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Correspondence

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PROBLEMS IN EXPOSURE (FLOODING) RESEARCH

DEAR SIR,

Research into exposure treatment like flooding and desensitization involves so many variables that interpretation of results of any one study is fraught with problems. The careful report by Professor Gelder *et al.* in your October issue (**123**, 445–62) illustrates this well. Their design compared three groups which had contrasting fantasy treatments followed by subsequent exposure *in vivo* (practice) which appeared similar across all groups: 'differences in procedure were found more difficult to maintain . . . little attempt was made to apply specific desensitization or flooding measures while practice was going on . . .' (p. 448); all patients were asked to keep a diary of counter-phobic behaviour and were set weekly behavioural goals. These points suggest that differences between the three groups were due more to the differing fantasy than to the similar *in vivo* phases.

Unfortunately, exposure *in vivo* appears much more therapeutic than exposure in fantasy (Stern and Marks, 1973; Marks, 1972), so that the design loads the dice against finding significant differences between the three groups. This may account for the failure of Gelder *et al.* to find significant differences between desensitization and control groups on their ratings and behavioural test (Tables II and IV). At the end of treatment, on phobic measures their control group differed significantly in outcome from desensitization on 4 variables and from flooding on 7 variables.

In psychological treatment the term 'non-specific' usually refers to variables like placebo effects, expectancy and warmth. The 'non-specific' control group of Gelder *et al.* also included exposure *in vivo*. This variable is clearly specifiable and also potent therapeutically. Accordingly, their statement (p. 457) 'that approximately half of the apparent benefit to a phobic patient receiving behavioural treatment is attributable to the non-specific factors' is not very meaningful. All three groups contained the variable of exposure *in vivo*, and their design does not allow judgement of the significance of placebo effects. The latter could only be judged from a control group which omitted exposure in practice. The effect of 'expectancy' in this study is debatable, as its manipulation had no effect on outcome. Progress in research will be faster when we drop terms like 'non-specific' and try instead to tease out the ingredients in that pot-pourri.

Two important differences between the studies of Gelder *et al.* (1973) and Marks *et al.* (1971) confound interpretation. First, exposure *in vivo* in the former was similar across all conditions, whereas with Marks *et al.* (1971) exposure was firm during flooding but relaxed during desensitization. The difference obtained by Marks *et al.* between desensitization and flooding might thus be attributable to their manipulation of exposure *in vivo* rather than in fantasy. Second, Gelder *et al.* gave fantasy and *in vivo* sessions on separate weeks, whereas Marks *et al.* gave exposure *in vivo* immediately after fantasy treatment. It is possible that patients are briefly refractory to anxiety after fantasy treatment, during which phase exposure *in vivo* might be potentiated. This requires research.

One point by Gelder *et al.* is incorrect (p. 446). They note that Prochaska (1971) found that 'subjects experiencing the greatest anxiety in flooding showed the most change, apparently consistent with the findings of Marks *et al.*' In fact, Marks *et al.* (1971, page 371) stated that 'anxiety during the first few sessions did not seem to predict outcome'. Better outcome was predicted by higher anxiety *before* flooding began, not during flooding sessions themselves. This finding was replicated by Watson and Marks (1971).

In view of the complex issues in exposure research the statement by Gelder *et al.* (1973) that differences between flooding and desensitization 'are marginal and certainly do not justify any widespread use of flooding treatment rather than desensitization' (p. 459) requires great qualification. Their conclusions only apply to flooding of one kind given in fantasy, not *in vivo*. Results of 'desensitization' research are more consistent than those of 'flooding' research, because the former usually refers to a more standardized procedure, i.e. fantasy desensitization at a set rate with minimum anxiety. In contrast, flooding refers to a wide variety of procedures which can be

given (1) in fantasy or in practice, (2) individually or in groups, (3) at varying speeds, (4) with anxiety heightened or lessened, (5) with or without 'psychodynamic' cues present, (6) with frightening cues which are relevant or irrelevant, (7) with differing durations of sessions and (8) of intersession intervals, (9) with differing intervals between fantasy and *in vivo* flooding, (10) with fantasy flooding sometimes imposed externally by the therapist and sometimes abreacted spontaneously by the patient, (11) with differing endpoints of a given session (is it best to end on a good note?), (12) by tape-recorder or by a live therapist, (13) with or without coping instructions, and the nature of these.

As work proceeds doubtless other minutiae will also appear potentially relevant. Generalizations about 'flooding' will only become accurate when the relevant conditions have been dissected out in detail. Some of these conditions are undergoing investigation in many centres, and from these useful generalizations should eventually become possible. Meanwhile, reports of exposure research will be interpreted more easily if they specify the experimental condition in more detail, including these 13 variables. Workers in the field need to develop an agreed vocabulary for describing research on exposure treatment.

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REFERENCES

GELDER, M. G., MARKS, I. M. & WOLFF, H. H. (1967) *Brit. J. Psychiat.*, 113, 53–73.
—— BANCROFT, J. H. J., GATH, D. H., JOHNSTON, D. W., MATHEWS, A. M. & SHAW, P. M. (1973) *Brit. J. Psychiat.*, 123, 445–62.
HAND, I., LAMONTAGNE, Y. & MARKS, I. M. (1974) Group exposure of agoraphobia. *Brit. J. Psychiat.* In press.
MARKS, I. M., BOULOUGOURIS, J. & MARSET, P. (1971) *Brit. J. Psychiat.*, 119, 353–75.
—— (1972) *Seminars in Psychiatry*, 4, 129–38.
STERN, R. S. & MARKS, I. M. (1973) *Arch. gen. Psychiat.*, 28, 270–6.
WATSON, J. P., GAIND, R. & MARKS, I. M. (1971) *Brit. med. J.*, 1, 13–15.

DEAR SIR,

We agree with many of the points made by Dr. Marks, but wish to clarify some differences:

(1) We defined, at the beginning of our paper (p. 446), those factors which we considered 'non-specific'. Encouragement to practise counter-phobic behaviour was included in these because it seems to be common to many different approaches to treatment. Our conclusion merely states how much effect might be attributable to the sum total of the components which we defined.

(2) We do not say there were no important differences between treatments during the *in vivo* phase; on the contrary, difference did exist in '. . . the hierarchy levels used and degree of anxiety tolerated' (p. 448). Thus, patients were vigorously encouraged to tolerate greater anxiety and more difficult situations during flooding than in desensitization, although we did not continue verbal flooding during practice sessions.

'(3) Dr. Marks states that *in vivo* exposure is 'much more therapeutic' than exposure in fantasy. There is no unequivocal evidence for this, since studies such as Stern and Marks (1973), like our own, use designs in which interaction between treatment phases is possible and even to be expected. For example, it may be that agoraphobic patients improve rapidly during *in vivo* treatment only after previous exposure in fantasy (p. 460). We are carrying out research to test this, by comparing *in vivo* practice given alone with combinations of fantasy and *in vivo* treatment.

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DEAR SIR,

The suggestion of M. G. Gelder *et al.* in their paper that revision of the current explanations of desensitization and flooding is needed prompts me to write this letter.

While this letter is neither a criticism nor an endorsement of behaviour therapy, I would refer to Locke (1971), who believes that behaviouristic procedures contradict every major premise of behaviourism, and to Wilkins (1971), who asserts that the effectiveness of the procedure is not due to the mutual antagonism between muscle relaxation and anxiety but rather to social variables involved in the patient-doctor relationship and to cognitive variables, including expectancy of therapeutic gains, information feedback of success, and so on.

If one accepts these views, considering the therapeutic results are favourable, one has to assume that perhaps the behaviour therapists are doing the right thing for the wrong reasons.

After sifting the accumulated wealth of material and both observing and carrying out behaviouristic therapy, I have come to the conclusion that perhaps desensitization and flooding are based on certain and