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# An Experimental Investigation of Desensitization in Phobic Patients

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The investigation had three major aims. We attempted to repeat and extend the findings of the Gelder, Marks and Wolff (1967) study of the comparative efficacy of desensitization and psychotherapy in the treatment of phobic patients. Our second aim was to isolate the effects of various components of desensitization treatment, in the manner employed in laboratory studies of fear-reduction (e.g. Davison, 1968; Rachman, 1965; Rachman, 1968). The third aim was to collect data on the relationships between psychophysiological changes and clinical outcome.

With the exception of the work of Gelder, Marks and their colleagues, there have been few controlled prospective studies of the effects of desensitization treatment on psychiatric patients. In one of their earlier studies Gelder and Marks (1966) showed that severely disabled agoraphobics did not improve significantly more with desensitization than patients who received supportive treatment or individual psychotherapy—although some patients appeared to respond well to desensitization. In a later study, Gelder *et al.* (1967) found that desensitization produced superior results to psychotherapy in the treatment of (less disabled) phobic patients treated on an out-patient basis. The addition of further evidence on the clinical effects of desensitization and of psychotherapy in the management of phobic disorders was felt to be highly desirable. While replication of their encouraging findings in an out-patient population might lend increased confidence to the utilization of desensitization, a failure to support their findings in an independent institution employing a different set of therapists would certainly introduce some caution into clinical practice. The comparison between the effects of desensitization and psychotherapy is interesting from both the practical and theoretical points of view. Proponents of psychotherapy would presumably predict that desensitization is unlikely to be of any benefit, whereas proponents of desensitization might argue that psychotherapy can produce only minimal therapeutic improvements, if any.

Interest in determining which components of desensitization are making a therapeutic contribution was stimulated by the long series of analogue experiments carried out on normal subjects with circumscribed fears (Rachman, 1968). With very few exceptions, desensitization was found to be an effective technique for producing substantial and lasting reductions of fear. The isolation of the effective components of desensitization proved to be rather more difficult, and the matter is not fully resolved to this day. A major problem centred on the role played by muscle relaxation training—one of the two major components in the treatment technique. In brief, three positions were held: muscle relaxation is an essential treatment component, muscle relaxation is redundant, and, thirdly, mental rather than muscle relaxation is facilitative if not essential (see Rachman, 1967, 1968, 1971). Although it would appear that muscle relaxation can be dispensed with when reducing excessive fears of normal subjects, there are grounds for believing that it might play a valuable part in expediting the treatment of highly anxious subjects, particularly those in a psychiatric population. From an empirical point of view, therefore, the present study was an attempt to clarify whether muscle relaxation training is necessary, facilitative or redundant.

In their attempts to integrate the findings on the therapeutic effectiveness of desensitization with the therapeutic claims made for other forms of treatment some theorists have considered the possibility that the underlying and indeed the only effective essential ingredient in a variety of forms of treatment is the establishment of a 'therapeutic relationship' between patient and therapist (e.g. Wilkins, 1971). Although the evidence which has emerged from analogue research does not encourage this view (e.g. automated desensitization has been shown

to be effective), there remains the strong possibility that a therapeutic relationship plays an important part in the successful treatment of psychiatric patients. With this possibility in mind, we attempted a partial replication of some of the analogue research (Lang, Lazovik and Reynolds, 1966) on our psychiatric sample. It consisted of providing one group of our patients with the preliminary assessment and training for desensitization treatment, but then following it with a form of pseudo-therapy in order to control for the establishment and maintenance of a therapeutic relationship. We attempted to isolate the effects of relaxation and of the presentation of fearful items in imagination by compiling groups of patients who received either relaxation alone or hierarchy presentation alone.

In addition to the intrinsic value of demonstrating psychophysiological relationships with clinical outcome, it has become a matter of particular interest since Lader and Wing (1966) proposed their habituation hypothesis to account for desensitization effects. In brief, they reinterpreted Wolpe's (1958) original theory of desensitization and argued that the phenomena were better construed as a form of habituation to fearful stimuli, carried out while the subject or patient is in a particularly susceptible state for habituation to occur. An important part of their argument rested on the observed correlation between speed of habituation to an auditory tone and successful response to treatment. In the present study we hoped to replicate and extend these findings. In particular, we hoped to provide further information on the relationship between habituation rates, spontaneous fluctuations of skin resistance and clinical outcome.

## The Patients

A total of thirty-two multiphobic out-patients was studied. They had all been referred to the psychiatric departments of a general hospital, where they were given a selection interview by a senior psychiatrist. Patients were included or excluded on the basis of eight criteria. They had to be suffering from a well-defined phobia, whether accompanied by lesser phobias or not. They had to agree to undergo the assessment procedures before and after treatment and also agree to undergo one of the treatment techniques under investigation. They were also told that during the assessment period they would have to forego all drugs for 24 hours; moreover, they were informed that when treatment commenced no drugs, apart from sleeping tablets, would be prescribed. In order to qualify for inclusion in the trial they had to be aged between 16 and 50 years and have a Mill Hill Vocabulary IQ of 85 or over. Patients were excluded on the grounds of serious physical disorder, or the presence of a marked disorder of affect or a diagnosis of psychosis.

The sample comprised 15 male and 17 female phobic patients. Their ages ranged from 19 to 48 years, with a mean of 33. The range of intelligence scores was from 86 to 126, with a mean of 102. Although it had been decided in advance that a patient might qualify for inclusion if he had a clear but mono-symptomatic phobia, all of the thirty-two patients had multiple phobias.

After it had been decided to include a patient in the trial, he was placed in a group containing four patients (matched on 4 main criteria), and when a unit of four had been constructed a random draw took place. In this way, each patient was allocated to one of the four groups on a random basis subsequent to the initial matching procedure. The groups were matched as far as possible on the basis of the severity and duration of the major phobia, their age and intelligence. In the final stages of the study, in order to prevent mismatches, a few departures from random allocation were made on the basis of the type of phobia represented in the different groups. For example, if three of the groups each had a claustrophobic patient and the last group did not, then a patient of this type was allotted to the discrepant group. Most of the patients (25 out of 32) were however allocated in a random manner.

Replacements were allowed for the following reasons: if a patient did not complete six sessions of treatment ($n = 4$), if a patient was observed to deteriorate seriously during the course of treatment ($n = 1$) or if a patient failed to attend for the post-treatment or follow-up assessment ($n = 1$). Failures were defined as

patients giving up treatment after having had at least six sessions. No replacements were made in these cases. One patient in the psychotherapy group and one in the relaxation group fell into this category.

The four groups, to be described in greater detail below, were as follows: systematic desensitization, individual psychotherapy, relaxation combined with pseudo-therapy, and, lastly, desensitization in the absence of relaxation.

Each group consisted of 8 patients. The types of major phobias in each group are shown for the 32 patients in Table I below. In most

TABLE I
*Classification of the main phobias of the 32 patients*

| | P | Rp | H | SD | Total |
|---|---|---|---|---|---|
| Agoraphobia .. | 2½ | 1 | 3½ | 4 | 11 |
| Claustrophobia .. | 1 | 1½ | 1½ | 1 | 5 |
| Social and eating | ½ | 2 | 2 | 1 | 5½ |
| Birds or insects .. | 1 | 1 | 0 | 0 | 2 |
| Others (specific) | 3 | 2½ | 1 | 2 | 8½ |
| Total .. .. | 8 | 8 | 8 | 8 | 32 |

P = Psychotherapy group
Rp = Pseudotherapy
H = Desensitization without relaxation
SD = Standard desensitization

instances it was possible to define a major phobia and one or more subsidiary phobias. Where it was not possible to make this distinction satisfactorily, the two major phobias were given equal weighting. In these cases, that is patients with at least two equally serious phobias, a score of a half was given to each phobia; otherwise, main phobias were given a score of one (see Table I). It can be seen that the most prominent major phobia was agoraphobia, and that was closely followed by social phobias and claustrophobia.

### THE TREATMENT AND THERAPISTS

The patients allotted to the desensitization group received conventional treatment. After construction of suitable hierarchies, the phobic items were presented for rehearsal in imagination while the patients were in a relaxed state. The patients in the pseudo-therapy group (Rp group) were given the same instruction and training in muscle relaxation as those in the desensitization group. In the remaining sessions they were given fifteen minutes of deep relaxation and then asked to imagine a series of unrelated, neutral stimuli. During the last half-hour of each treatment session the therapist encouraged them to discuss non-anxiety-evoking aspects of their lives, using a hierarchy item as a starting point for these conversations. The rule throughout these sessions was that no phobic situation was to be imagined or discussed. If the patient referred to his phobia, the therapist had to steer the conversation away from the subject. In all of this we attempted to follow the model provided by Lang *et al.* (1966). The third group (H) consisted of patients who were presented with phobic hierarchy items in the usual style of desensitization treatment *but* were not given preliminary training in relaxation and were not relaxed during each treatment session. In order words they progressed up the hierarchy of fearful items in the usual way, but without relaxation instructions or training. The patients allotted to psychotherapy received individual sessions from one of six psychotherapists. The treatment consisted of a combination of insight therapy and rational therapy.

All six psychotherapists were psychiatrists with at least six months training in psychotherapy. Three of them had been practising psychotherapy for more than two years, including one who had undergone a training analysis. The patients in the remaining three groups all received their treatment from the same therapist (P.G.), an experienced clinical psychologist. In addition to her routine training in behavioural techniques, she had completed an additional year of supervised training in desensitization treatment before participating in the present investigation.

The treatment sessions, which lasted between 45 and 60 minutes, were generally given twice weekly. Desensitization was limited to a maximum of 30 sessions, and the patients in the other three groups were matched according to the number of sessions required by the desensitization patient. This did not present any serious problem, as most of the patients who received desensitization required between 20 and 30 sessions in order to complete the treatment programme.

*Assessment*

Rating scales covering the nature and intensity of the phobic and other psychological problems were filled in by the patients, by the therapists, and by an independent and blind external assessor. These scales, based on those used by Gelder and Marks (1966, 1967), were completed before and after treatment and again at the three-month follow-up period. The rating scales required the respondents to record on a five-point scale the intensity of phobias, anxiety, depression and other psychological complaints. The reliability of the scales is satisfactorily high (Gelder *et al.*, 1967). In addition, each patient was required to fill in the EPI (Eysenck Personality Inventory)—a scale which provides measures of extraversion, neuroticism and 'lying'. The ratings and personality inventories were supplemented by a behavioural avoidance test. Each patient was asked to approach or enter into the fearful situation, and the degree of success was noted by an independent observer who carried out the pre- and post-treatment and follow-up assessments. In particular, it was noted how long the patient spent in the fearful situation and how close he got to its focus—if one existed. During the behavioural tests the patients were asked to make a subjective estimate of the amount of fear which they experienced. This 'fear thermometer' has featured in much of the analogue research of desensitization.

In order to check the prognostic validity of psychophysiological measures, the habituation assessment procedure employed by Lader and Wing (1966) was reproduced as closely as possible. Measures of skin conductance and fluctuations were assessed while the patient was asked to attend to a series of 20 identical auditory stimuli presented in predetermined sequence at intervals varying from 45 to 80 seconds. Each stimulus was a 1,000 c.p.s. pure tone of one second's duration.

*Analysis*

The differences between the four groups and the three occasions of testing (pre- and post-treatment follow-up) were assessed by analysis of variance. Correlations between pre-treatment information and clinical outcome were calculated, using a large range of variables. The purpose of these correlations was to seek prognostic indicators and also to check if any of the personality or behavioural variables were intercorrelated before the commencement of treatment. The psychophysiological data were analysed by a prediction matrix similar to that used by Lader.

## Results

A full account of all the results and their analysis is available in Gillan (1971). For present purposes we will consider the most interesting of the (statistically significant) results. On the rating scales, the total phobia scores as estimated by the patients and by the external assessor produced similar results (Table II). Those patients who received desensitization, with or without relaxation (i.e. groups SD and H), showed a superior outcome to those who received pseudo-therapy (Rp) or psychotherapy (P). Fig. 1 illustrates the main results, and, for interest's sake, their comparison with the findings of Gelder, Marks and Wolff (1967).

On the *therapist's* ratings of improvement of total and main phobias, patients who received desensitization were adjudged to have shown greater benefit after treatment (Table III). These findings were confirmed at follow-up, with the exception of the main phobia. The earlier estimate of a superiority for desensitization over psychotherapy at the post-treatment assessment had diminished. This finding is attributable to the fact that the psychotherapists' ratings of improvement in total phobias were significantly more favourable than those of the external assessor or those of the patients. The therapist's ratings for the remaining three groups (all conducted by P.G.) were similar to those of the external assessor and of the patients.

On the therapist's ratings of depression, there was greater uniformity. Patients who received desensitization, with or without relaxation, were estimated to be less depressed after treatment and at follow-up than were those patients who received psychotherapy or pseudo-therapy. The psychotherapy patients were in fact marginally more depressed at follow-up than they were before treatment started. This finding received some slight support from the ratings made by the therapists.

TABLE II
*Assessor's ratings*

| | Main phobias | | | Total phobias | | | Depression | | |
|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | I | II | III | I | II | III |
| P .. .. | 4·20 (·49) | 3·85 (·91) | 3·43 (·88) | 3·55 (·43) | 3·31 (1·04) | 3·27 (1·09) | 2·76 (1·46) | 2·38 (1·33) | 2·28 (1·24) |
| Gelder .. | 4·2 | 3·1 | 3·0 | 3·8 | 3·0 | 2·9 | 1·8 | 1·4 | 1·5 |
| RP .. .. | 3·64 (1·14) | 3·49 (·78) | 3·03 (1·09) | 3·18 (·74) | 2·91 (·83) | 2·62 (·69) | 2·34 (1·38) | 2·31 (1·14) | 1·71 (·64) |
| H .. .. | 3·74 (·49) | 2·68 (1·29) | 2·49 (1·02) | 3·36 (·34) | 2·34 (·75) | 2·23 (·89) | 1·83 (·82) | 1·21 (·28) | 1·26 (·41) |
| SD .. .. | 3·90 (·52) | 2·19 (·82) | 2·34 (·90) | 3·59 (·70) | 2·15 (·74) | 2·11 (·73) | 2·79 (1·05) | 1·65 (·53) | 2·06 (·83) |
| Gelder .. | 4·1 | 2·6 | 2·5 | 3·2 | 2·0 | 2·0 | 2·4 | 1·4 | 1·4 |
| | SD < P** | | | SD < P** | | | | | |
| | H < P* | | | H < P** | | | | | |
| | | | | SD < RP* | | | | | |
| | | | | H < RP* | | | | | |

The mean ratings made by the independent assessor of Main Phobia, Total Phobia and Depression before treatment (Occasion I), after treatment (Occasion II) and at Follow-Up (III). Standard deviations are are shown in parentheses. The four groups of patients were treated by Psychotherapy (P), Relaxation Control (RP), Systematic Desensitization (SD) or Hierarchy Presentation (HP). The results reported by Gelder *et al.* are also given, where appropriate. Where the group differences reached statistical significance after treatment, they are shown at the bottom of each column; a single asterisk indicates the 5 per cent level and double asterisks the 1 per cent.

According to the patients, those who received desensitization were significantly less anxious than the patients who had pseudo-therapy or psychotherapy, at both the post-treatment and follow-up points (Table IV).

The EPI results showed no significant differences, pre- or post-treatment. At follow-up however, the neuroticism scores for the desensitized patients were significantly lower than those obtaining in the psychotherapy or pseudo-therapy groups. On the avoidance tests, there was only one significant difference between the groups at the post-treatment assessment. The patients who had received desensitization stayed longer in the situation which was 'most feared' than did patients who had received psychotherapy. This difference was not found to be significant at the follow-up assessment. On the fear thermometer ratings, patients who received desensitization, with or without relaxation, were shown to have experienced larger degrees of fear reduction than patients in the pseudo-therapy group. Patients who received psychotherapy were not required to make fear thermometer ratings, as there was no hierarchy on which to base them; consequently no comparison of this type is possible.

The psychophysiological measures produced no significant results.

## DISCUSSION

With the exception of the psychophysiological measurements, most of the assessment procedures showed some significant changes at the completion of treatment and at the follow-up point. The measures which differentiated the groups most clearly were the patients', therapists' and assessor's ratings of the major and total phobias. The major trends were that patients receiving desensitization, with or without muscle relaxation training, showed greater improvements than those who received psychotherapy or pseudo-therapy. There was an impressive degree of agreement between the

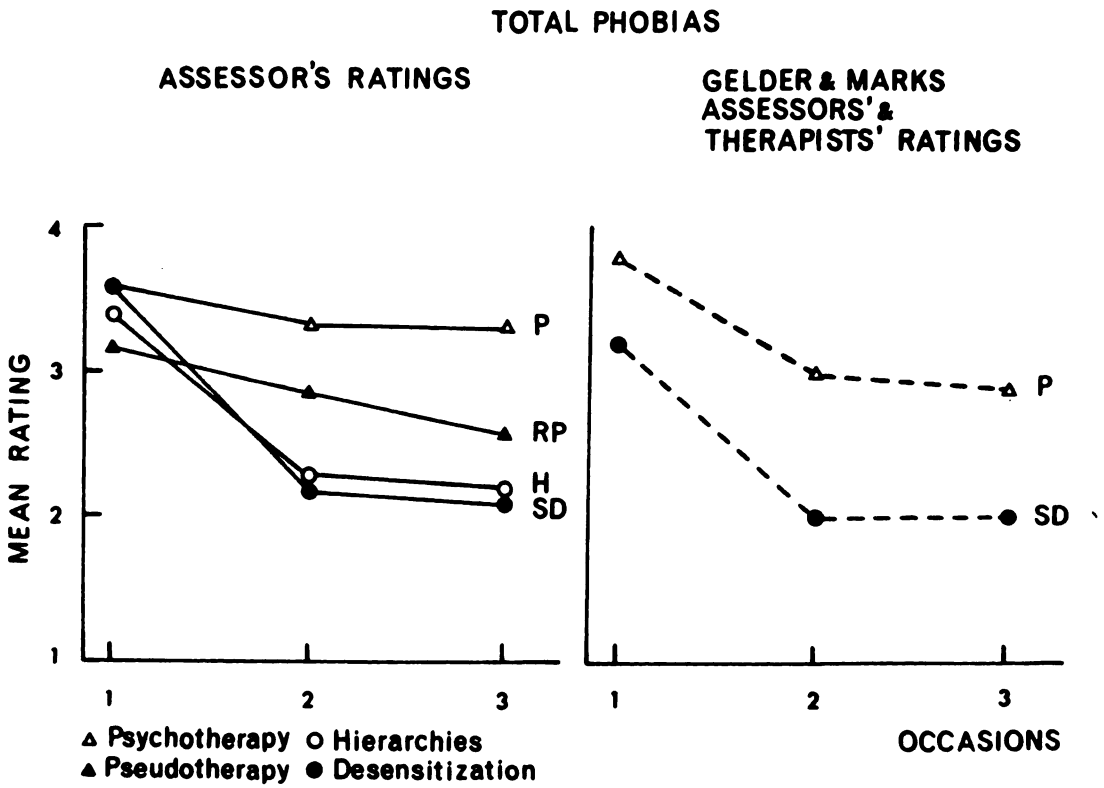


FIG. 1. —The independent assessor's ratings of Total Phobias for each of the four groups before treatment (1), after treatment (2), and at follow-up (3). For comparison, the ratings of Total Phobias made by assessor and therapist (combined scores) in the Gelder *et al.* (1967) study are also shown. The results of desensitization are similar but the Maudsley patients who received psychotherapy showed a more favourable response than the 8 patients in the present study who received psychotherapy.

ratings made by patients, therapists and independent assessor, with the exception of psychotherapy. Here there was a tendency for the therapists to make more favourable estimates of therapeutic progress than either the patients themselves or the independent assessor. The fear thermometer ratings for hierarchy items provided useful results, differentiating the pseudotherapy groups from the desensitization groups. This worthwhile measure has not been used frequently in the past, despite its attractions.

The results from the avoidance tests and the psychophysiological measures were both disappointing. The avoidance tests presented a problem, as 'distance scores' could not be employed satisfactorily. As the phobias presented by the patients varied in kind, the distances could not be compared across tests. Instead we were obliged to make use of time and fear thermometer scores. In order to make any comparison whatsoever, we were obliged to make the probably unwarranted assumption that the times taken in different tests could be combined. The disappointing failure of the avoidance tests to provide consistent or meaningful data can probably be attributed to our inability to find a way of enforcing uniformity on the variations in fear with which we were presented.

The failure of our attempt to replicate the psychophysiological findings of Lader and his colleagues or to provide support for their predictions was discouraging. It has been suggested that the failure is attributable to the homogeneity of the sample. Certainly this fact, in a sample of small size, reduces the likelihood

TABLE III
*Therapists' ratings*

| | Main phobias | | | Total phobias | | | Depression | | |
|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | I | II | III | I | II | III |
| P .. .. | 4·25 ( ·65) | 3·35 (1·39) | 2·38 (1·27) | 4·04 ( ·32) | 2·94 ( ·98) | 2·69 (1·30) | 2·25 (1·46) | 2·05 (1·50) | 2·44 (1·64) |
| RP .. .. | 4·31 ( ·70) | 3·79 ( ·94) | 3·56 ( ·82) | 3·85 ( ·44) | 3·35 ( ·58) | 3·19 ( ·71) | 2·25 (1·13) | 2·31 (1·51) | 2·13 ( ·83) |
| H .. .. | 4·00 ( ·26) | 2·94 ( ·94) | 2·91 (1·09) | 3·78 ( ·28) | 2·91 ( ·82) | 2·68 ( ·98) | 1·56 ( ·50) | 1·0 (0 ) | 1·49 ( ·69) |
| SD .. .. | 4·45 ( ·35) | 2·14 ( ·58) | 2·06 ( ·73) | 3·99 ( ·61) | 1·98 ( ·42) | 1·83 ( ·53) | 2·44 ( ·86) | 1·13 ( ·35) | 1·19 ( ·26) |
| | SD < RP** | | | SD < RP** | | | SD < P** | | |
| | SD < P** | | | SD < P** | | | H < RP* | | |
| | H < RP* | | | SD < H** | | | SD < RP** | | |
| | SD < H* | | | | | | H < P* | | |

The ratings made by the therapists on the three occasions of assessment are shown here, with the standard deviations in parentheses. The same abbreviations for groups and tests of significance apply to Tables II, III and IV.

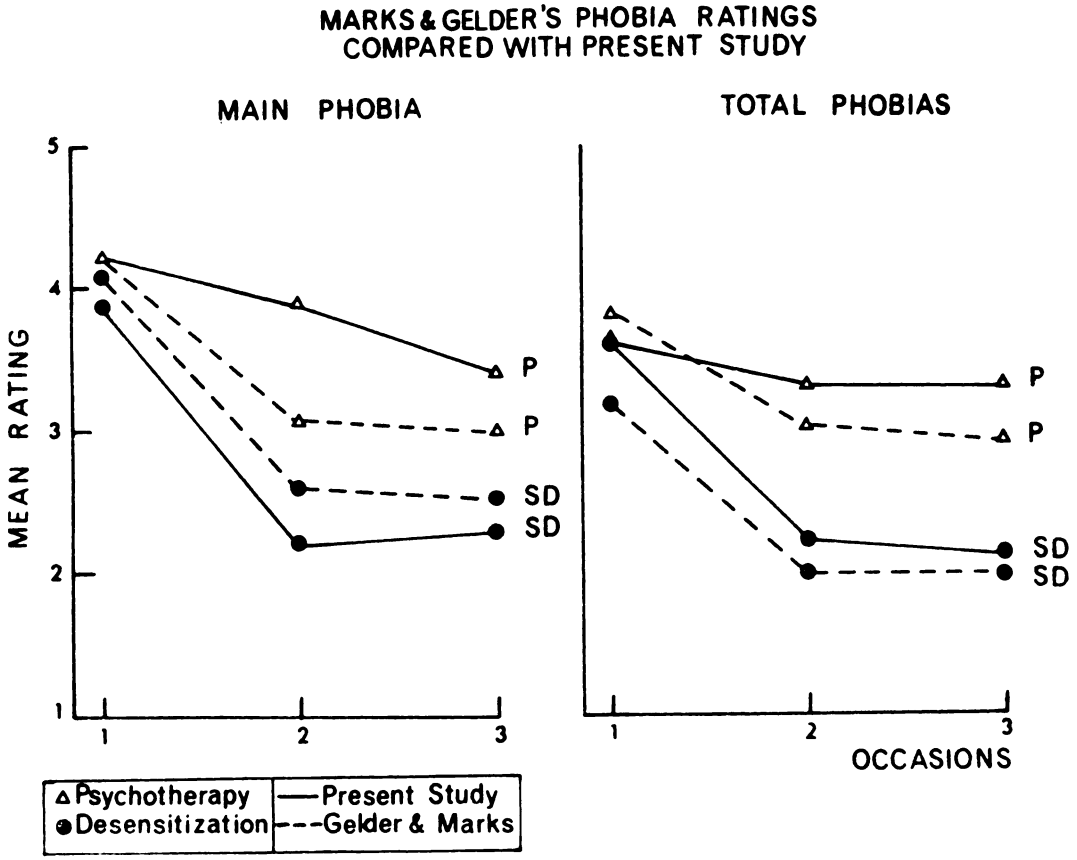


FIG. 2.—Main Phobia and Total Phobia ratings before and after treatment and at follow-up; scores are a combination of therapist's and assessor's ratings. For comparison, the curves from the Gelder, Marks and Wolff (1967) study are shown in dotted lines.

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TABLE IV
*Patients' ratings*

| | Main phobias | | | Total phobias | | | Depression | | |
|---|---|---|---|---|---|---|---|---|---|
| | I | II | III | I | II | III | I | II | III |
| P .. .. | 4·35 ( ·41) | 3·43 ( ·65) | 3·45 ( ·77) | 3·77 ( ·59) | 3·14 ( ·77) | 3·13 ( ·87) | 2·11 ( ·99) | 2·28 (1·30) | 2·5 (1·41) |
| Gelder .. | 3·4 | 2·6 | 2·6 | 2·9 | 2·3 | 2·2 | 2·1 | 2·0 | 1·8 |
| RP .. .. | 4·48 ( ·51) | 3·50 (1·19) | 3·39 ( ·76) | 3·67 ( ·57) | 3·34 ( ·71) | 3·04 ( ·70) | 3·26 (1·28) | 2·68 (1·54) | 2·0 (1·07) |
| H .. .. | 3·91 ( ·18) | 2·49 ( ·87) | 2·39 ( ·83) | 3·58 ( ·26) | 2·43 ( ·67) | 2·51 ( ·81) | 2·0 ( ·76) | 1·31 ( ·46) | 1·98 (1·09) |
| SD .. .. | 4·36 ( ·48) | 2·35 ( ·97) | 2·14 ( ·90) | 3·87 ( ·46) | 2·29 ( ·59) | 1·98 ( ·73) | 2·88 ( ·64) | 1·56 ( ·56) | 1·39 ( ·57) |
| Gelder .. | 3·9 | 2·5 | 2·5 | 3·1 | 2·1 | 1·9 | 2·3 | 2·2 | 2·2 |
| | SD < P** | | | SD < RP** | | | SD < RP** | | |
| | SD < RP** | | | SD < P** | | | H < RP** | | |
| | H < P** | | | H < RP** | | | H < P* | | |
| | H < RP** | | | H < P* | | | | | |

The ratings made by the patients themselves on the three occasions of assessment are shown here (SD in parentheses). The same abbreviations for groups and tests of significance apply to Tables II, III and IV.

of obtaining the predicted outcomes. In terms of the Lader-Wing hypothesis, the major differentiation should be apparent in a comparison between patients with circumscribed simple phobias and those with complex and multiple phobias. The possibility that our failure to replicate is based on differences in recording methods or statistical analysis is not a likely one, as Dr. Lader generously supplied us with constant assistance and advice on these matters.

What were the differences in clinical outcome of patients in the different groups? Overall, systematic desensitization (with relaxation) was the most effective of the four methods both at post-treatment and at follow-up. However, it was not always superior to desensitization administered without relaxation. In fact, this form of treatment, consisting of graded and gradual presentations of hierarchy items in imagination, proved to be surprisingly effective. The results obtained by individual psychotherapy were disappointing, despite the confidence which the therapists themselves expressed in having seen improvements on a few of the assessment measures. There was a disconcerting lack of agreement between the therapists and their patients and the external assessor. The patients who received pseudo-therapy did not fare well, and on most measures they were significantly less well-off than patients who had received desensitization.

The most obvious conclusions to be drawn from these comparisons are as follows. Systematic desensitization appears to produce clinical results which are in the main superior to those achieved by psychotherapy or pseudo-therapy. Desensitization based on relaxation training appears to confer some slight advantage, but the omission of relaxation training and instructions by no means invalidates the technique. Muscle relaxation training and instruction may expedite the reduction of phobias in a psychiatric population to a limited extent, but it does not appear to be an indispensable part of the treatment.

One of the major aims of the present investigation was to provide a comparison with the findings reported by Gelder *et al.* (1967). It will be recalled that they treated ten phobic out-patients by psychotherapy and sixteen by desensitization. It is impossible to make precise comparisons because of differences in the therapists used and in the time relations

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operating in the two studies. Nevertheless, these differences can be thought of as adding to the interest of the comparison rather than detracting from it. In the Gelder study the desensitization patients had an average of nine months of treatment and an average of nine months of follow-up, whereas the psychotherapy patients had a year of treatment and a follow-up of six months. In the present study the patients had an average treatment of three months and an average follow-up of the same duration.

With these differences in mind, it is remarkable how closely the findings from the two studies approximate each other. Some of the more important comparisons are shown in Tables II, III and IV, and in Fig. 1.

In the Gelder study the ratings made by the therapists and assessors were pooled. By carrying out a similar pooling for our results a direct comparison is possible (Figs. 1 and 2). They show the similarity of outcome in the two undertakings. The only difference of any size between the studies is seen in the slightly more successful response obtained by the Maudsley psychotherapists. In our study the findings reported by the external assessor were considerably less satisfactory for the patients who had psychotherapy than was the case in the Marks and Gelder investigation. Bearing in mind the duration of therapy and that the Maudsley study employed a full-time psychotherapist and other psychiatrists with at least eighteen months experience of psychotherapy, the similarity between the two studies as far as psychotherapy is concerned is rather close. Only two of the psychotherapists participating in the present study had had more than a year of psychotherapeutic experience before entering the present investigation.

To complete the picture, it is of some interest to see what the patients had to say about it. The final ratings on total phobias made by the desensitized patients in both studies are quite similar; this despite the fact that the present groups of patients rated themselves as being initially more disturbed than those in the Marks and Gelder study had done. As mentioned earlier, our psychotherapy patients (and the external assessor) were significantly less satisfied with the outcome of treatment than were their psychotherapists. Nonetheless it is of some interest to notice that in the Marks and Gelder study, as in ours, patients who received psychotherapy reported some slight reduction in their phobias when re-assessed at the termination of the treatment period (ie. three or nine months after the initial assessment).

Our attempt to replicate the observations made by Lang *et al.* (1966) on a non-psychiatric population of fearful subjects regarding the importance or otherwise of the therapeutic relationship appears to have been moderately successful. They found that fearful subjects who received relaxation training and the other preliminaries of desensitization did not experience a reduction in fear if they were given pseudo-therapy. We obtained a similar outcome. If we assume that some form of therapeutic relationship was established during the conduct of the pseudo-therapy sessions, we can conclude (not surprisingly perhaps) that the development of this form of relationship does not of itself reduce fear. The likelihood that a therapeutic relationship of some degree was in fact established may be attested to by the fact that the majority of patients (7 out of 8) continued to attend a large number of therapeutic sessions. Presumably they would not have done so if they had not felt that if might be of some assistance to them.

## Summary and Conclusions

1. The components of systematic desensitization were studied by treating multi-phobic patients by one of the following methods: (a) pseudo-therapy (Rp)—which combined relaxation and talking about items unrelated to the patients' phobias; (b) hierarchies only (H)—desensitization conducted without training or instruction in relaxation; (c) systematic desensitization (SD)—conventional desensitization conducted with the assistance of relaxation training; (d) psychotherapy (P)—combining insight therapy with rational therapy.

There were 8 patients in each of the above groups, making a total of 32. The groups were matched as far as possible on two clinical and two other variables.

2. Treatment consisted of twice-weekly sessions lasting from forty-five to sixty minutes.

An upper limit of thirty sessions for desensitization was fixed in advance, and patients in the other groups were matched accordingly. This did not present any serious problem, as most patients needed between twenty and thirty sessions to complete their desensitization treatment. There were 6 replacement patients and 2 failures.

3. Assessment procedures included ratings made by the patients, therapists and an independent assessor. Personality tests, behaviour avoidance tests and psychophysiological assessments were also included. All the measurements were taken on three occasions—before treatment, after treatment and at a three-month follow-up point.

4. Rating scales proved to be the most useful measure for providing information about clinical outcome. Overall, patients who received desensitization (with or without relaxation training) showed the best clinical outcome. Both forms of desensitization treatment appeared to give superior results to either psychotherapy or pseudotherapy results.

5. The clinical results are similar to those reported by Gelder, Marks and Wolff (1967) in a comparable out-patient population.

6. Avoidance test results were disappointing and provided only one significant result. The amount of time spent in the feared situation was longer for patients who had been desensitized than for those who had received other forms of treatment. The fear thermometer ratings obtained during the conduct of the behavioural avoidance test were consistent with this finding, i.e. desensitized patients expressed significantly reduced anxiety after treatment.

7. On the fear thermometer ratings made during the presentation of fear items in imagination, there were no significant differences between desensitization administered with or without relaxation. In both variations of the treatment the improvements were superior to those observed in the pseudo-therapy group.

8. Psychophysiological measurements, including those of habituation to auditory stimuli, failed to produce any significant results.

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