential as ramifications were made in the therapy process. With no precedent available from the literature as a guideline, tests were selected for inclusion in the test battery on face validity criteria

as to the possible factors that might be linked to the stuttering problem. In retrospect it may appear from the data that actually emerged as relevant, that the resulting large number of tests was not warranted. Yet within the trial nature of the studies their inclusion was justified by the possibility of information yield.

The first study of the Structuring phase (Experiment III) focussed on a specific speech situation "Talking to a Stranger". A balanced design compared and contrasted the effects of standardised group desensitization of the anxiety aspects of the stutterer's problem with that of direct operant manipulation of the speech R. The possible facilitative effect of combining both treatment modes was also studied. Perhaps most significant was the conclusion that use of "punishment" to reduce nonfluency appeared to be generally inadvisable within any stuttering treatment program, due to the confounding effect on stuttering of the anxiety factor. Both the subjective and objective evidence suggested that this type of operant manipulation does not offer enough clear evidence of positive R change. The possibility of differential anxiety reactions to the punishment stimulus further exacerbating the initial anxiety component of the speech problem, precludes it as a method of choice in the therapy setting.

The relaxation and desensitization techniques used in this study can be seen as having inherent characteristics counter to the anxiety R. The subjective reports implied

that, had there been more time allowed for R changes to emerge, and with removal of the possible deleterious effect of the "punishment" variable operative in half the groups, the beneficial effects of relaxation and desensitization might well have been more clearly revealed. Relaxation itself did show a consistent positive influence as a treatment variable. If desensitization had also been presented for three sessions (instead of only one session), perhaps a similar finding would have been obtained. Evidence that this is probable comes from the general consistent improvement reported subjectively by the 30 Ss in the follow-up Advanced program. Over a 6 month period the Ss used self-desensitization with only an instructional guide to help them. Since 8 of these Ss regarded themselves "cured" at the end of 6 months, the total findings from the study supported a further expansion of the desensitization segment of the "treatment program" as a final step in this investigation.

Subsequently, the final study (Experiment IV) extended the standardised procedure to cover 9 speech situations. It assumed the effectiveness of a standardised procedure with a group presentation, and when delivered by tape rather than live (Ihli and Garlington, 1969; Mann and Rosenthal, 1969; Miller and Nawas, 1970; Nawas, 1971; Nawas, Fishman and Pucel, 1970). Cognitive conditioning was incorporated into the basic behaviour therapy approach through the use of "covert reward" (Cautela, 1970) and Idealized Self-Imagery (Susskind, 1970) as components of

an overall "person-oriented" treatment program. It was envisaged that subsequent research might further extend the number of speech situations from the 9 presented here to a representative sample of speech situations common to stutterers in general. The assessment procedure was expanded to a 13 test battery in order to sample the possible multiple components of the stuttering R complex that might respond to the treatment process. From the measures adopted it was possible to identify changes not only in the fluency aspects of the speech R but also in associated personality variables. The positive trend obtained toward normal fluency and desirable personality changes suggested that future research might extend the number of "standard" speech situations desensitized, and by a concomitant increase in treatment sessions, make it more probable that significant R changes would be observed.

Looking more closely at the personality changes effected in this final study as concomitants of the speech R change, the results provide strong supportive evidence for the approach of treating the stutterer as a "total person" with speech-related anxieties and possible personality problems in addition to his basic fluency problem. It is agreed with Hegde (1972) that an approach of this nature may in future provide brighter prospects for stutterers entering therapy than evinced by the more narrow outlook of past therapeutic-outcome studies. If it could be clearly demonstrated, as suggested by this study, that troublesome aspects of the stutterer's

personality and emotional reactivity (e.g. anxiety in social situations, introversion tendency) could be modified as fluency increased with treatment, then the therapist could judiciously use this information in the actual clinical setting to strongly motivate stutterers entering therapy to cooperate fully with treatment demands. Furthermore, as such intrinsic changes were appreciated by the stutterer himself (e.g. increase in confidence, lower general tension level), these changes could also become secondary reinforcers that would operate to maintain the modification process already in motion until "normal" fluency was reached. Within the clinical setting the therapist could activate the person's power of belief (Bednar, 1970) from treatment outset by producing an expectation of improvement based on presenting the "established" research findings. A total facilitation of therapeutic outcome would thus be predicted as suggestion and expectancy were coupled with the formal "treatment" variables to effect beneficial R change.

The implication that cognitive variables should be given more credence in such behaviourally-oriented treatment programs as used with stuttering, is supported by substantial evidence accrued over the past 5 years in the area of study linking cognitive therapy with behaviour therapy. Idick and Bootzin (1970) and Locke (1971) present convincing proposals for the expansion of behaviour therapy to include both the cognitive and affective aspects of the behavioural R as modifiable components within a person's

total behavioural complex. Throughout this investigation it has repeatedly been implied that stuttering behaviour cannot be confined to the mere production of nonfluencies. It would appear to have a very potent affective component (e.g. anxiety, tension aspects) and salient cognitive components (e.g. lack of confidence, lowered self-esteem). From such considerations cognitive therapy might be expected in future to facilitate the behavioural treatment of stuttering by means not previously contemplated in the behavioural programs of the last 15-20 years. The last section of this chapter return more fully to the possible extensions in this direction.

8.2. THE GROUP PROCESS

In the two studies constituting the Structuring Phase the context of treatment was a group situation. Relevant to both studies, evidence suggests that group desensitization is an effective therapy mode (Ihli and Garlington, 1969; Mann and Rosenthal, 1969). Yet "group dynamics" as a variable in its own right might also be a contributing factor to the observed changes, apart from what might be expected in giving a number of individuals an identical taped procedure.

Experiment III can be seen as producing "audience" reactions as individuals were required to report not only on their daily relaxation practice but also on their improvements in fluency and general level of stress. Reports may have been distorted to fit an expected group

norm, or conversely the "sharing of a group norm" for expected improvement may itself have facilitated the change process (Friedman, 1963; Frank, 1968). The group atmosphere can also be seen as creating an environment more conducive to learning by engendering mutual support from group members. Both positive social reinforcement for observed improvements in fluency and general social ability, and negative social reinforcement consequent on failure to carry out relaxation and daily report assignments, might foster a group learning process in addition to that of the individual learning process.

Given the possibility of such a group effect, Experiment III still allowed the "treatment" variable to be isolated by presenting final results against the initial equivalence of treatment groups. However, Experiment IV must be interpreted cautiously in this regard because of the lack of a matched control group against which to test for "true" treatment effects.

Yet both these studies suggest that in contrast to the demands of a research situation, the clinical setting could utilize the group situation to fullest advantage. As changes were experienced by the stutterer in his speech and affective Rs, the reactions of the listeners in the group might also be predicted to change in a favourable direction (Yairi and Williams, 1970). At an earlier stage the stutterer probably adopted listeners' evaluations in accepting that he was a stutterer (Johnson et al. 1959). In a similar manner new favourable evaluations coming from group members would indicate that he was improving and becoming

successively more a "nonstutterer". Such a positive influence would be expected to effect a desirable change in his "self-concept" (Combs, Avila and Purkey, 1972) so that eventually as his fluency was restored he would accept that he had become a "normal" speaker.

Most successful therapy change involves a S's awareness of a sense of achievement as he completes the varying stages of treatment (Mayer and Chesser, 1970, p. 207). In everyday life listeners tend to pay most attention to the nonfluencies of the stutterer (Bar, 1971). By contrast the therapy group tends to look for instances of fluency as the emphasis is placed on improvement. Such a change in focus might be predicted to produce a positive "mental set" toward expecting a successful treatment outcome (Bednar, 1970). Both the therapist and group members can reinforce the vital sense of achievement (discussed above) as progress is made and practice stipulations followed. When plateau stages are reached or temporary set-backs experienced, group support can be seen to help the individual to keep going and take advantage of whatever assistance is available.

From these considerations of the possible beneficial aspects of the group process, the interactive milieu of the therapy group can be seen to provide a complex of differential positive and negative social reinforcers (Bandura, 1969). A discerning therapist might harness these factors to facilitate his treatment program, and in addition economise on the time and effort required to see persons as individuals in therapy.

The group process employed in this investigation also incorporated a set time limit for duration of treatment. This experimental demand could of itself have enhanced treatment outcome (Phillips and Wiener, 1966). Furthermore the group context provided an opportunity for generalisation of learning from the therapy situation to everyday life by using a closer approximation to the everyday interactional setting than that available in one-to-one patient-therapist contact. The group encouraged a freer and less therapist-dominated interpersonal situation (Johnson, 1972), with more emphasis on a common sharing of experience and less emphasis on the "superior" role of the therapist giving the treatment.

8.3 DEMAND CHARACTERISTICS AND EXPECTANCY

Results of this investigation have been interpreted somewhat cautiously as being attributable to the treatment variables employed. The research setting was in fact a therapeutic environment, and became increasingly so as the group process was introduced in the latter experiments. Added to this, the stipulations for daily practice of relaxation at home made it highly probable that demand characteristics from both the therapy setting and the experimenter played a significant role in producing the observed changes in response. Expectancy effects were also probably significant determinants of change, both in terms of expected improvement from the subject himself and the experimenter's communicated expectancy that the therapy

technique would work. Consideration is now given to the possible influence of these variables.

It is quite probable that subjects shaped their verbalised and written reports of improvement to meet the demand characteristics of the experimental situation (Orne, 1962), either at a conscious or unconscious level. Such effects would be expected to be balanced across the experimental groups in Experiment I and III and still allow the treatment effect to emerge. However, where the subjects acted as their own controls in Experiments II and IV, it is not possible to estimate the actual change attributable to the treatment variables.

In progressing from Experiment I to Experiment IV, the therapy setting itself took on a more personalised emphasis giving greater freedom of interaction to the subjects. Despite the implied operation of the non-specific factors evoked in the resulting demand situation, there is considerable evidence to suggest that desensitization can emerge as a distinguishable treatment mode (Gelder, 1968; Paul, 1966). If desensitisation was effective in the last 3 experiments, its effect would still be expected to appear in the observed changes.

Explanations were given both prior to therapy and during the treatment program as to how improvement might take place. Subjects were told that as their relaxation increased with a concomitant decrease in tension and anxiety, the resulting increase in confidence would facilitate a new learning process. The process of explanation can itself

facilitate change by mobilizing a belief in the therapy technique within the subject (Bednar, 1970; Frank, 1968). As the problem behaviour is "understood" by the subject, a reduction in anxiety can result in symptom change (Meyer and Chesser, 1970). Since anxiety appears to have an important role in both exacerbating and maintaining stuttering behaviour, the explanation given within the therapy setting in the present case may have been strongly influential in initiating and maintaining behavioural change. In addition, Lazarus (1968) has shown explanation to be exceedingly important to the institution of change when using desensitization. It would appear that some explanation of the therapy mode may indeed be necessary when using desensitization to catalyze the change process. Only by having a standardized explanation across therapy conditions can treatment effects be isolated from this variable. The design of Experiments II and IV did not allow for the treatment effect to be abstracted from this variable, and therefore must be interpreted accordingly. This is a problem inherent in all designs which use subjects as their own controls. However, the unavailability of enough subjects to use as control groups made it necessary to proceed with this recognised disadvantage in the interpretation of the results.

In a similar vein the <u>therapeutic instructions</u> within the treatment programs may also have facilitated the observed changes (Leitenberg, <u>et al</u>, 1969; Oliveau, <u>et al</u>, 1969). A graduated structured-treatment program

reinforces a sense of achievement in the subject, and can be seen to enhance therapeutic outcome (Meyer and Chesser, 1970, p. 207). Indeed a number of investigators believe that, if the subject can be convinced through preliminary explanation and a structured-treatment program, that he will get better, the chances of therapy success are greatly enhanced (Bednar, 1970; Friedman, 1963; Frank, 1968; Goldstein, 1962). The resulting interaction resembles a self-fulfilling prophecy syndrome (Rosenthal and Jacobson, 1968) whereby the positive power of expectation mobilises change. In other words, the person's behaviour changes when he is convinced that it can change (Gindes, 1951, p. 85).

Closely related to these variables is the effect of the experimenter as a potent motivator of change. It has been observed that in many cases replications of experimental studies have failed to show similar findings, although the original studies were of considerable scope and rigorously controlled. Wilkins (1973) suggested that the overall effective variable in such cases is the therapist's personal belief that his technique will work. In fact, the therapist's expectation of treatment outcome has been shown to correlate with the actual outcome (Rosenthal, 1966). In addition, the effectiveness of the individual therapist may vary with the degree of his "therapist potency" (Truax, et al, 1968) which in itself can differentially activate the response changes in the subject in therapy. The covert communication occurring between the experimenter and subject can produce a very strong experimenter expectancy

effect within the experimental situation. Rosenthal (1966) has shown that this factor can account for up to 50% of the bias.

In the more clinical setting adopted by the latter experiments of this study, experimenter expectancy may have had a significant facilitative influence. It would therefore seem more appropriate to consider the last experiment as more a "clinical trial" (Lazarus, 1973) than a research experiment in the usual sense. To support the findings so derived, Lazarus and Davison (1971, p. 196) may be quoted as concluding that "many of our greatest advances in therapeutic theory and process come through clinical experimentation and innovation, rather than through laboratory research". Since this investigation focussed on economizing the progress towards a successful therapy procedure, by its very nature it demanded a close approximation of the therapy setting to the real life speech situations. Only by this means could the speech response and its attending effective and cognitive aspects be made adequately available for modification.

In the past, behaviour therapists have underestimated the importance of the "non-specific" motivators of change inherent in any therapy setting. The present series of studies has attempted where possible to harness these facilitative influences by using specific instructions, a structured therapy program, practice stipulations, the group process, etc. This has made determination of actual treatment effects very difficult , especially with

the second and last study. However, it seems unlikely that the changes in both the speech response and the various personality and affective dimensions that were observed in these studies can be attributed solely to "non-specific" factors. It is possible that the change process may have in part constituted a modelling effect (Bandura, 1969) set in motion as the therapist's opinions became secondary reinforcers. Yet the taped method of presentation used to standardise the therapy process across all subjects makes it unlikely that only personalistic variables were the instigators of change.

Within the therapy situation it is virtually impossible to control satisfactorily for the inherent "relationship" variable specific to each subject and therapist interaction (Meyer and Chesser, 1970, p. 210). This can be seen as specially relevant with a problem like stuttering, in which interpersonal anxiety can greatly influence the therapeutic atmosphere engendered. Any attempts to reduce such anxiety would invariably involve additional personalistic variables within the ongoing therapeutic interchange. It is impossible to foresee and thus control these variables. Along these lines Kruglanski and Eilam (1974) looked closely at the possibility of controlling for such artifacts and conclude that attempts to detect and control for such "demand characteristics" may "raise more problems than they intend to solve". They suggest that the operation of such

factors be given consideration in the interpretation of research findings, but in treatment planning they see the constraints of existing methodological principles to be adequate to allow for treatment effects to emerge without the facilitative influence of these variables being lost to the mobilisation of the change process. If, as Frank (1959) suggests, "a patient expectancy of benefit from treatment in itself may have enduring and profound effects on his physical and mental states", then the clinical researcher may have a significant role in fostering "such attitudes in the patient" (p. 36). A treatment program can be seen as imparting "to the client the expectation that he should be improving as a result of the expert treatment he is receiving" (Bednar, 1970, p. 652).

8.4. THE ROLE OF SUGGESTION

It is fully appreciated that suggestion in its own right could have been an active variable throughout this investigation, the more so in the latter studies. The "placebo reaction" of suggestion has been well documented. It has been shown that physiological changes (Beecher, 1955; Liberman, 1962) can occur as well as a frequently reported subjective improvement in symptoms. Yet, just as the "relationship variable" cannot be adequately controlled, so it is with suggestion. As an active agent, suggestion can in fact be utilised to enhance expectation of improvement through induction

procedures (Meyer and Chesser, 1970, p. 205). Since Friedman (1963) has shown degree of improvement to be highly related to expectancy, we can predict suggestion to have an important underlying role in symptom change. Especially where anxiety is evoked, suggestion can provide a calming influence on anticipatory anxiety and therefore facilitate the total therapy process (Markes, et al, 1968).

Because of the suggestion variable, a problem arises in isolating the treatment effects when subjects were used as their own control as in Experiment II and IV. However, if we regard hypnosis as concentrated suggestion, Lang(1969) has shown that hypnosis does not enhance the particular effect of systematic desensitization as a treatment mode. Consequently, in considering Experiments II and IV we may expect any desensitization effect to operate in addition to the inherent suggestion effects.

Looking more closely at the procedures that were outlined for relaxation training and the desensitization sequences, some investigators may argue that in fact hypnosis was used as a presentation mode. Yet Barber (1964) has proposed that what differentiates hypnosis from relaxation is the use of the word "hypnosis". Working on this premise, Lazarus (1973) merely inserted the word hypnosis within a relaxation sequence. In doing so he produced a differential effect in therapy outcome for people requesting hypnosis. Those who thought that they only received "relaxation" did not improve as they had

expected to with hypnosis, and in fact these subjects showed subsequent improvement when "hypnosis" was supposedly later introduced. In the present case subjects were told that they were receiving "relaxation training". Considerable stress was given in the initial interviews to the use of relaxation rather than hypnosis. Subjects were told that at no time would hypnosis be introduced, even though the procedures may sound like a hypnotic induction at times to those people who had experienced hypnosis before.

In actual fact a considerable number of the stutterers had received prior treatment with hypnosis for their problem. None of these subjects later claimed that they had been deceived and were in fact hypnotised. All the subjects throughout the programs in which relaxation and desensitization were used accepted the treatment program as a learning based procedure. They saw relaxation as being introduced to reduce their anxiety and so facilitate the learning process of desensitization. Relaxation was also seen to have a role in lowering their general level of stress in everyday life so as to enhance the generalisation of treatment effects to real life speech situations.

8.5. PROPOSALS FOR FUTURE INVESTIGATION

The first study highlighted the necessity to consider the anxiety and personalistic aspects of the stutterer's problem. In the second study, desensitization was observed to be a successful means of treating the individual.

Given the restriction on time allowed for change to emerge, the third study suggested relaxation itself was beneficial as a treatment component, in this case with group treatment. Within a surprisingly short period of time a considerable change was effected in the final study toward "normal" fluency and on various personality dimensions that were seen as related to the stuttering R complex. Cognitive variables had also been instituted as possible facilitators of the basic desensitisation effect. Although it is not possible at present to determine the differential variables responsible for the observed changes, in R, the cumulative evidence over the four studies strongly indicates that an approach using relaxation, desensitisation and appropriate cognitive learning may in future provide a more economical therapy procedure than many of the more strictly behavioural techniques used in the past.

An essential first step in developing such an approach would be the judicious replication of the more important findings of this investigation. Several studies are proposed to elucidate the contributory roles of the treatment variables and the generality of findings.

(1) The second study where <u>individualised systematic desensitisation</u> was used could be repeated with the addition of an equivalent number of <u>female</u> stutterers. This would, of course, necessitate use of a geographical location that provided for such recruitment of female Ss,

considering that the ratio of expected female to male stutterers is only 1 : 3. Further addition of a "no-treatment" control would confirm whether desensitization focussed on speech-related anxiety situations was a viable treatment mode generalizable across age and sex distributions.

(2) To further differentiate the active influences of the relaxation and desensitization components of any planned standardized treatment program, partial replication of Experiment III would be essential. It is suggested that desensitization be extended to cover three treatment sessions to compare more favourably with the time initially allocated to relaxation training, still using the standard speech situation "Talking to a Stranger" and simply repeating the given desensitization tape in 3 separate sessions spaced weekly.

To repeat the use of the punishment variable in the treatment program is considered unwarranted, in view of the overall indications against its inclusion. However, the resulting comparison groups should also include a "no-treatment" control condition, as the replication envisaged does not allow a balanced design abstraction of effective variables. Three groups would thus emerge for study:

a. Relaxation only (3 sessions)

b. Relaxation (3 sessions) + Desensitization to a specific situation (3 sessions)

c. "No-treatment" control.

Expected improvement would be b > a > c, and a One-Way nonparametric Analysis of Variance could be used to test for additive treatment effects.

An important consideration would also be to extend the groups to include 10 Ss instead of only 6 Ss, giving more reliable data and a greater probability for treatment effects to emerge over the groups.

Given that the above replications supported the use of relaxation and desensitization, the obvious extension of research would be an extension of the program initiated in Experiment IV. The aim would be to provide a standardised economical therapy procedure available for group treatment with the use of the taped presentation necessitating minimal therapist time-contact. Given the paucity of therapists available for treatment in this area, development of such a program is seen of prime importance in making available professional service to as many persons as is feasible at any one time (Bar, 1969; Lazarus, 1971).

Prior to this expansion several intervening studies would provide supportive evidence.

a. Replicate Experiment IV with female Ss to indicate no differential sex factor with therapeutic outcome.
b. Extend Experiment IV to repeat the standardised desensitization tape more than once, in order to reinforce the probability of change, e.g. have 3 identical sessions of desensitization as proposed for the replication of Experiment III.

If the changes observed in fluency and along the personality dimensions for the initial study were facilitated by increasing the desensitisation component, grounds would

exist for extension to more standard speech situations than the initial nine. As these 9 came from the 71 item SUD Scale previously derived from individual speech anxiety response hierarchies, the logical source for the building up of a "standard set of situations" might be this scale. It is proposed that 9 items be presented per session, with each item presented for desensitisation three times (the last session having only 8 items since 71 items in the scale). Idealised-self-imagery presentation would then follow for two presentations as given previously in Experiment IV : with "covert reward" also used on each second desensitization presentation to reinforce the new association of the speech situation with a "relaxed R" rather than a previously evoked internal tension or anxiety state (as discussed in the design of Experiment IV).

i.e. Desensitization Presentation: (each item)

(1) Imagine - RELAX
(2) Imagine - RELAX - "Reward"
(3) Imagine - RELAX

If such a program, derived as a simple extension of the final study of this investigation, provided evidence with both male and female Ss of successful therapeutic outcome, one might expect that the relaxation and desensitization effects were enhanced by the incorporated cognitive procedures. In order to establish whether the cognitive factors did attribute to outcome, or indeed were necessary, a final study is envisaged in which the procedure just described would be used identically with another group of both male and female Ss, except that the "covert reward"

would be deleted from the desensitization presentation and no Idealized Self-Imagery would be used at the close of the desensitization sequence for each session. Thoresen and Mahoney (1974) have recently clearly delineated the possible contributing influence of cognitive factors in behavioural treatment programs. The emerging direction of the treatment program for stuttering that this investigation offers would seem to require recognition of the viability of "self control" as an agent of behavioural change. The stress on practice of the desensitization linkages, along with general relaxation for maintaining stress control (Locke, 1971), represents a demand for a continuing "self-treatment" program at home interspersed with the formal therapy sessions. The appreciation that people can effect their own "cures", given adequate guidance, restores dignity to the person entering therapy (Lazarus, 1971, 1973) as having the "power" within himself to alter his own behaviour in a desirable direction (Thoresen and Mahoney, 1974). In giving such "power to the person" the therapist is not losing his own influence. He is simply activating the most probable source of change by mobilizing the patient's belief within himself to expect improvement (Bednar, 1970) and thereby, through belief and expectancy, attain his goal through the medium of the learning process instituted (Frank, 1968; Meyer and Chesser, 1970, p. 207).

It might still be argued after establishing the relative effects of the contributing factors to therapy

outcome along the lines suggested, that the experimenter variable itself remains inadequately investigated (Rosenthal, 1966; Truax, et al, 1968). Ideally the consideration of the sex factor by using both male and female Ss should also incorporate use of male and female therapists. The ability to mobilize the S's belief in the therapy process (Bednar, 1970; Frank, 1968) might well vary according to whether the therapist is of the same or opposite sex to the S. This could further interact with the individual therapist's "potency" (Truax, et al, 1968).

The abstraction of the possible interactive effects of these personal characteristics with the formal treatment variables previously proposed would require a carefully balanced and organised long-term investigative program. In view of such complexities the present investigation offers the basis for further research. Yet in itself it retains the status of a "clinical trial" (Lazarus, 1971) rather than that of the ideal objective investigation. With this basis emerges the hope that such "clinical experimentation and innovation" will eventually produce an advance "in therapeutic theory and process" (Lazarus and Davison, 1971, p. 196). The original aim was to develop an effective therapy program to restore fluency to stutterers. In part this has been realized and considerable attention has been given to instituting concomitant personality and emotional adjustment. Empirically "promising" results have been demonstrated. The full import of such findings and the elucidation of the specific effective agents of change can only emerge through future research.

APPENDIX I:1.

On-campus "advertisement" for S recruitment for Experiment I.

S T U T T E R E R S

and

THOSE with SPEECH DISFLUENCIES

(of ALL age groups)

A Therapy Research program has been devised with the aim of helping those with speech problems (e.g. stuttering) to overcome their difficulties. This venture will contribute research material for a Ph.D., and is based on experimental research findings, clinical work and current theoretical rationale. The procedure is completely nonaversive, easy to follow, and not time-consuming.

If you volunteer as a participant in this project, you will at NO time be under any obligation to continue. Weekly sessions lasting approximately 45 minutes are suggested - but arrangements will take into account individual needs and commitments.

Participation in this research is offered as a possible means of help to you. At this stage, of course, no guarantee of success can be assured.

Enquiries can be made to:

Mrs. J.F. Porter, B.A.(Hons.)
Department of Psychology (University of Adelaide)
Ground Floor of the Psychology Building,
(Back Entrance nearest Elder Conservatorium)

Phone: University Extension Number 2660.

APPENDIX I:2.

Example reading sheet for Ad and Rd phases.

The pigeon nearest to the cake reached hopefully for the prize. Just then, our black cat came quietly round the corner of the house. At once, the snowy-white birds flew away from the food, which they had not tasted. As the cat walked lazily forwards in the mild afternoon sunshine, our big collie, Sandy, rose from the ground beside my deck chair. The cat arched her back, scratched Sandy's nose and quickly ran away. Sandy sniffed at the cake, did not like it, and returned quietly to his place beside my chair. It was then that the little cock sparrow flew down once again. At last the piece of cake was his to eat.

This story of the cake on the lawn shows how completely birds have allowed us to be part of their lives. Again and again sparrows or blackbirds hop right up to our feet as we have tea on the lawn. Many birds build their nests in our gardens. Why do they come? Perhaps they come because crumbs and suet have been scattered for them every winter for more than thirty years. My parents began to keep 'open house' for the birds many years before I was born. The birds seem to know that 'open house' means food and a warm welcome.

Of all the birds that come to my garden, I like the thrush best. Other birds sing the same songs over and over. The thrush does not sing in that way. He seems to enjoy making up songs as he goes along — completely new songs. He sometimes likes to imitate the songs of other birds. Sometimes his song contains a phrase like "Did he do it?" repeated two or three times, and he will sing all day till dark.

The home life of the tiny wrens is noisy but very interesting. In the spring I hang up small nesting-boxes for them, and as soon as they are up, two wrens come to take possession. Almost at once they begin to build their nest of twigs. Then the family quarrels begin. The mother bird flies away on some errand of her own, and leaves the male bird to find the twigs and put them into place. When he has been working for a long time and is tired, the mother bird comes back. She darts into the hole of the nesting-box and begins to scold her mate for the way he has made the nest.

APPENDIX I:3.

Spontaneous speech topics used in Experiment I.

Sess. 1. What I do in summer.

Sess. 2. Colours in the world around me.

Sess. 3. Travel overseas.

Sess. 4. My last holiday.

Sess. 5. T.V. programmes.

Sess. 6. Birthdays.

Sess. 7. Current male and female fashion.

Sess. 8. Christmas.

Sess. 9. Foods I like and dislike.

APPENDIX I:4a.

Instructions to Ss for FR condition in Experiment I.

INSTRUCTIONS A

On the illuminated glass panel in front of you is a sheet of paper. This paper contains part of a story which I want you to read out aloud to me.

Above the paper you can see coloured lights. These will come on as you read. The way the lights come on will depend on how well you read.

I want you to try to make as many green lights come on as possible. These green lights will come on only if you are speaking fluently without stuttering - that is, the better you speak the more green lights will appear. They will come on 2 at a time until 10 lights are on, and then start again.

Remember you are to make the green lights come on.

As you do more reading each session, the machine will make it harder for you to make the green lights come on. In order to keep the green lights coming on you will have to stutter less frequently and speak more fluently. However, as your speech improves you should be able to keep up with the demands of the machine.

At all times please speak slowly and clearly, pronouncing each word carefully. Remember to pause at a comma and give an even longer pause at the end of a sentence.

Are there any questions you wish to ask?

APPENDIX I:4b.

Instructions to Ss for FR+P condition in Experiment I.

INSTRUCTIONS B

On the illuminated panel in front of you is a sheet of paper. This paper contains part of a story which I want you to read out aloud to me.

Above the paper you can see coloured lights. These will come on as you read. The way the lights come on will depend on how well you read.

I want you to try to make as many green lights come on as possible. These green lights will come on only if you are speaking fluently without stuttering - that is, the better you speak the more green lights will appear. They will come on 2 at a time until 10 lights are on, and then start again.

I also want you to concentrate on the red lights. Try not to make them come on. Try to keep as few red lights coming on as possible. They will only come on if you stutter or have difficulty with your speech. These red lights will come on 1 at a time till 10 lights are on, and then start again.

Remember you are to make the green lights come on, but at the same time try not to make the red lights come one.

As you do more reading each session, the machine will make it harder for you to make the green lights come on. In order to keep the green lights coming on and to stop the red lights from coming on you will have to stutter less frequently and speak more fluently. However, as your speech improves you should be able to keep up with the demands of the machine.

At all times please speak slowly and clearly, pronouncing each word carefully. Remember to pause at a comma and give an even longer pause at the end of a sentence.

Are there any question you wish to ask?

APPENDIX I:4c.

Instructions to Ss for FR+P+RC condition in Experiment I.

INSTRUCTIONS C

On the illuminated glass panel in front of you is a sheet of paper. This paper contains part of a story which I want you to read out aloud to me.

Above the paper you can see coloured lights. These will come on as you read. The way the lights come on will depend on how well you read.

I want you to try to make as many green lights come on as possible. These green lights will come on only if you are speaking fluently without stuttering - that is, the better you speak the more green lights will appear. They will come on 2 at a time until 10 lights are on, and then start again.

I also want you to concentrate on the red lights. Try not to make them come on. Try to keep as few red lights coming on as possible. They will only come on if you stutter or have difficulty with your speech. These red lights will come on 1 at a time till 10 lights are on, and then start again.

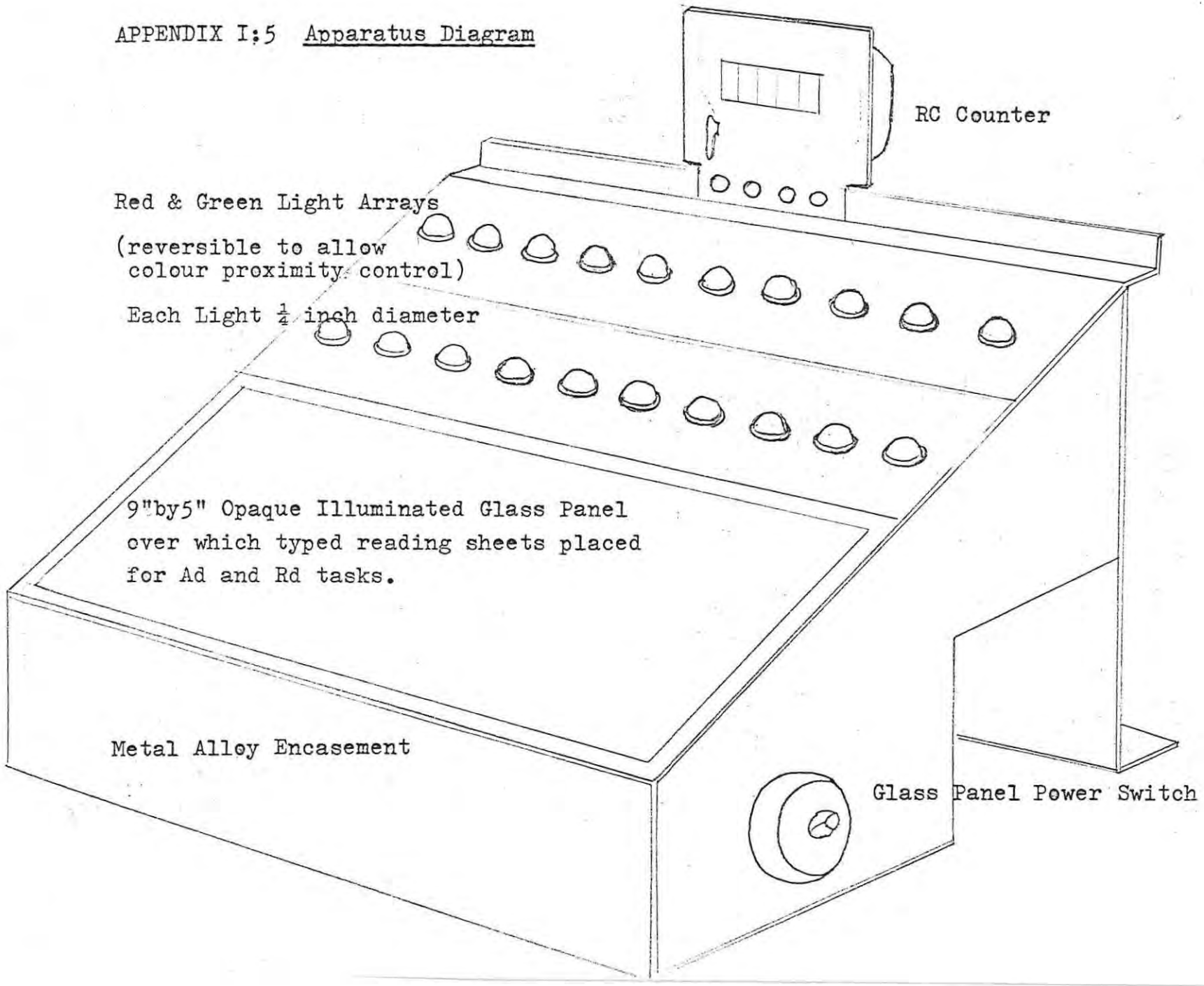
Remember you are to make the green lights come on but at the same time try not to make the red lights come on. If you do make a red light come on, you will also lose a point on the counter above the lights. Try to lose as few points as you can.

As you do more reading each session, the machine will make it harder for you to make the green lights come on. In order to keep the green lights coming on and to stop the red lights from coming on you will have to stutter less frequently and speak more fluently. However, as your speech improves you should be able to keep up with the demands of the machine.

At all times please speak slowly and clearly, pronouncing each word carefully. Remember to pause at a comma and give an even longer pause at the end of a sentence.

Are there any questions you wish to ask?

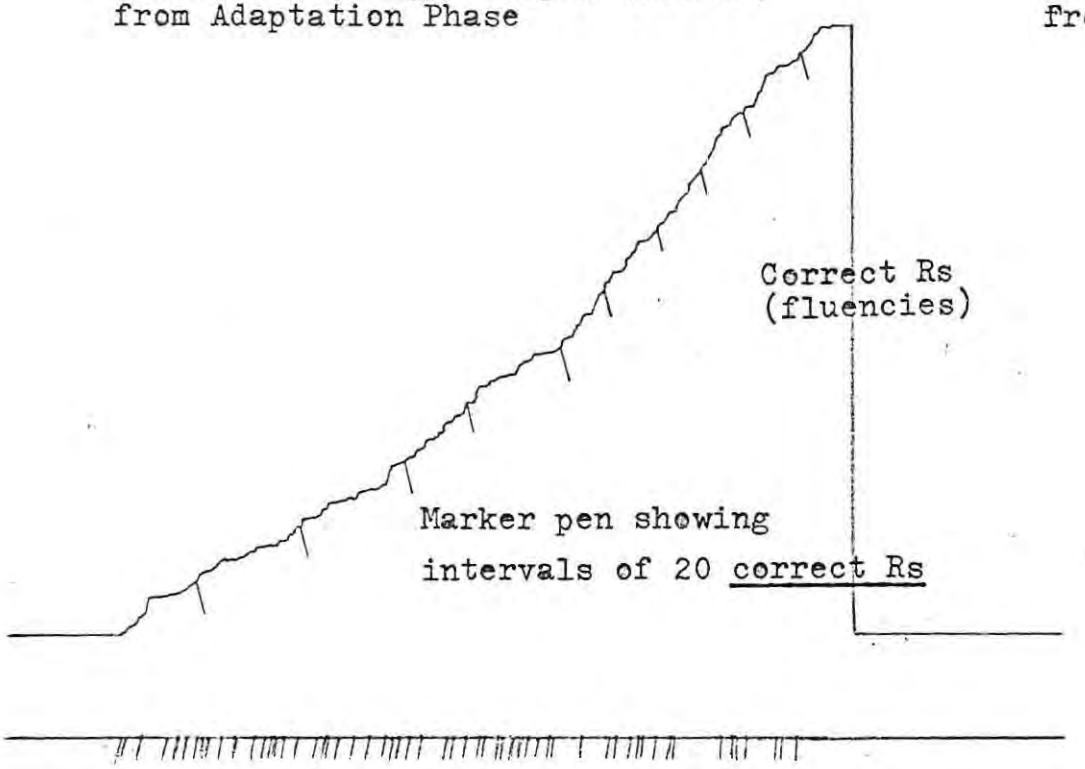
APPENDIX I:5 Apparatus Diagram



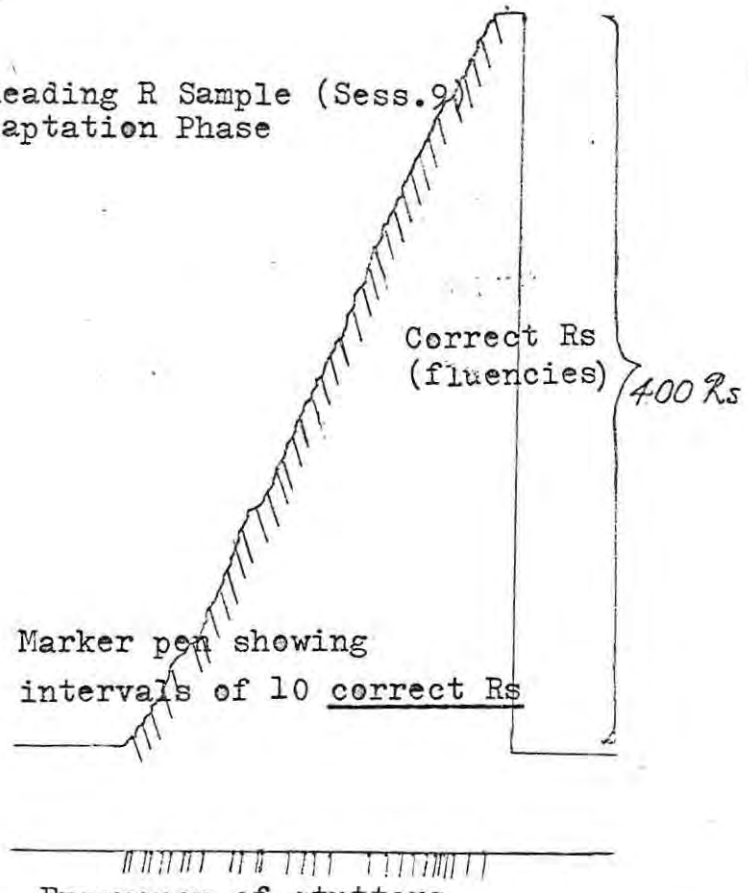
APPENDIX I:6. Cumulative Record Example.

SUBJECT X : (FR+P+RC)

Baserate Reading R Sample (Sess.1) from Adaptation Phase



Final Reading R Sample (Sess.9) from Adaptation Phase



APPENDIX I:7.

Median Scores for each S for each given session as "percentage of stutters to words read" in the Adaptation phase.

EXPERIMENTAL CONDITION	Ss	SESSIONS 1	2	3	4	5	6	7	8	9	Mean	SD
FR:	1	1.3	0.2	0.8	0.5	1.0	1.4	0.4	0.4	0.1	0.7	0.4
	2	3.8	5.6	5.7	5.2	5.7	7.1	6.8	10.0	7.0	6.3	1.7
	3	21.0	24.9	18.7	25.1	29.5	24.9	33.6	27.4	40.0	27.2	6.4
	4	18.7	24.0	22.5	25.0	20.9	19.4	27.3	26.5	25.9	23.3	3.1
Mean		11.2	13.7	11.9	13.9	14.3	13.2	17.0	16.1	18.3		
FR+P	1	2.4	0.9	1.2	1.1	0.4	1.2	0.5	0.7	0.9	1.0	0.6
	2	5.5	6.2	3.6	5.3	1.8	3.4	1.0	1.8	0.6	3.2	2.1
	3	0.9	0.9	0.2	0.9	0.5	0.4	0.2	0.3	0.5	0.5	0.3
	4	4.3	1.8	1.3	1.1	0.3	0.4	0.3	0.1	0.0	1.2	1.4
Mean		3.3	2.4	1.5	2.1	0.7	1.4	0.5	0.7	0.5		
FR+P+RC	1	8.5	4.4	1.1	0.8	0.9	0.7	0.8	1.1	0.8	2.1	2.6
	2	0.8	0.5	0.5	1.0	0.1	0.0	0.0	0.4	0.6	0.4	0.3
	3	0.9	0.5	0.0	0.5	0.5	0.4	0.1	0.0	0.0	0.3	0.3
	4	15.3	4.5	10.1	0.9	4.6	5.8	9.8	7.5	6.5	7.2	4.1
	5	1.2	0.1	0.1	0.3	0.4	0.4	0.2	0.2	0.2	0.4	0.3
	6	0.5	0.8	0.4	0.5	0.0	0.4	0.0	0.2	0.0	0.3	0.3
Mean		4.5	1.8	2.0	0.7	1.1	1.3	1.8	1.6	1.4		

(Figures rounded to 1 decimal place for presentation - all calculations used original 2 decimal places)

APPENDIX I:8. Median Scores for each S for each given session as "percentage of stutters to words read" in the Reading phase.

EXPERIMENTAL CONDITION	Ss	SESSIONS 1	2	3	4	5	6	7	8	9	Mean	SD
FR:	1	1.3	0.0	1.0	0.5	1.2	1.5	0.7	0.5	0.5	0.8	0.5
	2	4.6	3.1	2.5	5.2	4.8	3.0	5.6	6.3	3.7	4.3	1.3
	3	35.5	26.7	24.3	31.0	29.0	29.4	35.6	30.9	43.0	31.7	5.6
	4	21.1	23.8	21.0	23.3	16.2	22.4	28.2	23.9	22.8	22.5	3.2
Mean		15.6	13.4	12.4	15.0	12.8	14.1	17.5	15.4	17.5		
FR+P:	1	0.7	1.3	0.2	0.1	0.5	0.3	0.4	0.5	0.4	0.5	0.3
	2	6.8	12.9	7.4	1.8	1.7	0.7	1.4	3.6	0.8	4.1	4.1
	3	2.4	0.8	0.4	0.4	0.0	0.0	0.0	0.1	0.0	0.4	0.8
	4	4.0	1.5	1.6	0.8	0.2	0.2	0.0	0.0	0.0	0.9	1.3
Mean		3.5	4.1	2.4	0.7	0.6	0.3	0.4	1.0	0.3		
FR+P+RC:	1	2.3	0.6	1.1	0.8	0.6	0.5	0.5	0.0	0.0	0.7	0.5
	2	0.5	0.1	0.0	0.4	0.1	0.1	0.0	0.0	0.2	0.2	0.2
	3	0.5	0.5	0.2	0.0	0.2	0.2	0.4	0.3	0.0	0.3	0.2
	4	6.5	0.4	5.6	3.0	2.2	5.5	8.6	4.3	11.0	5.2	3.3
	5	0.2	0.5	0.2	0.0	0.1	0.5	0.2	0.0	0.0	0.2	0.2
	6	0.8	0.2	0.5	0.2	0.0	0.5	0.0	0.0	0.0	0.2	0.3
Mean		1.8	0.4	1.3	0.7	0.5	1.2	1.6	0.8	1.9		

(Figures rounded to 1 decimal place for presentation - all calculations used original 2 decimal places)

APPENDIX I:9. Median Scores for each S for each given session as "percentage of words stuttered to total words spoken" in the Spontaneous Speech phase.

EXPERIMENTAL CONDITION	Ss	1	2	3	4	5	6	7	8	9	Mean	SD
FR:	1	3.8	0.5	1.2	0.5	5.2	6.9	0.7	0.9	0.2	2.2	2.4
	2	19.5	6.9	8.9	8.1	5.7	5.6	7.8	9.8	17.1	9.9	5.0
	3	35.5	55.5	21.5	18.3	19.7	23.3	18.1	17.3	18.7	25.3	12.6
	4	24.0	21.5	15.8	12.8	11.3	13.8	19.3	14.2	16.4	16.5	4.2
Mean		20.7	21.1	11.9	9.9	10.5	12.4	11.5	10.5	13.1		
FR+P:	1	6.4	7.2	4.0	3.7	0.0	3.6	0.4	0.0	0.8	2.9	2.8
	2	16.4	14.8	13.2	12.5	11.2	8.1	8.9	12.5	1.7	11.0	4.4
	3	5.5	0.8	0.0	0.2	0.0	0.0	0.0	0.0	0.2	0.7	1.8
	4	2.1	1.3	0.3	0.5	0.0	0.0	0.0	0.0	0.0	0.5	0.7
Mean		7.6	6.0	4.4	4.2	3.8	2.9	2.3	3.1	0.7		
FR+P+RC:	1	19.2	2.3	4.9	3.0	0.5	2.1	0.8	2.7	0.0	3.9	5.9
	2	8.0	5.0	1.5	2.7	4.1	0.2	0.2	0.6	0.0	2.4	2.9
	3	7.3	5.0	3.9	6.2	1.7	1.9	1.9	3.1	0.0	3.5	2.4
	4	4.8	26.4	25.6	15.7	21.9	21.9	24.4	21.9	19.7	20.6	7.0
	5	0.0	0.0	0.0	0.0	0.0	0.2	1.0	0.3	0.0	0.2	0.3
	6	0.6	1.7	0.2	1.3	0.2	0.0	0.0	0.4	0.0	0.5	0.6
Mean		6.6	6.7	6.5	5.3	4.7	4.4	4.7	4.8	3.3		

(Figures founded to 1 decimal place for presentation - all calculations used original 2 decimal places)

APPENDIX I:10a.

Conversion of Median Scores to Standard Scores in terms of the Normal Distribution (with elimination of minus values using the further transformation "multiply 'Z' by 10 and add 50"): The score for each S in a given session is expressed as a normal deviate score from the normal distribution as typified by that S's mean and standard deviation score over the 9 sessions.

ADAPTATION Scores:

		SESSIONS								
	Ss	1	2	3	4	5	6	7	8	9
FR:	1	63.1	40.4	51.5	46.1	57.9	65.3	44.7	43.2	37.7
	2	35.2	45.6	46.5	43.6	46.6	54.4	52.9	71.4	53.8
	3	40.3	46.4	36.8	46.6	53.5	46.3	59.9	50.3	69.9
	4	35.2	52.1	47.3	55.3	42.1	37.6	62.5	60.0	58.1
Mean		43.5	46.1	45.5	47.9	50.0	50.9	55.0	56.2	54.9
FR+P:	1	73.2	47.7	52.1	51.7	39.3	53.4	40.7	44.1	47.9
	2	61.1	64.2	51.5	59.7	43.2	49.0	39.0	42.9	37.3
	3	61.7	62.5	39.2	63.2	48.8	43.7	38.9	42.9	49.2
	4	72.4	54.4	50.5	49.5	43.3	44.3	43.3	42.3	41.5
Mean		67.1	57.2	48.3	56.0	43.7	47.6	40.5	43.1	44.0
FR+P+RC:	1	73.9	58.7	46.3	45.1	45.7	44.7	44.8	46.1	45.1
	2	59.6	52.3	52.0	66.3	41.0	37.5	37.5	47.9	43.9
	3	68.2	55.4	39.6	56.3	55.4	52.5	43.5	39.6	39.6
	4	69.5	43.4	56.9	34.7	43.7	46.6	56.2	50.6	48.3
	5	75.7	43.3	43.0	47.1	50.5	51.4	46.2	46.5	46.5
	6	56.8	67.3	52.5	57.2	38.7	52.8	38.7	47.4	38.7
Mean		67.3	53.4	48.4	51.1	45.8	47.6	44.5	46.4	43.7

APPENDIX I:10b.

READING Scores:

		SESSIONS								
	Ss	1	2	3	4	5	6	7	8	9
FR:	1	60.1	33.6	45.2	44.0	58.1	64.8	47.1	43.6	43.8
	2	51.9	40.3	36.3	57.0	54.1	39.6	60.2	64.9	45.6
	3	56.8	41.0	36.8	48.7	45.1	45.9	56.9	48.5	70.1
	4	45.5	54.2	45.2	52.6	30.0	49.6	67.8	54.4	50.8
Mean		53.6	42.3	40.9	50.6	46.8	50.0	58.0	52.9	52.6
FR+P:	1	57.4	73.0	43.1	39.7	50.0	44.0	46.6	50.0	46.3
	2	56.5	71.3	58.0	44.3	44.1	41.8	43.5	48.7	41.9
	3	75.1	54.0	48.9	49.0	44.2	44.2	44.2	46.1	44.2
	4	73.6	54.3	54.9	48.8	44.7	44.8	43.0	43.0	43.0
Mean		65.7	63.2	51.2	45.5	45.8	43.7	44.3	47.0	43.9
FR+P+RC:	1	84.3	47.8	58.2	50.8	48.0	45.9	44.4	35.1	35.3
	2	68.4	47.9	40.5	62.7	46.8	48.5	40.5	40.5	54.2
	3	62.9	63.9	48.9	35.4	49.4	48.3	56.2	50.0	35.4
	4	54.0	35.2	51.1	43.1	40.6	50.9	60.3	47.1	67.7
	5	52.0	65.9	52.5	39.6	45.8	64.3	50.9	39.6	39.6
	6	68.4	50.0	59.2	50.0	41.1	58.1	41.1	41.1	41.1
Mean		65.0	51.8	51.7	46.9	45.3	52.7	48.9	42.2	45.6

APPENDIX I:10c.

SPONTANEOUS SPEECH Scores:

	Ss	1	2	3	4	5	6	7	8	9
FR:	1	56.5	43.0	45.9	42.9	62.1	69.1	43.8	44.8	41.9
	2	69.3	44.0	48.0	53.7	41.5	41.2	45.6	49.6	64.4
	3	58.1	73.9	47.0	44.4	45.6	48.4	44.2	43.6	44.8
	4	67.6	61.8	48.1	41.1	37.5	43.5	56.4	44.3	49.6
Mean		62.9	55.7	47.3	45.5	46.7	50.6	47.5	45.6	50.2
FR+P:	1	62.6	65.7	54.0	53.0	39.5	52.6	40.8	39.5	42.4
	2	62.4	58.6	55.0	53.3	50.3	43.3	45.2	53.4	28.6
	3	76.4	50.5	46.0	47.3	46.0	46.0	46.0	46.0	46.0
	4	72.1	61.0	47.6	50.0	43.9	43.9	43.9	43.9	43.9
Mean		68.4	59.0	50.7	50.9	44.9	46.5	44.0	45.7	40.2
FR+P+RC:	1	75.8	47.3	51.7	48.4	44.1	46.8	44.6	48.0	43.3
	2	68.9	58.7	46.7	51.0	55.7	42.4	42.4	43.6	41.7
	3	66.1	56.6	51.9	61.8	42.8	43.6	43.3	48.6	35.4
	4	27.4	58.3	61.4	43.1	51.9	51.8	55.5	51.9	48.7
	5	44.9	44.9	44.9	44.9	44.9	52.4	75.2	53.0	44.9
	6	52.0	69.5	45.8	63.4	45.6	41.9	41.9	47.9	41.9
Mean		55.9	55.9	50.4	52.1	47.5	46.5	50.5	48.8	42.7

APPENDIX I:11.

Conversion of Median Scores to Rank Scores: Ranking the "percentage stutters" produced from highest (9) to lowest (1) over the 9 sessions for each S.

ADAPTATION Scores:

		SESSIONS								
	Ss	1	2	3	4	5	6	7	8	9
FR:	1	8	2	6	5	7	9	4	3	1
	2	1	3	4	2	5	8	6	9	7
	3	2	4	1	5	7	3	8	6	9
	4	1	5	4	6	3	2	9	8	7
Mean		3.0	3.5	3.7	4.5	5.5	5.5	6.7	6.5	6.0
FR+P:	1	9	4	7	6	1	8	2	3	5
	2	8	9	6	7	4	5	2	3	1
	3	7	8	2	9	5	4	1	3	6
	4	9	8	7	6	3.5	5	3.5	2	1
Mean		8.2	7.2	5.5	7.0	3.4	5.5	2.1	2.7	3.2
FR+P+RC:	1	9	8	7	3.5	5	1	2	6	3.5
	2	8	6	5	9	3	1.5	1.5	4	7
	3	9	6.5	2	8	6.5	5	4	2	2
	4	9	2	8	1	3	4	7	6	5
	5	9	2	1	6	7	8	3	4.5	4.5
	6	7	9	5	8	2	6	2	4	2
Mean		8.5	5.6	4.7	5.9	4.4	4.2	3.2	4.4	4.0

APPENDIX I:11. (continued)

READING Scores:

		SESSIONS								
	Ss	1	2	3	4	5	6	7	8	9
FR:	1	8	1	6	4	7	9	5	2	3
	2	5	3	1	7	6	2	8	9	4
	3	7	2	1	6	3	4	8	5	9
	4	3	7	2	6	1	4	9	8	5
Mean		5.7	3.2	2.5	5.7	4.2	4.7	7.5	6.0	5.2
FR+P:	1	8	9	2	1	6.5	3	5	6.5	4
	2	8	9	7	5	4	1	3	6	2
	3	9	8	6	7	2.5	2.5	2.5	5	2.5
	4	9	7	8	6	4	5	2	2	2
Mean		8.5	8.2	5.7	4.7	4.2	2.9	3.1	4.9	2.6
FR+P+RC:	1	9	5	8	7	6	4	3	1	2
	2	9	5	2	8	4	6	2	2	7
	3	8	9	4	1.5	5	3	7	6	1.5
	4	7	1	6	3	2	5	8	4	9
	5	6	9	7	2	4	8	5	2	2
	6	9	5.5	8	5.5	2.5	7	2.5	2.5	2.5
Mean		6.0	7.4	5.8	4.5	3.9	5.5	4.6	2.9	4.0

APPENDIX I:11. (continued)

SPONTANEOUS SPEECH Scores:

		SESSIONS								
	Ss	1	2	3	4	5	6	7	8	9
FR:	1	7	3	6	2	8	9	4	5	1
	2	9	3	6	5	2	1	4	7	8
	3	8	9	6	3	5	7	2	1	4
	4	9	8	5	2	1	3	7	4	6
Mean		8.2	5.7	5.7	3.0	4.0	5.0	4.2	4.2	4.7
FR+P:	1	8	9	7	6	1.5	5	3	1.5	4
	2	9	8	7	5	4	2	3	6	1
	3	9	8	3.5	7	3.5	3.5	3.5	3.5	3.5
	4	9	8	6	7	3	3	3	3	3
Mean		8.7	8.7	5.9	6.2	3.0	3.4	3.1	3.5	2.9
FR+P+RC:	1	9	5	8	7	2	4	3	6	1
	2	9	8	5	6	7	2.5	2.5	4	1
	3	9	7	6	8	2	4	3	5	1
	4	1	8	9	2	5	4	7	6	3
	5	3.5	3.5	3.5	3.5	3.5	7	9	8	3.5
	6	7	9	5	8	4	2	2	6	2
Mean		6.4	6.7	6.1	5.7	3.9	3.9	4.4	5.8	1.9

APPENDIX I:12.

Cumulative record data in terms of angle of elevation samples representing correct word rate.

		EXPERIMENTAL TASK			
		READING		SPONTANEOUS SPEECH	
Experimental Conditions	Ss	Sess.1. EXPT.I.	Sess.9. EXPT.I.	Sess.1. EXPT.I.	Sess.9. EXPT.I.
FR:	1	73.0	71.5 (-)	65.0	68.0 (+)
	2	65.0	70.0 (+)	43.5	52.0 (+)
	3	12.5	11.5 (-)	19.0	25.0 (+)
	4	55.5	54.0 (-)	49.0	58.0 (+)
FR+P:	5	67.5	74.0 (+)	64.0	73.5 (+)
	6	69.0	72.0 (+)	58.0	73.0 (+)
	7	63.0	74.0 (+)	44.0	73.0 (+)
	8	75.5	75.5 (0)	74.0	78.0 (+)
FR+P+RC:	9	69.0	70.0 (+)	41.0	61.5 (+)
	10	73.5	67.5 (-)	53.5	69.0 (+)
	11	72.5	73.5 (+)	53.0	59.0 (+)
	12	52.5	58.0 (+)	10.0	42.5 (+)
	13	69.0	69.0 (0)	53.0	65.0 (+)
	14	70.0	75.5 (+)	62.0	74.0 (+)
	$\bar{X}$	63.4	65.4	49.2	62.2
	SD	15.5	16.1	16.8	14.0

Note: Direction of change in relation to predicted results is given in brackets

APPENDIX II:1.

March, 1968

UNIVERSITY OF PITTSBURGH—CLINICAL PSYCHOLOGY CENTER

Training Manual for Systematic Desensitization

Richard I. Lanyon (University of Pittsburgh), Peter J. Lang (University of Wisconsin), A. David Lazovik (University of Pittsburgh), and Martin Manosevitz (University of Texas)

This manual describes procedures for conducting behaviour therapy by systematic desensitization, using muscle relaxation as the new response. It is derived in part from the manual developed by Lang and Lazovik in their 1963 study of systematic desensitization with snake phobic college students, and in part from the manual employed by Lanyon, Manosevitz and Imber in a more recent study.

In this particular schedule, four preliminary sessions are assigned for training in muscle relaxation and imagery, and for constructing a fear hierarchy or hierarchies. This preliminary period should, of course, be structured to suite individual needs, so that the present manual is best considered as one example of many possible arrangements. Some therapists consider that relaxation can be satisfactorily accomplished in two or three sessions with adequate practice at home. As an alternative, tapes are available to give relaxation training instructions in the absence of a therapist. These tapes can be quite effective.

Sessions in the manual are about 40 minutes in length.

This manual is in no sense meant as a substitute, either for a thorough grounding in the literature of systematic desensitization and other behaviour modification techniques, or as a substitute for apprenticeship training. It is, in a sense, a crutch to enable a therapist to keep many things simultaneously in mind and to facilitate his development of a smooth technique of his own; that is, to enable a thorough grasp of the basic operations to be achieved quickly. Neither is the manual meant to imply that the procedure is rigid, or that there is only one acceptable schedule. It is simply one example out of many possible procedures, spelled out in an operational manner.

SESSION 1

Introducing muscle relaxation

"I am going to start teaching you how to relax your muscles. Relaxation means, in essence, that you do absolutely nothing at all with your muscles. You make them completely free of tension. To learn to relax thoroughly and deeply, you have to make a deliberate and conscious effort. You may be surprised to find out how deep a state of relaxation you can reach. You'll also find that deep relaxation is a very pleasant experience."

The therapist turns off main lights (or pulls curtains), turns on lamp, and adjusts clock to a convenient position.

"Make yourself as comfortable as possible in the chair. It is adjustable; push back until you find a comfortable place, make your arms comfortable on the armrests, and put your legs straingt out on the footrest. Okay— are you comfortable?"

The therapist supplies cushions, makes necessary adjustments as required, and allows the client time to get thoroughly comfortable.

General relaxation

"I want you to close your eyes, and concentrate on my words. Start letting the tension out of your muscles. Just relax, and let all the tension out. Think of nothing else but relaxing all of your muscles. Just listen to my voice, and let your tension go. Relax your whole body——all the muscles in your body. You may notice that your limbs are getting heavier and heavier. Think of nothing else but just relaxing your muscles and listening to my voice. If your mind should wander away, just bring it back and concentrate on relaxing all of your muscles."

The object of the directions in the above paragraph is to induce general bodily relaxation, and they are used at the beginning of each session. Each therapist will gradually develop a "set of general relaxation instructions" of his own, with which he feels comfortable. Likewise, each client will

respond best to a different set of instructions. For example, one client will tell you that the words "Just sink down and down, further and further" are extremely effective in inducing him to relax, and that nothing else need be said at all. In contrast, another client might be bothered by these same words, since to him the experience of relaxation is associated with a light floating feeling, and not heavy sinking. It is a good idea to ask the client after the session what behaviour (both verbal and non-verbal) by the therapist facilitated relaxation the most. Suggested additional phrases:

"Let the relaxation spread all over your body."

"Go just as limp as you possibly can."

"Strive for deeper and deeper levels of relaxation."

"Let all your tension unwind."

"Sink right back into the chair."

Specific muscle relaxation: introduction

"As I said before, you can learn to achieve very complete relaxation of your muscles through your own conscious effort. First, you must learn where the muscles are that you want to relax. I want to show you how to locate these muscles by tensing them and then concentrating on where the tension is and what it feels like. Once you have learned to recognize tension in a muscle, I'll ask you to concentrate on the feeling of relaxation which you will produce by just doing nothing with the muscle—letting it go completely limp. We will be working with a number of different muscle groups, taking them one at a time. The goal is to teach you how to produce in yourself a state of general bodily relaxation. I'll want you to practice this relaxation at home for about 15 minutes a day."

"I want to point out that you will have a very active role in learning this muscle relaxation procedure, and also throughout the whole therapy process. You will be the one who determines how much relaxation you can experience, and how completely you can reduce your anxiety. As we go on you'll see that you have the major control over what we do in the therapy period."

Left arm

1. "When I tell you to, I want you to extend your left arm stiff and make a fist, just an inch or two above the arm of the chair, and hold it there until I tell you to stop. Then, in a few moments, I will say, 'Now!' and this will be your signal to relax your arm completely, and just let it drop onto the arm of the chair. When I say, 'Now!', I want you to let it go suddenly and completely."

The therapist corrects the client if necessary. "Notice the increase in muscle tension in your forearm and in your biceps. Feel the tension building up. Notice the unpleasant feeling of the tension."

The therapist has the client retain this position for 20 seconds, during which he fills in with further words directing the client's attention to the discomfort. He tries to get the client to recognize exactly where in his arm the tense muscles are and to try to form a mental impression of the feeling, so that the client can later remember exactly what it was like.

2. "Are you ready for the signal—Okay: 'Now!' (slight pause).

Let all the tension out of your arm and your hand. Let your arm be completely limp and relaxed. Feel the difference now that it is relaxed from the way it felt when it was stiff and tense. Notice how relaxed it feels. Notice how different it is from the tension. All the tension has gone out of it. Notice how much more pleasant the relaxation is."

The therapist continues with such language for one minute. He might draw the client's attention to the specific feelings he now has in his arm, and have him compare them with what he recalls of the feelings of tension. Some clients prefer these intervals to be filled in with soothing patter, while others would just as soon have the therapist remain silent, and a few are even distracted by continual repetitive talking. The therapist should determine the needs of each client in this regard by discussing it at the end of the first two or three sessions.

3. The therapist repeats steps 1 and 2 above. However, the client should this time tense his arm for only 2 or 3 seconds before letting it drop. Often, the client will not let his arm drop suddenly in the manner requested, but will ease it down slowly over a second or two. If this was the case, the first time around, the therapist should say the following before step 3 is performed. "When I give you the signal, let your arm fall,

completely relaxed. Don't put it down. Pretend your arm is hanging, held up by a string. On the word 'Now!', I cut the string, and your arm just falls down."

Also, the therapist this time has the client relax for 3 minutes instead of one minute. During this 3-minute interval the therapist gives general bodily relaxation instructions of the same kind described at the beginning of this section ("Let every last bit of tension out of your muscles;" "Let yourself sink down deeper and deeper into relaxation;" etc.)

To facilitate general relaxation whenever the client is to relax for a significant time interval (3 minutes or more), it is often helpful to use the following 'counting method.'

"In order to help you relax as completely as possible, I'm going to count slowly from 1 to 20; and I want you to regard each number I say as a signal for you to achieve an even more thorough state of relaxation than before."

The silent interval between numbers can be about 5 seconds. As the therapist counts, as indicated below, he might suggest that the client pay particular attention to relaxing different parts of his body, in the order in which he is currently being taught to relax them. Thus the counting sequence should proceed as follows:

"1, 2, 3 .... make sure your left arm is completely relaxed .... your right arm".

"4, 5, 6 .... pay attention to your feet .... and legs."

"7, 8, 9, 10 (stomach)"

"11, 12, 13 (neck and shoulders)"

"14, 15, 16 (face — jaw, forehead, eyes)"

"17, 18, 19, 20."

Again, it is emphasized that the above is simply a guide, and that each therapist will gradually develop his own preferred way of inducing general relaxation.

Arousal from relaxation

"In a few moments I'm going to tell you to open your eyes and sit up. Okay: open your eyes and sit up."

The therapist allows a few seconds for the client to adjust, then encourages him to comment on and discuss his experience. The therapist tries to determine what details might be omitted or modified. He should point out that it is most important for the client to be comfortable (both physically and psychologically); thus, the client should not hesitate at any time to discuss any source of discomfort. The same comment applies to instances when the client is getting tired or uncomfortable through "relaxing" in the same position for a long period of time. Later in this manual the client will learn a method for signalling that he wishes to interrupt the session at any time for any reason.

Relaxation practice

"I would like to have you practice relaxing your muscles at home. Just practice relaxing. Don't practice contracting your muscles. Find a comfortable chair away from distractions, where you can be alone for 15 minutes. It's a good idea to practice relaxing your muscles in the same order as you learn to relax them here. You should practice for about 15 minutes a day.

Fear Hierarchy

"There's something else I would like you to do at home. I want you to make a careful list of situations or events that illustrate your fear (e.g. fear of spiders). Try to make your list cover the complete range of your fear, from situations that are only slightly fear arousing, to situations that make you extremely fearful. For example, one item that is pretty mild might be 'Seeing the word, spider, in a book,' and a more severe item might be 'Knowing there is a large spider somewhere in the room.' List 20 to 25 of these items, and bring the list with you next time."

The client should understand that the kind of items required are those that can be imagined; that is, they should be reasonably concrete or operational in form. An item such as "Seeing a spider" would not be appropriate, whereas "Seeing a spider on the bathroom door-knob" would be suitable because it enables a specific image to be formed quickly. It is important that the client recognize this need for tailoring the items to his own experiences.

SESSION 2

The therapist inquires how the client's relaxation practice progressed, and gives him every opportunity to describe it and to report any interesting feelings. If the client omitted all or some of the practice, the therapist should try to impress him with the importance of doing it daily. The therapist also collects the client's list of fear items.

The therapist dims the lighting, adjusts the clock if necessary, and has the client make himself comfortable in the chair, as in the first session.

General relaxation

"We're going to continue with teaching you how to relax your muscles. Close your eyes and relax. We're going to go over what we did last time, and then we're going on to some new muscles."

The therapist proceeds for 3-4 minutes with general relaxation instructions as described in session no. 1. The counting method might be included during this time.

Specific muscle review

The therapist should devote about 30 seconds to each of the body parts already covered, as listed below. As with the client's practice at home, the muscles should not be tensed initially. The client's attention should simply be drawn to the muscle and appropriate instructions for specific relaxation should be given. This specific muscle review should always be done in the same order, so that the client can remember it more easily. Note that the client is (hopefully) already quite relaxed, so that the instructions should direct his attention to "any last remaining bit of tension" or something similar.

New muscle groups

Right arm: same as left arm

Left leg

1. "When I tell you to, I want you to make your left leg tense by bending your left foot back toward your knee. Pretend you are trying to touch your knee-cap with your toe. Then, when I say, 'Now!' just let your foot and leg drop and go completely limp. All right, now bend your left foot back."

   The therapist corrects the client in any way necessary, then draws his attention to the discomfort for 20 seconds, as described in session no. 1.

2. "Are you ready for the signal—okay: 'Now!'"
   (Slight pause)
   "Let your leg and foot be completely relaxed: The therapist continues as described in the first session.

3. As in first session.

Right leg

As for left leg.

New muscles: abdomen

The stomach muscles are tensed by having the client draw them in, and pretend he is trying to touch the back of his spine with them. The specific steps are the same as described previously.

Neck and shoulders

Again, the same steps are followed. The client tenses these muscles by hunching up his shoulders and making his neck as tense as possible.

Arousal from relaxation

The therapist rouses the client and gives an opportunity for comments and discussion, as in the first session. The therapist should remind the client of the need to practice.

Between this and the third session, the therapist should examine the list of fears for its adequacy. It is a good idea to type the items out on to individual cards, and if necessary to reword some and perhaps to add a few more that occur to the therapist as being potentially useful.

SESSION 3

The opening of the third session follows the format of the second session. General relaxation instructions are given; then, a brief review of the specific muscles already covered.

New muscles: Jaws

The client is to open his mouth slightly and to imagine he has something very hard between his teeth and is trying to bite through it.

Forehead and eyes

The client is to frown as hard as he can.

Following these muscles, the therapist rouses the client. All the muscles to be dealt with have now been covered.

Introduction to imagery (about 20 minutes)

"Now we are going to begin learning something different."

"I'm going to teach you how to imagine scenes as vividly as you possibly can. I want you to remain deeply relaxed and with your eyes closed, but I will want you to answer some questions every now and again by indicating 'yes' or 'no'. To indicate 'yes', simply raise and lower the forefinger of your right hand To indicate 'no', make no movement at all. That's all you have to do to answer the questions. Okay—now just give me a signal for 'yes'. That's right—you raise your forefinger. Now give the signal for 'no'. That's it—you make no movement at all."

"Now, I want you to imagine that you are sitting in a comfortable chair on a pleasant spring day."

The therapist pauses about 5 seconds.

"In a moment, when I say 'right', I want you to stop imagining the scene and concentrate all your attention on relaxing your muscles."

"Now I'm going to ask you a couple of questions, and I want you to answer by signalling with your finger. 'Were you able to imagine anything? 'Okay'. 'Were you able to stop imagining when I told you to?' 'Okay'."

It is important to respond to the client's finger-signalled answers in the same way for 'yes' and 'no'. Here it is suggested that the therapist simply say "Okay" in a flat monotone to indicate that he has received the signal. If the therapist were to change his response periodically in any way, even his tone of voice, there is a danger that he may inadvertently reinforce one response over the other. For example, he might tend to say "Good" or "Fine" in response to 'yes' answers, and "Uh" or "Okay" to 'no' answers, thereby encouraging the client to respond affirmatively regardless of its appropriateness.

Sometimes the beginning client is readily able to imagine a scene but has some difficulty in eliminating the image when instructed to do so. Rather than instructing such a client to "stop imagining now," it may be helpful to give him a definite alternative behaviour to perform, such as to concentrate his thoughts entirely on relaxation and on the feelings he is experiencing in his muscles and limbs, as suggested above.

The therapist rouses the client from relaxation and conducts a general inquiry into the vividness of the imagery. The purpose of the inquiry is to have the client explore his imagery experience in as much detail as possible, with a view toward helping him produce more realistic images in the future. Thus, the therapist might ask him to describe in detail exactly where he was, whether inside a building or outside, whether the sun was out, what was around him, the colours in his surroundings, what he was wearing, what kind of chair he was sitting on, what the time of day was, what kind of feelings he had, whether anybody else was present, whether he 'heard' anything, etc. ...

Fear hierarchy (about 10 minutes)

The therapist produces the set of fear item cards. If the client had missed the point in making up items, the therapist has written some new items or corrected some of the client's as examples, so that the therapist and client can proceed together to bring the number to about 20. The client is now asked to arrange the items in order of increasing fear arousal. This is best doen by laying them out on a table. The therapist collects the cards, keeping them in the designated order.

SESSION 4

The opening follows the previous format. General relaxation and specific muscle review are then conducted.

Imagery (about 20 minutes)

"Now I'm going to get you to imagine some scenes again. Remember that you should answer 'yes' or 'no' with the forefinger of your right hand."

The therapist goes through the 'pleasant-spring-day' scene twice, then rouses the client from relaxation and conducts the general inquiry about it.

"Now I'm going to get you to imagine a different scene."

The therapist asks the client to suggest a mildly anxiety-provoking scene, explaining that it should not be too anxiety-arousing because we don't want to make her uncomfortable. Since the scene will be used for practice only, its exact content is irrelevant, except that it should not be related to the client's problem fear.

"If, at any time while you are visualising this scene under relaxation, you feel any anxiety at all, however, slight, I want you to indicate it to me by raising the forefinger of your left hand. Do this whenever you feel anxiety, without my asking for it. Remember, use your right finger when I ask you questions, and your left finger at any time to indicate anxiety."

The therapist puts the client back into deep relaxation for one minute.

The therapist reminds the client once again of the signals, then presents the anxiety scene using the same approach as described above for the pleasant-spring-day scene. After 5 seconds, the therapist has the client dismiss the scene and continue in relaxation for one minute. After this one-minute period, the therapist rouses the client and conducts an inquiry into the nature of the image and the client's feelings about it, as with the pleasant-spring-day scene above.

The therapist then puts the client back into deep relaxation, and repeats the above procedure of having him imagine the anxiety scene, followed by a one minute relaxation period. An inquiry is again conducted.

The anxiety scene procedure is then presented a third time.

Note that the procedure for presenting the anxiety scene differs from the pleasant-spring-day scene in that a one-minute general relaxation period was provided immediately after the scene. In general, relaxation instructions will always be given after the client has experienced any anxiety.

Note also that the anxiety scene was continued for 5 seconds regardless of whether or not anxiety was signalled. In the actual desensitisation procedure, the therapist will

have the client dismiss the scene immediately as he experiences (and signals) the slightest feeling of anxiety. It is important for the client to understand that the signal should be given for any anxiety feeling, however slight. The reason for suggesting that the client be prepared to recognize a single word signal for dismissing the scene (suggested as 'right' in this manual) is to facilitate rapid change-over.

Fear Hierarchy (about 10 minutes)

The therapist produces the fear item cards and lays them out as the client had previously arranged them.

"We're going to look at these cards again. This is the order you set them out in last time. What we want to do is arrive at 15 or 20 items that are pretty evenly spread over the whole range of fear feelings. So we'll want to discard a few of them; and if you want to make up one or two new ones, we can add them in. If you feel that two cards represent the same degree of feeling, then one of them should be changed or thrown out. And, if you feel that there is too big a gap between two cards that you have put next to each other, then leave a gap and we'll try to write another item to fit in there."

When the client has arrived at the final order of items, the therapist should collect them, and later, number them on the back to preserve the order.

Desensitization

General rules for conducting desensitization sessions

1. The first 2-3 minutes or so of each session is spent with the client's report of any significant events since the last session. During this time the therapist might also occasionally decide that the client is too tense or anxious about other matters (e.g. an exam) to benefit from the session. Such a state of affairs may never arise; but if it does, the decision not to conduct a therapy session should be made jointly. The client can be permitted to discontinue practicing relaxation at home as soon as the therapist considers that he can reach a deeply relaxed state with relative ease. This may occur before session 5 is reached.

2. The second 5 minutes should be spent in giving the client general relaxation.

3. Present each new hierarchy item at least twice without anxiety.

4. The first time an item is presented, allow it to be imagined for only 5 seconds; the second time, 10 seconds.

5. After each scene, give 30 seconds of relaxation.

6. If a scene produces any disturbance whatsoever, give 1-2 minutes of relaxation before going on to a repetition of that scene (or back to the previous scene if the client shows any physical signs of disturbance, or if this is the second consecutive presentation on which anxiety was signalled).

7. By observing facial expression, bodily tension, respiration, and so forth, try to perceive the onset of disturbances before the client actually signals it. When such disturbances are perceived, stop the imagining immediately and give relaxation instructions. However, the therapist should take care not to signal his own actions to the client by raising his voice, changing tempo, etc.

8. Do not end a session on an item that has not been completely desensitized. If time is running out, go back and repeat the previous scene, and then end the session there. Never leave the session with the last scene still causing disturbance, but always finish with the client in a pleasant, calm state.

9. Every session should begin with the last successfully completed item.

10. In any one session, only 3 or 4 new items should be started. If the previous session ended with a partially completed item, then it is not counted as a new item.

11. Before finishing each session, give a minute or two of general relaxation, so that any residual body tension is gone before ending. End in the same manner as described for the first 4 sessions.

SESSION 5

It is assumed by this time that the therapist has provided the client with some information about the nature of the systematic desensitization process, so that the client has some idea of why he is following these procedures. At this point in the process he should understand that: (1) his problem is being conceptualized as an inappropriate or undesired connection between certain cues or stimuli (the phobic object) and his response (anxiety); (2) deep muscle relaxation is considered to be "incompatible" with anxiety, in the sense that it is impossible (or at least unlikely) that he could do both at the same time; (3) he has constructed a progressive list or hierarchy of fear arousing events, which he will be asked to

imagine one by one while deeply relaxed; and (4) this procedure is designed to teach him to respond to the old fear arousing cues with the new response of relaxation, or at least to weaken the power of these old cues to make him anxious.

This and the following sessions open as described in general notes no. 1 and no. 2 above. The order in which the client has been taught to relax his muscles is:

left arm
right arm
left leg
right leg
abdomen
neck and shoulders
jaw
forehead and eyes

The therapist reminds the client of the signals (right forefinger for signalling a 'yes' answer to a yes-no question, and left forefinger for felt anxiety).

The therapist proceeds with the pleasant-spring-day scene as described earlier.

The client is now ready to embark on the fear hierarchy.

"Now we are ready to start on the fear hierarchy that you have constructed. Before each item is to be used, I'll read it to you and give you a few moments to select the exact scene that you want to visualize. Then, when you are ready, I'll tell you to begin imagining it. The first item in the hierarchy is ——" (therapist reads first item).

The therapist allows about 10 seconds, then ensures that the client is ready by asking and having him signal with his right forefinger. Then the first item is presented, using the same technique as described for the first pleasant-spring-day scene. The therapist allows 5 seconds, then has the client dismiss the scene and relax for 30 seconds. During this time the therapist inquires whether the client was able to visualize the scene, whether it was vivid, and whether he was able to dismiss it when instructed to do so. This questioning can gradually be stopped as the client learns to follow the procedure adequately.

If the client signals anxiety before the 5-second period elapses, the therapist gives the instruction for dismissing the image immediately, and gives 1-2 minutes of general relaxation. The same image is then presented a second time, for only 2-3 seconds. If no anxiety is

signalled, 30 seconds of relaxation is given and then the image is presented once again for 5 seconds. The general rules are given in no. 3-11 above. When the client has successfully undergone the 5-second and 10-second presentation consecutively, the next item is introduced.

Sessions are ended as indicated in no. 8 and no. 11 above. The therapist should always allow the client at the end to comment on the session.

Further sessions proceed as indicated in the general rules.

APPENDIX II:2.

RELAXATION INSTRUCTIONS

ORDER of parts of BODY to be RELAXED

Relax each of the muscle groups in turn by commanding it with YOUR MIND,

Saying RELAX
RELAX, let go
RELAX, be still
RELAX, be calm

SEQUENCE TO FOLLOW

I. ARMS	II. LEGS	III. HIPS
Fingers	Toes	STOMACH
Rest of hand	Instep	XX SPINAL COLUMN (from lower to upper vertebrae, relaxing each one in turn up to the neck)
Wrists	Rest of foot	
Forearms	Ankle	
Elbows	Calf muscles	
Upper arms	Knees	
	Thighs	

XX IV. DIAPHRAGM -
going deeper and deeper with each breath.
Imagine you are breathing IN all the POSITIVE things - happiness, calm, peace of mind, self-confidence; breathing OUT all the NEGATIVE things - doubts and fears, everyday cares, lack of confidence, everything that makes you anxious or disturbed.
Your mind becomes <u>completely calm and serene</u> allowing you to drift into deep mental relaxation.

V. Shoulders
Throat

XX Back of neck - each tiny muscle fibre relaxed
Scalp

APPENDIX II:2. (continued)

XX Forehead - softly stroked, feeling warm and calm, the calm seeming to penetrate deep into the mind itself.

Jaw

Mouth

Cheeks - every tiny muscle at rest, doing no work at all

Nose

Eyes

N.B. XX = Very Important

SUGGESTIONS to USE to induce RELAXATION

Whole body coming to REST, SINKING DOWN into the support beneath you.

BLOTTING OUT all thought of the past and of the future.

Concentrate on the PRESENT, EACH MOMENT as it passes.

For a while look at blackness in your mind.

Looking DEEPER AND DEEPER into the blackness, feel your mind coming to a standstill.

Feel with each moment that passes, with each breath you take that you go deeper and deeper into relaxation.

Now so relaxed that you forget time and space, and even who you are.

You are just aware - feeling HAPPY, CALM & CONFIDENT.

The mind is serene, the body completely still.

COUNT slowly from 1 to 20 and feel yourself drifting deeper and deeper into the pleasant warm state of COMPLETE RELAXATION.

There is nothing to be afraid of.

Complete relaxation is a deep, pleasant, rewarding experience.

Just LET GO, and let your mind take over control by relaxing not only your body but the mind itself.

Remember YOU ARE THE MASTER. It depends on you how deeply you relax, so don't hold back - just LET GO.

APPENDIX II:2. (continued)

RELAXATION is your weapon against all anxieties.
Determine NOW to learn it, like any other skill, by practising it each day for at least 20-30 minutes - even in those few spare moments of quiet you find during the course of your daily activities.

LEARN BY HEART the 4 POSITIVE statements:

I am HAPPY
I am CALM
I am CONFIDENT
I am RELAXED

SAY these four statements over and over again whenever deeply relaxed and as many times as you can remember during EACH DAY.

The words will then bring back more control over your emotions and behaviour the more times you do this easy exercise with patience and determination.

APPENDIX II:3.

Percentage stutters in the Experiment II Test Situation compared with last session scores in the operant program (Experiment I).

	EXPERIMENTAL PHASES					
	ADAPTATION		READING		SPONTANEOUS SPEECH	
Ss	Sess. 9 Expt. I	Test Situation Expt. II.	Sess. 9 Expt. I	Test Situation Expt. II.	Sess. 9 Expt. I	Test Situation Expt. II.
1	0.13	0.00	0.50	0.00	0.23	0.00
2	6.99	7.16	3.75	5.12	17.10	7.49
3	40.04	40.20	43.02	40.20	18.75	23.08
4	25.89	19.83	22.79	22.96	16.40	6.03
5	0.91	0.00	0.36	0.00	0.80	0.00
6	0.61	0.85	0.77	0.56	1.67	4.88
7	0.82	0.65	0.04	0.11	0.00	0.00
8	6.50	0.77	11.04	0.48	19.71	20.08
9	0.24	0.39	0.00	0.26	0.00	0.00

APPENDIX II:4.

Total word rate in Spontaneous Speech phase compared for an expected increase in the Test Situation of Experiment II from the last session of Experiment I.

EXPERIMENTAL PHASE: SPONTANEOUS SPEECH

Ss	Sess. 9. Expt. I.	Test Situation Expt. II.	d	Rank of d	
1	426	604	178	6	
2	269	494	225	7	
3	128	91	- 37	-2	
4	372	448	76	4	
5	622	721	99	5	
6	540	615	75	3	
7	340	672	332	9	
8	208	244	36	1	
9	367	621	254	8	T = -2

APPENDIX II:5.

Presentation of cumulative record data in terms of angle of elevation samples representing correct word rate.

EXPERIMENTAL TASK

	READING			SPONTANEOUS SPEECH		
	Sess. 9. Expt. I.	Test Situation Expt. II.		Sess. 9 Expt. I.	Test Situation Expt. II.	
Ss						
1	70.0	75.0	(+)	52.0	73.0	(+)
2	11.5	18.0	(+)	25.0	25.0	0
3	54.0	50.0	(-)	58.0	63.0	(+)
4	74.0	74.0	(0)	73.5	74.0	(+)
5	72.0	74.0	(+)	73.0	75.0	(+)
6	70.0	74.0	(+)	61.5	75.0	(+)
7	73.5	73.5	(0)	59.0	66.0	(+)
8	58.0	73.0	(+)	42.5	44.0	(+)
9	69.0	75.0	(+)	65.0	73.0	(+)
$\bar{X}$	61.3	65.2		56.6	63.1	
SD	18.8	18.3		14.4	16.4	

Note: Direction of change in relation to predicted results is given in brackets.

APPENDIX II:6.

Nominal and ordinal comparison of improvement made in SS and Rd from Experiment I to end of Experiment II in terms of percentage stutter decrease.

SPEECH IMPROVEMENT OVER 9 SESSIONS

EXPERIMENTAL PHASE

		Spont. Speech	Reading
Ss	1	B	B
	2	B	W
	3	W	B
	4	B	W
	5	B	B
	6	W	B
	7	S	W
	8	W	B
	9	S	W

Result: 2BB implies 2 Ss stayed the same
2SW 7 Ss showed changes
2BW
3WB

PEARSON PRODUCT-MOMENT coefficient of correlation

		Spont.Speech X	Reading Y	x	y	x^2	y^2	xy
Ss	1	6	7	1	2	1	4	2
	2	8	1	3	-4	9	16	-12
	3	1	8	-4	3	16	9	-12
	4	9	3	4	-2	16	4	- 8
	5	7	6	2	1	4	1	2
	6	2	5	-3	0	9	0	0
	7	4.5	4	-0.5	-1	0.25	1	-0.5
	8	3	9	-2	4	4	16	- 8
	9	4.5	2	-0.5	-3	0.25	9	1.5
	Σ	45	45			59.5	50	-35.0
	$\bar{X}$	5	5					

APPENDIX II:7.

NAME: _____ SEX: _____ AGE: _____

(Surname (Christian name)

Taylor M.A. Scale: MMPI version

This inventory consists of numbered statements. Read each statement and decide whether it is true as applied to you or false as applied to you. You are to mark your answers after each question.

If a statement is true or mostly true, as applied to you, put a circle around "true". If a statement is false, or not usually true, as applied to you, put a circle around "false". Do not leave out any answer, although if a statement does not apply to you, or if it is something that you don't know about, you can put a question mark (?).

1.	My hands and feet are usually warm enough.	True False
2.	I work under a great deal of tension.	True False
3.	I have diarrhoea once a month or more.	True False
4.	I am very seldom troubled by constipation.	True False
5.	I am troubled by attacks of nausea and vomiting.	True False
6.	I have nightmares every few nights.	True False
7.	I find it hard to keep my mind on a task or job.	True False
8.	My sleep is fitful and disturbed.	True False
9.	I wish I could be as happy as others seem to be.	True False
10.	I am certainly lacking in self-confidence.	True False
11.	I am happy most of the time.	True False
12.	I have a great deal of stomach trouble.	True False
13.	I certainly feel useless at times.	True False
14.	I cry easily.	True False
15.	I do not tire quickly.	True False
16.	I frequently notice my hand shakes when I try to do something.	True False
17.	I have very few headaches.	True False
18.	Sometimes, when embarrassed, I break out in a sweat which annoys me greatly.	True False

19.	I frequently find myself worrying about something.	True	False
20.	I hardly ever notice my heart pounding and I am seldom short of breath.	True	False
21.	I have periods of such great restlessness that I cannot sit long in a chair.	True	False
22.	I dream frequently about things that are best kept to myself.	True	False
23.	I believe I am no more nervous than most others.	True	False
24.	I sweat very easily even on cool days.	True	False
25.	I am entirely self-confident.	True	False
26.	I have very few fears compared to my friends.	True	False
27.	Life is a strain for me much of the time.	True	False
28.	I am more sensitive than most other people.	True	False
29.	I am easily embarrassed.	True	False
30.	I worry over money and business.	True	False
31.	I cannot keep my mind on one thing.	True	False
32.	I feel anxiety about something or someone almost all the time.	True	False
33.	Sometimes I become so excited that I find it hard to get to sleep.	True	False
34.	I have been afraid of things or people that I knew could not hurt me.	True	False
35.	I am inclined to take things hard.	True	False
36.	I am not unusually self-conscious.	True	False
37.	I have sometimes felt that difficulties were piling up so high that I could not overcome them.	True	False
38.	I am usually calm and not easily upset.	True	False
39.	At times I think I am no good at all.	True	False
40.	I feel hungry almost all the time.	True	False
41.	I worry quite a bit over possible misfortunes.	True	False
42.	It makes me nervous to have to wait.	True	False
43.	I have had periods in which I lost sleep over worry.	True	False
44.	I must admit that I have at times been worried beyond reason over something that really did not matter.	True	False

45.	I am a high-strung person.	True False
46.	I practically never blush.	True False
47.	I blush no more often than others.	True False
48.	I am often afraid that I am going to blush.	True False
49.	I shrink from facing a crisis or difficulty.	True False
50.	I sometimes feel that I am about to go to pieces.	True False

APPENDIX II:8.

Lanyon Stuttering Severity Scale

SURNAME .....

CHRISTIAN NAMES: .....

ADDRESS: .....

.....

Read each of the following statements. Decide whether each is true or false as applied to you. If a statement is true, or mostly true, as applied to you, cross out the letter T for that statement. If a statement is false, or not usually true, as applied to you, cross out the letter F.

Make an answer to every statement, even though some of them seem not to apply to you.

T/F 1. When I talk I often become short of breath.

F/T 2. When I have a hard time talking, I tend to look away from my listener.

T/F 3. I am sensitive about my speech problem.

F/T 4. I worry about the fact that I stutter.

T/F 5. If I want to, I can be very fluent.

F/T 6. There is something wrong with my speech.

T/F 7. When I can't say a word, there are little tricks I can use to help me.

F/T 8. People notice that I talk differently.

T/F 9. I avoid meeting some people because I'm afraid I might stutter.

F/T 10. If I did not stutter, I would probably speak much more than I do.

T/F 11. I stutter more in some situations than in others.

F/T 12. I tend to avoid introducing myself.

T/F 13. Sometimes my jaws seem to lock together when I talk.

F/T 14. Sometimes I avoid talking for fear of being nonfluent.

T/F 15. My speech problem is preventing me from following my career.

F/T 16. I avoid going to some places because I'm afraid that I might stutter.

T/F 17. I hesitate and repeat a lot when I talk.

F/T 18. I sometimes clench my teeth when I talk.

T/F 19. Because I stutter, I do not talk much when I am in a group.

F/T 20. My stomach muscles sometimes become very tense when I try to talk.

T/F 21. I sometimes have speech hesitations lasting several seconds or more.

F/T 22. I have never avoided saying something because I thought I would be nonfluent.

T/F 23. It is sometimes hard for me to take a breath when I am talking.

F/T 24. I have little trouble in controlling my speech.

T/F 25. People get impatient with me when I talk.

F/T 26. I wish I wouldn't get so tense when I talk.

T/F 27. I spend a lot of time thinking about my speech problem.

F/T 28. I tend to make extra noises when I talk.

T/F 29. Sometimes I change what I'm going to say in order to not to stutter.

F/T 30. When I talk, I am usually more tense physically than most people.

T/F 31. My speech is usually very fluent.

F/T 32. I am more nonfluent when talking to a person of my own sex that I haven't met before.

F/T 33. I have some momentary blockages when I talk, but I wouldn't call them stuttering.

T/F 34. If I did not stutter, it would be easier for me to talk to people.

F/T 35. I try to say things fast, before I have a chance to stutter.

T/F 36. My throat muscles sometimes become very tense when I try to talk.

F/T 37. I sometimes have stuttering blocks lasing as much as twenty seconds or more.

T/F 38. I occasionally keep repeating a word or sound and can't seem to get it out properly.

F/T 39. I often tend to tense up when I talk.

T/F 40. I have had a stuttering block that was so bad that I finally gave up.

F/T 41. Life would be easier if I did not stutter.

T/F 42. I feel anxious nearly every time I have to talk.

F/T 43. I find it hard to look a person in the face as I talk.

T/F 44. Sometimes I talk on the end of a breath.

F/T 45. I hate to stutter.

T/F 46. I am a rather severe stutterer.

F/T 47. I have had speech therapy at least once before.

T/F 48. My fluency varies a great deal from day to day.

F/T 49. Sometimes I have other people talk for me, because of my inadequate speech.

T/F 50. At times I have to fight and force to get the word out.

F/T 51. My speech is usually jerky instead of smooth.

T/F 52. I do not stutter very much.

F/T 53. I must admit that I sometimes avoid using the telephone because of my stuttering problem.

T/F 54. I often look at the ground as I talk.

F/T 55. When I find it hard to talk, I tend to grimace or jerk my head.

T/F 56. I get all tight inside when I have to read aloud.

F/T 57. I try to hide my stuttering.

T/F 58. I always try hard not to stutter.

F/T 59. After a hard block, I wonder what people must think of me.

T/F 60. I sometimes get exasperated because I can't talk properly.

F/T 61. I repeat words and sounds unnecessarily.

T/F 62. It takes effort for me to talk.

F/T 63. I can tell that people feel sorry for me when I stutter.

T/F 64. Some people fill in the word for me when I stutter.

APPENDIX III:1.

Sentence Completion Test.

Surname ..... Christian Names .....
Address ..... Age ..... Sex Male / Female

Please complete each sentence with the first words that come to your mind.

1. I admire people who
3. I feel closest to people who
7. People in authority
11. I like children who are
20. He failed because
21. Girls who stutter
29. I hate people who
31. Most females act as though
33. People who are domineering toward others
37. Most men
45. Most people I talk to
53. Most males act as though
55. Most strangers
59. Most women
64. When he made love to her
72. I could kill someone who
2. I feel happiest when
6. I boil up when
10. When I get down in the dumps
26. I secretly regret
62. I feel sad about
66. What annoys me most
68. I feel guilty when
70. I felt ashamed when
74. My greatest fear
78. When I am nervous
80. When I get angry

4. My hardest situation
5. When I stutter, most people
8. Words that give me most trouble are
16. I hate to stutter because
25. I get blocked when I talk to
28. If I could get over my stuttering I would
36. Rather than stutter, I would
40. One good thing about being a stutterer
47. The person who most wanted me to work on my speech
52. Whenever I am especially fluent
60. If my stuttering suddenly disappeared, things would be different because
76. I get blocked when I talk about
12. I used to daydream about
13. When I'm treated unfairly
14. The work I like best
18. If I tried harder
19. I often fool people about
22. If I were president
24. I can achieve
27. A lot of people think I'm
30. My greatest desire
32. Most of all I want
34. I've often wished
38. I like to get out of
41. If I were the boss
42. I am
44. I might fail if
46. My chief assets
48. If I only
49. When she refused me
50. When I am successful
54. My proudest accomplishment
56. In the future I'll be
58. My greatest fault
61. My happiest childhood experience

67. When I am alone
75. I sometimes wonder
15. It is wrong to make people
17. When I think about marriage
39. On a date
63. Quarreling
65. Someday
69. Whenever
71. Affection
77. Faith
79. Sex and love
9. A brother
23. Most mothers
35. A sister
43. My father
51. My mother
57 Fathers are likely to
73. My home

APPENDIX III:2.

16 P.F. Test primary factor bipolar scales

Factor	Low Score Description	High Score Description
A	Aloof, Cold..... (Schizothymia)	.....Warm, Sociable (Cyclothymia)
B	Dull, Low Capacity... (Low "g")	.....Bright, Intelligent (High "g")
C	Emotional, Unstable.. (Low Ego Strength)	.....Mature, Calm (High Ego Strength)
E	Submissive, Mild..... (Submissiveness)	.....Dominant, Aggressive (Dominance)
F	Glum, Silent..... (Desurgency)	.....Enthusiastic, Talkative (Surgency)
G	Casual, Undependable. (Low Super Ego Strength)	.....Conscientious, Persistent (High Super Ego Strength)
H	Timid, Shy..... (Threctia)	.....Adventurous, "Thick Skinned" (Parmia)
I	Tough, Realistic..... (Harria)	.....Sensitive, Effeminate (Premsia)
L	Trustful, Adaptable.. (Inner Relaxation)	.....Suspecting, Jealous (Protension)
M	Conventional, Practical (Praxernia)	.....Bohemian, Unconcerned (Alaxia)
N	Simple, Awkward..... (Naivete)	.....Sophisticated, Polished (Shrewdness)
O	Confident, Unshakable (Confidence)	.....Insecure, Anxious (Timidity)
Q_1	Conservative, Accepting (Conservatism)	.....Experimenting, Critical (Radicalism)
Q_2	Dependent, Imitative (Group Dependence)	.....Self-Sufficient, Resourceful (Self-Sufficiency)
Q_3	Lax, Unsure..... (Low Integration)	.....Controlled, Exact (Self Sentiment Control)
Q_4	Phlegmatic, Composed. (Low Ergic Tension)	.....Tense, Excitable (High Ergic Tension)

APPENDIX III:3.

Script of Relaxation Tape 1 emphasising Muscular Relaxation.

Rel.1. Beginning now to learn the art of relaxation .....
.....

Close your eyes and make youself as comfortable as you can. Feel the whole weight of your body giving in.....letting go ....the muscles going limp and free.....forget about everything you did before you came and do not think ahead..... forget about everything you will do when you leave..... concentrate on the present.....on each moment as it goes by .....thinking no further ahead than each passing moment with each breath that you take.

Listen only to what is being told you. When words are not being spoken listen only to the background music. Shutting out all other thoughts.....in your mind look at a black wall .....look deep into the blackness.....your mind is coming to a standstill.....all the thoughts coming to rest. Relaxation is a skill and because it is a skill you will need to practise it each day to become an expert.....as you practice each day you will take one step further towards your goal.....by being patient, by being determined you are going to cure yourself of your problem.....you will learn to recognise when your nervous system is reacting in a way that is detrimental to your well being.....you will become aware of this activity. Then you will learn how to cope with it.....how to get yourself relaxed again.....to stop tension building up. At all times you are the master of the situation. Your conscious control is necessary, your mind will be aware.....you will not lose consciousness. Co-operate fully because it is your mind that will control your emotions and behaviour.

Begin now to relax the various parts of the body.....use your mind control.....begin with your arms.....tell the fingers relax, relax, let go, relax, be still, relax, be calm..... moving through all the tiny muscles in the hands, feel the muscles go free.....all strain disappear. Relax the wrist area.....now feel the warmth and calm of relaxation spreading into the forearm muscles.....feel the forearm letting go, relaxing completely.....relax your elbows and your upper arms .....use your own mind control, <u>you</u> are the master.....I am only giving you the guidelines. Tell each part to relax, let go, relax be still.....be determined, be patient..... don't try too hard, just let go.....trying hard can make you anxious. So use a process of letting go, just giving in..... your arms are now deeply relaxed.....you probably feel as if there is hardly any feeling in them at all.....leave them there completely still and relaxed and forget them.

Now relax your legs.....tell the toes relax, be still, be calm.....all the tiny muscles in the feet, in the ankles, let go.....let go.....relax. Now let the calf muscles relax.....let go.....feel the calm, the peace of relaxation coming over you.

Relax the knees, give way, let go. Relax the muscles in your thighs.....feel them go free from strain, no tension, no tightness.....relax, relax, let go. Leave your legs there as you did your arms, completely still, at rest, relaxed completely.

Think of your hips and stomach region.....allow the hip muscles to sag, to fall into the support beneath you.....let them go, relax, relax, be calm. Relax the muscles of your stomach in this region.....the tension can do you harm by causing many various disorders, so relax the stomach muscles, let them go loose, no tightness. Use your mind control.....be very firm with yourself.....feel the control you are now getting over your problem, feel the calm, the peace that is coming into your mind.....

Think of your spine. Relax the spine starting with the lower-spinal column moving slowly upwards. Relax the muscle tension in the muscles surrounding the vertebrae that hold the spine in place. Relax, relax, let go, be still. Relaxation spreading like a warm wave right up your back to the neck, and as the spine becomes more relaxed, this warmth of relaxation spreads out to every part of your back bringing with it a feeling of tranquility, of control, of inner peace.....Think of your diaphragm, of your breathing.....for a moment listen to your own breathing.....your breathing is shallow and slow, just keeping you at resting level.....as you relax your breathing will relax with you.....it will automatically control itself, so you don't have to do breathing exercises if you just relax.....

Imagine that as you breathe in you are breathing in all the positive and good things. You know what is positive and good for you.....breathe in happiness, peace of mind, confidence, a feeling of being worthwhile, of offering something to others..... then as you breathe out imagine that you breathe out everything that is negative, all doubts, all hidden fears, all uncertainty, all everyday cares and worries, the things that disturb you each day, the things that disturb you over longer periods..... let them go.....So now your mind is free to go even deeper into deep relaxation.....with every breath you are becoming more relaxed, more calm and confident.....relaxing deeply.

Relaxing the shoulder muscles.....the muscles of your shoulders hold you up during the day, give them a complete rest..... relax, relax, let go.

Relax the muscles in your throat.....relax, be calm, relax, be still.....concentrate on the back of your neck.....this is a very important region.....tension in this area can cause referred pain up into your head or down into your body. It is through this region that the nerve fibres pass from your brain, carrying the messages to all parts of your body, so it is very important that the back of your neck is relaxed. Tell it to relax, to let go, to be calm. Feel the warmth and calm of relaxation come in, feel it spread up the back of your head,

feel the whole region over your head smooth out over the scalp area.....feel all the tiny muscles let go, all tightness and strain disappear.....relax, relax, let go, be calm, be at peace.....

Thinking of your forehead, imagine that someone is softly stroking your forehead. Feel the soft strokes smoothing out any last trace of tension, all strain gone. Feel the forehead becoming smooth and calm with relaxation.....feel the warmth that comes with the calm. Now, feel this calm as though it were penetrating deep in through your forehead into the conscious mind immediately behind your forehead, so now the mind itself is becoming relaxed.....it is relaxing itself. Let go, let go, relax. Remembering not to try too hard, but rather to let go, to give in.....there is absolutely nothing to be afraid of.....relaxation is a pleasant, warm, experience .....once you have deeply relaxed you will never want to go back to your former tension states.

Many others have learned to relax and are so happy now because of it.....you, too, can be one of these people.....let your resistance go.....give in, let go, relax. Patience and determination is all that is necessary.....

Now as your forehead is relaxed and still, feel all the face muscles go loose and free with relaxation, feel them all smooth out, every last trace of strain and tension gone from the face.....the muscles of the jaw relaxed, the tiny muscles in and around your mouth, each tiny cheek muscle, those in your nose and those in your eyes.....all the muscles still, and at peace, feeling calm now, happy and confident.....

Your body is at rest, it is calm, all muscles are still..... for a moment, right where you are, imagine you are looking far away out into space, on a warm summer's evening, out into a clear, dark sky.....looking further and further away into space. Look out into the blackness and I count slowly from 1 to 20, and feel yourself relax more and more with each number.....really let go.....1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20.

Feeling happy, calm, confident, relaxed, really giving in and letting go. Now, while you are deeply relaxed you will do some tensing of the muscles in your arms so that you can tell the vast difference between tension and relaxation in your body. I will describe to you how I want you to do the tensing, then I will say TENSE. On the command you tense those muscles as hard as you possibly can, even if it hurts .....then when I say LET GO, let go completely, return to relaxing as deeply as you can. First of all I want you to tense the muscles in your left arm.....listen, while I tell you how.

When I say so you will extend your left arm straight out in front of you, clench your fist as hard as you can, keeping your arm straight and taut - in other words pulling all the muscles you can very tightly. All right, now.....TENSE your left arm, REALLY tense, feel that strain, that pull as you clench your fist very hard. Feel the muscles in the forearm tight, those in the upper arm very tight. Feel the pain that comes with the deep tension, how unpleasant and harsh it is compared with relaxation.....Now LET GO, straight away let go completely, let the arm go limp and free, no strain, no tightness, relax, relax, let go. Let your mind control take over and relax the arm again. How different it feels as the relaxation spreads in, how warm and peaceful it is.

In a moment I will ask you to tense that left arm again even harder than before. This time tense it very hard. All right, TENSE the left arm, very, very hard, feel that pull..... Now LET GO, relax, let it go completely, no strain, no tightness, let the relaxation sweep in again, very, very calm, feeling the control come back.....you now feel the control that you are learning over your body, over your emotions, and behaviour.....already you are learning to cope. You are a lot stronger than you think. Relax, be still, relax, be calm, relax, relax, let go.

Now, I want you to tense your right arm, in just a moment, in the same way as you did with your left. Remember, you extend your arm out.....clench your fist holding your arm straight, pulling all the muscles as tight as you can. All right! Tense your right arm very, very hard, feel that harsh pull, the strain, the tension in the forearm muscles, in the hand, in the elbow, in the upper arm. How unpleasant it is, how it hurts. It is the opposite of relaxation. LET GO now, straight away, let go completely. What a relief, how pleasant it is to let relaxation come in. This is what you will learn to do.....to replace the tension you feel each day with relaxation instead, using your own powers of thought, the powers that you have within you.

Relaxing deeper and deeper.....all right tense the right arm again, really hard. Tense! Really hard.....Let go, let go completely. Your mind again telling that arm to relax, every little muscle resting again, so that there is not one muscle doing any work at all. Relax, relax, let go, relax, be still, be calm. Now, check over your body, over the various parts and if any tension has built up anywhere at all use the mind control you are now able to use to tell that part to be still, to be calm.....be determined, be patient, and you will succeed.....check over your arms, fingers are relaxed, hands and wrists, forearms, elbows, upper arms. Now the legs, toes, instep, the rest of your foot, ankles, all the calf muscles relaxed and still, no strain, no tightness.....knees and thighs, all muscles loose and free..... hips and stomach muscles, no tightness in the stomach region...

...all the internal functions going on without interference from tension.....spinal column relaxed, completely supported beneath you, the whole weight giving way to the support..... diaphragm relaxed, breathing shallow, slow, keeping you at resting level..... shoulders relaxed.....throat relaxed..... the back of your neck relaxed, warm and calm.....the whole of your scalp region.....the back of your head relaxed..... the forehead feeling very smooth and calm with relaxation.... the whole face feeling at peace with relaxation.....For a moment imagine that you are lying down on the beach on a warm summer's day.....a pleasant day that isn't too hot. Above you is a blue sky, you can hear the lapping of the waves in the distance, you can feel the warm sand beneath you, everything is calm, you can see a few seagulls flying around. Imagine yourself lying on the beach as if you were really there, drinking in the tranquility of the scene.....feel the warm rays of the sun on you.

When we are out amongst nature it is very relaxing to let go and appreciate the beauty that is around us.....it can make us very calm and happy to forget all everyday cares and contemplate on the beauty of the natural world. Look around you from now on and find this beauty that brings peace to your mind.

Relaxing more and more you now feel what it is to be the master of your nervous system. This is only the beginning. Each time that you practise you will become more and more skilled at relaxing. How wonderful it feels to be relaxed compared with the awful strain of tension.....isn't it something that you want to work for so that it can be with you every day. Every time that you have to face stress situations you will be prepared, and also you will face the monotonous tasks of life with more contentment. Feeling more happy, calm and confident, I want you to say to yourself right now, and believe what you say.....I am happy, I am calm, I am confident, I am relaxed.

A lot of your battle will be won as you use the power of thought. By believing in what you say, by thinking positive things over and over again, you will become the type of person that you think about.....say these words over again and really try to be what they say.....I am happy, I am calm, I am confident, I am relaxed.....As you go from this session today you will remember to practise the relaxing every day for half an hour. You can do it all at one time or you can vary it by doing it in three 10-minute periods, or two 15-minute periods, or whichever way you can fit 30 minutes into your routine. Relaxation is to become part of your life. You can see why right now, you feel so peaceful and calm, so wonderful with relaxing. You will never look back, you will go forward from one success to another by learning to control your nervous system. You will become more confident, calm and composed, more able to deal with strife and with all everyday situations.

Be determined, be patient, and you will succeed. Remember last of all just to be yourself, the true self, the person that is within you held back by tension and problems that only you know exist.....be yourself.....don't be afraid..... allow yourself to be relaxed and calm, be yourself. All resistances have now gone. You will learn how to relax and become a fulfilled person, happy, calm and confident.

I will count now, slowly, from 1 to 5, and you will wake up slowly by the time I reach 5.

1.....feel life travelling back into your limbs, very slowly rejuvenating the nerves.....2.....this energy is travelling to your spinal column, feel the life coming in with warmth and radiance.....3.....now travelling out from your spine to every part of your body, bringing with it renewed strength and vigor.....4.....entering your head region, aware of your face muscles again, the muscles of expression.....5..... life and awareness reaching the mind itself.....your mind awakening with a feeling of complete rejuvenation.....you are peaceful, you are happy, calm, confident and relaxed.

APPENDIX III:4.

RELAXATION OVERVIEW

You are now learning the "art of relaxation". Relaxation is a method of "self-help". Not only do you learn to cope with tension and anxiety states as they appear but also you learn to prevent these nervous reactions from "growing out of hand" by bringing them under conscious control before they confuse the mental processes. No potent drugs or complicated equipment are needed. You only need determination, patience and persistence.

Active, deep, mental relaxation is your aim. This differs from the passive relaxation of sleep (which is also a balm in the relief of nervous tension and a necessary ingredient for health). Your mind is deeply calm and at ease yet you are aware - conscious control remains. You can be mentally relaxed while physically uncomfortable. However, at present mental relaxation will probably come most readily to you through being physically relaxed first, so that you progress from one to the other. As you get more adept at relaxation you can do it in less physically comfortable situations to prove the strength of control you attain.

THINGS TO REMEMBER about RELAXATION. At face value relaxation may appear too simple. Don't be put off by apparent simplicity - it can alter your whole life style. It does not matter what is the cause of your anxiety. You can attack many varied anxiety and tension states with the same weapon - relaxation. By learning a new thought pattern - the response of calm and ease of mind - you replace old habitual panic reactions and draw upon "strength from within you" to face problem situations.

All your tension reactions will not disappear the first time you achieve deep relaxation. But NEVER give up - just don't expect too much too quickly. You are doing something positive now about your problem - any steady improvement must be better than none at all. Ups and downs will occur but remember the adage. "Always give yourself the benefit of another chance".

Don't be impatient or cross with yourself if relaxation does not come naturally at first. Patience and persistence will ensure you succeed. Your attitude of mind is most important. Relaxation can become "natural" to you, something refreshing and good, holding out so many possibilities where once you may have seen confusion. So the necessary practice should not be a chore. See it as a pleasure, a haven away from the noisy confusion of life - each step forward towards your goal will then be much easier for you.

It is really simply a matter of doing mental exercises to promote mental health in the same way as you do physical exercises to increase physical well being. Yet the calm and ease of mind need not be - and SHOULD NOT be - confined to your exercise session. They are of greatest benefit only when you encourage them to penetrate all aspects of your everyday life. In other words relaxation with its calm and ease, the confidence and self-esteem it encourages, becomes vital to your attitude in life as you face the world each day. At first try maintaining the relaxation of mind while you do simple things, such as walking down the street. Every time you have a chance to pause in your daily activity try to recapture mental calm. Gradually let it become linked to your daily routine. Then it will be with you in all that you do so that eventually little conscious control will be necessary - relaxation will be an automatic part of your reactiveness to environmental forces around you.

DOING YOUR RELAXATION PRACTICE

Always try to adopt a symmetrical posture with arms and legs in similar positions on each side of the body. It is best to be slightly physically uncomfortable as this will ensure that the relaxation comes from the mind and is not just a consequence of prior physical relaxation. This should also prevent you from falling to sleep - which must be avoided at all times. Your aim is active not passive relaxation.

At first lying on a couch is probably most suitable, or sitting in an armchair. As greater relaxation is achieved transfer to the floor or a less comfortable chair. Sitting crosslegged on the floor - arms resting with wrists on knees, and back and neck held fairly straight - is a good position well-known to yogi proponents of relaxation.

Try to fit the exercises into your life in a natural way as part of your routine. Initially do them when you feel secure, then under more varied circumstances until you can almost do them anywhere without the support of a chair etc. 10 minutes twice a day, when faithfully done each day is all that is necessary.

Examples of when to fit in your exercises

1. Watching T.V.
2. Travelling to work by public transport
3. In the lunch hour in your car
4. For 3 mins. after your morning shower
5. While doing a boring task you know "how to do backwards".

Don't confine your practice to indoors. Go outside in the open air and get the increased benefit of doing it while walking along the beach or sitting in a park. Practise when you feel good too - otherwise you'll let the "bad patches" return.

There is no easy way out though - you must do the relaxing exercises voluntarily and not begrudgingly. Determination will increase your success. It is not difficult, but like any new skill requires patient practice. Just look forward to the rewards - greater effectiveness in your everyday activities, less confusion when decisions are required quickly, more tolerance of boring situations, more energy for other interests outside your work, studies or routine chores.

From the housewife to the busy business executive relaxation offers relief from daily frustrations, fatigue and irritability, and a more positive energetic outlook on life generally. In essence RELAXATION will make you CALM. By being calm you will gain CONFIDENCE. Then confidence willgive you STRENGTH to cope with whatever problem faces you, or to increase your present effectiveness.

RELAXATION → CALM → CONFIDENCE → STRENGTH

The Sequence to Follow

A. Achieve Relaxation of the Body. Assume your position for relaxation. As set out on the sheet given you in your first session relax each part of the body in turn until all the muscles are at rest, relaxed, at ease. Concentrate attention on one part at a time using all your mental effort to relax that part, to "let go". Then forget it, leave it there relaxed as you work through the rest of the body. Progress from arms (fingertips upwards), to legs (toes upwards), to hips and stomach, spinal column and whole back region, diaphragm, shoulders, throat, back of neck, back of head, scalp, forehead and whole face region. When doing this remember there is no hurry, no rush. Let it come easily with the feeling of letting go "naturally" coming at the command of your mind. Feel the weight of the body relax and give way to the support beneath you. Go back over the parts not relaxed and patiently say "Relax, let go. Relax, be calm. Relax, be still".

A helpful hint - before you start concentrating on relaxing your body, close your eyes and imagine looking at a soft black velvet curtain

or

Far away out into space on a clear summer's evening,

or

At a black wall immediately in front of you. This restful image will help slow your thoughts and enable the mind to concentrate on the exercises to follow.

B. Achieve Relaxation of the Mind

Once the body is as relaxed as you feel able to attain for a given session turn your thoughts away from the body. Try to imagine that the calm in your forehead starts to penetrate deep into the conscious mind within. Start to count slowly to yourself from 1 to 20 determining to "let go" more and more with each number into the deep pleasant warm state of relaxation; to let the calm and ease take over from strain and tension. Feel with each moment that passes, with each breath you take you are becoming more and more relaxed. Imagine as you breathe in that you breathe in everything that to you is positive and good - happiness, self-confidence, self-esteem, peace of mind, a sense of security, warmth, a feeling of being a worthwhile person etc. With each outgoing breath imagine that all negative thoughts and feelings leave you - doubts, fears, everyday cares, all the things that worry you, insecurity, tensions, feelings of guilt and mistrust. Gradually the positive thoughts and emotions will take over allowing your mind to be free of the pressures of anxiety and tension. Then the mind can really "let go" and reach its aim of deep relaxation where nothing else matters except that you are relaxing and enjoying the relaxation. Time does not matter, nor even where you are, nor who you are. For the moment you just let yourself be surrounded by calm and you allow nothing to disturb your period of deep peace - the mind itself is still and is revitalizing its energy reserves.

Helpful Advice

Some people find difficulty in relaxing because they are reluctant to really try. Be determined, give it a fair trial - what have you to lose?

You may feel restless at first but it will pass if you make yourself fairly comfortable for the first few minutes. Then move into a less comfortable position.

If during relaxation a part of the body feels uncomfortable do not give in and move it. Instead concentrate your relaxation more deeply on that part. As you relax it in spite of the discomfort you will achieve greater depth of relaxation.

Any trembling in the muscles disregard - it will pass and the muscles will "let go" completely if you just wait. Be patient. In attaining relaxation of mind sometimes unwanted thoughts will keep disturbing the mind however much one tries to control them. If this happens let the thoughts wander "as they will" and don't worry about them. They will "run their course" and become still if you persistently attend to the relaxation sequence.

In achieving the feeling of "letting go" you may at first be afraid. But remember times when you have sat in quiet contemplation lost to the world around you - there was no difficulty or fear then. So don't try too hard and remain alert to things around you. Just let yourself drift easily into the warm, pleasant state of deep relaxation in which nothing else matters except what you are experiencing at that very moment.

Remember relaxation is "self-help" - it depends on YOU. Once you are shown how to begin the responsibility is yours. Each step toward success only YOU can achieve. As you reach each milestone of success you will have the satisfaction of knowing you made it. "Nothing succeeds like success." Just to want to begin is the first step taken - you are on the road to your goal right NOW.

APPENDIX III:5.

PROGRESS REPORT SHEET

SURNAME .....SESSION NO.....

CHRISTIAN NAMES.....

PLEASE GIVE A DETAILED ACCOUNT OF YOUR DAILY PRACTICE AND PROGRESS IN THE SPACES PROVIDED BELOW. IF MORE SPACE IS NEEDED YOU MAY USE THE BACK OF THIS SHEET.

	NATURE OF PRACTICE	PROGRESS COMMENTS
DAY/DATE		
TIMES		
DAY/DATE		
TIMES		

APPENDIX III:6.

ADVANCED PROGRAM INSTRUCTIONS

Using RELAXATION to DESENSITIZE yourself to SPECIFIC problem situations

During the treatment program just completed you were trained to learn the "art of relaxation". You progressed from achieving general relaxation to being aware of the difference between tension and relaxation states in the body. Then with an idea of the type of relaxation that was your aim, you learnt to relax the various parts of the body in turn until you felt all your muscles were in a "resting state".

With the body relaxed you then "let yourself go" to achieve deep mind relaxation - a pleasant state of inner calm in which your mind was "just aware" although all thoughts seemed still. In this state you repeated the 4 sentences to yourself "I am happy: I am calm: I am confident: I am relaxed" and were able to believe them.

By diligent daily practice you have achieved deeper and deeper levels of relaxation. You have learnt that relaxation can be used as a weapon to meet all stress situations. By adopting relaxation as part of your everyday life - as an attitude to life - you have felt control over your emotions and behaviour.

Throughout the program you have known that YOU are the master. The voice on the tape was a guiding influence, but to achieve the control you desired it was you who had to do the work. Only by you adopting a determined attitude to succeed, by practising consistently, by believing in your ability to improve was progress made. In effect you were and still are "curing" yourself. Now you have reached this milestone of success you can use this new skill of RELAXATION in a controlled systematic way to bring about even greater changes toward your goal of eliminating all your problem areas.

To do this you must also use the skill of IMAGINING that you practised when deeply relaxed. Remember, you "switch on" an image in your mind "as though you were really there". Then when you command yourself to "stop imagining" you immediately forget the image and let all your thoughts return to relaxing - always going as deep into relaxation as possible before trying out another image.

Before this you have imagined yourself in situations that did not cause you tension or anxiety. Now you are to start imagining the situations that you listed on the prepared sheet and gave a number between 0 and 100 according to how much anxiety, tension or pressure you would feel if made to face each situation.

The way to combine your "relaxation" and "imagining" skills to your best advantage is outlined in step-form below:

(1) Get into a deep state of body and mind relaxation before doing any imagining.

(2) Then select the situation you gave the lowest number on your list (i.e. the one in which you feel the least anxiety or tension).

(3) Think about how you will imagine that situation - organize your thoughts for about 10 seconds.

(4) Say to yourself IMAGINE - this means you "switch on" the image in your mind as though you were really in the situation, not as though you were just looking on.

(5) Keep imagining as clearly as you can, in colour and with detail, for as long as you remain free of any feelings of tension or anxiety or uncertainty.

(6) As soon as you notice yourself feeling tense, either physically or mentally, or even if you are not quite sure command yourself to STOP the image.

(7) To help stop the image concentrate on going very deep into relaxation again. If you still find it difficult to stop the image try either counting slowly from 1 to 20 as you relax more deeply, or imagine yourself in a different but very peaceful scene, e.g. lying down on the sand at the beach on a pleasant summer's day - seeing a blue sky above, hearing the lapping of the waves, and feeling the warmth of the sand beneath you.

(8) When you are deeply relaxed again repeat steps (2) to (7) over and over for 10 to 15 minutes. However, as you imagine the same scene again try to think of it in as many different ways as you can.
e.g. If you were imagining that you are "asking for something in a shop" the shop could be large or small, anything from a small "deli" to a large department store; also the shop assistant could be either sex and vary from 16 to 65 years in age.

The more varied the images you use the more potential situations your mind will cover, so that eventually whatever type you choose to think about it will lead to no feelings of tension. Your aim is to imagine the situation for say 2 to 3 minutes remaining completely calm, feeling confident and in control of your nervous reactions, i.e. at no time feeling any tension, anxiety or uncertainty with the image.

(9) After trying out the lowest numbered item on your list in your first session of desensitizing yourself, the next time you relax following exactly the same steps with the item having the next highest number.

(10) In this way go completely through your list of tension situations concentrating on one item per session. If you do happen to find on one day it is very difficult to imagine a given situation after trying for say 2 minutes, change to another item and come back to the difficult one the next day.

(11) When you have gone through the list once, start over again imagining 2 items or even 3 per session. Always make sure, of course, that you are deeply relaxed before trying a different scene. Continue doing this until you find yourself able to imagine some of the scenes without any trace of tension. Then concentrate more of your attention on those that still make you feel tense when imagining them. But don't forget the others. Even though you do remain calm and relaxed when imagining them, still devote some time to going over them. You will need to strengthen the new bond you have made between your relaxed state and the image.

(12) As you find yourself able to imagine yourself in the various situations without feeling tension be positive and try them out in real life. Of course, don't expect an immediate miracle. Yet you will find that as you face the previous problem situations the calm and confidence you had when imagining them under relaxation will come back in full or in part. The more you continue to face each situation with determination, the more control you will gain until you will not consider it a problem at all for you any more. Instead of experiencing panic and fright and trying desperately to avoid the situation you will feel calm and confident, completely in control of your reactions; you may even begin to enjoy what you once detested.

(13) If a particular situation again begins to make you tense or if new trouble situations arise include them in your list. Never take the chance of letting any situation get the "upper hand" over you - "attack" it as soon as you recognise its danger to you.

Thus by consistent mental practice you will eliminate your panic reactions and always be able to achieve the control you desire. The one essential is, however, that you keep up the new relaxed attitude to life - this is the basic ingredient for your success. Therefore don't let success so far go to your head! Like any new skill, relaxation still needs daily practice or you will lose your expertise. By now it should be becoming part of your life. Grasp every opportunity to think and act "relaxed".

If you let relaxation become a habitual way of life then long sessions set aside during the day will not be as necessary. By "thinking and living relaxation" when stress threatens you will "automatically" know how to cope. Your nervous reactions will no longer be panic and flight - rather you will have "strength from within YOU" to face the situation, to think rationally about it, and adopt a suitable course of action in a controlled manner. Most important to you will be the knowledge itself that this strength does come from within you - yes, you have retrained a vital part of your nervous system so that it obeys <u>your</u> command, rather than your nervous state automatically ruling your emotions and behaviours. Knowing this will add to your self-confidence and self-esteem — with this positive outlook there is no reason why you cannot achieve whatever you desire so long as it lies within your capabilities.

Of course, there will be times when you are "caught unawares" and the "old" anxiety and tension reactions will return. But <u>now</u> when this happens you will <u>know</u> what you are doing — that you are not coping in the best possible way. Then by consciously relaxing you will be able to regain your former control — again <u>you</u> will be the master. You will gain control over the situation <u>before</u> it becomes out of hand. Remember, always be positive in your outlook - it's half the battle won!

APPENDIX III:7.

ADVANCED PROGRAM PROGRESS REPORT

SURNAME:.....AGE.....DATE.....

CHRISTIAN NAMES:.....

ADDRESS: .....

.....

Please READ THROUGH ALL the questions below.
Then ANSWER ALL the questions, giving as much information as you can in the space under each question. THANK YOU!

---

1. Have you continued to practise relaxation each day?

2. How long do you practise for, and when?

3. Describe how relaxed you become (in both body and mind).

4. What do you do to help yourself go deeper into relaxation?

5. Do you say the 4 sentences
"I am happy: I am calm: I am confident: I am relaxed"
to yourself when you are deep under relaxation, AND
then as many times as possible during each day?

6. When you relax each time, do you imagine yourself in one of the speech situations you listed for as long as you still remain relaxed?

7. Are you able to imagine yourself in the speech situation as though you were "really there"?

8. When you are "imagining" do you feel any tension?

9. If you feel tension, can you immediately "switch off the image" and go back into deep relaxation until you feel you can try the situation again?

10. How many speech situations can you now imagine without feeling any tension?

11. How long do you usually spend on "imagining" each day?

12. About how many times have you been through all the items you listed?

13. Have you found any difficulty in either relaxing or "imagining" lately? If so, what kind?

14. Do you use relaxation in coping with other problems besides your speech? How?

15. Describe how much speech improvement you have made since you last reported to me?

16. Have you noticed any change in your

    Self-confidence?

    Self-esteem?

    Social life?

    Home life?

17. Are there any other changes you have noticed?

18. Has anyone commented lately on any changes in you or your speech?

19. Do you consider yourself now to be a more relaxed person in general than you were before coming for help with your speech problem?

20. Have you adopted relaxation as an essential part of your attitude to life?

21. Do you think other people could benefit from learning "the art of relaxation"?

22. Are you satisfied with the course of treatment you have received so far?

23. Are there any ways in which YOU think the treatment program could be improved?

24. Do you need any further information to help you at this stage?

APPENDIX IV:1.

EYSENCK PERSONALITY INVENTORY by H.J. Eysenck and Sybil B.G. Eysenck

PERSONALITY QUESTIONNAIRE FORM A

NAME_____AGE_____

OCCUPATION_____SEX_____

N = E = L =

Instructions

Here are some questions regarding the way you behave, feel and act. After each question is a space for answering "YES" or "NO".

Try to decide whether "YES" or "NO" represents your usual way of acting or feeling. Then put a cross in the circle under the column headed "YES" or "NO". Work quickly, and don't spend too much time over any question; we want your first reaction, not a long-drawn out thought process. The whole questionnaire shouldn't take more than a few minutes. Be sure not to omit any questions.

Now turn the page over and go ahead. Work quickly, and remember to answer every question. There are no right or wrong answers, and this isn't a test of intelligence or ability, but simply a measure of the way you behave.

FORM A	YES	NO
1. Do you often long for excitement?		
2. Do you often need understanding friends to cheer you up?		
3. Are you usually carefree?		
4. Do you find it very hard to take no for an answer?		
5. Do you stop and think things over before doing anything?		
6. If you say you will do something do you always keep your promise, no matter how inconvenient it might be to do so?		

YES NO

7. Does your mood often go up and down?

8. Do you generally do and say things quickly without stopping to think?

9. Do you ever feel "just miserable" for no good reason?

10. Would you do almost anything for a dare?

11. Do you suddenly feel shy when you want to talk to an attractive stranger?

12. Once in a while do you lose your temper and get angry?

13. Do you often do things on the spur of the moment?

14. Do you often worry about things you should not have done or said?

15. Generally, do you prefer reading to meeting people?

16. Are your feelings rather easily hurt?

17. Do you like going out a lot?

18. Do you occasionally have thoughts and ideas that you would not like other people to know about?

19. Are you sometimes bubbling over with energy and sometimes very sluggish?

20. Do you prefer to have few but special friends?

21. Do you daydream a lot?

22. When people shout at you, do you shout back?

23. Are you often troubled about feelings of guilt?

24. Are <u>all</u> your habits good and desirable ones?

25. Can you usually let yourself go and enjoy yourself a lot at a gay party?

26. Would you call yourself tense or "highly-strung"?

27. Do other people think of you as being very lively?

28. After you have done something important, do you often come away feeling you could have done better?

29. Are you mostly quiet when you are with other people?

YES NO

30. Do you sometimes gossip?

31. Do ideas run through your head so that you cannot sleep?

32. If there is something you want to know about, would you rather look it up in a book than talk to someone about it?

33. Do you get palpitations or thumping in your heart?

34. Do you like the kind of work that you need to pay close attention to?

35. Do you get attacks of shaking or trembling?

36. Would you always declare <u>everything</u> at the customs, even if you knew that you could never be found out?

37. Do you hate being with a crowd who play jokes on one another?

38. Are you an irritable person?

39. Do you like doing things in which you have to act quickly?

40. Do you worry about awful things that might happen?

41. Are you slow and unhurried in the way you move?

42. Have you ever been late for an appointment or for work?

43. Do you have many nightmares?

44. Do you like talking to people so much that you never miss a change of talking to a stranger?

45. Are you troubled by aches and pains?

46. Would you be very unhappy if you could not see lots of people most of the time?

47. Would you call yourself a nervous person?

48. Of all the people you know, are there some whom you definitely do not like?

49. Would you say that you were fairly self-confident?

50. Are you easily hurt when people find fault with you or your work?

	YES	NO
51. Do you find it hard to really enjoy yourself at a lively party?		
52. Are you troubled with feelings of inferiority?		
53. Can you easily get some life into a rather dull party?		
54. Do you sometimes talk about things you know nothing about?		
55. Do you worry about your health?		
56. Do you like playing pranks on others?		
57. Do you suffer from sleeplessness?		

APPENDIX IV:2.

WILLOUGHBY QUESTIONNAIRE TEST FORM

SURNAME.....

CHRISTIAN NAMES.....

AGE.....SEX.....

ADDRESS.....

.....

REVISED WILLOUGHBY
QUESTIONNAIRE FOR
S-A

INSTRUCTIONS:

The questions in this schedule are intended to indicate various emotional personality traits. It is not a test in any sense because there are no right and wrong answers to any of the questions.

After each question you will find a row of numbers whose meaning is given below. All you have to do is to draw a ring around the number that describes you best.

0 means "No", "Never", "not at all", etc.
1 means "Somewhat", "sometimes", "a little", etc.
2 means "About as often as not", "an average amount", etc.
3 means "Usually", "A good deal", "rather often", etc.
4 means "Practically always", "entirely", etc.

1. Do you get anxious if you have to speak or perform in any way in front of a group of strangers? - 0 1 2 3 4

2. Do you worry if you make a fool of yourself, or feel you have been made to look foolish? - 0 1 2 3 4

3. Are you afraid of falling when you are on a high place from which there is no real danger of falling - for example, looking down from a balcony on the tenth floor? - 0 1 2 3 4

4. Are you easily hurt by what other people do or say to you? - 0 1 2 3 4

5. Do you keep in the background on social occasions? - 0 1 2 3 4

6. Do you have changes of mood that you cannot explain? - 0 1 2 3 4

7. Do you feel uncomfortable when you meet new people? 0 1 2 3 4

8. Do you daydream frequently, i.e. indulge in fantasies not involving concrete situations? - 0 1 2 3 4

9. Do you get discouraged easily, e.g. by failure or criticism? - 0 1 2 3 4

10. Do you say things in haste and then regret them? - 0 1 2 3 4

11. Are you ever disturbed by the mere presence of other people? - 0 1 2 3 4

12. Do you cry easily? - 0 1 2 3 4

13. Does it bother you to have people watch you work even when you do it well? - 0 1 2 3 4

14. Does criticism hurt you badly? - 0 1 2 3 4

15. Do you cross the street to avoid meeting someone? - 0 1 2 3 4

16. At a reception or tea do you go out of your way to avoid meeting the important person present? - 0 1 2 3 4

17. Do you often feel just miserable? - 0 1 2 3 4

18. Do you hesitate to volunteer in a discussion or debate with a group of people whom you know more or less? 0 1 2 3 4

19. Do you have a sense of isolation, either when alone or among people? - 0 1 2 3 4

20. Are you self-conscious before 'superiors' (teachers, employers, authorities)? - 0 1 2 3 4

21. Do you lack confidence in your general ability to do things and to cope with situations? - 0 1 2 3 4

22. Are you self-conscious about your appearance even when you are well-dressed and groomed? - 0 1 2 3 4

23. Are you scared at the sight of blood, injuries, and destruction even though there is no danger to you? - 0 1 2 3 4

24. Do you feel that other people are better than you? - 0 1 2 3 4

25. Is it hard for you to make up your mind? - 0 1 2 3 4

APPENDIX IV:3.

BERNREUTER SELF-SUFFICIENCY SCALE TEST FORM

SURNAME.....

CHRISTIAN NAMES.....

AGE.....SEX.....

ADDRESS.....

.....

BERNREUTER S - S SCALE

PLEASE read through each question and draw a ring around your answer.

"Yes" if you agree

"No" if you disagree

"?" if you can't decide

1. Yes No ? Would you rather work for yourself than carry out the program of a superior whom you respect?

2. Yes No ? Do you usually enjoy spending an evening alone?

3. Yes No ? Have books been more entertaining to you than companions?

4. Yes No ? Do you feel the need of wider social contacts than you have?

5. Yes No ? Are you easily discouraged when the opinions of others differ from your own?

6. Yes No ? Does admiration gratify you more than achievement?

7. Yes No ? Do you usually prefer to keep your opinions to yourself?

8. Yes No ? Do you dislike attending the movies alone?

9. Yes No ? Would you like to have a very congenial friend with whom you could plan daily activities?

10. Yes No ? Can you calm your own fears?

11. Yes No ? Do jeers humiliate you even when you know you are right?

12. Yes No ? Do you think you could become so absorbed in creative work that you would not notice the lack of intimate friends?

13. Yes No ? Are you willing to take a chance alone in a situation of doubtful outcome?

14. Yes No ? Do you find conversation more helpful in formulating your ideas than reading?

15. Yes No ? Do you like to shop alone?

16. Yes No ? Does your ambition need occasional stimulation through contacts with successful people?

17. Yes No ? Do you have difficulty in making up your mind?

18. Yes No ? Would you prefer making your own arrangements on a trip to a foreign country to going on a prearranged trip?

19. Yes No ? Are you much affected by praise, or blame, of many people?

20. Yes No ? Do you usually avoid taking advice?

21. Yes No ? Do you consider the observance of social customs and manners an essential aspect of life?

22. Yes No ? Do you want someone with you when you receive bad news?

23. Yes No ? Does it make you uncomfortable to be "different" or unconventional.

24. Yes No ? Do you prefer to make hurried decisions alone?

25. Yes No ? If you were to start out in research work would you prefer to be an assistant in another's project rather than an independent worker on your own?

26. Yes No ? When you are low in spirits do you try to find someone to cheer you up?

27. Yes No ? Have you preferred being alone most of the time?

28. Yes No ? Do you prefer travelling with someone who will make all the necessary arrangements to the adventure of travelling alone?

29. Yes No ? Do you usually work things out rather than get someone to show you?

30. Yes No ? Do you like especially to have attention from acquaintances when you are ill?

31. Yes No ? Do you prefer to face dangerous situations alone?

32. Yes No ? Can you usually see wherein your mistakes lie without having them pointed out to you?

33. Yes No ? Do you like to make friends when you go to new places?

34. Yes No ? Can you stick to a tiresome task for long without someone prodding or encouraging you?

35. Yes No ? Do you experience periods of loneliness?

36. Yes No ? Do you like to get many views from others before making an important decision?

37. Yes No ? Would you dislike any work which might take you into isolation for a few years, such as forest ranging, etc.?

38. Yes No ? Do you prefer a play to a dance?

39. Yes No ? Do you usually try to take added responsibility upon yourself?

40. Yes No ? Do you make friends easily?

41. Yes No ? Can you be optimistic when others about you are greatly depressed?

42. Yes No ? Do you try to get your own way even if you have to fight for it?

43. Yes No ? Do you like to be with other people a great deal?

44. Yes No ? Do you get as many ideas at the time of reading as you do from a discussion of it afterwards?

45. Yes No ? In sports do you prefer to participate in individual competitions rather than in team games?

46. Yes No ? Do you usually face your troubles alone without seeking help?

47. Yes No ? Do you see more fun or humour in things when you are in a group than when you are alone?

48. Yes No ? Do you dislike finding your way about in strange places?

49. Yes No ? Can you work happily without praise or recognition?

50. Yes No ? Do you feel that marriage is essential to your happiness?

51. Yes No ? If all but a few of your friends threatened to break relations because of some habit they considered a vice in you, and in which you saw no harm, would you stop the habit to keep your friends?

52. Yes No ? Do you like to have suggestions offered to you when you are working a puzzle?

53. Yes No ? Do you usually prefer to do your own planning alone rather than with others?

54. Yes No ? Do you usually find that people are more stimulating to you than anything else?

55. Yes No ? Do you prefer to be alone at times of emotional stress?

56. Yes No ? Do you like to bear responsibilities alone?

57. Yes No ? Can you usually understand a problem better by studying it out alone than by discussing it with others?

58. Yes No ? Do you find that telling others of your own personal good news is the greatest part of the enjoyment of it?

59. Yes No ? Do you generally rely on your judgment?

60. Yes No ? Do you like playing games in which you have no spectators?

APPENDIX IV:4.

FEAR SURVEY SCHEDULE TEST FORM

SURNAME.....

CHRISTIAN NAMES.....

AGE.....SEX.....

ADDRESS.....

.....

F INVENTORY

The items in this questionnaire refer to things and experiences that may cause fear or other unpleasant feelings. Write the number of each item in the column that describes how much you are disturbed by it nowadays.

	Not at All	A Little	A Fair Amount	Much	Very Much
1. Noise of vacuum cleaners					
2. Open wounds					
3. Being alone					
4. Being in a strange place					
5. Loud voices					
6. Dead people					
7. Speaking in public					
8. Crossing streets					
9. People who seem insane					
10. Falling					
11. Automobiles					
12. Being teased					
13. Dentists					
14. Thunder					

15. Sirens

16. Failure

17. Entering a room where others are already seated

18. High places on land

19. Looking down from high buildings

20. Worms

21. Imaginary creatures

22. Strangers

24. Bats

25. Journeys by train

26. Journeys by bus

27. Journeys by car

28. Feeling angry

29. People in authority

30. Flying insects

31. Seeing other people injected

32. Sudden noises

33. Dull weather

34. Crowds

35. Large open spaces

36. Cats

37. One person bullying another

38. Tough looking people

39. Birds

40. Sight of deep water

41. Being watched working

42. Dead animals

43. Weapons

44. Dirt

45. Crawling insects

46. Sight of fighting

47. Ugly people

48. Fire

49. Sick people

50. Dogs

51. Being criticized

52. Strange shapes

53. Being in an elevator

54. Witnessing surgical operations

55. Angry people

56. Mice

57. Blood
    a - Human
    b - Animal

58. Parting from friends

59. Enclosed places

60. Prospect of a surgical operation

61. Feeling rejected by others

62. Airplanes

63. Medical odours

64. Feeling disapproved of

65. Harmless snakes

66. Cemeteries

67. Being ignored

68. Darkness

69. Premature heart beats
    (Missing a beat)

70. Nude Men (a)
    Nude Women (b)

71. Lightning

72. Doctors

73. People with deformities

74. Making mistakes

75. Looking foolish

76. Losing control

77. Fainting

78. Becoming nauseous

79. Spiders

80. Being in charge or responsible for decisions

81. Sight of knives or sharp objects

82. Becoming mentally ill

83. Being with a member of the opposite sex

84. Taking written tests

85. Being touched by others

86. Feeling different from others

87. A lull in conversation

APPENDIX IV:5.

FEAR SURVEY SCHEDULE SELECTED 25 ITEMS

Nos.

3. Being alone
4. Being in a strange place
7. Speaking in public
12. Being teased
16. Failure
17. Entering a room where others are already seated
22. Strangers
28. Feeling angry
29. People in authority
37. One person bullying
38. Tough looking people
51. Being criticized
55. Angry people
61. Feeling rejected by others
64. Feeling disapproved of
67. Being ignored
74. Making mistakes
75. Looking foolish
76. Losing control
80. Being in charge or responsible for decisions
82. Becoming mentally ill
83. Being with a member of the opposite sex

84. Taking written tests

86. Feeling different from others

87. A lull in conversation

APPENDIX IV:6.

71 ITEM SUD SCALE TEST FORM

SURNAME.....

CHRISTIAN NAMES.....

AGE.....

SUD Scale

Think of the worst anxiety, strain, tension or pressure you have ever experienced, or can imagine experiencing, and give this the number 100.

Now think of the state of being absolutely calm and call this zero, i.e. 0.

This gives you a scale from 0 to 100.

So now look at the items listed below - Give them each a number according to how much anxiety, strain, tension or pressure you feel that you would experience in being made to carry out each of the speech tasks listed.

No.

1. (1) Asking a favour or for assistance.

1. (2) Saying something you know your listener will not like to hear.

1. (3) Giving an excuse.

1. (4) Answering to an accusation that you were wrong.

1. (5) Standing up for your rights in an argument.

1. (6) Expressing your opinion, giving your ideas, getting your message across.

1. (7) Talking to a person in authority at your work - your boss for instance.

1. (8) Talking to a person in authority outside the work situation - for instance, a doctor or policeman.

1. (9) When you have to "tell someone off" and say what they did incorrectly.

2. (1) Speaking to someone in your family.

2. (2) Talking to a close friend.

2. (3) Speaking to a person younger than you.

2. (4) Speaking to someone older than you.

2. (5) Speaking to a person you dislike.

2. (6) Greeting people when you meet them.

2. (7) Saying "farewell" when people leave.

2. (8) Talking to a member of the opposite sex that you know.

2. (9) Talking to a person of the opposite sex who is a stranger.

2. (10) Introducing yourself.

2. (11) Making introductions amongst your acquaintances.

2. (12) Speaking to a group of people you know.

2. (13) Talking to a group of people who are mainly strangers.

2. (14) Joining in the conversation at a party or social occasion.

2. (15) Giving orders for what you want when out socially at say a restaurant or theatre.

2. (16) Speaking when the attention of a group of people is on you.

2. (17) Continuing to speak although someone makes fun of your speech problem causing you to feel angry or embarrassed.

2. (18) Speaking in a situation when you feel you cannot be your true self.

2. (19) Speaking to someone who appears impatient, bored or disinterested in what you are saying.

2. (20) Talking to a domineering person.

3. (1) When you feel you must speak quickly.

3. (2) Having to talk when you feel short of breath.

3. (3) Answering a question when unsure of the answer.

3. (4) Expressing yourself when you are not sure what you really wish to say.

3. (5) Having to speak when you are embarrassed.

3. (6) Speaking when you are frustrated by something.

3. (7) Talking when you feel excited.

3. (8) Speaking when you feel scared.

3. (9) Speaking after you have been in an emotional state such as an argument.

3. (10) Having to speak when you feel you are "put on the spot".

3. (11) Having to talk when you feel tired or rundown or not in the best of health.

3. (12) Having to talk when you are worried by other matters.

3. (13) Having to talk when you feel under pressure of say exams, work or late nights.

3. (14) Having to speak when you feel depressed.

4. (1) Reading out aloud.

4. (2) Answering the door.

4. (3) Answering the telephone.

4. (4) Asking for something in a shop.

4. (5) Having to talk to a stranger.

4. (6) Talking to your colleagues at work.

4. (7) Talking on the telephone to someone you know.

4. (8) Talking on the telephone to a stranger.

4. (9) Talking into a microphone.

4. (10) Giving information such as name, address, age, directions, telephone numbers when requested.

4. (11) Passing on a message correctly.

4. (12) Asking for something specific giving all the details.

4. (13) Explaining something specific giving all the details.

4. (14) Speaking in a formal way as would be required in committee meetings etc.

4. (15) Going for an interview and answering all the questions required.

4. (16) Giving a speech or addressing a group of people.

5. (1) Talking to someone when there is a distracting noise you have to talk over.

5. (2) Answering a question when you know the answer.

5. (3) Answering to someone when caught by surprise.

5. (4) Having to say something when you are in a hurry.

5. (5) Having to wait to get in what you want to say.

5. (6) Having to continue talking or conversing for a long time.

5. (7) Talking when you are aware others are listening in.

5. (8) When people anticipate what you will say or cut in on your conversation.

5. (9) Continuing to speak when you have been stuttering.

5. (10) Continuing to speak when others draw attention to your speech problem.

5. (11) When you think a word will give you difficulty but you have to say that word.

5. (12) Having to repeat what you said.

APPENDIX IV:7.

PERSONAL SUD SCALE TEST FORM

S Situations and SUD Questionnaire

SURNAME.....CHRISTIAN NAME.....

AGE.....

ADDRESS.....

TELEPHONE.....

Please write in space provided below, the ten situations in which you think you stutter most, or in which your stutter embarrasses you the most. You can include specific situations or types of person; or general circumstances in which you find your stutter bothers you, including how you feel internally.

1.

2.

3.

4.

5.

6.

7.

8.

9.

10.

NOW think of the worse anxiety, strain, tension or pressure you have ever experienced, or can imagine experiencing, and give this the number 100.

Now think of the state of being absolutely calm and call this zero, i.e. 0.

Now you have a scale. So now look at the 10 items you listed above - Give them each a number according to how much anxiety, strain, tension or pressure, you feel that you would experience in being made to carry out each of the speech tasks listed. For each item place the number you choose between 0 - 100 in the margin in front of the item number (think of 50 as half way mark, 25 quarter way, etc.)

Thank you for your cooperation.

APPENDIX IV:8.

Johnson Job Task (spontaneous speech) data for 9 Ss.

	Percentage Stutters (No. nonfluencies / total words spoken X 100)			Total Word Rate (No. words spoken/minute)		
Subjects	BT	AT	% change	BT	AT	% change
1	30.9	19.7	36.3	108.0	118.8	10.0
2	23.1	26.0	-12.6	74.6	96.0	28.7
3	4.3	2.3	46.5	149.6	139.4	- 6.8
4	35.2	5.8	83.5	102.4	148.0	44.5
5	38.2	20.4	46.6	94.8	100.0	5.5
6	11.4	10.1	11.4	101.8	118.6	16.5
7	22.0	11.7	46.8	73.6	114.2	55.2
8	32.1	12.7	60.4	96.0	151.6	57.9
9	33.3	13.9	58.3	77.0	115.2	49.6
Mean	25.6	13.6	41.9	97.5	122.4	29.0
SD	10.8	7.0	26.5	22.1	18.7	22.4

BT = before treatment

AT = after treatment

$$\% \text{ change} = \frac{(AT - BT)}{BT} \times 100$$

APPENDIX IV:9.

Specific Situation Test ("Talking to a Stranger for 10 mins.") data for 8 Ss.

Subjects	Percentage Stutters ($\frac{\text{No. nonfluences}}{\text{total words spoken}} \times 100$)			Total Word Rate (No. words spoken/minute)		
	BT	AT	% change	BT	AT	% change
1	32.2	17.4	46.0	93.8	115.0	22.6
2	10.8	21.8	-101.9	79.9	77.0	- 3.6
3	6.4	4.8	25.0	66.8	90.9	36.1
4	43.5	25.6	41.2	54.7	83.3	52.3
5	21.9	10.8	50.7	44.7	79.6	78.1
6	16.5	8.8	46.7	66.6	68.0	2.1
7	35.8	10.1	71.8	73.5	129.0	75.5
8	28.5	16.4	42.5	60.7	115.5	90.3
Mean	24.4	14.5	27.7	67.6	94.8	44.2
SD	12.0	6.6	50.5	14.2	20.7	33.4

BT = before treatment

AT = after treatment

$$\% \text{ change} = \left(\frac{AT - BT}{BT}\right) \times 100$$

APPENDIX IV:10.

Data for Ss on the Ianyon Severity Scale, Manifest Anxiety Scale and Sentence Completion Test.

	LSS: N=10 (perceived stuttering severity)			MAS: N=11 (manifest anxiety)			SCT: N=9 (concern over speech)		
Subjects	BT	AT	d	BT	AT	d	BT	AT	d
1	40	35	5	28	19	9	20	16	4
2	40	35	5	13	8	5	21	28	-7
3	34	34	0	17	14	3	13	16	-3
4	25	7	18	7	9	-2	16	14	2
5	53	25	28	27	33	-6	15	16	-1
6	49	57	-8	11	7	4	14	21	-7
7	44	46	-2	16	15	1	12	13	-1
8	35	34	1	18	24	-6	26	16	10
9	44	48	-4	28	20	8	33	27	6
10	46	49	-3	20	20	0			
11				8	12	-4			
Mean	41.0	37.0	4.0	17.5	16.4	1.1	18.9	18.6	0.3
SD	7.7	13.5	10.4	7.3	7.4	5.0	6.5	5.2	5.4

BT = before treatment

AT = after treatment

d = difference = (BT-AT)

APPENDIX IV:11.

Data for 11 Ss on Specific SUD Scale using overall mean of the 7 items

Subjects	BT	AT	d	% change
1	25.7	20.0	5.7	22.2
2	50.0	25.0	25.0	50.0
3	46.4	65.0	-18.6	-40.1
4	35.0	29.3	5.7	16.3
5	77.9	80.0	- 2.1	- 2.7
6	24.3	11.4	12.9	53.1
7	42.8	32.8	10.0	23.4
8	42.1	55.7	-13.6	-32.3
9	40.0	60.7	-20.7	-51.8
10	58.6	41.4	17.2	29.2
11	52.8	50.0	2.8	5.3
Mean	45.0	42.8	2.2	6.6
SD	14.4	20.3	14.0	33.5

BT = before treatment

AT = after treatment

d = difference = (BT-AT)

$$\% \text{ change} = \frac{(BT-AT)}{(BT)} \times 100$$

APPENDIX IV:12.

Data for 9Ss on 16PF second-order and criterion measure estimates.

	Exvia			Anxiety			Independence		
Subjects	BT	AT	d	BT	AT	d	BT	AT	d
1	9.96	8.04	1.92	9.04	3.23	5.81	5.11	5.94	0.83
2	5.46	7.07	-1.61	6.43	4.52	1.91	5.91	5.04	0.87
3	6.52	5.12	1.40	5.74	5.74	0.00	4.72	4.32	0.40
4	7.04	5.82	1.22	7.95	4.76	3.19	8.66	8.65	0.01
5	4.62	5.46	-0.84	5.03	3.98	1.05	5.55	5.88	-0.33
6	2.92	3.23	-0.31	8.00	5.23	2.77	8.03	8.19	-0.16
7	6.33	5.61	0.72	9.84	7.46	2.38	6.61	6.33	0.28
8	4.74	4.54	0.20	8.53	8.10	0.43	6.12	4.25	1.87
9	6.20	5.19	1.01	8.81	4.46	4.35	4.92	6.38	-1.46
Mean	5.98	5.56	0.42	7.71	5.28	2.43	6.18	6.11	0.07
SD	1.84	1.30	1.08	1.53	1.50	1.76	1.29	1.44	0.91

	Neuroticism			Leadership			Psychoticism		
Subjects	BT	AT	d	BT	AT	d	BT	AT	d
1	7.61	3.44	4.17	4.72	8.40	-3.68	6.30	2.20	4.10
2	7.81	4.93	2.88	4.16	5.87	-1.71	7.20	5.80	1.40
3	6.25	6.10	0.15	5.43	4.91	0.52	5.70	5.40	0.30
4	5.19	4.31	0.88	4.91	6.39	-1.48	7.50	5.00	2.50
5	5.25	3.78	1.47	6.70	6.70	0.00	6.80	4.60	2.20
6	9.37	6.13	3.24	1.23	2.73	-1.50	7.70	9.90	-2.20
7	8.64	7.82	0.82	1.81	4.46	-2.65	10.30	8.80	1.50
8	9.36	7.91	1.45	2.72	3.78	-1.06	7.40	6.40	1.00
9	6.56	3.06	3.50	3.85	6.33	-2.48	6.50	4.00	2.50
Mean	7.34	5.28	2.06	3.95	5.51	-1.56	7.27	5.79	1.48
SD	1.53	1.71	1.33	1.66	1.62	1.23	1.23	2.22	1.65

BT = before treatment

AT = after treatment

d = difference = $|BT-AT|$

APPENDIX IV:13.

Data for 9 Ss on the Eysenck Personality Inventory, Willoughby Questionnaire and Bernreuter Self-Sufficiency Inventory.

	EPI Neuroticism			EPI Extraversion			EPI Lie Index		
Subjects	BT	AT	d	BT	AT	d	BT	AT	d
1	16	15	1	18	18	0	1	0	1
2	8	12	-4	15	13	-2	2	3	-1
3	7	7	0	10	12	2	4	3	1
4	15	6	9	18	17	-1	3	5	-2
5	9	8	1	8	8	0	3	3	0
6	10	12	-2	12	15	3	2	0	2
7	20	14	6	13	12	-1	5	4	1
8	14	14	0	14	14	0	1	2	-1
9	3	7	-4	19	18	-1	3	1	2
Mean	11.3	10.6	0.7	14.1	14.1	0.0	2.7	2.4	0.3
SD	5.0	3.3	4.1	3.6	3.1	1.5	1.2	1.6	1.3

	Will Q. (emotional sensitivity)			BSS (self-sufficiency estimate)		
Subjects	BT	AT	d	BT	AT	d
1	31	40	-9	22	22	0
2	40	38	2	21	21	0
3	32	29	3	13	18	5
4	32	14	18	32	38	6
5	31	28	3	27	34	7
6	40	54	-14	37	30	-7
7	57	47	10	17	17	0
8	40	28	12	11	9	-2
9	27	31	- 4	29	23	-6
Mean	36.7	34.4	2.3	23.3	23.6	0.3
SD	8.5	11.2	9.6	8.3	8.5	4.7

BT = before treatment

AT = after treatment

d = difference = |BT-AT|

APPENDIX IV:14.

Data for 9 Ss on the Fear Survey Schedule.

	FSS: Nominal (no. speech related fears i.e. no. rated ⩾ 3 on 1 to 5 scale			FSS: Ordinal (cumulative rating over 25 possible speech-related items taken from the Nominal measure)		
Subjects	BT	AT	d	BT	AT	d
1	11	8	3	43	29	14
2	6	10	-4	20	32	-12
3	8	11	-3	34	38	- 4
4	7	3	4	27	7	20
5	2	1	1	8	5	3
6	9	18	-9	28	68	-40
7	17	20	-3	70	81	-11
8	16	13	3	59	42	17
9	3	10	-7	13	28	-15
Mean	8.8	10.4	-1.6	33.5	36.7	-3.2
SD	4.9	5.8	4.4	19.4	23.6	18.0

BT = before treatment

AT = after treatment

d = different = (BT-AT)

APPENDIX IV:15.

Data for 9 Ss on the 71 item SUD scale measuring "fear-associated-with-speech"

	71 SUD (mean "suds" over 1st 9 items desensitized)		71 SUD (overall mean "suds" over total 71 items)	
Subjects	BT	AT	BT	AT
1	33.3	31.1	30.2	31.4
2	38.9	55.6	45.1	52.8
3	45.9	41.7	43.5	41.1
4	53.9	13.3	43.1	13.9
5	46.7	53.3	40.0	51.5
6	48.3	33.9	51.8	61.4
7	30.0	55.6	52.2	55.1
8	44.4	57.8	50.8	55.7
9	48.9	41.1	51.2	46.2
Mean	43.4	42.6	45.3	45.4
SD	7.3	14.0	6.8	14.0

BT = before treatment

AT = after treatment

BIBLIOGRAPHY

1. ADAMS, M.R. Psychological differences between stutterers and nonstutterers: A review of the experimental literature. J. Communication Dis., 1969, 2, 163-170.

2. ALBERTI, R.E. and EMMONS, M.L. Your Perfect Right : A Guide to Assertive Behaviour. San Luis Obispo, California: Impact, 1971.

3. ANDREWS, G. Stuttering: Theoretical and therapeutic considerations: II. Syllable timed speech, group psychotherapy and recovery from stuttering. Australian Psychologist, 1967, 2 (1). Paper read at Australian Psychological Society Annual Conference, 1967.

4. ANDREWS, G. and HARRIS, M. The Syndrome of Stuttering (Clinics in Developmental Medicine, No. 17). London: Heinemann Medical Books, 1964.

5. ANDREWS, G. and INGHAM, R.J. Personal communication, 1971 (overview of 6 papers published by authors during 1971 in J. Communication Dis. and Br. J. Communication Dis.)

6. ARON, MYRTLE L. The relationships between measurements of stuttering behaviour. Journal of the South African Logopedic Society, 1967, 14, 15-34.

7. ASCOUGH, J.C. and SIPPRELLE, C.N. Operant verbal conditioning of autonomic responses. Behav. Res. and Therapy, 1968, 6, 363-370.

8. BANDURA, A. Principles of Behaviour Modification. N.Y.: Holt, Rinehart and Winston, 1969.

9. BAR, A. Effects of listening instructions on attention to manner and content of stutterers' speech. J. Speech Hear. Res., 1967, 10, 87-92.

10. BAR, A. Analyses of roles, stuttering and interaction processes during interviews with stutterers. J. Communication Dis., 1969, 2, 126-140.

11. BAR, A. The shaping of fluency not the modification of stuttering. J. Communication Dis., 1971, 4, 1-8.

12. BARATZ, JOAN C. Language in the economically disadvantaged child: A perspective. A Journal of the American Speech and Hearing Association, 1968, 10, 143-145.

13. BARBARA, D.A. (Ed.) The Psychotherapy of Stuttering. Springfield: C.C. Thomas, 1962.

14. BARBARA, D.A., GOLDART, H. and GRAM, C. Group psychoanalysis with adult stutterers. Amer. J. Psychoanal., 1961, 21, 40-57.

15. BARBER, T.X. Hypnotizability, suggestibility and personality: V. A critical review of research findings. Psychol. Reports, 1964, 14 (Monogr. Suppl. 3).

16. BARBER, V. Studies in the psychology of stuttering, XV. Chorus reading as a distraction in stuttering. J. Speech Dis., 1939, 4, 371-383.

17. BEAN, K.L. Desensitization, behaviour rehearsal, then reality: A preliminary report on a new procedure. Behaviour Therapy, 1970, 1, 542-545.

18. BECK, A.T. Cognitive therapy: Nature and relation to behaviour therapy. Behaviour Therapy, 1970, 1, 184-200.

19. BEDNAR, R.L. Persuasibility and the power of belief. Personnel and Guidance Journal, 1970, 48, 647-652.

20. BEECH, R. Stuttering and stammering. Psychology Today, 1967, 1, 48-51, 61.

21. BEECH, H.R. and FRANSELLA, FAY. Research and Experiment in Stuttering. Oxford: Pergamon, 1968.

22. BEECHER, H.K. The powerful placebo. Amer. Med. Assoc. Journal, 1955, 159, 1602-1606.

23. BERGIN, A.E. Cognitive therapy and behaviour therapy: Foci for a multidimensional approach to treatment. Behaviour Therapy, 1970, 1, 205-212.

24. BERWICK, NAOMI. Stuttering in response to photographs of selected listeners. In Johnson, W. (Ed.). Stuttering in Children and Adults. Minneapolis: University of Minnesota Press, 1955.

25. BESOZZI, T.E. and ADAMS, M.R. The influence of prosody on stuttering adaptation. J. Speech Hear. Res., 1969, 12, 818-824.

26. BIGGS, BARBARA and SHEEHAN, J. Punishment or distraction? Operant stuttering revisited. J. Abnorm. Psychol., 1969, 74, 256-262.

27. BLOCH, ELLIN, L. and GOODSTEIN, L.D. Functional speech disorders and personality: A decade of research. J. Speech Hear. Dis., 1971, 36, 295-314.

28. BLOODSTEIN, O. A rating scale study of conditions under which stuttering is reduced or absent. J. Speech Hear. Dis., 1950, 15, 29-36.

29. BLOODSTEIN, O. Stuttering for Professional Workers. Chicago: National Society for Crippled Children and Adults, 1959.

30. BLOODSTEIN, O. The development of stuttering: I. Changes in nine basic features. J. Speech Hear. Dis., 1960, 25, 219-237. (a).

31. BLOODSTEIN, O. The development of stuttering: II. Development phases. J. Speech Hear. Dis., 1960, 25, 366-376. (b).

32. BLOODSTEIN, O. The development of stuttering: III Theoretical and clinical implications. J. Speech Hear. Dis., 1961, 26, 67-82.

33. BLOODSTEIN, O. and GANTWERK, BARBARA F. Grammatical function in relation to stuttering in young children. J. Speech Hear. Res., 1967, 10, 786-789.

34. BOLAND, J.L. (Jr.) A comparison of stutterers and non-stutterers on several measures of anxiety. Ph.D. thesis, University of Michigan, 1952.

35. BOREL-MAISONNY, S. Retard de parole évoluant vers un bégaiement: Etude de quelques cas typiques. (Delayed speech evolving towards stammering: A study of some typical cases.) Annales Médico-Psychologiques, 1966, 2, 531.

36. BOURDON, KAREN H. and SILBER, D.E. Perceived parental behaviour among stutterers and nonstutterers. J. Abnorm. Psychol., 1970, 75, 93-97.

37. BRADY, J.P. A behavioural approach to the treatment of stuttering. Amer. J. Psychiat., 1968, 6, 155-160.

38. BRADY, J.P. Studies on the metronome effect on stuttering. Behav. Res. and Therapy, 1969, 7, 197-204.

39. BRADY, J.P. Metronome-conditioned speech retraining for stuttering. Behaviour Therapy, 1971, 2, 129-150.

40. BRANDON, S. and HARRIS, MARY. Stammering: An experimental treatment programme using syllable-timed-speech. Brit. J. Disord. Commun., 1967, 2, 64-68.

41. BROOKSHIRE, R.H. Speech pathology and the experimental analysis of behaviour. J. Speech Hear. Dis., 1967, 32, 215-227.

42. BROOKSHIRE, R.H. and MARTIN, R.R. The differential effects of three verbal punishers on the disfluencies of normal speakers. J. Speech Hear. Res., 1967, 10, 496-505.

43. BROWN, S.F. The loci of stutterings in the speech sequence. J. Speech Dis., 1945, 10, 181-192.

44. BROWNING, R.M. Behaviour-therapy for stuttering in a schizophrenic child. Behav. Res. and Therapy, 1967, 5, 27-35.

45. BRUTTEN, E.J. and SHOEMAKER, D.J. The Modification of Stuttering. Englewood Cliffs, N.J.: Prentice Hall Inc., 1967.

46. BRUTTEN, G.J. and SHOEMAKER, D.J. Additional comments on 'The Modification of stuttering'. J. Communication Dis. 1970, 3, 68-75.

47. BRYNGELSON, B. Sidedness as an etiological factor in stuttering. Pedagog. Semin., 1935, 47, 204-217.

48. BUCHER, B. and FABRICATORE, J. Use of patient-administered shock to suppress hallucinations. Behaviour Therapy, 1970, 1, 382-385.

49. BURKE, B.D. Reduced auditory feedback and stuttering. Behav. Res. and Therapy, 1969, 7, 303-308.

50. BUROS, O.K. Personality Test and Reviews. New Jersey: Gryphon Press, 1970.

51. CAHOON, D.D. and TURNER, A.J. Three hypotheses concerning the establishment and maintenance of psychosomatic processes. Behaviour Therapy, 1971, 2, 97-100.

52. CALEF, RUTH A. and MACLEAN, G.D. A comparison of reciprocal inhibition and reactive inhibition therapies in the treatment of speech anxiety. Behaviour Therapy, 1970, 1, 51-58.

53. CARR, B.M. Speculation on vocal adaptation of stutterers and nonstutterers. J. Speech Hear. Res., 1969, 12, 665-666.

54. CATTELL, R.B. Handbook for the Sixteen Personality Factor Questionnaire. Instit. Personality and Ability Testing. Champaign, Illinois, 1962.

55. CATTELL, R.B., EBER, H.W. and TATSUOKA, M.M. Handbook for the Sixteen Personality Factor Questionnaire (16PF). Champaign, Illinois: Institute for Personality and Ability Testing, 1970.

56. CAUTELA, J.R. Covert reinforcement. Behaviour Therapy, 1970, 1, 33-50.

57. CAUTELA, J.R. Covert extinction. Behaviour Therapy, 1971, 2, 192-200.

58. CHANEY, CAROLYN F. Loci of disfluencies in the speech of nonstutterers. J. Speech Hear. Res., 1969, 12, 667-668.

59. CHERRY, E.C. Some experiments on the recognition of speech, with one and with two ears. J. Acoust. Soc. Amer., 1953, 25, 975-979.

60. CHERRY, E.C. and SAYERS, B.M. Experiments upon the total inhibition of stammering by external control, and some clinical results. J. Psychosm. Res., 1956, 1, 233-246.

61. CHEVELEVA, N.A. Rech' zaikayvshchikhysa detei (Speech of stuttering children). Defektologiya, 1971, 3, 17-21.

62. CLARKE, A.M., MONTGOMERY, R.B. and VINEY, L.L. The psychology of punishment and its social implications. Australian Psychologist, 1971, 6, 4-18.

63. COMBS, A.W., AVILA, D.L. and PURKEY, W.W. Helping Relationships. Boston: Allyn and Bacon, 1972.

64. CONGER, JUDITH, C. The modification of interview behaviour by client use of social reinforcement. Behaviour Therapy, 1971, 2, 52-61.

65. CONNETT, MARIBEL. Experimentally induced changes in the relative frequency of stuttering on a specified speech sound. In: Johnson, W. (Ed.), Stuttering in Children and Adults. Minneapolis: University of Minnesota Press, 1955.

66. COOK, M. Speech disturbance and length of utterance. Psychonomic Science, 1968, 10, 125-126.

67. COOPER, CRYSTAL, S. and COOPER, E.B. Variations in adult stutterer attitudes towards clinicians during therapy. J. Communication Dis., 1969, 2, 141-153.

68. COOPER, E.B. A therapy process for the adult stutterer. J. Speech Hear. Dis., 1968, 33, 246-260.

69. COOPER, E.B. Integrating behaviour therapy and traditional insight treatment procedures with stutterers. J. Communication Dis., 1971, 4, 40-43.

70. COOPER, E.B., CADY, BARBARA, B. and ROBBINS, C. JEAN. The effect of the verbal stimulus words wrong, right and tree on the disfluency rates of stutterers and nonstutterers. J. Speech Hear. Res., 1970, 13, 239-244.

71. CORCORAN, D.W.J. Personality and the inverted-U relation. Brit. J. Psychol., 1965, 56, 267-273.

72. COSTELLO, C.G. Anxiety and the persisting novelty of input from the autonomic nervous system. Behaviour Therapy, 1971, 2, 321-333.

73. COTLER, S.B. and GARLINGTON, W.K. The generalization of anxiety reduction following systematic desensitization of snake anxiety. Behav. Res. and Therapy, 1969, 7, 35-40.

74. CRAHAY, S. Les facteurs psychologiques dans le bégaiement. (The psychological factors in stuttering). Acta Neurologica et Psychiatrica Beligica, 1967, 67, 946-958.

75. CRONBACH, L.J. Essentials of Psychological Testing. New York: Harper and Row, 2nd edition, 1961.

76. CULLIHAN, W.L. and PRATHER, ELIZABETH, M. Reliability of "live" ratings of the speech of stutterers. Perceptual and Motor Skills, 1968, 27, 403-409.

77. CURLEE, R.F., and PERKINS, W.H. The effect of punishment of expectancy to stutter on the frequencies of subsequent expectancies and stuttering. J. Speech Hear. Res., 1968, 11, 787-795.

78. CURRY, F.K.W. and GREGORY, H.H. The performance of stutterers on dichotoc listening tasks thought to reflect cerebral dominance. J. Speech Hear. Res., 1969, 12, 73-82.

79. DALY, D.A. and PRICK, J.V. The effects of punishing stuttering expectations and stuttering utterances: A comparative study. Behaviour Therapy, 1970, 1, 228-239.

80. DARLEY, F. The relationship of parental attitudes and adjustments to the development of stuttering. In: Johnson, W. (Ed.), Stuttering in Children and Adults. Minneapolis: University of Minnesota Press, 1955, Ch. 4.

81. DAVIDSON, R. and KRIPPNER, S. Biofeedback research: The data and their implications. In Stoyva, J. et al (Ed.) Biofeedback and Self-Control: 1971 Aldine Annual on the regulation of bodily processes and consciousness. Chicago: Aldine-Atherton Inc., 1972.

82. de PIATERO, DALILA M. La prueba del dibujo de la figura humana en el nino tartamudo. (The Draw-a-Person Test with stuttering children). Revista de Psiquiatría y Psicología Médica, 1967, 8, 27-34.

83. DINNERSTEIN, A.J. and LOWENTHAL, M. Anxiety, perceptual latency and behavioural disability. J. nerv. ment. Dis., 1966, 142, 562-567.

84. EDGREN, B., LEANDERSON, R. and LEVI, L. A research programme on stuttering and stress. Acta Oto-laryngologica, 1969, Suppl. 263, 113-118.

85. EISENSON, J. A perseveration theory of stuttering. In: Eisenson, J. (Ed.), Stuttering: A Symposium. New York: Harper & Bros., 1958.

86. EISENSON, J. and WELLS, C. A study of the influence of communicative responsibility in a choral speech situation for stutterers. J. Speech Dis., 1942, 7, 359-362.

87. ENGLISH, H.B. and ENGLISH, A.C. A Comprehensive Dictionary of Psychological and Psychoanalytic Terms. New York: Longmans, Green, 1958.

88. ERICKSON, R.L. Assessing communication attitudes among stutterers. J. Speech Hear. Res., 1969, 12, 711-724.

89. ERICKSON, M.J. and EYSENCK, S.B.G. Manual of the Eysenck Personality Inventory. London: University of London Press, 1964.

90. FALCK, F.J. Stuttering - Learned and Unlearned. Springfield, Ill.: Thomas, 1969.

91. FARMER, R.G. and WRIGHT, J.M.C. Muscular reactivity and systematic desensitisation. Behaviour Therapy, 1971, 2, 1-10.

92. FENICHEL, O. The Psychoanalytic Theory of Neurosis. London: Routledge and Kegan Paul, 1946.

93. FERSTER, C.B. and SKINNER, B.F. Schedules of Reinforcement. New York: Appleton-Century-Crofts, 1957.

94. FIERMAN, ELIA. The role of cues in stuttering adaptation. In: Johnson, W. (Ed.), Stuttering in Children and Adults. Minneapolis: University of Minnesota Press, 1955.

95. FISHER, M.H. Stuttering: A psychoanalytic view. J. of Contemporary Psychotherapy, 1970, 2, 124-127.

96. FLANAGAN, B., GOLDIAMOND, I. and AZRIN, N. Instatement of stuttering in normally fluent individuals through operant procedures. Science, 1959, 130, 979-981.

97. FRANK, J.D. The influence of patients' and therapists' expectations on the outcome of psychotherapy. Brit. J. Med. Psychol., 1968, 41, 349-356.

98. FRANK, J.D., GLIEDMAN, L.H., IMBER, S.D., STONE, A.R. and NASH, E.H. Patients' expectancies and relearning as factors determining improvement in psychotherapy. Amer. J. Psychiat., 1959, 115, 961-968.

99. FRANSELLA, FAY. The effects of imposed rhythm and certain aspects of personality on the speech of stutterers. Ph.D. thesis, University of London, 1965.

100. FRANSELLA, FAY. Self concepts and the stutterer. Brit. J. Psychiat., 1968, 114, 1531-1535.

101. FRANSELLA, FAY and BEECH, H.R. An experimental analysis of the effect of rhythm on the speech of stutterers. Behav. Res. and Therapy, 1965, 3, 195-201.

102. FRANZINI, LOUIS R. Neglected variables in behavioural case assessment. Behaviour Therapy, 1970, 1, 354-358.

103. FRIEDMAN, H.J. Patient-expectancy and symptom reduction. Archives of General Psychiatry, 1963, 8, 61-67.

104. FRYREAR, J.L. and WERNER, SARA. Treatment of a phobia by use of a video-taped modelling procedure: A case study. Behaviour Therapy, 1970, 1, 391-394.

105. GALLAGHER, BETTY. Teachers' attitudes and the acceptability of children with speech defects. Elementary School Journal, 1969, 69, 277-281.

106. GELDER, M.G. Desensitization and psychotherapy research. Brit. J. Med. Psychol., 1968, 41, 39-46.

107. GINDES, B.C. New Concepts of Hypnosis. California: Wilshire Book Co., 1951.

108. GIFFIN, K. and HEIDER, N. The relationship between speech anxiety and the suppression of communication in childhood. Psychiatric Quarterly Supplement, 1967, 41, 311-322.

109. GILDSTON, PHYLLIS. Stutterers' self-acceptance and perceived parental acceptance. J. Abnorm. Psychol., 1967, 72, 59-64.

110. GLASNER, P. Personality characteristics and emotional problems in stutterers under age of five. J. Speech Hear. Dis., 1949, 14, 135-138.

111. GOLDIAMOND, I. Stuttering and fluency as manipulatable operant response classes. In: Krasner, L. and Ullmann, L.P. (Eds.), Research in Behaviour Modification, New York: Holt, 1965, pp. 106-156.

112. GOLDSTEIN, A.P. Therapist-patient Expectancies in Psychotherapy. N.Y.: Pergamon, 1962.

113. GOULD, E. and SHEEHAN, J. Effect of silence on stuttering. J. Abnorm. Psychol., 1967, 72, 441-445.

114. GRAY, B.B. Theoretical approximations of stuttering adaptation. Behav. Res. and Therapy, 1965, 3, 171-185.

115. GRAY, B.B. and BRUTTEN, E.J. The relationship between anxiety, fatigue and spontaneous recovery in stuttering. Behav. Res. and Therapy, 1965, 2, 251-259.

116. GRAY, B.B. and ENGLAND, G. (Eds.), Stuttering and the Conditioning Therapies. Monterey, California: The Monterey Institute for Speech and Hearing, 1969.

117. GRAY, B.B. and KARMEN, JANE L. The relationship between nonverbal anxiety and stuttering adaptation. J. Communication Dis., 1967, 1, 141-151.

118. GRAY, K.C. and WILLIAMS, D.E. Anticipation and stuttering: A pupillographic study. J. Speech Hear. Res., 1969, 12, 833-839.

119. GREEN, E.E., GREEN, A.M. and WALTERS, E.D. Voluntary control of internal states: psychological and physiological. J. of Transpersonal Psychology, 1970, 2, 1-26.

120. GREENSPOON, J. Verbal conditioning and clinical psychology. In. Bachrach, A.J. (Ed.), Experimental Foundations of Clinical Psychology. New York: Basic Books, 1962.

121. GRIFFITH, F.A. Uses of the Sheehan sentence completion test in speech therapy for stuttering. J. Speech Hear. Dis., 1969, 34, 342-349.

122. GRUBER, L. Re: The computation of the consistency effect in stuttering. J. Speech Hear. Res., 1970, 13, 667-672.

123. GRUBER, R.P. Behaviour therapy: Problems in generalization. Behaviour Therapy, 1971, 2, 361-368.

124. HAHN, E. (Ed.) Stuttering: Significant Theories and Therapies. Stanford: Stanford University Press, 1956.

125. HAMRE, C.E. Stuttering consistency and specific word anxiety. Dissert. Abstracts International, 1969, 30 (2-B), 886.

126. HAYES, W.Y. Statistics for Psychologists. New York: Holt, Rinehart and Winston, 1963.

127. HEGDE, M.N. Stuttering, neuroticism and extraversion. Behav. Res. and Therapy, 1972, 10, 395-397.

128. HEJNA, R.F. Speech Disorders and Nondirective Therapy. New York: Ronald, 1960.

129. HOLLAND, A.L. Some applications of behavioural principles to clinical problems. J. Speech Hear. Dis., 1967, 32, 11-18.

130. HOMME, L.E. Perspectives in psychology: XXIV. Control of coverants, the operants of the mind. Psychological Record, 1965, 15, 501-511.

131. HOMME, L.E. Coverant control therapy: A special case of contingency management. Paper presented at the meeting of the Rocky Mountain Psychological Association, Albuquerque, May, 1966.

132. HUNT, J. Stammering and Stuttering, their Nature and Treatment New York: Hafner, 1967.

133. IERODIAKONOU, C.S. Psychological problems and precipitating factors in the stuttering of children. Acta Paedopsychiatrica, 1970, 37, 166-174.

134. IHLI, K.L. and GARLINGTON, W.K. A comparison of group vs individual desensitization of test anxiety. Behav. Res. and Therapy, 1969, 7, 207-209.

135. INGHAM, R. Stuttering: Theoretical and therapeutic considerations: III. Family dynamics and the recovery from stuttering. Australian Psychologist, 1967, 2 (1). Paper read at Australian Psychological Society Annual Conference, 1967.

136. INGHAM, R.J. and ANDREWS, G. An analysis of a token economy in stuttering therapy. J. Applied Behaviour Analysis, 1973, 6, 219-229.

137. INGHAM, R.J., ANDREWS, G. and WINKLER, R. Stuttering: a comparative evaluation of the short term effectiveness of four treatment techniques. J. Communication Dis., 1972, 5, 91-117.

138. IWERT, H. Das Störungsumfeld des Storrerers. (The stutterer's field of disturbances). Praxis der Kinderpsychologie und Kinderpsychiatrie, 1968, 17, 251-257.

139. JOHNSON, D.W. Reaching Out. Englewood-Cliffs, N.J.: Prentice-Hall, 1972.

140. JOHNSON, S.M. and WHITE, G. Self-observation as an agent of behavioural change. Behaviour Therapy, 1971, 2, 488-497.

141. JOHNSON, W. Stuttering in Children and Adults. Minneapolis: University of Minnesota Press, 1955.

142. JOHNSON, W. Stuttering. In: Johnson, W., Brown, S.J., Curtis, J.J., Edney, C.W. and Keaster, J. (Eds.), Speech Handicapped Schoolchildren. New York: Harper, 1956, pp.202-300.

143. JOHNSON, W. Measurements of oral reading and speaking rate and disfluency of adult male and female stutterers and nonstutterers. J. Speech Hear. Dis., 1961, Mongr. Suppl. No. 7, pp. 1-20.

144. JOHNSON, W. (Ed.), The Onset of Stuttering. Minneapolis: University of Minnesota Press, 1959.

145. JOHNSON, W., DARLEY, F.L. and SPRIESTERSBACH, D.C. Diagnostic Methods in Speech Pathology. New York: Harper, 1963.

146. JOHNSON, W. and KNOTT, J. Studies in the psychology of stuttering. I. The distribution of moments of stuttering in successive readings of the same material. J. Speech Dis., 1937, 2, 17-19.

147. JOHNSON, W. and ROSEN, L. Studies in the psychology of stuttering. VII. Effect of certain changes in speech pattern upon frequency of stuttering. J. Speech Dis., 1937, 2, 105-110.

148. JOHNSON, W.G. Some applications of Homme's coverant control therapy: Two case reports. Behaviour Therapy, 1971, 2, 240-248.

149. JONES, E.L. Explorations of experimental extinction and spontaneous recovery in stuttering. In: Johnson, W. (Ed.), Stuttering in Children and Adults. Minneapolis: University of Minnesota Press, 1955.

150. JONES, R.J. and AZRIN, N.H. Behavioural engineering: Stuttering as a function of stimulus duration during speech synchronization. J. Applied Beh. Analysis, 1969, 2, 223-229.

151. KAHN, M. and BAKER, B. Desensitization with minimal therapist contact. J. Abnorm. Psychol., 1968, 73, 198-200.

152. KARMEN, JANE L. A comparison between generalized anxiety adjustment and adaptation of stuttering behaviour. Ph.D diss., University of Arizona.

153. KELLY, E.L. Consistency of adult personality. Amer. Psychologist, 1955, 10, 659-681.

154. KIMBLE, G.A. Conditioning and Learning. New York: Appleton-Century-Crofts, 1961.

155. KONDAS, O. The treatment of stammering in children by the shadowing method. Behav. Res. and Therapy, 1967, 5, 325-329.

156. KONDAS, O. Experiment of the shadowing method with children stammerers. Psychologica, 1968, 19, 109-116.

157. KRAFT, T. Behaviour therapy and target symptoms. J. of Clinical Psychol., 1969, 25, 105-109.

158. KRAFT, T. Letter to the Editor. Behav. Res. and Therapy, 1971, 9, 79.

159. KRASNER, L. Studies on the conditioning of verbal behaviour. Psychol. Bull., 1958, 55, 148-170.

160. KROP, H., CALHOON, B. and VERRIER, R. Modification of the "self-concept" of emotionally disturbed children by covert reinforcement. Behaviour Therapy, 1971, 2, 201-204.

161. KRUGLANSKI, A.W. and ELIAM, Z. Overcoming the 'Subject artifacts': A critique. Brit. J. Soc. Clin. Psychol., 1974, 13, 9-16.

162. KURSHEV, V.A. Emotsional'nye reakstii pri zaikanii po dannym pletizmografii. (Emotional reactions in stuttering according to the data of plethysmography). Zhurnal Vysshei Nervnoi Deyatel'nosti, 1968, 18, 517-518.

163. KURTEV, V.A. O neosoznannykh reaktsiyakh u zaikayushchikhsya. (On unconscious reactions in stutterers). Zhurnal Neuropatologii i Psikhiatrii, 1969, 69, 1075-1077.

164. LAEDER, R. and FRANCIS, W.C. Stuttering workshops: Group therapy in a rural high school setting. J. Speech Hear. Dis., 1968, 33, 38-41.

165. LANG, P.J. The mechanics of desensitization and the laboratory study of human fear. In: Franks, C.M. (Ed.), Behaviour Therapy: Appraisal and Status. New York: McGraw-Hill, 1969, pp. 160-191.

166. LANYON, R.I. The relationship of adaptation and consistency to improvement in stuttering therapy. J. Speech Hear. Res., 1965, 8, 263-269.

167. LANYON, R.I. The MMPI and prognosis in stuttering therapy. J. Speech Hear. Dis., 1966, 31, 186-191.

168. LANYON, R.I. The measurement of stuttering severity. J. Speech Hear. Res., 1967, 10, 836-843.

169. LANYON, R.I. Some characteristics of nonfluency in normal speakers and stutterers. J. Abnorm. Psychol., 1968, 73, 550-555.

170. LANYON, R.I. Behaviour change in stuttering through systematic desensitization. J. Speech Hear. Dis., 1969, 34, 253-260.

171. LANYON, R.I. and DUPREZ, D.A. Nonfluency, information and word length. J. Abnorm. Psychol., 1970, 76, 93-97.

172. LANYON, R.I. and STELLE, W.T. The effect of contingent and noncontingent stimuli on nonfluency in stutterers and normal speakers. Unfinished paper, personal communication, 1970.

173. LAZARUS, A.A. Group therapy of phobic disorders by systematic desensitization. J. Abnorm. Soc. Psychol., 1961, 63, 504-510.

174. LAZARUS, A.A. Behaviour therapy and graded structure. In Porter, R. (ed.), Symposium on the Role of Learning in Psychotherapy. C.I.B.A. Foundation Symposium, Churchill, 1968.

175. LAZARUS, A.A. Behaviour Therapy and Beyond. New York: McGraw-Hill, 1971.

176. LAZARUS, A.A. Hypnosis as a facilitator in behaviour therapy. International J. of Clinical and Experimental Hypnosis, 1973, 21, 25-31.

177. LAZARUS, A.A. and DAVISON, G.C. Clinical innovation in research and practice. In Bergin, A.E. and Garfield, S.L. (Eds.). Handbook of Psychotherapy and Behaviour Change: An Empirical Analysis. N.Y.: Wiley, 1971, pp. 196-213.

178. LAZARUS, A.A. and RACHMAN, S. The use of systematic desensitization in psychotherapy. South African Medical J., 1957, 31, 934-937.

179. LEANDERSON, R. and LEVI, L. A new approach to the experimental study of stuttering and stress. Acta Oto-Laryngologica, 1966, Suppl. 224, 311-316.

180. LEBRUN, Y. Schizophasie et bégaiement. (Schizophasia and stuttering). Acta Neurologica et Psychiatrica Belgica, 1967, 67, 939-945.

181. LEE, B.S. Artificial stutter. J. Speech Hear. Dis., 1951, 16, 53-55.

182. LEITENBERG, H., AGRAS, W.S., BARLOW, D.H. and OLIVEAU, D.L. Contribution of selective positive reinforcement and therapeutic instructions to systematic desensitization therapy. J. Abnorm. Psychol., 1969, 74, 113-118.

183. LEVINA, ROSA YE. Study and treatment of stammering among children. J. of Learning Disabilities, 1968, 1, 21-27.

184. LEVINA, R.E. K probleme zaikaniya u detei. (On the problem of stuttering in children). Defektologiya, 1969, 1, 9-17.

185. LEVONIAN, E. A statistical analysis of the 16 Personality Factor Questionnaire. Educational and Psychological Measurement, 1961, 21, 589-596.

186. LEWIS, D.J. Partial reinforcement: A selective review of the literature since 1950. Psychol. Bull., 1960, 57, 1-28.

187. LIBERMAN, R. An analysis of the placebo phenomenon. J. Chron. Dis., 1962, 15, 761-783.

188. LIBERMAN, R. A behavioural approach to group dynamics. 1. Reinforcement and prompting of cohesiveness in group therapy. Behaviour Therapy, 1970, 1, 141-175.

189. LICK, J.R. and BOOTZIN, R.R. Expectancy, demand characteristics, and contact desensitization in behaviour change. Behaviour Therapy, 1970, 1, 176-183.

190. LOCKE, E.A. Is "behaviour therapy " behaviouristic? (An analysis of Wolpe's psychotherapeutic methods). Psychol. Bull., 1971, 76, 318-327.

191. LOCKE, E.A. What is systematic desensitization? Delivered at APA Convention, Washington D.C., 1971. Personal communication, 1972.

192. LOVIBOND, S.H. Pure and applied psychology: Towards a significant interaction. Australian Psychologist, 1970, 5, 120-140.

193. LOVIBOND, S.H. Personal communication, 1971.

194. LUDWIG, A. and FARRELLY, F. The code of chronicity. Arch. Gen. Psychiatry, 1966, 15, 562-568.

195. LUTHE, W. Autogenic training: Method, research and application in medicine. In: Tart, C. (Ed.). Altered States of Consciousness. New York: Wiley, 1969, p. 309-319.

196. LUTKER, E.R. Treatment of migraine headache by conditioned relaxation: A case study. Behaviour Therapy, 1971, 2, 592-593.

197. MACCULLOCH, M.J., EATON, RAYLEEN, and LONG, ELIZABETH. The long term effect of auditory masking on young stutterers. Br. J. of Disorders of Communication, 1970, 5, 165-173.

198. McDEARMON, J.R. Primary stuttering at the onset of stuttering: A re-examination of data. J. Speech Hear. Res., 1968, 11, 631-637.

199. McGLYNN, F.D. and MAPP, R.H. Systematic desensitization of snake-avoidance following three types of suggestion. Behav. Res. and Therapy, 1970, 8, 197-201.

200. McHALE, A. An investigation of personality attributes of stammering, enuretic and school-phobic children. Brit. J. Educ. Psychol., 1967, 37, 400-401.

201. McREYNOLDS, LEIJA V. Contingencies and consequences in speech therapy. J. Speech Hear. Dis., 1970, 35, 12-24.

202. MAHONEY, M.J. Toward an experimental analysis of coverant control. Behaviour Therapy, 1970, 1, 510-521.

203. MAHONEY, M.J. The self-management of covert behaviour: A case study. Behaviour Therapy, 1971, 2, 575-578.

204. MANN, J. and ROSENTHAL, T.L. Vicarious and direct counter-conditioning of test anxiety through individual and group desensitization. Behav. Res. and Therapy, 1969, 7, 359-367.

205. MANNING, W.H. and COOPER, E.B. Variations in attitudes of the adult stutterer toward his clinician related to progress in therapy. J. Communication Dis., 1969, 2, 154-162.

206. MARKS, I.M., GELDER, M.G. and EDWARDS, G. Hypnosis and desensitization for phobias: a controlled prospective trial. Brit. J. Psychiat., 1968, 114, 1263-1274.

207. MARSHALL, R.C. The effects of response contingent punishment upon a defective articulation response. J. Speech Hear. Dis., 1970, 35, 236-240.

208. MARTIN, I.C.A. Progressive relaxation facilitated. Behav. Res. and Therapy, 1970, 8, 217-218.

209. MARTIN, R.R. and Haroldson, S.K. The relationship between anticipation and consistency of stuttered words. J. Speech Hear. Res., 1967, 10, 323-327.

210. MARTYN, MARGARET M. and SHEEHAN, J. Onset of stuttering and recovery. Behav. Res. and Therapy, 1968, 6, 295-307.

211. MAY, ANNETTE A. A study of the presence of normal speaking disfluency in stutterers with high and low listenability ratings. Dissert. Abstracts International, 1969, 29(8-B), 3126.

212. MAY, A.E. and HACKWOOD, A. Some effects of masking and eliminating low frequency feedback on the speech of stammerers. Behav. Res. and Therapy, 1968, 6, 219-223.

213. MEARES, A. Relief Without Drugs. New York: Doubleday, 1967.

214. MELAMED, B. and LANG, P.J. Study of the automated desensitization of fear. Paper read at the Mid-western Psychological Association Convention, Chicago, 1967.

215. MEYER, V. and CHESSER, E.S. Behaviour Therapy in Clinical Psychiatry, London: Penguin, 1970.

216. MEYER, V. and MAIR, J.M.M. A new technique to control stammering: A preliminary report. Behav. Res. and Therapy, 1963, 1, 251-254.

217. MIGLER, B. A supplementary note on automated self-desensitization. Behav. Res. and Therapy, 1968, 6, 243-245.

218. MIGLER, B. and WOLPE, J. Automated self-desensitization: A case report. Behav. Res. and Therapy, 1967, 5, 133-135.

219. MILLENSON, J.R. Principles of Behavioural Analysis. New York: MacMillan, 1967.

220. MILLER, H.R. and NAWAS, M.M. Control of aversive stimulus termination in systematic desensitization. Behav. Res. and Therapy, 1970, 8, 57-61.

221. MILLER, N.E. Learning of visceral and glandular responses. Science, 1969, 163, 434-445.

222. MILLS, A.W. and STREIT, H. Report of a speech survey, Holyoke, Massachusetts. J. Speech Dis., 1942, 7, 161.

223. MOWRER, D.E. The management of consequent events in speech therapy. Educational Technology, 1971, 11, 58-61.

224. NAWAS, M.M. Standardized scheduled desensitization: Some unstable results and an improved program. Behav. Res. and Therapy, 1971, 9, 35-38.

225. NAWAS, M.M., FISHMAN, S.T. and PUCEL, J.C. A standardized desensitization program applicable to group and individual treatments. Behav. Res. and Therapy, 1970, 8, 49-56.

226. NAWAS, M.M., MEALIEA, W.L. (Jr.) and FISHMAN, S.T. Systematic desensitization as counter-conditioning: A retest with adequate controls. Behaviour Therapy, 1971, 2, 345-356.

227. NAWAS, M.M., WEISCH, W.V. and FISHMAN, S.T. The comparative effectiveness of paring aversive imagery with relaxation, neutral tasks and muscular tension in reducing snake phobia. Behav. Res. and Therapy, 1970, 8, 63-68.

228. NEELLEY, J.N. and TIMMONS, R.J. Adaptation and consistency in the disfluent speech behaviour of young stutterers and nonstutterers. J. Speech Hear. Res., 1967, 10, 250-256.

229. NELSON, C.M. and McREYNOLDS, W.T. Self-recording and control of behaviour: A reply to Simkins. Behaviour Therapy, 1971, 2, 594-597.

230. OLIVEAU, D.L., AGRAS, W.S., LEITENBERG, H., MOORE, R.C. and WRIGHT, D.E. Systematic desensitization therapeutically oriented instructions and selective positive reinforcement. Behav. Res. and Therapy, 1969, 7, 27-33.

231. ORNE, M.T. On the social psychology of the psychological experiment: With particular reference to demand characteristics and their implications. Amer. Psychologist, 1962, 17, 776-783.

232. ORNE, M.T. Demand characteristics and the question of quasi-controls. In: Rosenthal, R. and Rosnow, R.L. (Eds.) Artifact in Behavioural Research. N.Y.: Academic Press, 1969, Ch. 5, pp. 147-179.

233. OSTWALD, P.F. The psychiatrist and the patient who stutters. J. nerv. ment. Dis., 1970, 150, 317-324.

234. PATTIE, F.A. and KNIGHT, B.B. Why does the speech of stutterers improve in chorus reading? J. Abnorm. Soc. Psychol., 1944, 39, 362-367.

235. PAUL, G.L. Insight v. Desensitization in Psychotherapy: An Experiment in Anxiety Reduction. Stanford: Stanford University Press, 1966.

236. PAUL, G.L. and TRIEBIE, R.W. Recorded vs. "live" relaxation training and hypnotic suggestion: Comparative effectiveness for reducing physiological arousal and inhibiting stress response. Behaviour Therapy, 1970, 1, 285-302.

237. PECHMAN, W. Lernpsychologische Untersuchungen des Stotterns. (An analysis of stuttering in terms of learning theory). Probleme und Ergebnisse der Psychologie, 1966, No. 18, 57-64.

238. PEINS, MARYANN, LEE, B.S. and McGOUGH, W.E. A tape-recorded therapy method for stutterers: A case report. J. Speech Hear. Dis., 1970, 35, 188-193.

239. PETERSON, H.A. Affective meaning of words as rated by stuttering and nonstuttering readers. J. Speech Hear. Res., 1969, 12, 337-343.

240. PETERSON, H.A., RINCK, MARY BETH, and HOFF, RITA K. A test of satiation as a function of adaptation in stuttering. J. Speech Hear. Res., 1969, 12, 110-117.

241. PETRIE, J.F. and HAANS, A.H. Enkele recente ervaringen met 'behaviour therapy'. (Several recent experiences with behaviour therapy). Nederlands Tijdschrift voor de Psychologies en haar Grensgebieden, 1969, 24, 391-404.

242. PHILLIPS, E.L. and WIENER, D.N. Short-term Psychotherapy and Structural Behaviour Change. N.Y.: McGraw-Hill, 1966.

243. PHILLIPS, G.M. Reticence: Pathology of the normal speaker. Speech Monogr., 1968, 35, 39-50.

244. PONTEFIELD, C.L. Adaptive mechanisms of young disadvantaged stutterers and nonstutterers. J. of Projective Techniques and Personality Assessment, 1969, 33, 371-375.

245. PREMACK, D. Toward empirical behaviour laws: I. Positive reinforcement. Psychol. Rev., 1959, 66, 219-233.

246. PRINS, D. Improvement and regression in stutterers following short-term intensive therapy. J. Speech Hear. Dis., 1970, 35, 123-135.

247. PROCTOR, S. and MALLOY, T.E. Cognitive control of conditioned emotional responses: An extension of behaviour therapy to include the experimental psychology of cognition. Behaviour Therapy, 1971, 2, 294-306.

248. QUARRINGTON, B., SELIGMAN, JUDY, and KOSOWER, ELEANOR. Goal setting behaviour of parents of beginning stutterers and parents of nonstuttering children. J. Speech Hear. Res., 1969, 12, 435-442.

249. RACHMAN, S. The role of muscular relaxation in desensitization therapy. Behav. Res. and Therapy, 1968, 6, 159-166.

250. RARDIN, M.W. Treatment of a phobia by partial self-desensitization: A case study. J. Consulting and Clinical Psychology, 1969, 33, 125-126.

251. REID, L.D. Some facts about stuttering. J. Speech Dis., 1946, 11, 2-12.

252. RHODES, R., SHAMES, G. and EGOLF, D. "Awareness" in verbal conditioning of language themes during therapy with stutterers. J. Communication Dis., 1971, 4, 30-39.

253. RICKARD, H.C. and MUNDY, M.B. Direct manipulation of stuttering behaviour: An experimental-clinical approach. In: Ullmann, L.P., and Krasner, L. (Ed.), Case Studies in Behaviour Modification. New York: Holt, Rinehart and Winston, 1965. pp. 268-274.

254. ROSENTHAL, R. Experimenter Effects in Behavioural Research. N.Y. Appleton-Century-Crofts, 1966.

255. ROSENTHAL, T.L. Severe stuttering and maladjustment treated by desensitization and social influence. Behav. Res. and Therapy, 1968, 6, 125-130.

256. ROSENTHAL, R. Interpersonal expectations: Effects of the experimenter's hypothesis. In: Rosenthal, R. and Rosnow, R.L. (Eds.). Artifact in Behavioural Research. N.Y.: Academic Press, 1969, Ch. 6, pp. 182-277.

257. ROSENTHAL, R. and ROSNOW, R.L. Artifact in Behavioural Research. N.Y.: Academic Press, 1969.

258. ROTHMAN, I. Practical rhythmic desensitization for stuttering with description of a new electronic pacer used for stuttering, insomnia and anxiety. J. of the American Osteopathic Association, 1969, 68, 573-577.

259. RUSSELL, J.C., CLARK, A.W. and VAN SOMMERS, P. Treatment of stammering by reinforcement of fluent speech. Behav. Res. and Therapy, 1968, 6, 447-453.

260. SADOFF, R.L. and COLLINS, D.J. Passive dependency in stutterers. Amer. J. Psychiat., 1968, 124, 1126-1127.

261. SADOFF, R.L. and SIEGEL, J.R. Group psychotherapy for stutterers. Internat. J. Group Psychother., 1965, 15, 72-80.

262. SANDER, E.K. Reliability of the Iowa speech disfluency test. J. Speech Hear. Dis., (Monogr. Suppl.), 1961, 7, 21-30.

263. SANDER, E.K. Interrelations among the responses of mothers to a child's disfluencies. Speech Monogr., 1968, 35, 187-195.

264. SANTOSTEFANO. S. Anxiety and hostility in stuttering. J. Speech Hear. Res., 1960, 3, 337-347.

265. SCHINDLER, M.D. A study of educational adjustments of stuttering and nonstuttering children. In: Johnson, W. (Ed.), Stuttering in Children and Adults. Minneapolis: University of Minnesota Press, 1955, pp. 348-357.

266. SCHUELL, H. Sex differences in relation to stuttering. J. Speech Dis., 1946, 11, 277-298.

267. SCHUELL, H. Sex differences in relation to stuttering. Part II. J. Speech Dis., 1947, 12, 23-28.

268. SCHWITZGEBEL, R.K. Ethical and legal aspects of behavioural instrumentation. Behaviour Therapy, 1970, 1, 498-509.

269. SEDERQVIST, P.A. Speech disorders and sociopreferential dynamics. Annales Academiae Scientiarum Fennicae, 1970, B-167, 122.

270. SHAMES, G.H., EGOLF, D.B. and RHODES, R.C. Experimental programs in stuttering therapy. J. Speech Hear. Dis. 1969, 34, 30-47.

271. SHATIN, L. Contributions of clinical psychology to the process of speech therapy. Brit. J. Disord. Commun. 1967, 2, 73-77.

272. SHEEHAN, J.G. The modification of stuttering through non-reinforcement. J. Abnorm. Soc. Psychol., 1951, 46, 51-63.

273. SHEEHAN, J.G. Theory and treatment of stuttering as an approach-avoidance conflict. J. Psychol., 1953, 36, 27-49.

274. SHEEHAN, J.G. Conflict theory of stuttering. In: Eisenson, J. (Ed.), Stuttering: A Symposium. New York: Harper, 1958, pp.123-166.

275. SHEEHAN, J. Cyclic variation in stuttering: Comment on Taylor and Taylor's 'Test of predictions from the conflict hypothesis of stuttering'. J. Abnorm. Psychol., 1969, 74, 452-453.

276. SHEEHAN, J.G., CORTESE, P.A. and HADLEY, R.G. Guilt, shame, and tension, in graphic projections of stuttering. J. Speech Hear. Dis., 1962, 27, 129-139.

277. SHEEHAN, J. Stuttering: Research and Therapy. New York: Harper, 1970.

278. SHEEHAN, J., HADLEY, R. and GOULD, E. Impact of authority on stuttering. J. Abnorm. Psychol., 1967, 72, 290-293.

279. SHEEHAN, J.G. and MARTYN, MARGARET M. Spontaneous recovery from stuttering. J. Speech Hear. Res., 1966, 9, 121-135.

280. SHEEHAN, J.G. and MARTYN, MARGARET M. Stuttering and its disappearance. J. Speech Hear. Res., 1970, 13, 279-289.

281. SIEGEL, G.M. Punishment, stuttering and disfluency. J. Speech Hear. Res., 1970, 13, 677-714.

282. SIEGEL, G.M., LENSKE, JOANNE and BROEN, PATRICIA. Suppression of normal speech disfluencies through response cost. J. Applied Beh. Analysis, 1969, 2, 265-276.

283. SIEGEL, G.M. and MARTIN, R.R. Experimental modification of disfluency in normal speakers. J. Speech Hear. Res., 1965, 8, 235-244(a).

284. SIEGEL, G.M. and MARTIN, R.R. Verbal punishment of disfluencies in normal speakers. J. Speech Hear. Res., 1965, 8, 245-251(b).

285. SIEGEL, G.M. and MARTIN, R.R. Punishment of disfluencies in normal speakers. J. Speech Hear. Res., 1966, 9, 209-217.

286. SILVERMAN, F.H. Concern of elementary-school stutterers about their stuttering. J. Speech Hear. Dis., 1970, 35, 361-363(a).

287. SILVERMAN, F.H. Course of nonstutterer's disfluency adaptation during 15 consecutive oral readings of the same material. J. Speech Hear. Res., 1970, 13, 382-386(b).

288. SILVERMAN, F.H. Distribution of instances of disfluency in consecutive readings of different passages by non-stutterers. J. Speech Hear. Res., 1970, 13, 874-882(c).

289. SILVERMAN, F.H. A rationale for the use of the hearing-aid metronome in a program of therapy for stuttering. Percept. mot. Skills, 1971, 32, 34.

290. SILVERMAN, F.H. and WILLIAMS, D.E. Loci of disfluencies in the speech of stutterers. Percept. mot. Skills, 1967, 24, 1085-1086.

291. SILVERMAN, F.H. and WILLIAMS, D.E. A proportional measure of stuttering adaptation. J. Speech Hear. Res., 1968, 11, 444-446.

292. SIMKINS, L. A rejoinder to Nelson and McReynolds on the self-recording of behaviour. Behaviour Therapy, 1971, 2, 598-601(a).

293. SIMKINS, L. The reliability of self-recorded behaviours. Behaviour Therapy, 1971, 2, 83-87(b).

294. SINGER, L.M. Acceptance of stuttering or acceptance of self- A clinical question. J. Speech Hear. Dis., 1970, 35, 311-312.

295. SKINNER, B.F. Science and Human Behaviour. New York: MacMillan, 1953.

296. SMITH, W.I. and MOORE, J.W. Conditioning and Instrumental Learning : A Program for Self-Instruction. New York: McGraw-Hill, 1966.

297. SODERBERG, G.A. Linguistic factors in stuttering. J. Speech Hear. Res., 1967, 10, 801-810.

298. SODERBERG, G.A. A comparison of adaptation trends in the oral reading of stutterers, inferior speakers and superior speakers. J. Communication Dis., 1969, 2, 99-108(a).

299. SODERBERG, G.A. Delayed auditory feedback and the speech of stutterers: A review of studies. J. Speech Hear. Dis., 1969, 34, 20-29(b).

300. SOKOLOV, E.N. Perception and the Conditioned Reflex. Pergamon, 1963.

301. STANTON, H.E. An Australian validation study of the Taylor Manifest Anxiety Scale. Australian Psychologist, 1969, 4, 182-186.

302. STARK, RACHEL, E. and PIERCE, B.R. The effects of delayed auditory feedback on a speech-related task in stutterers. J. Speech Hear. Res., 1970, 13, 245-253.

303. STEEVES, JAN M., MARTIN, G.L. and PEAR, J.J. Self-imposed time-out by autistic children during an operant training program. Behaviour Therapy, 1970, 1, 371-381.

304. STENNETT, R.G. The relationship of performance level to level of arousal. J. Exp. Psychol., 1957, 54, 54-61.

305. STOGDILL, E.L. and THOMAS, M.E. The Bernreuter Personality Inventory as a measure of student adjustment. J. Soc. Psychol., 1938, 9, 299-315.

306. STREAN, H.S. A note on the treatment of a stutterer in a group. Journal of the Long Island Consultation Center, 1967, 5, 41-44.

307. STUMPHAUZER, J.S. A low-cost 'Bug-in-the-Ear' sound system for modification of therapist, parent, and patient behaviour. Behaviour Therapy, 1971, 2, 249-250.

308. STURM, I.E. The behaviouristic aspect of psychodrama. Group Psychotherapy, 1965, 18, 50-64.

309. STURM, I.E. Implications of role-playing methodology for clinical procedure. Behaviour Therapy, 1971, 2, 88-96.

310. SUINN, R.M. Short-term desensitization therapy. Behav. Res. and Therapy, 1970, 8, 383-384.

311. SUINN, R.M., EDIE, C.A. and SPINELLI, P.R. Accelerated massed desensitization: Innovation in short-term treatment. Behaviour Therapy, 1970, 1, 303-311.

312. SUINN, R.M. and HALL, R. Marathon desensitization groups: an innovative technique. Behav. Res. and Therapy, 1970, 8, 97-98.

313. SUINN, R.M. and RICHARDSON, F. Anxiety management training: A nonspecific behaviour therapy program for anxiety control. Behaviour Therapy, 1971, 2, 498-510.

314. SUSSKIND, DOROTHY J. The idealized self-image (ISI): A new technique in confidence training. Behaviour Therapy, 1970, 1, 538-541.

315. TAPIA, F. Girls with conditions more commonly seen in boys. Dis. nerv. System, 1968, 29, 323-325.

316. TASTO, D.L. and HICKSON, R. Standardization and scaling of the 122-item Fear Survey Schedule. Behaviour Therapy, 1970, 1, 473-484.

317. TASTO, D.L., HICKSON, R. and RUBIN, S.E. Scaled profile analysis of Fear Survey Schedule factors. Behaviour Therapy, 1971, 2, 543-549.

318. TAYLOR, INSUP K. and TAYLOR, M.M. Test of predictions from the conflict hypothesis of stuttering. J. Abnorm. Psychol., 1967, 72, 431-433.

319. TAYLOR, JANET A. A personality scale of manifest anxiety. J. Abnorm. Soc. Psychol., 1953, 48, 285-290.

320. TAYLOR, W.L., LORR, J.I. and WALDMAN, I.N. Latencies of semantic aphasics, stutterers and normal controls to close items requiring unique and nonunique oral responses. Proceedings of the Annual Convention of the American Psychological Association, 1970, 5 (Pt. 1), 75-76.

321. THORESEN, C.E. and MAHONEY, M.J. Behavioural Self-Control. New York: Holt, Rinehart and Winston, Inc., 1974.

322. TOOMEY, G.L. and SIDMAN, M. An experimental analogue of the anxiety-stuttering relationship. J. Speech Hear. Res., 1970, 13, 122-129.

323. TROTTER, W.D. and LESCH, MARY M. Personal experiences with stutter-aid. J. Speech Hear. Dis., 1967, 32, 270-272.

324. TRUAX, R.B., FINE, H., MORAVEC, J. and MILLIS, W. Effects of therapist persuasive potency in individual psychotherapy. J. Clin. Psychol., 1968, 24, 359-362.

325. TUGOVA, N.A. O zanyatiyakh po ritmike s zaikayushchimisya det'mi. (On exercises in rhythm with stuttering children. Spetsial'naya Shkola, 1968, No. 6, 78-82.

326. TUNNER, W. Verhaltenstherapie bei einem Patienten mit sozialen Angsten, Stottern und psychosomatischen Störungen. (Behaviour therapy with a patient suffering from social anxiety syndromes, stuttering and psychosomatic disturbances). Praxis der Psychotherapie, 1969, 14, 171-180.

327. ULLMAN, L.P. Making use of modelling in the therapeutic interview. In: Rubin, R.D. and Franks, C.M. (Eds.), Advances in Behaviour Therapy, 1968. New York: Academic Press, 1969, pp. 175-182.

328. ULLMANN, L.P. On cognitions and behaviour therapy. Behaviour Therapy, 1970, 1, 201-204.

329. VALINS, S. and RAY, A.A. Effects of cognitive desensitization on avoidance behaviour. J. of Personality and Social Psychology, 1967, 7, 345-350.

330. VAN DANTZIG, M. Syllable-tapping, a new method for the help of stammerers. J. Speech Dis., 1940, 5, 127-131.

331. VAN RIPER, C. Experiments in stuttering therapy. In: Eisenson, J. (Ed.), Stuttering: A Symposium, New York: Harper & Row, 1958, pp. 273-390.

332. WEBSTER, R.L. and LUBKER, B.B. Masking of auditory feedback in stutterers' speech. J. Speech Hear. Res., 1968, 11, 221-222(a).

333. WEBSTER, R.L. and LUBKER, B.B. Interrelationships among fluency producing variables in stuttered speech. J. Speech Hear. Res., 1968, 11, 754-766(b).

334. WEBSTER, R.L., SCHUMACHER, SUSAN J. and LUBKER, B.B. Changes in stuttering frequency as a function of various intervals of delayed auditory feedback. J. Abnorm. Psychol., 1970, 75, 45-49.

335. WEINSTOCK, J.J. A child psychiatrist's view of therapy for stuttering. J. Speech Hear. Dis., 1968, 33, 15-20.

336. WELFORD, A.T. Stress and performance. Ergonomics, 1973, 16, 567-580.

337. WERTHEIM, E.S. The family as a psychosomatic unit: A case study. Australian Psychologist, 1967, 2(1). Paper read at Australian Psychological Society Annual Conference, 1967.

338. WEST, R. An agnostic's speculations about stuttering. In: Eisenson, J. (Ed.), Stuttering: A Symposium. New York: Harper & Bros., 1958.

339. WESTON, A.J. and ROUSEY, C.L. Voice confrontation in individuals with normal and defective speech patterns. Percept. Mot. Skills, 1970, 30, 187-190.

340. WILKINS, W. Desensitization: Social and cognitive factors underlying the effectiveness of Wolpe's procedure. Psychol. Bull., 1971, 76, 311-317.

341. WILKINS, W. Desensitization: Getting it together with Davison and Wilson. Psychol. Bull., 1972, 78, 32-36.

342. WILKINS, W. Client's expectancy of therapeutic gain: Evidence for the active role of the therapist. Psychiatry, 1973, 36, 184-190.

343. WILLIAMS, D.E., MEIROSE, BARBARA M. and WOODS, C.L. The relationship between stuttering and academic achievement in children. J. Communication Dis., 1969, 2, 87-98.

344. WILLIAMS, D.E. and SILVERMAN, F.H. Note concerning articulation of school-age stutterers. Percept. mot. Skills, 1968, 27, 713-714.

345. WILLIAMS, D.E., SILVERMAN, F.H. and KOOLS, J.A. Disfluency behaviour of elementary-school stutterers and non-stutterers: Loci of instances of disfluency. J. Speech Hear. Res., 1969, 12, 308-318.

346. WILSON, G.T. and DAVISON, G.C. Processes of fear reduction in systematic desensitization: Animal studies. Psychol. Bull., 1971, 76, 1-14.

347. WINGATE, M. Calling attention to stuttering. J. Speech Hear. Res., 1959, 2, 326-335.

348. WINGATE, M.E. Prosody in stuttering adaptation. J. Speech Hear. Res., 1966, 9, 550-556.

349. WINGATE, M.E. Sound and pattern in "artificial" fluency. J. Speech Hear. Res., 1969, 12, 677-686.

350. WINGATE, M.E. Effect on stuttering of changes in audition. J. Speech Hear. Res., 1970, 13, 861-873.

351. WINGATE, M.E. and HAMRE, C.E. Stutterers' projection of listener reaction. J. Speech Hear. Res., 1967, 10, 339-343.

352. WISCHNER, G.J. An experimental approach to stuttering as learned behaviour. Amer. Psychologist, 1948, 3, 278-279.

353. WISCHNER, G.J. Stuttering behaviour and learning: a preliminary theoretical formulation. J. Speech Hear. Dis., 1950, 15, 324-335.

354. WISCHNER, G.J. An experimental approach to expectancy and anxiety in stuttering behaviour. J. Speech Hear. Dis., 1952, 17, 139-154.

355. WOHL, MAUD. Metronome helps to beat stammering. Interview reported in Medical World News, March 17, 1967.

356. WOLPE, J. Psychotherapy by Reciprocal Inhibition. Stanford: Stanford University Press, 1958.

357. WOLPE, J. Reciprocal inhibition as the main basis of psychotherapeutic effects. In: Eysenck, H.J. (Ed.), Behaviour Therapy and the Neuroses, New York: Pergamon Press, 1960.

358. WOLPE, J. The systematic desensitization treatment of neuroses. In: Eysenck, H.J. (Ed.), Experiments in Behaviour Therapy. New York: MacMillan, 1964.

359. WOLPE, J. How can "cognitions" influence desensitization? Behav. Res. and Therapy, 1969, 7, 219.

360. WOLPE, J. Emotional conditioning and cognitions: A rejoinder to Davison and Valins. Behav. Res. and Therapy, 1970, 8, 103-104.

361. WOLPE, J. The compass of behaviour therapy. Behaviour Therapy, 1971, 2, 403-405.

362. WOLPE, J. and LANG, P.J. A fear survey schedule for use in behaviour therapy. Behav. Res. and Therapy, 1964, 2, 27-30.

363. WOLPE, J. and LAZARUS, A. Behaviour Therapy Techniques. New York: Pergamon Press, 1968.

364. WYATT, G.L. Der Sprachkreis zwischen Kind und Eltern, ein Vorbild des therapeutischen Gespräches. (The circles of communication between child and parents, a model of the therapeutic change). Praxis der Psychotherapie, 1967, 12, 16-24.

365. YAIRI, E. and WILLIAMS, D.E. Speech clinicians' stereotypes of elementary-school boys who stutter. J. Communication Dis., 1970, 3, 161-170.

366. YATES, A.J. Recent empirical and theoretical approaches to the experimental manipulation of speech in normal subjects and in stammerers. Behav. Res. and Therapy, 1963, 1, 95-119.

367. YATES, A.J. Behaviour Therapy. New York: John Wiley & Sons, Inc., 1970.

368. YATES, A.J. The effect of a metronome on the speech of young stutterers: A comment on Greenberg's paper. Behaviour Therapy, 1971, 2, 602-603.

369. YOUNG, M.A. Predicting ratings of severity of stuttering. J. Speech Hear. Dis., Monogr. Suppl., 1961, 7, 31-54.

370. YOUNG, M.A. Anchoring and sequence effects for the category scaling of stuttering severity. J. Speech Hear. Res., 1970, 13, 360-368.