PREDICTORS OF TREATMENT OUTCOME: A LONG-TERM FOLLOW-UP STUDY OF BEHAVIOURAL TREATMENT FOR AGORAPHOBIA

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BY

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ABSTRACT

Outcome and predictors of long-term prognosis were investigated in 27 agoraphobic patients who were reassessed 1 to 5 years following exposure-based treatment. The outcome measures used in the original trials were repeated by an assessor who also interviewed the patients. Overall, improvements attained during treatment were maintained at follow-up. Highly significant ($p < .0001$) improvements were observed on all clinical measures between pretreatment and long-term follow-up. The pattern of improvement was similar to that observed in previous studies: treatment gains were maintained, but patients generally did not display significant continued improvement during the follow-up period.

Forty-eight percent of follow-up clients achieved the a priori criteria for high endstate functioning. The variables which gave the greatest contribution to the variance in outcome were social phobia, self-efficacy, behavioural avoidance, and later in treatment, agoraphobic severity and cognitive reactivity. Discriminant function analyses of these variables resulted in over 80% correct predictions of outcome group at long-term follow-up. On the other hand, the mode of phobia onset, level of depression, attitude toward treatment, and social support were poor predictors of long-term outcome. Possible reasons for and implications of these findings are discussed.

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Agoraphobia represents the most frequently treated of phobic disorders, and is generally considered to be the most difficult to treat. Agoraphobia has been treated for over thirty years utilizing exposure-based treatments alone, as well as in combination with other treatment approaches, including family therapy (e.g., Arnow, Barr-Taylor, Agras, & Telch, 1985; Barlow, O'Brien, & Last, 1984; Cerny, Barlow, Craske, & Himadi, 1987; Mathews, Teasdale, Munby, Johnston, & Shaw, 1977; Munby & Johnston, 1980), psychotherapeutic support (e.g., Roberts, 1964), psychotropic medications (e.g., Hafner & Marks, 1976; Mavissakalian & Michelson, 1983; Michelson, Mavissakalian, & Meminger, 1983; Milton & Hafner, 1979), relaxation therapy (e.g., Persson & Nordlund, 1983; Marks, Gray, Cohen, Hill, Mawson, Ramm, & Stern, 1983), and cognitive restructuring (e.g., Barlow et al., 1984; Vermilyea, Boice, & Barlow, 1984), among others. It has generally been found that *in vivo* exposure techniques are the treatment of choice for phobic disorders, resulting in reductions in agoraphobic symptoms up to six months following treatment (e.g., Barlow & Wolfe, 1981; Emmelkamp, 1982; Hand, Lamontagne, & Marks, 1974; Marks, 1979; Mathews et al., 1977; Jansson & Öst, 1982; Sinnott, Jones, Scott-Fordham, & Woodward, 1981). Nevertheless, there is also a great deal of variability in outcome of behavioural treatment for agoraphobia (Gray & McPherson, 1982; Jansson & Öst, 1982).

There has been some disagreement among researchers regarding the importance of spontaneous panic attacks within the agoraphobic syndrome. The most recent edition of the *Diagnostic and Statistical Manual for Mental Disorders* (DSM

III-R; APA, 1987) offers three possible subtypes of agoraphobia and panic disorder: (a) panic disorder with agoraphobia, (b) panic disorder without agoraphobia, or (c) agoraphobia without history of panic disorder. Unfortunately, most treatment outcome studies have not differentiated between these subtypes. Thus, for the purposes of the present review, "agoraphobia" will refer to a pattern of agoraphobic avoidance, regardless of the presence or absence of spontaneous panic attacks. Barlow (1988) has reported that the vast majority of agoraphobics who present themselves for treatment, experience symptoms which meet the criteria for panic disorder. Thus, it is likely that the majority of these clients would have been more accurately classified as exhibiting panic disorder with agoraphobia.

This review addresses two issues related to outcome of behavioural treatment for agoraphobia. First, the long-term effectiveness of exposure-based treatments for agoraphobia is evaluated for statistical and clinical significance, as well as the incidence of relapse and/or fresh symptom emergence following treatment. Second, a review of the literature predicting long-term (i.e., $\geq$ 1 year) outcome of behavioural treatments for agoraphobia is presented. Five broad categories of predictors are discussed: (1) demographic and historical variables, (2) pretreatment clinical measures, (3) client attitudes toward treatment, (4) response profile measures, and, (5) familial and interpersonal variables.

Long-term Outcome of Behavioural Treatment for Agoraphobia

In discussing the long-term value of exposure-based treatments for agoraphobia, two general questions should be addressed. First, *does treatment actually result in empirically verifiable improvements over the long-term?* Second, *if so, are these improvements personally meaningful for the client?*

Statistically Significant Outcome for Agoraphobia

Numerous studies have demonstrated that systematic programmes of exposure result in reductions in agoraphobic symptoms up to six months following treatment (e.g., Hand et al., 1974; Mathews et al., 1977; Jansson & Öst, 1982; Sinnott et al., 1981). There are fewer studies which verify the long-term efficacy of these treatments, but the available evidence shows that statistically significant treatment gains are maintained for periods of up to nine years (Burns, Thorpe, & Cavallaro, 1986). On the whole, patients continue to function at approximately post-treatment levels throughout the follow-up period, but do not demonstrate any further improvement.

For example, Marks (1971) conducted a four year follow-up of 65 phobic patients, approximately half of whom were agoraphobic. On measures of the main phobia, other phobias, depression, and social adjustment, there was substantial improvement from pre- to post-treatment. These benefits

were maintained at follow-up, but little further progress took place during the follow-up period.

Similarly, Emmelkamp and Kuipers (1979) reported that 75% of their agoraphobic patients had maintained their treatment gains over a 3- to 5-year follow-up period. Seventy of the original 81 patients were located and tested. *T*-tests comparing post-treatment and follow-up scores revealed that improvements were maintained on all measures, with slight improvements on depression and global phobia. Unfortunately, the assessments consisted only of simple, mail-in self-ratings.

McPherson, Brougham and McLaren (1980) reported that treatment gains were maintained, although no further improvements occurred in 56 agoraphobics between post-treatment and a 3- to 6-year follow-up. Measures once again included only self-rated scales. It is also unfortunate that only treatment successes were included in the follow-up sample.

Munby and Johnston (1980) retested 63 of 66 agoraphobic patients at four to nine years following treatment. *T*-tests revealed significant differences between pretreatment and follow-up scores on nearly all self- and clinician-rated measures of anxiety and depression. Like previous studies, few further improvements were observed between post-treatment and follow-up.

In another series of studies, a group of 40 agoraphobic clients were reassessed at two- (Cohen, Monteiro & Marks, 1984) and five years (Lelliott, Marks, Monteiro, Tsakiris, &

Noshirvani, 1987) following treatment. Highly significant ($p < .001$) improvements were observed between pretreatment and each follow-up on all measures (Marks and Mathew's [1979] Fear Questionnaire [FQ], clinician-rated severity of phobia, Wakefield Depression Inventory, Hamilton Depression scales, self-rated non-phobic anxiety, frequency of spontaneous panic attacks). As in previous studies, follow-up scores did not differ significantly from those obtained immediately following treatment, with the exception of a slight, but statistically significant relapse at 5-years on clinician- and self-rated fear hierarchies.

Mavissakalian and Michelson (1986a), using a more thorough assessment battery, also demonstrated that improvements were maintained upon 2-year follow-up. Measures included clinical ratings of global phobia and phobia severity, self-ratings of phobia, depression and anxiety, and performance on a behavioural avoidance test (BAT). The 25 patients were treated with exposure, plus either imipramine or placebo. Again, the vast majority of improvements were realized between pre- and post-treatment, which were maintained at 6-month, 1-, and 2-year follow-ups.

Burns et al. (1986) also used a variety of outcome measures in an 8-year follow-up study of 20 agoraphobic clients. Statistically significant improvements were observed between pretreatment and follow-up on all outcome measures (BAT, Agoraphobia Questionnaire, Social Avoidance and Distress, Fear of Negative Evaluation scales). No further improvements took place between 1- and 8-year

follow-ups. These results must be read with some caution, since only half of the original treatment sample was reassessed, and there were biases in favour of the follow-up sample on some measures at post-treatment. Still, this study provides evidence that patients maintain their treatment gains up to 8 years after treatment on a variety of outcome measures, including a direct behavioural assessment of agoraphobic avoidance, although no further improvements occurred during the follow-up phase.

Finally, Franklin (1989) conducted a 6-year follow-up of eight agoraphobics. Treatment consisted of respiratory retraining, relaxation, cognitive therapy, and imaginal exposure in a multiple-baseline format. At post-treatment, treatment resulted in improvements on a BAT, self- and clinician-ratings of avoidance, anxiety, work, marital, and sexual adjustment, and, Symptom Checklist-90 (SCL-90R) scores. All of these gains were maintained over the 6-year follow-up, and a few individual clients experienced continued improvement during the follow-up period.

For obvious ethical reasons, none of the above studies included "no treatment" or placebo control groups with which to compare treatment outcomes. There is a paucity of data on the outcome of agoraphobia when left untreated, but the available evidence suggests that the rate of spontaneous recovery is quite low. For example, in a review of behavioural treatment studies of agoraphobia, Jansson and Öst (1982) reviewed seven studies which used either wait-list or attention-placebo control groups. In none of these

groups did significant improvements emerge between pre- and post-treatment. Furthermore, Marks (1985) showed that a mixed group of chronic phobics did not improve when left on a waiting list for periods of up to one year. Finally, the available data on the natural history of agoraphobia also shows that the rate of spontaneous recovery is very low (Agras, Chapin & Oliveau, 1972; Marks & Herst, 1970).

Summary Exposure-based treatment results in statistically significant improvements which are maintained for periods of up to nine years. Long-term follow-up studies have generally shown that treatment gains are maintained throughout the follow-up period, although patients generally do not demonstrate any further improvement.

Clinically Significant Improvement in Agoraphobia

Although the above results are encouraging, the finding that clients' scores change to a statistically significant degree does not address questions regarding individual variability of treatment outcome, or the clinical significance of those outcomes. Any "significant" change should also consider the clients' overall endstate level of functioning. Until recently, evaluating the *clinical* significance of change in agoraphobia treatment research was secondary to comparing the effects of one treatment versus another. For example, only 26% of patients (n=963)[1] in one

[1] 31% received behaviour therapy.

study stated that the treatment they had received was "very useful" (Burns & Thorpe, 1977). As a result, questions remain about the personal relevance of the change. Outcome studies have provided mixed information about clinical relevance of the outcome following exposure-based treatment for agoraphobia. However, it appears that most researchers have been overly optimistic regarding the clinical significance of their treatments. Only a few studies have applied objective criteria to evaluate the significance of improvement.

For example, Roberts (1964) reported that 1 to 16 years following treatment at an inpatient psychiatric setting, 27 of 38 "housebound housewives" were rated by the clinician as either "recovered" or "improved." However, closer examination of the individual outcomes reveals that many of the "improved" patients were still extremely limited in mobility, and could not be considered treatment successes by any standard. Only 7 (18%) of the 38 patients were symptom free at follow-up.

Marks (1971) similarly reported that only 3 of 65 patients had lost all of their phobic symptoms at follow-up:

> [The others] had improved during treatment to the point where they were functioning more active in the community and avoiding their phobic situations significantly less. However, they retained many symptoms, albeit at lesser severity. (p. 687)

Likewise, McPherson et al. (1980) found only a small sub-group of patients (18%) to be symptom free at 3- to 6-year follow-up. Nonetheless, many of their clients had made meaningful gains, even if they were not completely cured at follow-up. For example, at pretreatment 21 of 56 clients were unable to work because of their agoraphobic symptoms, while none of the patients reported this problem at follow-up. The authors concluded that:

> the majority (66%) reported that their symptoms had stabilized at a level which, while occasionally causing them slight distress, could easily be tolerated and affected their lives only slightly. (p. 151)

Burns et al. (1986) described some remarkable individual improvements in functioning 8 years following treatment. During a semi-structured interview, some clients reported levels of functioning which, when compared to pretreatment levels, would be considered clinically meaningful by any standards. Nonetheless, the majority of clients still reported at least some areas of continued difficulty.

Mavissakalian and Michelson (1986a) reported that 41% of their sample still considered agoraphobia a problem at 2-year follow-up. Six of 41 patients were unable to work because of agoraphobia, while 8 subjects had experienced at least one panic attack during the week prior to their follow-up assessment. Furthermore, 12 subjects (30%) had

received some interim treatment for agoraphobia, and 8 patients still used alcohol or anxiolytic medication before entering into phobic situations.

Finally, at 5-year follow-up, Lelliott et al. (1987) reported that the majority of clients had significant and lasting gains, and rated themselves as either *much improved* (30%) or *improved* (52%) from pretreatment levels. However, less than one-third (28%) of patients rated themselves as 0 or 1 on a scale of global phobia (0 to 8). Furthermore, less than one-fifth (18%) had been consistently well throughout the entire follow-up period: 5 of 40 patients were considered to have had marked fluctuations in their agoraphobia during the five years following treatment, as reported by their family physicians.

Objective Definitions of Clinically Significant Outcome A few authors have used objective definitions of "clinically significant outcome." Two ways in which this has been attempted in the literature are: (a) use of statistical criteria based on normative population means and standard error of measurement, and (b) use of a priori cut-offs to indicate treatment success and failure.

Statistical Definitions In a meta-analysis of 11 agoraphobia outcome studies, Jacobson, Wilson, and Tupper (1988) reported that outcome scores of 60% of subjects had improved to a statistically significant degree over pretreatment levels of functioning. However, only 34%

percent of subjects had attained the criteria for clinically significant improvement. "Clinically significant improvement" was defined as a post-treatment score which falls below the mid-way point between agoraphobic and normal population norms; that is, when the score was closer to the normal (versus agoraphobic) population mean. For measures on which normal population norms were unavailable, the criteria for clinically significant improvement was a 2 standard deviation improvement from pretreatment levels. Finally, a reduction of 2 points on a 0 to 8 scale, or 1 point on a 0 to 5 scale was utilized for self- and clinician-rated scales of phobia severity.

Arrindell, Emmelkamp and Sanderman (1986) reported that 69% of their sample had experienced "clinically significant and reliable improvement," using Jacobson, Follette and Revenstorf's (1986) statistical criteria. Overall, the clients experienced a drop of 17 points from pre- to post-treatment on agoraphobia scale of the FQ (FQ-AGOR). Significant gains were also reported on measures of anxious mood, depression, social fears, as well as on performance on a BAT.

Finally, Trull, Nietzel, and Main (1988) assessed the clinical significance of 19 behavioural treatment outcome studies, all of which evaluated outcome using the FQ. "Clinical significance" was defined as scoring within 2 standard deviations of the normal population mean on FQ-AGOR and total phobia (FQ-TOTAL) sub-scales. Overall, treatment resulted in clinically significant improvement. As compared

to normal population means, overall patients' scores dropped from the 97.3 percentile at pretreatment to 68.0 at post-treatment and 65.5 at follow-up. The results were less encouraging when compared to college norms (99.9, 98.7, and 98.2 respectively).

A Priori Definitions of Endstate Functioning The above efforts represent a significant improvement from more typical approaches to assessing treatment effectiveness, which only consider the statistical significance of the treatment effect. However, any definition of clinically significant change should also include a criteria for adequate "endstate functioning": a predetermined criteria for the clients' overall level of functioning following treatment. That is, *what minimal criteria should constitute treatment success?*

Jansson and Öst (1982) reviewed 13 exposure-based treatment studies for agoraphobia, all of which utilized improvements in clinician's ratings of phobia severity as a measure of treatment success. Their criteria for clinically significant improvement were: (1) at least 50% reduction of phobia severity ratings, and, (2) an outcome score of 3 or less on a scale of 0 to 8. Using these criteria, 10 of the 18 studies yielded clinically significant overall results at post-treatment. For seven studies which included assessments of patients at least six months after treatment, four had clinically significant follow-up results. However, it is interesting that the one long-term follow-up study

included in the analysis (Munby & Johnston, 1980) failed to meet their criteria for clinically significant change.

Cohen et al. (1984) found that clinician-ratings of phobia severity dropped from an average of 6.6 at pretreatment (*marked fear, usually avoid situations*) to 3.2 at 2-year follow-up (*some fear, minimal avoidance*) on a scale from 0 to 8. Emmelkamp and Kuipers (1979), McPherson et al. (1980), and Munby and Johnston (1980) reported similar gains at long-term follow-up.

Others (e.g., Barlow, 1988; Himadi et al., 1986) argue that a composite of several variables is more desirable than a single global variable in measuring endstate functioning. A composite criteria offers the advantage of assessing multiple dimensions treatment-induced change. Chambless (1990) noted that overly optimistic results can be attained by using simple measures of the treated symptoms, and excluding criteria representing multidimensional definitions of treatment outcome. Unfortunately, few studies have subjected their treatments to rigorous evaluation of clinical significance of outcomes. Most studies have opted for simple, global, self-rated criteria of outcome functioning. Others have relied almost exclusively on anecdotal evidence to assess the clinical significance of their treatments.

Mavissakalian and colleagues have used a composite definition of endstate functioning in evaluating the effectiveness of their treatment programmes at post-treatment and short-term follow-up (Mavissakalian, 1986;

Mavissakalian & Hamann, 1987; Mavissakalian & Michelson, 1983; Michelson, Mavissakalian, & Marchione, 1985, 1988; Michelson, Mavissakalian, Marchione, Dancu, & Greenwald, 1986). Their criteria for "high endstate functioning" (HEF) included achieving at least three of the following: (a) a score of 2 or less on a 5-point clinician-rated scale of severity of phobia; (b) a score of 2 or less on the global self-rating of severity on the FQ (FQ-INCAPACITY); (c) a score of 2 or less on Watson and Mark's (1971) self-ratings of the patient's most severe phobic situations (0 to 9); and, (d) completion of a standardized and individualized BAT with minimal or no anxiety. These criteria have not yet been used in a long-term (i.e., ≥ 1 year) follow-up. At post-treatment and 6-month follow-up, the authors have consistently reported that approximately 50 to 65% of their patients achieve this criteria for HEF.

Barlow and colleagues (Cerny et al., 1987; Craske, Burton, & Barlow, 1989; Himadi, Cerny, Barlow, Cohen, & O'Brien, 1986) have utilized a similar composite definition of treatment outcome. To achieve HEF, clients must have met three of the following conditions: (a) a score of 20 or less (0 to 100) on a personalized fear hierarchy; (b) spouses rating of 20 or less on fear hierarchy; (c) completion of all items on a BAT with minimal self-rated anxiety; (d) a score of 2 or less on FQ-INCAPACITY; and, (e) score of 2 or less on clinician's 0 to 8 rating scale of phobic severity. At 1-year follow-up, 35% of clients treated with spouses, 18% of those treated without spouses, had achieved this

criteria for HEF (Cerny et al, 1987). These percentages had improved to 47% and 27%, respectively, by 2-year follow-up.

Summary Anecdotal evidence suggests that many patients experience personally significant gains, if not complete recovery. Nonetheless, a great number of patients experience incomplete recovery, and only a very small minority are symptom free at follow-up. Objective a priori composite criteria for successful treatment outcome are especially important in evaluating treatment effectiveness, although only a small minority of studies have utilized such criteria. The proportion of clients who experience clinically significant outcomes is reported at 35% to 65%, depending on the definition of clinical significance.

The Incidence of Relapse and/or Fresh Symptom Emergence During Long-term Follow-up

Most researchers have concluded that exposure-based treatment results in lasting improvements in agoraphobia, with relatively few relapses or complications (e.g., Emmelkamp, 1980; Emmelkamp & Kuipers, 1979; McPherson et al., 1980; Munby & Johnston, 1980). The notion of *symptom substitution* is generally rejected in the behavioural literature. However, the available evidence does not support such an optimistic conclusion. For example, in a meta-analytic review of agoraphobia follow-up studies, Öst (1989) reported that the mean rate of relapse was 24%, while

33% of patients had sought further treatment at some time during the follow-up period. The following review will demonstrate that researchers in this area have not been critical enough of the long-term outcomes of their treatment programmes. On the contrary, they seem content to emphasize their treatment successes, and to demonstrate that their treatment is statistically superior to another treatment.

For example, at four years after treatment, Marks (1971) concluded that his sample "remained a predominantly phobic one and did not develop any other kind of neurotic syndrome" (p. 686). However, this conclusion was not supported by the information gathered during follow-up interviews. Approximately one-quarter of the sample reported sexual disorders (e.g., frigidity), while one-quarter were noted to have disturbed work and leisure adjustment. It is also noteworthy that during the follow-up period 11% of this sample had been hospitalized for depression, while another 4% were treated for depression as outpatients[1].

Munby and Johnston (1980) similarly stated that they failed to find evidence of new symptoms or relapse in their sample of 63 agoraphobics. This conclusion is contradicted by the fact that 31 (49%) of their patients had sought further treatment, and 37 (59%) had received psychotropic drugs at some time during the follow-up period.

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[1] Marks stated that "many" of the patients had been treated for depression before they entered into treatment, but provided no baseline data.

Furthermore, 21 (33%) patients reported that they had experienced a period of severe relapse, lasting at least one month. Nonetheless, clients who functioned best at the 6-month follow-up had generally continued to do well during the rest of the follow-up period. This information is significant since it is the opposite of what would be expected in a symptom substitution model. That is, theoretically, the most improved group should be most prone to relapse or symptom substitution.

Marks et al. (1983) reported that 15 of 45 patients had further contact with the therapist during the six months following treatment, 10 (22%) of whom had received antidepressants. However, patients who received further treatment were initially most depressed at pretreatment. Two years after treatment 9 of 40 follow-up clients had been referred to psychiatrists at some time during the follow-up (Cohen et al., 1984). Finally, at 5-year follow-up (n=40), 23 patients had sought further treatment for agoraphobia, 10 of whom were still on psychotropic medications (Lelliott et al., 1987). Once again, at each follow-up, patients who were worse-off at previous assessments were those who sought further treatment.

Mavissakalian and Michelson (1986a) reported that 30% of their sample had received interim treatment specifically for agoraphobia, and 15% for other mental health problems during the 2 years following exposure treatment. Twenty-four percent of patients had received either anxiolytic or antidepressant medication during follow-up, 17% had interim

depressive episodes, and 12% met the criteria for major depression at the time of the follow-up. The incidence of depression in this sample is noteworthy, since the authors reportedly took extreme care to exclude anyone from the study with a history of primary affective disorder.

Similarly, in the Burns et al. (1986) 8-year follow-up study, new mental health problems had emerged in 3 of 20 clients, 4 had received additional treatment for agoraphobia, and 11 people were still using medication at the time of follow-up to help them cope with anxiety. Franklin (1989) reported that five of seven patients experienced "partial but temporary relapses" during the six years following treatment. Unfortunately, he provides no further definition of "partial," "temporary," or "relapse".

Emmelkamp and Kuipers (1979) stated that they found no evidence of fresh symptom emergence four years after treatment, although 13 of 70 clients had received further treatment during the follow-up period. Similarly, McPherson et al. (1980) reported that they found no evidence of symptom substitution, although 5 of 56 clients received further treatment because of a relapse in their agoraphobic symptoms. Unfortunately, both studies used only simple mail-in assessments, making it unlikely that any new symptomatology would have been uncovered.

In an early study, Hafner (1976) reported that two-thirds of patients (n=39) had met the criteria for fresh symptom emergence in the 12 months following exposure treatment. "Fresh symptom emergence" was defined as an

increase on more than one scale of the Middelsex Hospital Questionnaire or Fear Survey Schedule (FSS) over pretreatment levels. Hafner classified subjects into thirds, representing those who experienced (a) negligible, (b) small-to-moderate, and (c) moderate-to-large amount of fresh symptom emergence. The top third responded well to treatment on all of the criteria (main phobia, global phobia, self-satisfaction, Maudsley Hospital Questionnaire). In contrast, the bottom group responded well only on the main phobia; on the other measures, they were actually worse-off at follow-up than they were before treatment. Hafner concluded that treatment had an overall adverse effect on one-third of his sample.

However, Hafner's study has been widely criticized (e.g., Emmelkamp & Van Der Hout, 1983; Marks, 1981; Monteiro, Marks & Ramm, 1985; Stern, 1977; Vandereycken, 1983) because it is not known how many increases in the FSS and Middelsex Hospital Questionnaire sub-scales could be attributed to chance. Furthermore, the occurrence of fresh symptom emergence could not be attributed to phobia removal, since all three groups improved equally well in phobia severity. Thus, increases in non-phobia measures could not be considered symptom substitution following phobia improvement.

Summary There is no doubt that a sub-group of agoraphobic clients continue to have significant difficulties following behaviour therapy. The incidence of relapse, use of

psychotropic medications, and/or seeking further treatment in the literature is usually reported at 33% to 66%. Unfortunately, the rigorousness of assessment and degree of detail reported for these data varies greatly between studies.

Those who initially respond well to treatment appear to maintain their benefits during follow-up. The notion of symptom substitution is generally not supported in the behavioural literature. Problems during follow-up usually follow poor initial response to treatment, rather than symptom substitution following successful treatment.

Summary of Long-term Effectiveness of Behavioural Treatment of Agoraphobia

The evidence suggests that behavioural treatments for agoraphobia result in long-lasting improvement for periods of up to nine years. Overall, treatment gains are maintained from post-treatment to follow-up, although further improvement during follow-up does not appear to occur.

Nonetheless, despite overall statistically significant improvements, only a small minority of clients are completely symptom free at follow-up. A significant number of patients experience relapse and/or incomplete recovery. Researchers have not been critical enough of the long-term outcomes of their treatment programmes, content to emphasize treatment successes, and to demonstrate that their treatment

is statistically superior to another treatment. With few exceptions, there has been a failure to apply reasonable criteria to decide on the number of clients who are functioning at a satisfactory level at follow-up. Nonetheless, the notion of symptom substitution is generally not supported in the behavioural literature, as those who initially respond well to treatment generally maintain their benefits during follow-up; problems during follow-up usually follow poor initial response to treatment, rather than symptom substitution following successful treatment.

Prognostic Indicators of Treatment Outcome

Given that a significant number of patients experience relapse and/or incomplete recovery following behavioural treatment of agoraphobia, it would be useful to be able to predict which patients benefit from treatment, which patients will experience relapse, and which will drop-out of treatment prematurely. Table 1 (Appendix A) presents details of 17 studies which have examined the utility of different variables in predicting long-term (i.e., ≥ 1 year) outcome following exposure-based treatment of agoraphobia. Included in this review are studies which examined the relationship between various patient variables and long-term outcome for behavioural treatment of agoraphobia. Thus, studies were not included which were concerned solely with comparing the effectiveness of treatment A versus treatment B, did not explicitly make use of a behavioural (i.e.,

exposure-based) treatment, or, had a follow-up period of less than 1 year. The review is organized under five general categories of patient variables: (a) demographic and historical variables, (b) pretreatment clinical measures, (c) patient attitudes toward treatment, (d) response profile characteristics, and, (e) interpersonal and familial factors.

Demographic and Historical Variables

Demographic and historical variables are generally poor predictors of treatment outcome for agoraphobia. In only three of nine studies were demographic variables significantly predictive of any measure of treatment success, while historical variables yielded similarly poor results (2 of 7 studies). Furthermore, the few positive findings have typically revealed only very weak associations between these variables and treatment outcome. One historical variable, the mode of phobia acquisition, is a theoretically important variable, but no long-term outcome research has been done to empirically demonstrate it's importance.

Demographic Variables Cohen et al. (1984) found no relationship between sex, age, or marital status and clinicians' ratings of phobia severity, improvement, and relapse during the two years following treatment. Treatment consisted of self-exposure plus either imipramine or

placebo, and relaxation or guided exposure. Monteiro et al. (1985) similarly found no relationship between marital status and outcome on a variety of self-rated measures of phobia and depression. Lelliott et al. (1987) reported no effect of age and sex on outcome at five years on self- and clinician ratings of treatment outcome.

Hafner (1983) likewise reported that there were no significant differences between males and females in overall phobic severity 12 months after treatment. However, Hafner did find that females experienced significantly greater frequency of panic and were more dependent on others 12 months after treatment. He also reported that men were more likely to have refused treatment or to have dropped-out prematurely, although these latter trends were not statistically significant.

Historical Variables Historical variables are also ineffective predictors of treatment outcome. Emmelkamp and Kuipers (1979) found that duration of phobia was unrelated to amount of improvement reported on self-ratings of items on personalized fear hierarchies. Cohen et al. (1984) reported that duration of phobia was unrelated to clinician ratings of phobia severity, improvement, or relapse two years following self-exposure treatment plus imipramine or placebo and relaxation or guided exposure. Finally, Lelliott et al. (1987) found that duration of illness was unrelated to a number of different clinician- and self-ratings of phobia severity.

Mode of Onset One historical variable, the type of phobia onset, is a theoretically important determinant of treatment outcome, although little research has been done to verify its' prognostic value. Rachman (1977) and Wolpe (1981) have proposed that phobias may be acquired by means of one of two mechanisms: classical conditioning, or cognitive learning. Classically-conditioned phobias are acquired through pairing with one or more direct or vicarious negative experiences, leading to a "generalized maladaptive response". Conversely, cognitively-based phobias are acquired through misinformation and/or social learning. A key characteristic of cognitively-learned phobias is that patients do not recognise that their fears are unrealistic. In these cases, clients believe that the danger is real, and that their fears are therefore warranted. Michelson (1984) went on to suggest that physiological and behavioural components are less important in maintaining cognitively-learned fears, as compared to cognitive components such as appraisals, attributions and expectations of danger. Öst (1985) reported that the majority (89%) of agoraphobics acquire their phobias via classical conditioning.

Unfortunately, no long-term empirical research has been done to test whether different modes of acquisition are associated with long-term outcome for agoraphobia following behavioural treatment. Roberts (1964) conducted the only long-term study to examine the relationship between the circumstances surrounding agoraphobia onset and treatment

outcome. He found that patients who had a "sudden" phobia onset were more likely to be classified as "unimproved" at 1.5- to 16-year follow-up, while those in the "improved" group were evenly divided between sudden and "gradual" onset. Roberts also found that an older age at the onset of the disorder predicted poorer prognosis at 1.5 to 16 years following treatment.

Liddell and Acton (1988) tested whether the misinformation and erroneous beliefs associated with cognitively-based agoraphobia would interfere with the patient's ability to understand the behavioural model of phobia treatment. A 24-item multiple-choice test was administered at pre- and post-treatment. This test assessed the patients' knowledge of the behavioural model of etiology and treatment of agoraphobic symptoms. Contrary to the hypothesis, there was no difference in test performance between patients with cognitive and conditioning onsets. These findings suggest that acquisition of fear is not predictive of the patients' ability to understand and accept the behavioural model of treatment.

Summary Demographic and historical variables are generally poor predictors of treatment outcome for agoraphobia. The few positive findings have revealed only weak associations between these variables and treatment outcome. The mode of acquisition of phobia is a theoretically important variable, but very little research has been done to demonstrate it's importance.

Pretreatment Clinical Measures

Emmelkamp and Van Der Hout (1983) concluded that pretreatment clinical measures were not useful in predicting treatment outcome for agoraphobia. Although many studies have been conducted since that time, on the whole, this observation remains true. Furthermore, in studies which have reported a positive relationship between pretreatment clinical measures and treatment outcome, these measures generally account for only a small percentage of the variance in outcome. There is some evidence that clinical measures gain predictive utility as treatment progresses, although they do not attain useful predictive power until late in treatment.

Phobic Severity The studies reviewed in Table 1 show that, overall, pretreatment measures of phobia severity (clinician-, and self-ratings of phobia severity, standardized paper-and-pencil measures, personalized fear hierarchies, diary records of self-exposure activity) are poor predictors of long-term treatment outcome, relating to long-term treatment outcome in only 12 of 29 occasions. However, the available evidence also suggests that these same measures become more useful predictors of long-term outcome as treatment progresses (e.g., Lelliott et al., 1987; Munby & Johnston, 1980; Roberts, 1964).

For example, Roberts (1964) reported that the clients' "mobility" at pretreatment (i.e., ability to leave the

house) was only weakly associated with their mobility at 1.5- to 16-year follow-up, while mobility at 6-month follow-up was strongly predictive of outcome at long-term follow-up.

Munby and Johnston (1980) similarly reported that ratings of phobia severity at pretreatment were poor predictors of 5- to 9-year outcome, but that the same ratings taken six months after treatment were significantly related to ratings at long-term follow-up. Measures included clinicians' ratings of phobia severity, the FSS, and a personalized fear hierarchy. The same pattern emerged for diary measures of time spent out of house: long-term outcome was weakly correlated with diary measures taken at pretreatment (r=.04), but the same measures taken at post-treatment were strongly predictive of long-term outcome (r = .45). However, these latter correlations were not statistically significant because of the small sample size (n = 12) for that measure.

Finally, Lelliott et al. (1987) found that clients who sought further treatment during the five years following treatment did not differ on any of the four pretreatment variables (clinician- and self-ratings of fear hierarchy items, FQ, self-rating of global phobia). However, those who subsequently sought further treatment were worse-off on all measures of phobia severity at post-treatment.

Mood / Depression, General Psychopathology Other symptoms associated with agoraphobia include depression, generalized

anxiety, depersonalization, hypochondriacal fears, interpersonal dependence, and decreased sexual functioning. Some authors (e.g., Chambless & Goldstein, 1980; De Moor, 1985) have argued that behaviour therapists take too narrow a view of the agoraphobic syndrome, focusing only on the most prominent features (i.e., agoraphobic avoidance and the "fear of fear"). De Moor (1985) went on to suggest that progress in exposure-based, "phobia removal" treatment is hampered if these additional problems are not addressed.

This notion is partially supported by the available evidence; in the 18 cases in Table 1 in which measures of general psychopathology were used as predictors of long-term treatment outcome, 7 resulted in statistically significant relationships. However, in studies in which positive effects were found, these measures generally accounted for only a small percentage in the variance in outcome.

Cerny et al. (1987) conducted multivariate analyses to predict outcome at 1-year follow-up in 73 agoraphobic patients. The authors used several measures of phobia severity to select the highest (n=9) and lowest (n=11) functioning patients at follow-up. Univariate statistical tests did not differentiate the groups on any pretreatment measures of general psychopathology (BDI, Middelsex Hospital Questionnaire, Subjective Symptom Scale). However, multivariate analyses revealed that clients with poor outcome scored lower (i.e., poorer) on these measures.

Marks and colleagues (Marks et al., 1983; Cohen et al., 1984) also reported that neither scores on clinician-

(Hamilton Depression Scale) nor self-rated (Wakefield Depression Inventory) depression scales were predictive of phobia severity at 1- or 2-year follow-up. However, clients who scored higher on depression were more likely to have received additional treatment during the first year following treatment, and high scores on the Hamilton Depression Scale were predictive of treatment drop-out. Furthermore, higher pretreatment depression and non-phobic anxiety at pretreatment predicted greater phobia severity at 5-year follow-up (Lelliott et al., 1987).

Finally, Emmelkamp and Kuipers (1979) reported that neither pretreatment measures of social anxiety (Social Anxiety Scale) nor depression (Zung Depression Scale) were related to severity of phobia at 3.5- to 5-year follow-up.

Summary Pretreatment measures of phobia severity have generally not been effective predictors of treatment outcome. In studies in which positive effects were reported, these measures accounted for only a small percentage of the variance in outcome. Clinical measures become better predictors as treatment progresses, but do not attain useful predictive power until late in the treatment process. Some authors have stressed the importance of general psychopathology and personality in the maintenance of agoraphobia. Measures of depression were not consistently predictive of treatment outcome, although increased depression was associated with poorer prognosis in a few studies.

Attitude toward Treatment

Few studies have assessed the long-term effect of agoraphobics' attitudes toward treatment on treatment outcome. "Attitudes toward treatment" refers to the clients' motivation for treatment, expectations for what will transpire in treatment, expectations for therapeutic gain, and, their learning and accepting of the therapeutic rationale. The available findings suggest that an optimistic attitude toward the treatment offered may predict a positive outcome at post-treatment, but is unrelated to outcome at 1- or 2-year follow-up (Persson & Nordlund, 1983; Marks et al., 1983; Cohen et al., 1984). There is also some evidence which suggests that clients who have better understood the behavioural therapeutic model have superior outcome on some measures (Liddell & Acton, 1988).

Persson and Nordlund (1983) treated 103 phobics[1] with self-directed exposure, anxiolytic medications, plus one of relaxation, supportive therapy, prolonged exposure, or no additional therapy. At pretreatment, three attitudinal variables were assessed by questionnaire: (a) expectation of therapeutic gain, (b) goals for treatment, and, (c) client's wishes regarding the therapist's role during treatment. "Congruent" treatment goals and expectations for the therapists' role were associated with decreased phobic symptomatology at post-treatment. For example, clients who received guided exposure showed better improvement at post-

[1] including 61 agoraphobics

treatment if they entered into treatment with the desire to receive "advice and guidance" from the therapist. Alternatively, those who had received supportive therapy were more improved if they wanted the therapist "to help discover the causes of the disorder." However, these variables were no longer associated with outcome at 9-month follow-up.

Marks and colleagues (Cohen et al., 1984; Lelliott et al., 1987; Marks et al., 1983) reported that the therapists' ratings of treatment compliance were not related to treatment outcome at 1-, 2-, or 5-year follow-up stages. Therapists' pretreatment ratings of clients' motivation for treatment were also not related to phobia severity at 1- or 2-year follow-ups, although a positive pretreatment attitude toward treatment was predictive of positive outcome at 5-year follow-up (Lelliott et al., 1987).

Finally, Liddell and Acton (1988) found that clients who had acquired a better understanding of the behavioural model at post-treatment had also attained greater improvements on 2 of 4 outcome measures. A 24-item multiple-choice "test of the behavioural model" was administered to 42 agoraphobics at pretreatment. The test was designed to assess the degree to which patients understood a behavioural model of the etiology and treatment of anxiety. The test was re-administered at post-treatment to the 29 clients who completed the programme. Clients who demonstrated greater understanding of the model at post-treatment also showed decreased phobic incapacity (FQ-

INCAPACITY) and increased self-efficacy. These clients experienced no greater improvement on 2 other measures (FQ-AGOR, BDI).

Summary Few long-term studies have assessed the relationship between attitude toward treatment and treatment outcome, and the few available findings have not been consistent. The available evidence suggests that an attitude congruent with the treatment offered is associated with immediate (i.e., post-treatment) outcome, but that attitudes toward treatment are not associated with outcome at longer follow-ups (1 to 2 years). Also, there is evidence which suggests that patients who have better learned and understood the therapeutic model have superior outcome, at least at post-treatment.

Response Profile

Lang (1968) conceptualized anxiety as three loosely interwoven dimensions: cognitive, behavioural and psychophysiological. "Response stereotype" refers to the strengths of physiological, behavioural, and cognitive reactions during exposure situations. Researchers have measured response stereotypes in the hopes that they would help improve the reliability and validity of classification, and assist in tailoring treatment to the unique characteristics of the client.

The results of several post-treatment and short-term follow-up studies suggest that response profile characteristics are useful in predicting treatment outcome (e.g., Craske, Sanderson, & Barlow, 1987; Mackay & Liddell, 1986; Mavissakalian & Michelson, 1983; Michelson, 1986; Michelson & Mavissakalian, 1985; Michelson, Mavissakalian, & Marchione, 1985, 1988; Michelson, Mavissakalian, Marchione, Ulrich, Marchione, & Testa, 1990; Stern & Marks, 1973; Vermilyea et al., 1984; Watson & Marks, 1971). However, no long-term (i.e., ≥ 1 year) follow-up studies have been done to indicate the usefulness of these variables in predicting long-term outcome.

Physiological Arousal Some theorists have suggested that high physiological reactivity early in the treatment process is indicative of "emotional processing" of the "fear structure"; thus, physiological arousal during exposure should be associated with better treatment outcome in agoraphobics. Three studies have presented evidence which suggests that high physiological responsiveness is predictive of improved outcome at post-treatment (Stern & Marks, 1973; Vermilyea et al., 1984; Watson & Marks, 1971). One other study reported superior outcome at 6-month follow-up for high physiological responders (Craske et al., 1987). However, no long-term follow-up studies have been done to test the hypothesis that high physiological responsiveness during exposure is associated with improved treatment outcome in agoraphobics.

Behavioural Avoidance Mavissakalian and Hamann (1986) suggested that performance on behavioural avoidance tests (BAT) are of limited value in assessing agoraphobics, since unlike simple phobias, the essential fear in agoraphobia is a fear of panic, rather than the fear of external objects or situations. There are no long-term outcome studies to test the value of behavioural performance in predicting treatment outcome for agoraphobics. Nonetheless, the literature suggests that good behavioural performance on *in vivo* BATs is consistently related to positive short-term outcome (Craske et al., 1987; Cerny et al., 1987; Mavissakalian & Hamann, 1986; Mavissakalian & Michelson, 1986b; Michelson, Mavissakalian & Marchione, 1988).

Subjective Anxiety In addition to physiological and behavioural symptoms, agoraphobia is characterized by subjective feelings of anxiety, catastrophic thoughts, dysfunctional beliefs, and misappraisals of internal and external cues. Sanderson and Beck (1989) emphasized the importance of these symptoms in the development of the "fear of fear." However, there is little empirical support for the notion that strength of cognitive reactivity is a predictor of short-term outcome of behavioural treatment of agoraphobia (Barlow et al., 1984; Craske, Burton & Barlow, 1989; Hafner & Marks, 1976; Mavissakalian & Hamann, 1986; Mavissakalian & Michelson, 1986; Michelson & Mavissakalian, 1985; Watson & Marks, 1971). Once again, no long-term

studies have been done to determine the usefulness of cognitive reactivity in predicting long-term treatment outcome. Nonetheless, there is some evidence which suggests that early improvements in subjective anxiety during exposure predict better outcome at short-term (1 month) follow-up (Mavissakalian & Michelson, 1983).

Response Synchrony / Desynchrony The somatic, behavioural, and cognitive systems may change or improve at different rates during treatment. Response "synchrony / desynchrony" refers to the degree of covariance amongst the three systems over time (Rachman & Hodgson, 1974). There are no studies to test the relationship between response synchrony during treatment and long-term treatment outcome. In two short-term studies, parallel improvement in behavioural, physiological, and cognitive response systems was associated with superior outcome on at least one outcome measure (Vermilyea et al., 1984; Michelson et al., 1990). A third study failed to show any outcome superiority for clients with synchronous improvement (Craske et al., 1987).

Response Concordance / Discordance Response "concordance / discordance" refers to agreement in the relative strengths of the three response systems. Unlike the synchrony / desynchrony dimension, which refers to unity of changes in the different response systems over time, concordance refers to the relative strengths of each of the response systems at one point in time. Vermilyea et al. (1984) suggested that

if one or more response systems fail to improve during treatment, there is a greater likelihood of relapse following treatment. Michelson et al. (1990) went on to suggest that treatment failure is even more certain if the physiological response lags behind the other systems, since heightened physiological arousal escalates the anxiety-panic cycle. All three short-term outcome studies found superior outcome for patients with concordant response at post-treatment (Michelson & Mavissakalian, 1985; Michelson et al., 1985, 1988). It should be noted that these studies assessed concordance at post-treatment only; that is, in these studies "discordance" refers to a failure of one or two response systems to improve to the same degree as the other(s). Therefore, it may only be hypothesized that outcome is worse for clients when at least one response system fails to improve to the same degree as the other(s). However, no studies exist which test the value of this variable in predicting long-term treatment outcome.

Summary The evidence suggests that response profile variables are effective predictors of short-term treatment outcome. Some authors have suggested that high physiological arousal predicts good outcome since it reflects emotional processing of the fear structure. The literature also suggests that good behavioural performance on *in vivo* BATs is related to positive treatment outcome, while there is less empirical support for the notion that strength of cognitive reactivity is a predictor of short-

term outcome of behavioural treatment of agoraphobia. Finally, there is some limited evidence which suggests that synchrony of improvement among the three response systems over time is associated with superior outcome, and that failure of one response system to improve may predict poorer outcome. Unfortunately, there are no long-term follow-up studies to assess the value of these measures in predicting long-term treatment outcome for agoraphobics.

Familial and Interpersonal Variables

Interpersonal and familial variables are an important component in many theories of etiology and pathogenesis of agoraphobia (*see Vandereycken [1983] for a review*). Various authors have stressed the importance of agoraphobics' interpersonal dependency and reliance on others to accompany them to fearful situations and to take over various daily obligations (e.g., De Moor, 1985). The results of post-treatment and short-term follow-up studies suggest that clients with "good" and "poor" marriages benefit equally from treatment at post-treatment, but only the clients in good marriages continue to improve during the 3- to 6-month follow-up periods (e.g., Bland & Hallam, 1981; Emmelkamp & Van Der Hout, 1983; Himadi et al., 1986; Milton & Hafner, 1979; Thomas-Peter, Jones, Sinnott, & Fordham, 1983). The results of long-term follow-up studies have also been encouraging, although somewhat clouded. Finally, some authors have included significant others in treatment in

order to teach them to be more effective "managers" of the patient's agoraphobic behaviour (e.g., Arnow et al., 1985; Barlow et al., 1984; Cerny et al., 1987; Mathews et al., 1977; Munby & Johnston, 1980).

Theoretical Importance of Interpersonal Variables Kleiner and Marshall (1985) suggest that interpersonal factors influence treatment outcome via two possible mechanisms: (1) the interpersonal problems interfere with the direct treatment of phobic symptoms, or, (2) treatment-induced changes may have adverse or positive effects on the patient's relationships. Alternatively, Marks (1981) suggested that the failure to improve may reflect the inability of the patient's social network to adapt to a "non-agoraphobic" lifestyle. It may therefore be important to consider the patient's social milieu, or problem-solving capacity of the relevant social field in attempting to predict long-term response to exposure treatment (Marks, 1981).

In particular, much has been written about the importance of the marital relationship in the etiology and maintenance of agoraphobia (e.g., Bland & Hallam, 1981; Fodor, 1974; Goldstein & Chambless, 1978; Goodstein & Swift, 1977; Hafner, 1977a, 1977b). For example, Goldstein and Chambless (1978) have suggested that the majority of agoraphobic cases have an onset in a environment of high interpersonal stress:

> Usually because of his/her unassertiveness the agoraphobic has found himself/herself in an unhappy, seemingly irresolvable relationship under the domination of a spouse or parent. The urges to leave and the fears of being on his/her own balance out, and the agoraphobic is trapped in this conflict situation, unable to move and lacking the skills to change the situation (p. 324).

These authors go on to suggest that reinforcement from the patient's environment serves to maintain the problem.

Milton and Hafner (1979) have suggested that clients with few external supports are able to make progress during treatment because of the therapists' and/or groups' support and encouragement; however, once the treatment sessions are finished, these clients experience relapse because they have lost the only source of support available to them. Alternatively, patients whose relatives are excessively protective and unconcerned with encouraging independence will tend toward relapse following treatment (e.g., Hudson, 1974; Thomas-Peter et al. 1983). This concurs with the findings of Mathews, Johnston, Lancashire, Munby, Shaw, and Gelder (1976), whose patients reported that the most helpful component of treatment was the encouragement given by the therapists to continue exposing oneself to fearful situations.

Gelder (1977), Barlow, O'Brien, Last and Holden (1983), and Himadi et al. (1986) have also stressed the positive

and negative social reinforcements within the family as important determinants of continued improvement following behavioural treatment. Each author has suggested that patterns of communication between partners are instrumental in the maintenance of agoraphobia and the patient's response to treatment. Himadi et al. (1986) went on to suggest that measures of interpersonal interactions between couples will prove to be useful tools in the treatment of agoraphobia.

On the other hand, there are also those who argue that there is little empirical evidence to suggest that marital difficulties are more frequent in agoraphobics than in any other clinical group (e.g., Arrindell & Emmelkamp, 1986; Arrindell et al., 1986; Buglass, Clarke, Henderson, Kreitman, & Presley, 1977; Emmelkamp, 1980; Kleiner & Marshall, 1985; Mathews, Gelder & Johnston, 1981; Vandereycken, 1983). In particular, these authors suggest that assumptions about the overprotectiveness of spouses are based on clinical anecdotes and/or subjective impressions of the therapist.

Long-term Empirical Evidence Findings by Hudson (1974) and Thomas-Peter et al. (1983) suggest that reinforcement from the patient's environment serves to maintain the agoraphobia problem. On the basis of a family interview, Hudson (1974) categorized 18 patients' families into one of three groups: well-adjusted (n=7), anxious (n=7), and sick families (n=4). "Anxious" families were said to be characterized by anxiety, stress, and interpersonal conflict, while the "sick"

families were thought to be yielding secondary gains from the illness, showing no willingness to aid in the patient's recovery. At 3- and 12-month follow-ups, all of the patients from well-adjusted families were independently rated as having attained significant improvement. Conversely, all patients from the anxious and sick groups were subsequently rated as either unimproved or only partially improved. Unfortunately, only global therapist ratings were used to measure improvement, and no statistical analyses were provided. Furthermore, most of the family ratings were done one week prior to discharge; therefore, the family ratings should not be considered independent or predictive of client improvement.

Despite these methodological problems, Hudson's findings are supported by those of Thomas-Peter et al. (1983). They interviewed significant others of 17 agoraphobic patients and rated the family's potentials as effective managers of the agoraphobic behaviour (i.e., offering support, encouraging / reinforcing independent behaviour). These ratings were significantly predictive of outcome at post-treatment on performance on a standardized fear hierarchy, and self-ratings of anxiety. Specifically, patients whose relatives were excessively protective and unconcerned with encouraging independence exhibited poorer outcome. Unfortunately, no follow-up was reported for these clients.

Arrindell et al. (1986) failed to find a relationship between marital or sexual adjustment and clinical

improvement at 1-year follow-up. However, patients who scored lower on a scale of marital adjustment were more likely to have sought further treatment during follow-up. They examined outcomes one year following treatment for 23 female agoraphobics and their spouses. Improvement in symptoms was unrelated to initial marital or sexual adjustment, as measured by clinician- or self-ratings. The authors downplayed the special status often attributed to the marital relationship in the pathogenesis and maintenance of agoraphobia, and suggested that overall social support is the important component in determining treatment outcome.

Cerny et al. (1987) similarly reported that pretreatment marital satisfaction, as measured by the Marital Adjustment Test, was unrelated to treatment outcome status at 1- or 2-year follow-up.

Finally, Monteiro et al. (1985) failed to find a relationship between marital adjustment and treatment outcome at 2-year follow-up, but was predictive of phobia severity at 5-year follow-up (Lelliott et al., 1987). Forty agoraphobics received treatment which consisted of a self-paced, home-based exposure programme, plus either imipramine or placebo. Marital adjustment, as measured by the Maudsley Marital Questionnaire, was correlated with outcome at post-treatment, 6-month, and 5-year follow-ups, but not at 2-year follow-up.

Inclusion of the Spouse in Treatment Some authors (e.g., Arnow et al., 1985; Barlow et al., 1984; Cerny et al., 1987;

Mathews et al., 1977; Munby & Johnston, 1980) have included significant others in treatment in order to teach them to be more effective managers of the patient's agoraphobic behaviour. The authors of two long-term outcome studies (Cerny et al., 1987; Munby & Johnston, 1980) have reported that including the spouse in treatment resulted in superior outcome and continued improvement during the follow-up phase. The authors of each study attributed these results to the spouses' encouragement and reinforcement of continued practice once the formal treatment sessions had finished. On the other hand, at least one writer (Emmelkamp, 1982) has suggested that including the spouse in the treatment may be detrimental to the client since it may increase the dependency between the client and the spouse.

Munby and Johnston (1980) reassessed 66 agoraphobics four to nine years following treatment. Patients were treated in one of three treatment trials: (a) systematic desensitization or flooding, (b) exposure *in vivo*, or, (c) home-based exposure programme using the spouse as a co-therapist. The "spouse as co-therapist" group experienced greater continued improvement during the follow-up period, and showed greater overall improvement at follow-up.

Cerny et al. (1987) conducted a 2-year follow-up 41 agoraphobic clients who were randomly assigned to individual or spouse-assisted treatment. Interestingly, the groups scored equally well on clinical measures at post-treatment, but the individual group showed a trend to deterioration on four of six measures from post-treatment to 1-year follow-

up, followed by an improving trend from 1 to 2 years. Conversely, the spouse-assisted group showed continued improvement on nearly all phobic measures from post-treatment to 2-year follow-up. The spouse-assisted group scored higher at 1- and 2-year follow-ups on self- and clinician-ratings of severity, as well as behavioural performance. These clients also showed less disruption in work and leisure activities during the follow-up period.

Some authors have also reported that agoraphobics treated in groups are less likely to drop-out of treatment, and have better outcome than those treated individually (e.g., Hafner, 1984; Hafner & Marks, 1976; Hand, Lamontagne & Marks, 1974; Sinnott et al., 1981). It has been speculated that the reason for this is the mutual support given and received in these groups:

> (The patients) generally welcome the opportunity for socializing with others similarly afflicted, and they frequently met after therapy. Thus they are able to give each other support and encouragement, during and after therapy which was not available to clients treated individually. Patients' social skills, assertiveness, leisure activities and general well-being were all enhanced as a result of the vigorous social and interpersonal component of group exposure (Hafner, 1984; pp. 217-218).

However, no long-term outcome studies have assessed the value of group- versus individual treatment.

Summary Social support may play an important role in determining long-term outcome of treatment behavioural treatment for agoraphobia. In particular, authors have stressed the importance of agoraphobics' interpersonal dependency and reliance on others to accompany them to fearful situations and to take over various daily obligations. These authors go on to suggest that reinforcement from the patient's environment serves to maintain the problem. There is some limited evidence to support this notion, although the long-term evidence is somewhat clouded. There is also evidence that inclusion of a significant other in the treatment process may be beneficial to the long-term effectiveness of treatment, particularly in helping to maintain improvements achieved during treatment.

Conclusion

The literature is remarkably consistent in finding that exposure-based treatments result in statistically significant improvements for agoraphobia. Overall, improvements are typically maintained for periods of up to nine years, although further improvement during follow-up does not appear to occur. Also, patients who initially respond well to treatment generally maintain their benefits

during follow-up. That is, problems which arise usually follow poor initial response to treatment, rather than symptom substitution following successful treatment.

Nonetheless, researchers have not been critical enough of the long-term outcomes of their treatment programmes, instead emphasizing their treatment successes and demonstrating that their treatment is statistically superior to another treatment. Few researchers have subjected their treatments to rigorous evaluation of clinical significance of outcomes or assessed more global criteria of functioning. This is unfortunate since the majority of clients experience incomplete recovery, even though clients generally report that they are better able to cope with the illness than before treatment.

It is not altogether clear what differentiates patients who gain lasting benefits from treatment from those patients who fail to benefit. In their 1982 review of agoraphobia treatment literature, Jansson and Öst concluded that few promising predictors of outcome existed, and that little attention had been directed toward determining which patient variables are useful in predicting treatment outcome. However, there are some promising and theoretically important areas of research.

The mode of acquisition of the phobia is one theoretically important variable. Wolpe (1981) and Michelson (1984) have suggested that mode of phobia acquisition and response profile are closely related, and that both play an important role in determining outcome in

treatment. Wolpe (1981) went on to say that phobias that are acquired through social learning are more difficult to treat than fears obtained through simple classical conditioning. However, little research has been done to empirically demonstrate it's importance in determining outcome.

Interestingly, pretreatment clinical measures (phobia, mood, general psychopathology) are also not consistently related to treatment outcome. These measures tend to become more effective in predicting outcome as treatment progresses, but they do not provide useful prognostic power until very late in the treatment process.

The clients' attitude toward treatment is another theoretically important predictor of treatment outcome with little empirical confirmation, since few long-term studies have assessed the relationship between attitude toward treatment and treatment outcome. The previous research suggests that a positive attitude toward exposure-based treatment is predictive of good short-term outcome. However, evidence is less consistent regarding the long-term implication of these attitudes.

There are no studies which have assessed the value of response profile measures in predicting long-term treatment outcome for agoraphobics, although the short-term evidence suggests that these variables are effective predictors of treatment outcome. Some authors have suggested that high physiological arousal predicts good outcome since it reflects emotional processing of the fear structure. The

literature also suggests that good behavioural performance on *in vivo* BATs is related to positive treatment outcome, while there is less empirical support for the notion that strength of cognitive reactivity is a predictor of short-term outcome of behavioural treatment of agoraphobia.

Finally, social support may play an important role in determining long-term outcome of behavioural treatment for agoraphobia. Some authors have stressed the importance of agoraphobics' interpersonal dependency and reliance on others to take over various daily obligations and / or accompany them to anxiety-provoking situations. These authors go on to suggest that reinforcement from the patient's environment serves to maintain the problem. Furthermore, it is hypothesized that improvement is partially dependent on the type of support that is received, and that significant others can be trained to become more effective managers of the patients' problem.

The Current Study

In light of the above review, it appears that four classes of variables are particularly promising predictors of behavioural treatment outcome of agoraphobia: (a) the type of acquisition of the phobia, (b) client attitude toward treatment, (c) anxiety response profile, and, (d) amount and type of social support. The actual available empirical evidence of the long-term importance of these variables is somewhat limited, although each of these

variables has theoretical importance. It is the goal of the current study to evaluate the degree to which these variables are related to the actual long-term outcome of treatment, using an appropriate, a priori, clinical definition of treatment outcome.

METHOD

In order to evaluate the contribution of the four predictor domains (i.e., mode of phobia onset, attitude toward treatment, response profile, social support) to the long-term outcome of behavioural treatment of agoraphobia, it was decided to reassess clients who had previously completed an exposure-based treatment programme for agoraphobics. A 1- to 5-year follow-up study was conducted on agoraphobic clients who had completed an exposure-based treatment programme at the Memorial University of Newfoundland Psychology Clinic. Every client who completed the treatment programme between the years 1983 and 1987 was invited by letter (Appendix B) to attend a follow-up assessment at the clinic. Each subject was then contacted by telephone to set a time for the assessment session. If it was not possible for the client to attend his/her session at the clinic, an offer was made to conduct the assessment in the clients' home.

Treatment programme

The treatment programme was led by first year clinical psychology graduate students, working under the supervision of a senior clinical psychologist. This intensive ten-week programme of exposure therapy and coping strategies was designed to give clients the skills necessary to carry-out a self-directed, *in vivo* exposure programme (*described in Liddell, Hughes, & Plotz, 1983*). The major objectives of treatment were to educate clients in the behavioural model

of agoraphobia, to teach useful strategies for coping with anxiety, and help them to design a realistic plan for self-exposure. Coping strategies included relaxation, thought-stopping, and cognitive restructuring. At week five, the clients were sent out on their own to practice these strategies and to carry-out their self-exposure exercises. Outcome was assessed at post-treatment (week 10), 6-months follow-up, and at the current follow-up in July of 1988 (i.e., one to five years following treatment in 1983 through 1987).

Clinical Assessment Measures

Assessments were conducted at pretreatment, mid-treatment (5 weeks), post-treatment (10 weeks), 6-month follow-up, and at the current follow-up. Three self-report measures were administered at all assessment phases: the Fear Questionnaire, self-efficacy scores on personalized fear hierarchies, and the Beck Depression Inventory. A brief description of each measure and its' psychometric properties follows. A semi-structured diagnostic interview was also conducted at the current follow-up. All of these measures were used to operationalize a multivariate measure of the patients' (current) level of "endstate functioning."

Fear Questionnaire (FQ) (Marks and Mathews, 1979; Appendix C) The FQ has been widely used in the literature, and some authors have recommended that it become part of a

standardized assessment package for agoraphobics (e.g., Barlow, 1988; Himadi et al., 1986). It is a brief self-rated form used to assess the severity of phobia. Six sub-scales are calculated:

1. *The main target phobia*: The main phobia is described in the client's own words, and rated from 0 (*would not avoid it*) to 8 (*always avoid it*).

2. *Other problem fears*: Fifteen common phobias are rated by clients from 0 (*would not avoid it*) to 8 (*always avoid it*), yielding a "total phobia" (FQ-TOTAL) score. Three factor-analytically derived sub-scales are also calculated, each represented by 5 items: agoraphobia (FQ-AGOR), blood and injury (FQ-INJURY), and social (FQ-SOCIAL) phobia.

3. *Phobic incapacity (FQ-INCAPACITY)*: The patient rated the current state of their phobic symptoms on a scale of 0 (*No phobias present*) to 8 (*Very disturbing/disabling*).

4. *Anxiety / depression (FQ-FEEL)*: These items were used to assess psychological distress symptoms which are commonly found in phobic patients (e.g., "Feeling miserable or depressed"). Each symptom is rated on a 0 to 8 scale (*Hardly at all* to *Very severely troublesome*).

Marks and Mathews (1979) reported that 7-day test-retest reliabilities of the sub-scales ranged from .79 to .96. The reliabilities of all but one of the sub-scales were above .80 (FQ-INCAPACITY: r = .79). There were also strong correlations between FQ-FEEL and other self- and clinician-rated scales of psychological distress. As well, the FQ was sensitive to pre-post improvement in 26 mixed-phobic patients following exposure therapy.

Mavissakalian (1986) conducted a validity study of the FQ in a group of chronic agoraphobics (n = 48). Improvement on FQ-AGOR was closely associated with an independent composite of outcome measures, which included clinician- and self-ratings of phobic severity, individualized fear hierarchies, and, performance on a BAT.

Self-efficacy (Bandura, 1977; Appendix D) As part of the treatment programme, each client designed a hierarchy of 10 to 15 items which would serve as targets for self-exposure. At each assessment, clients rated (yes/no) whether they felt that they could successfully perform each item. These ratings were totalled to provide a measure of the percentage of target items that the client felt he/she could achieve (CAN_DO) at that time. Patients also rated the degree of confidence (10 to 100) they had in their ability to complete each task. These scores were averaged to yield an overall confidence rating (CONFIDENCE).

Beck Depression Inventory (BDI) (Beck, Rush, Shaw, & Emery, 1979; Appendix E) This widely utilized measure was used in the current study to assess the presence and severity of depression. Twenty-one items were presented in multiple-choice format, each measuring a specific symptom which has been empirically associated with the presence of depression (e.g., sadness, insomnia, crying, indecisiveness). Using the criteria of Beck et al. (1979), the client's overall mood may be rated as "normal", "mildly depressed", "mild-to-moderate depression", "moderate-to-severe depression", or "severe depression."

In a meta-analytic study, Beck, Steer and Garbin (1988) reported that the mean internal consistency of the BDI when administered to psychiatric populations was r = .86 (.76 to .95). It is more difficult to evaluate the stability / test-retest reliability of the BDI, since the BDI measures only recent mood state, which is expected to change over time. However, the BDI has been shown to be strongly correlated with other clinical measures of depression, including the Hamilton Rating Scale, Zung Depression Scale, MMPI Depression Scale, with mean correlations ranging from r = .72 to .76 (Beck et al., 1988). Changes in the BDI have also been shown to parallel improvement / deterioration in clinical ratings (e.g., Beck, 1967).

Semi-Structured Interview (Appendix F) A 45- to 60 minute semi-structured interview was performed with each client at the current follow-up. The outline of this interview is

included in Appendix F. All interviews were conducted by the author. Each client was rated for the presence and severity of panic disorder and agoraphobia, both at pretreatment and at the time of the current assessment. The criteria for these ratings were taken directly from the diagnostic criteria recommended in DSM III-R (APA, 1987; pp. 337 - 241).

1. *Current DSM III-R "Severity of Agoraphobic Avoidance"*: (1) in full remission, (2) in partial remission, (3) mild, (4) moderate, or (5) severe.

2. *Pretreatment DSM III-R "Severity of Agoraphobic Avoidance"*: (1) in full remission, (2) in partial remission, (3) mild, (4) moderate, or (5) severe.

3. *Current diagnosis of DSM III-R "Panic Disorder"*: (1) none, (2) limited symptom panic attacks (three or fewer symptoms), or (3) yes.

4. *Pretreatment diagnosis DSM III-R "Panic Disorder"*: (1) none, (2) limited symptom panic attacks (three or fewer symptoms), or (3) yes.

5. *DSM III-R "Severity of Spontaneous Panic Attacks"*: (1) none / in full remission, (2) in partial remission, (3) mild, (4) moderate, or (5) severe.

6. *Pretreatment DSM III-R "Severity of Spontaneous Panic Attacks"*: (1) none / in full remission, (2) in partial remission, (3) mild, (4) moderate, or (5) severe.

In addition, the following information from the interview was included in the statistical analyses.

1. *Self-rating of current functioning*: Each client was asked to rate (0 to 100) how would they rate their current functioning, in which 100 represents absolutely no problems with phobic anxiety, and 0 represents the worst their phobia has ever been.

2. *Had the client used medication for anxiety symptoms prior to entering into the programme?* (no / yes).

3. *Was the client using medication for anxiety symptoms at the time of the current follow-up?* (1) Yes, (2) Was on medication since end of treatment, but not currently, or (3) No. If yes, has it helped? (no / yes).

4. *How did the client feel they progressed since the end of treatment?* (1) regressed / got worse, (2) stayed at the same level, (3) initially improved but now levelled off, or (4) continued to improve.

5. *Did the client seek subsequent treatment during the follow-up period?* (no / yes).

If yes, what type? (1) psychologist, (2) psychiatrist, (3) family doctor, (4) self-help group.

Operationalization of Endstate Functioning In keeping with previous work by Mavissakalian and Barlow and colleagues (e.g., Cerny et al., 1987; Craske, Burton, & Barlow, 1989; Mavissakalian & Hamann, 1987; Michelson et al., 1985, 1986, 1988), both self- and clinician-rated criteria were used to classify subjects into high (HEF) and low endstate functioning (LEF) groups.

All clients rated as HEF must have had clinician's ratings of "in remission" or "in partial remission" on each of DSM III-R "Severity of Agoraphobic Avoidance" and "Severity of Spontaneous Panic Attacks". In addition, five self-rated *a priori* criteria were used to classify subjects:

1. a score of less than 9 on the BDI,
2. a score of less than 10 on FQ-AGOR,
3. a score of less than 2 on FQ-INCAPACITY,
4. a positive self-rating on at least 85% of the target items on their fear hierarchy (CAN_DO), and,
5. a self-rating of at least 85% on current level of functioning (from the semi-structured interview, above).

For a client to be classified as "high endstate functioning" (HEF), they were required to have met at least four of these five conditions. Failure to meet both of the clinician-

rated criteria and at least four of the five self-rated criteria resulted in a rating of "low endstate functioning" (LEF).

Subjects

Fifty-nine patients entered treatment for agoraphobics at the Memorial University Psychology Clinic between 1983 and 1987. Thirty-five of these subjects eventually completed the programme. It is these 35 clients who were contacted by letter for the current study. These clients' pretreatment data are summarized in Tables 2 and 3 (Appendix A). As is evident from these tables, this population had relatively chronic, long-standing difficulties with their phobias, and the majority had sought other treatment prior to entering this programme.

Measures Concerned with Prediction of Outcomes

Four categories of variables were measured in order to be used as predictors of treatment outcome: (a) mode of phobia onset, (b) attitude toward treatment, (c) response profile, and (d) social support.

Mode of Phobia Onset

As part of the pretreatment screening interview, information was obtained regarding the clients' earliest

recollections of the fear, the circumstances surrounding it's onset, and his/her level of upset at the time. As well, information was obtained regarding the clients' prevailing beliefs about the likelihood of real danger associated with the feared situation, "in the sense that it is likely to produce damage to his/her physical or mental health and well-being" (Wolpe, Lande, McNally, & Schotte, 1985; p. 289). This information was used to classify patients according to their mode of acquisition (cognitive- versus classical-conditioning), using criteria described by Wolpe and others (Wolpe, 1981; Wolpe et al., 1985; Emmelkamp & Van Der Hout, 1983). This information was obtained from clinical records and case histories found in the clinic files[1]. A "cognitive" classification was assigned when the person reported the belief that the feared situation presents a real danger to their physical and/or mental well-being. A classification of "classical-conditioning" was assigned to patients whose phobic reactions were evoked in situations which they did not rationally believe were dangerous.

Using this method, Wolpe et al. (1985) demonstrated high inter-rater reliability (.97) in raters who were given only a minimal amount of training. Similarly high inter-rater reliabilities were reported by Öst (1985) (93.2 to 94.7%). In the current study, ratings were done

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[1] Due to an unfortunate circumstance, the contents of one of the follow-up clients' files had been misplaced. Therefore, no rating was made on this variable for this client.

independently by the author and a second clinical psychologist, with 96.5% agreement between raters (55 of 57 cases). For the two cases on which there was disagreement, the discrepancy was resolved by re-reading the case history and reaching an agreement by consensus.

The evidence for the validity of these phobia-onset classifications is more limited. In a series of case vignettes, Wolpe (1981) asserted that successful treatment was dependent on correct diagnosis of the type of fear, followed by correct assignment to treatment conditions. He postulated that there were different treatment effects for the different types of onset: classically-conditioned phobias would respond best to "response competition" (i.e., systematic desensitization, response prevention), while cognitively-based phobias would also require cognitive restructuring to replace unrealistic thoughts which are associated with the feared object.

This prediction was partly supported by the findings of Öst (1985) in a group of mixed-phobics: clients with cognitive-acquisition received more benefit from cognitive therapy than did those with classically-conditioned onset. However, *regardless of mode of onset, behavioural treatments resulted in greater overall phobia improvement than did cognitive treatments*. Further, behavioural treatment did not result in superior improvement for classically-conditioned patients over cognitive-onset patients. In other words, although desensitization resulted in superior overall outcome, it was not necessarily better suited for

clients with classically-conditioned phobias. On the other hand, cognitive treatment resulted in higher frequency of clinically significant improvement in patients with cognitive onset.

Measures of Attitudes Toward Treatment

Test of the Model (Liddell, 1987; Appendix G) In order to assess clients' understanding and acceptance of the behavioural model of anxiety, a 24-item multiple-choice questionnaire was administered at pre- and post-treatment. This test is similar to tests used in other behavioural treatment programmes (e.g., Barlow & Craske, 1989; Mathews, Gelder & Johnston, 1981). A single point was given for each correct answer. The resulting total of all correct responses (TEST_MODEL) was used as a measure the clients' understanding and acceptance of the model at pretreatment, and again following treatment.

Additionally, six of the items in this questionnaire (items 9, 10, 17, 18, 22 and 23) were used to directly assess the client's attitudes regarding the use of pharmacological (versus behavioural) strategies for coping with their anxiety. TEST_DRUG was calculated by allocating a single point for each question in which the client favoured "drug" alternatives over "non-drug" answers. In other words, a maximum score of 6 on TEST_DRUG would signify a higher tendency to select pharmacological over behavioural strategies in coping with phobic anxiety.

Attitudes Questionnaire (Norton, Allen & Hilton, 1983; Appendix H) This questionnaire was used to determine clients' perceptions regarding the acceptability of two pharmacological- and three psychological treatments for agoraphobia. *This measure was administered at the current follow-up only.* A written case vignette of a 29-year-old agoraphobic was presented to each client, followed by descriptions of two pharmacological (ANTIDEPRESSANTS, minor TRANQUILLIZERS), and three psychological (EXPOSURE, RELATIONSHIP therapy, COGNITIVE therapy) treatments for agoraphobia. Each treatment approach was rated for perceived "acceptability" and "effectiveness" in eight Likert-type questions (0 to 8), resulting in an overall rating for each treatment.

Norton et al. found that the pharmacological treatments were rated as less effective and less acceptable than the psychological treatments (M = 2.42 versus 5.75). Some statistically significant differences did emerge between the two pharmacological treatments (M = 2.60, 2.25) and the three psychological treatments (M = 5.75, 6.04, 5.45), but the sizes of these differences were small compared to the overall differences between pharmacological and psychological treatments. Also, there were no differences in ratings between subjects who reported that they "occasionally" or "very frequently" experienced agoraphobic symptoms and subjects who reported never having experienced those symptoms.

It is important to note that this sample was comprised solely of undergraduate psychology students. It is therefore not surprising that the psychological treatments were rated as being more effective than pharmacological approaches; the results may have been reversed if the measure had been administered to pharmacology students.

In a sample of 9 agoraphobic women, pharmacological treatments were again rated as being less effective than were psychological treatments, although these clients rated them slightly higher than did the students (*M* = 3.22 versus 2.85) (Norton et al., 1983). Exposure and cognitive therapies (*M* = 6.50, 5.86) were also rated higher, while relationship therapy was rated as less effective by the agoraphobic sample (*M* = 4.16 versus 6.04). The authors provided no indication whether the differences between college and agoraphobic samples were statistically significant.

In the current study, presentation of the Attitudes Questionnaire was modified slightly from the validation study. In the original study, half of the subjects received a case vignette describing a female agoraphobic while the other half received an identical description of a male agoraphobic. The authors found that the sex of the patient in the vignette had no effect on the ratings of the treatment approaches, neither for male nor female raters. Thus, for the sake of simplicity it was decided in the current study to present all subjects with a description of only a female agoraphobic.

Measures of Response Profile

Symptom Questionnaire (SQ) (Lehrer & Woolfolk, 1982; Appendix I) This is a 36-item self-report measure used to assess the frequency of cognitive, behavioural and somatic symptoms experienced during anxiety-provoking situations. Each item was rated on a 0 to 8 scale from "never" to "almost always". The SQ was not used for any of the original assessments for the first group of patients in 1983 (n = 15). Thus, it was measured only at the current follow-up for this group of patients.

Factor analyses of the SQ have revealed three factors which correspond to somatic, behavioural and cognitive symptoms. Sub-scale scores are derived averaging of the items in each sub-scale: 16 "somatic" (SQ-SOM), 9 "behavioural" (SQ-BEH), and 11 "cognitive" (SQ-COG) items. SQ-COG items refer to negative thoughts and images associated with anxiety-provoking situations (e.g., "I picture some future misfortune"), while SQ-BEH includes common behavioural responses such as avoidance or escape (e.g., "I avoid unfamiliar or new situations"). Finally, somatic items refer to physiological symptoms which might be experienced in such situations (e.g., "I feel dizzy").

Split-half analyses revealed high reliabilities for each of the three sub-scales (r = .91 to .93), and all three sub-scales were significantly correlated with the STAI (Spielberger, Gorsuch, & Lushene, 1970), a measure of general anxiety (r = .60 to .86). The validation sample

included 289 university students, 70 psychiatric patients with principal presenting problems of anxiety, and, 67 persons from the community who were participating in a stress-management workshop. Unfortunately, the authors did not indicate whether the SQ discriminated between these groups. However, some other evidence for the discriminant validity of the sub-scales was presented: socially anxious college freshmen exhibited significant improvement only the SQ-BEH sub-scale following behavioural treatment. Conversely, only SQ-COG showed significant improvement following cognitive treatment.

Dominant Mode of Response Subjects were categorized into "cognitive" (CR), "behavioural" (BR) or "somatic" (SR) groups, based on their pretreatment scores on the sub-scales of the SQ. For each subject, the standard scores for the three sub-scales were calculated using the norms provided by Lehrer (1984). The sub-scale with the largest positive standard score was considered to represent the "dominant" mode of response for that client.

BDI Sub-scales of the BDI were used as measures of response profile. These sub-scales were originally developed to account for the fact that many somatic and behavioural symptoms of depression overlap with symptoms associated with other physical / medical disorders (Beck & Steer, 1987). For example, it is thought that depression in chronic pain patients might be more accurately measured by excluding

somatic and behavioural items, since the vegetative symptoms associated with chronic pain may overestimate the severity of depression (e.g., Cavanaugh, Clark & Gibbons, 1987; Plumb & Holland, 1977; Reesor, Mikail, Selin & Butler, 1988).

Beck and Lester (1973) reported 3 factors which consistently emerged in factor analytic studies of the BDI: (a) *negative attitudes*, characterized by pessimism, suicidal ideation, sense of failure, self-accusations, and self-dislike; (b) *physiological*, defined by anorexia, weight loss, and sleep disturbance; and, (c) *performance difficulties*, defined by work inhibition and fatigability. More recently, results from factor analytic studies have shown that the BDI can be broken down into three highly correlated factors (Clark, Cavanaugh & Gibbons, 1983; Clark, Gibbons, Faucett, Aagesen, & Sellers, 1985; Tanaka & Huba, 1984). These factors closely match those cited by Beck and Lester, although the exact loadings of items-to-factors varies slightly depending on the sample being studied (e.g., Beck & Lester, 1973; Steer, McElroy & Beck, 1982; Steer, Shaw, Beck, & Fine, 1977; Tanaka & Huba, 1984).

In the current study, three sub-scales (BDI-COG, BDI-BEH, BDI-SOM) were calculated using the factor loading configuration suggested by Tanaka and Huba (1984). These particular loadings were selected because of their large validation sample (n = 606) representing a variety of psychiatric in- and out-patients. Other studies used many fewer patients, and/or exclusively represented one specific group, such as geriatric, surgical, or depressed patients.

The sum of the first 13 items shown in Appendix-D creates BDI-COG, while items 15, 17, and 20 represent BDI-BEH. The remaining 5 items were added together to produce BDI-SOM.

Measures of Social Support

"Social support" is best thought of as a multidimensional concept: reviews of the social support literature have concluded that the relation between social support and treatment outcome depends on which dimension of "support" the investigator chooses to utilize (e.g., Cohen & Willis, 1985; Sandler & Barrera, 1984; Sarason, Shearin, Pierce & Sarason, 1987; Wallston, Alagna, DeVellis & DeVellis, 1983). For example, Sandler & Barrera (1984) found that *support-satisfaction* was negatively related to measures of anxiety, depression, somatization, and overall psychological distress, whereas *received* support and *support network size* were unrelated to all of the symptomatology indexes. Additionally, the various indices of support were only marginally interrelated.

It was decided in the current study to assess two separate dimensions of social support: social network size, and, actual received supportive behaviours.

Social Support Network One approach to measuring social support is to assess "social embeddedness," or the nature and structure of individuals' social ties with important others. Examples of such variables include the presence of

a spouse or romantic partner, participation in church and other organizations, and working outside of the house (e.g., Eaton, 1978; Hirsch, 1979, 1980; Mitchell & Trickett, 1980; Pattison, 1977; Sandler, 1980; Stokes, 1983; Tolsdorf, 1976). Several authors have indicated that having at least one close confiding relationship is an important feature of an effective supportive social network (e.g., Brown, Brolchain, & Harris, 1975; Conner, Powers, & Bultena, 1979; Lowenthal & Haven, 1968; Miller & Ingram, 1976). Stokes (1983) found that the number of these close relations in a social network was a good predictor of satisfaction with that network.

In the current study, social support network at the time of treatment was operationalized using 11 variables.

1. *Employment status* (0) not working outside of home, (1) employed outside of home.

2. *Existence of a spouse / partner* (living with client or not): (0) no, (1) yes.

3. *Presence of a spouse / partner in the same city* (i.e., lives in the same city): (0) no, (1) yes.

4. *Presence of preschool aged children in the home*: (0) yes, (1) no.

5. *Membership / participation in community, school, church, or ethnic organisations*: (0) no, (1) yes.

6. *Attending church on regular (weekly or bi-weekly) basis*: (0) no, (1) yes.

7. *Living with parents*: (0) no, (1) yes.

8. *Presence of the parents in the same city*: (0) no, (1) yes.

9. *Regular contacts (i.e., at least once a week) with parents or other relatives*: (0) no, (1) yes.

10. *Existence of a confidant (i.e., someone who knows about the agoraphobia*: (0) no, (1) yes.

11. *Having someone to accompany them to anxiety-provoking situations*: (0) no, (1) yes.

Thus, even though it was not possible in retrospect to directly assess the actual amount of social support the client received at the time of treatment, an estimate of the *availability* of social support was obtained through information in the case files. This approach is similar to that used by other researchers who have examined case records to assess the extent of social support in a client's

environment (e.g., Eaton, 1978; Hammer, 1981; Sandler, 1980).

Each of the above variables were analyzed separately, as well as in a "composite" measure of pretreatment social support, which was scored from 0 to 11.

Inventory of Socially Supportive Behaviours (ISSB; Barrera, Sandler & Ramsay, 1981; Appendix J) The ISSB is a measure of the frequency which individuals have received various forms of support and assistance from the people around them; that is, how the presence of others in the support network translates into identifiable helping behaviours. The scale contains 40 items, on which subjects were asked to report the frequency with which they have received specific supportive behaviours in the past month ("not at all" to "every day"). *This scale was administered at the current follow-up only.*

A total support score (ISSB-TOTAL) is calculated, along with factor-analytically derived sub-scales representing four general categories of helping behaviours: emotional support, cognitive information, directive guidance, and tangible assistance (Stokes & Wilson, 1984). Examples of "emotional" (ISSB-EMOT) items include "How often have your friends or relatives comforted you by showing you some physical affection?". The cognitive (ISSB-COG) sub-scale includes "Gave you some information on how to do something", and "Suggested some action that you should take". An example of the "directive" sub-scale (ISSB-GUIDE) is

"checked back with you to see if you followed the advice you were given". Finally, an example from the "tangible assistance" (ISSB-TANGIBLE) includes "Gave you over $25". Correlations between sub-scales range from .21 to .38.

The test-retest reliability of the ISSB over a 2 day period in a college population has been estimated at *r* = .88; correlation coefficients for the individual items over the same two days ranged from .44 to .91 (Barrera, Sandler & Ramsay, 1981). This test also showed a high degree of internal consistency (coefficient alpha = .93). There was no gender difference on the ISSB-TOTAL, although females scored higher on one sub-scale (ISSB-EMOT). The total score (ISSB-TOTAL) was unrelated to scores on a questionnaire designed to measure anxiety, depression, somatization, and overall psychological functioning (Sandler & Barrera, 1984).

Other social support measures have been shown to be moderately correlated with ISSB scores, suggesting that received social support has variance which is shared by many different definitions of social support. For example, the ISSB-TOTAL was moderately correlated with a structured interview designed to assess support network size (*r* = .32 to .42), and with a measure of perceived family support (the Cohesion sub-scale of the Family Environment Scale; *r* = .36). Similarly, Stokes and Wilson (1984) reported that the overall size of the social network and number of confidants in that network were moderately predictive of ISSB-TOTAL. Sarason, Shearin, Pierce, and Sarason (1987) likewise reported that the ISSB correlated moderately with the Social

Support Questionnaire, a general measure of perceived social support, but was only weakly associated with structure characteristics of the individuals' social network (Social Network List).

Stokes and Wilson (1984) criticised the design of the ISSB because of the exclusion of items relating to a fifth type of support: socializing (e.g., having companionship for dining, attending entertainment, sharing common interests, etc.). They also criticized the ISSB for it's simple "count the behaviours" strategy, while neglecting respondents' opinions regarding the *adequacy* of the received support.

RESULTS

Treatment "Completers" versus "Non-Completers" Followed-up versus not Followed

Thirty-five of the 56 subjects who entered treatment completed the programme. Twenty-seven (77.1%) of those 35 participated in the current study. Of the 8 subjects who did not participate, 4 had moved since the time of treatment and could not be located, and 4 declined to come in for the follow-up assessment. One of the "refusers" stated that she was not interested in participating in the current study because she felt that she did not get any benefit from the programme. The three others stated that they were either too busy, or simply did not want to make the trip to the clinic or to have the assessment done at their home.

Analyses were performed comparing treatment "completers" and "non-completers", and clients followed-up versus not-followed-up, on all demographic and historical variables, clinical outcome measures, test of the model, response profile, and pretreatment social support variables. Tables 4 through 15 (Appendix A) present the results of these analyses.

Differences emerged between completers and non-completers on three of 44 variables, a number which might be expected by chance. No statistically significant differences emerged on any demographic or clinical variables, mode of phobia onset, test of the model, or response profile measures. Further, even though completers scored higher on the composite measure of pretreatment

social support, chi-square analyses on each of the individual social support variables failed to reveal any significant differences between completers and non-completers (Table 8). Direct discriminant function analyses of phobia severity and mood measures also failed to predict treatment drop-out (Tables 9, 10).

Likewise, chi-square and t-test analyses revealed few differences between the 27 follow-up subjects and clients not-followed-up (Tables 11 to 15). These groups differed on one historical variable: the follow-up subjects were more likely than those not followed-up to have acquired their phobias through classical conditioning rather than through cognitive- or combined-conditioning. As well, those not-followed-up reported slightly higher phobic incapacitation (FQ-INCAPACITY) at pretreatment. The two groups did not differ significantly on any other variable at any assessment phase.

Long-term Outcome of Treatment

Outcome for the 27 follow-up clients was evaluated in three manners: (a) self-report data provided during the follow-up interview, (b) statistical analysis of clinical measures, and (c) a priori criteria for treatment success.

Interview Data Some of the data which were obtained during the follow-up interviews are summarized in Table 16 (Appendix A). At the time of the interview, 5 (18.5%)

clients met the DSM III-R criteria for "spontaneous panic attacks" or "limited symptom panic attacks." On DSM III-R "severity of agoraphobic avoidance", the majority (70%) of clients were judged to be "in full remission" or "in partial remission." No client received a rating of "severe avoidance".

Twelve (44%) clients had sought further treatment for anxiety or phobia during the follow-up period. These included visits to psychologists, psychiatrists, general practitioners, and self-help groups. Eleven patients had taken medications for anxiety symptoms at some time following treatment; eight of these eleven were taking medication at the time of the interview.

Of the 27 follow-up clients, one reported that she did not experience any further gains following treatment, and that she remained at approximately post-treatment levels of functioning. Thirteen others reported that they had experienced some further improvement during the follow-up period, but had since levelled-off. The remaining 13 clients reported that they still continued to improve. No client reported having deteriorated since the end of treatment. Clients on average rated themselves as being at 79% (*SD* = 13) of their "ideal" level of functioning.

Finally, when asked what, if anything, they found most helpful to their recovery during the follow-up period, 13 patients credited the strategies learned in treatment as the most important factor contributing to their recovery. Other factors included the client's own determination to overcome

the problem, family support, external situations which forced them to "face" their fears, and subsequent treatment.

Statistical Evidence Two 3-way (pre, post, follow-up) repeated-measures MANOVAs were performed, using two domains of thematically- and clinically linked measures: *phobic severity* (FQ-AGOR, FQ-SOCIAL, FQ-INJURY, FQ-INCAPACITY, CONFIDENCE), and, *mood / depression*, (BDI, FQ-FEEL). Repeated-measures ANOVAs were also done on each individual clinical measure.

Highly significant multivariate repeated-measures effects were found on phobic severity (n = 27) [F (10, 17) = 21.73, $p < .0001$] and mood [F (4, 23) = 14.50, $p < .0001$]. As well, powerful repeated-measures effects were observed across all individual measures (Table 17; Appendix A). These effects appear to be clinically, as well as statistically, significant (see Figures 1 through 8). Examination of Figures 1 through 3 suggests a partial relapse on some measures of phobia severity at 6-month follow-up, followed by recovery at the current follow-up. However, it should be noted that fewer subjects attended their 6-month follow-up assessments.

A Priori Criteria Of the 27 clients participants in this study, 13 had achieved the criteria for "high endstate functioning" (HEF), while 14 were categorized as "low endstate functioning" (LEF) at the time of the follow-up.

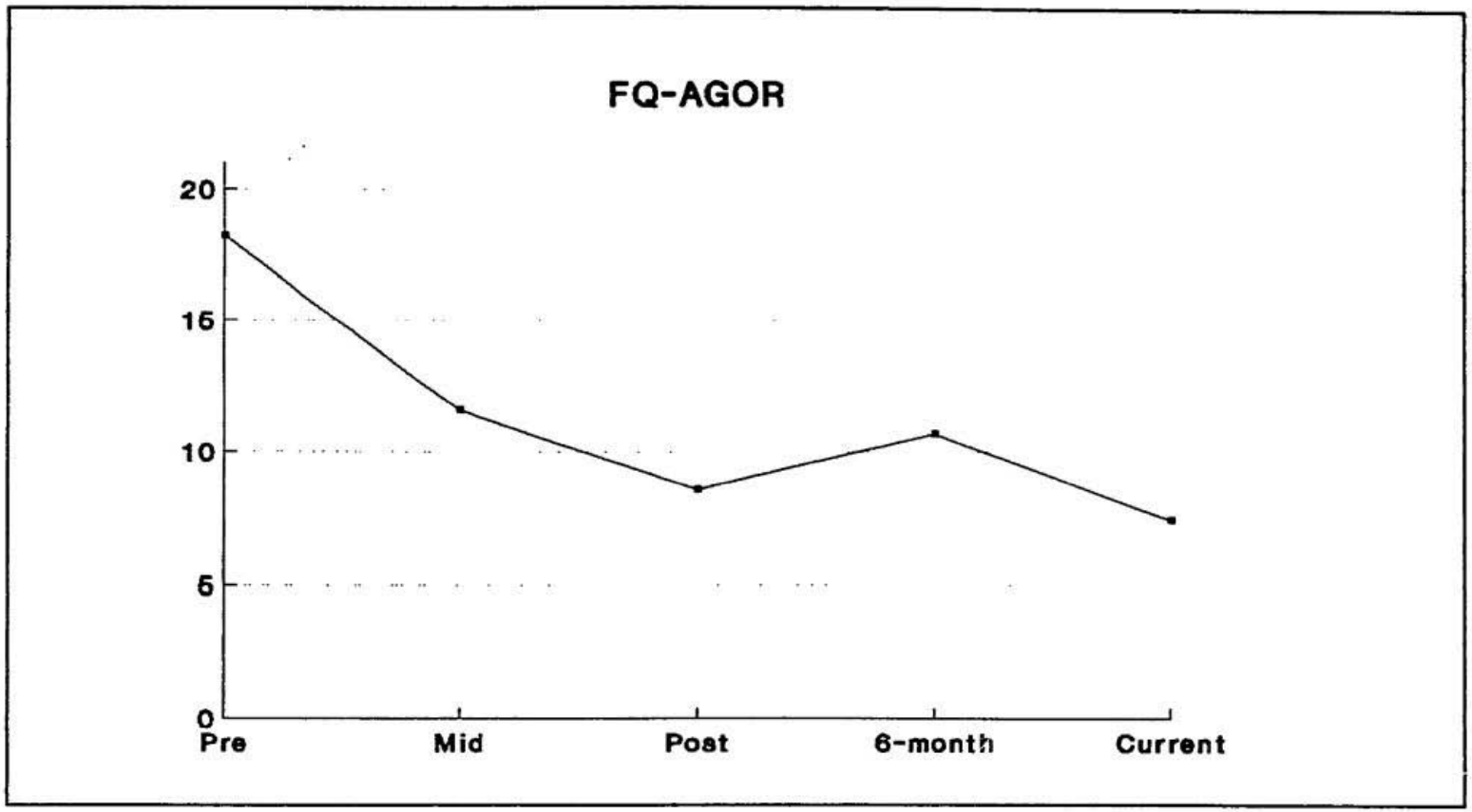

Figure 1 Follow-up subjects' scores on FQ-AGOR

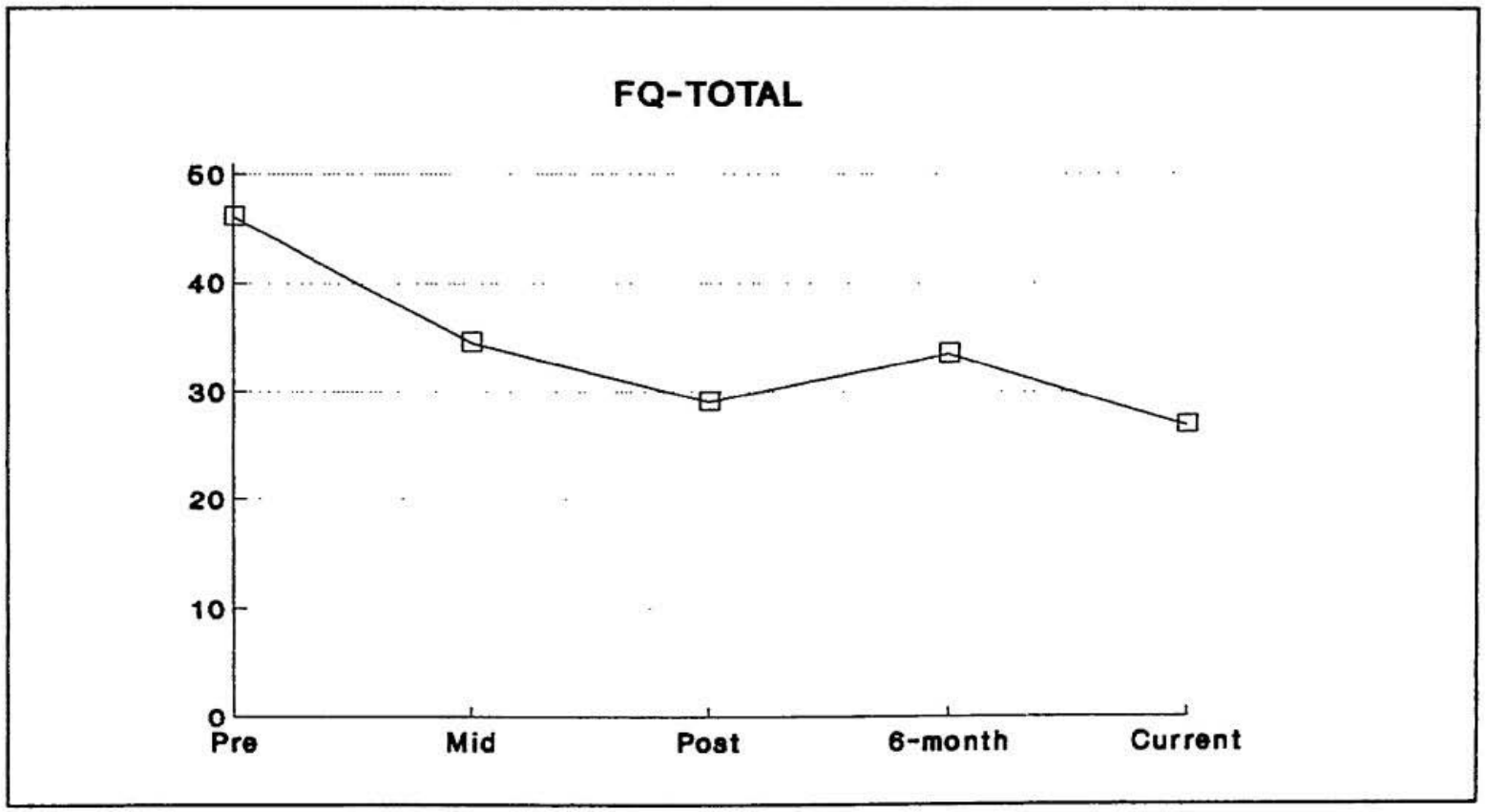

Figure 2 Follow-up subjects' scores on FQ-TOTAL

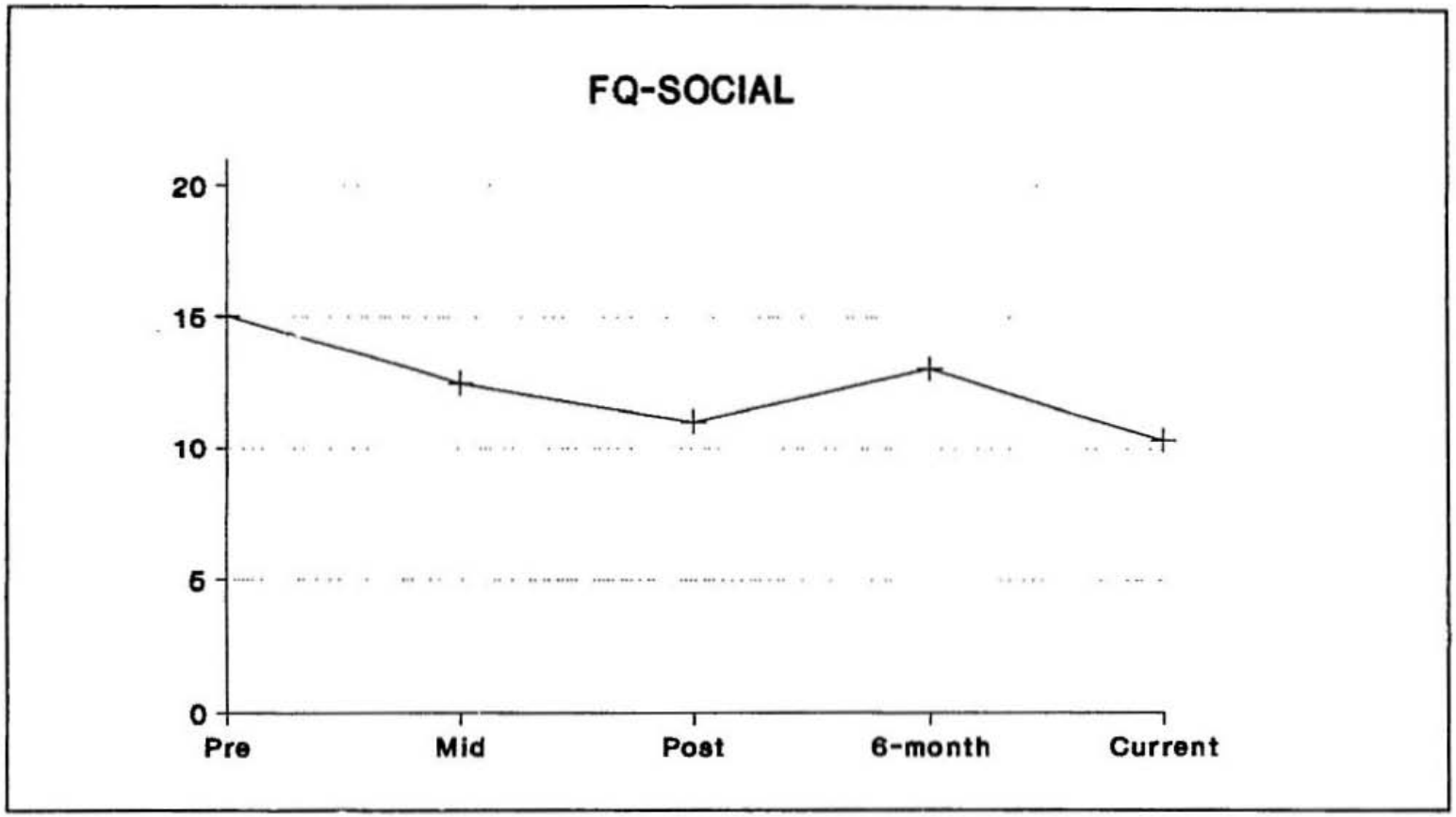

Figure 3 Follow-up subjects' scores on FQ-SOCIAL

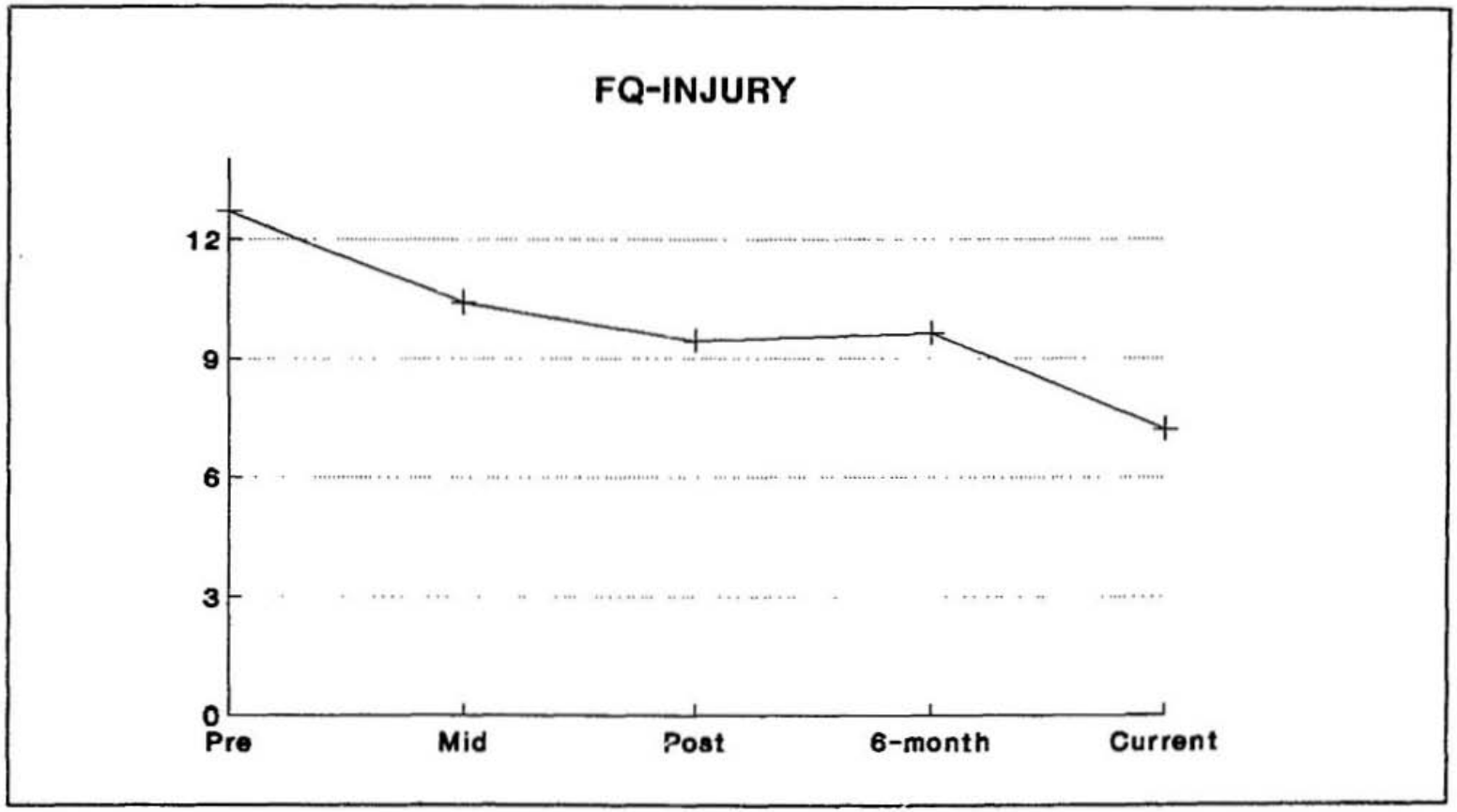

Figure 4 Follow-up subjects' scores on FQ-INJURY

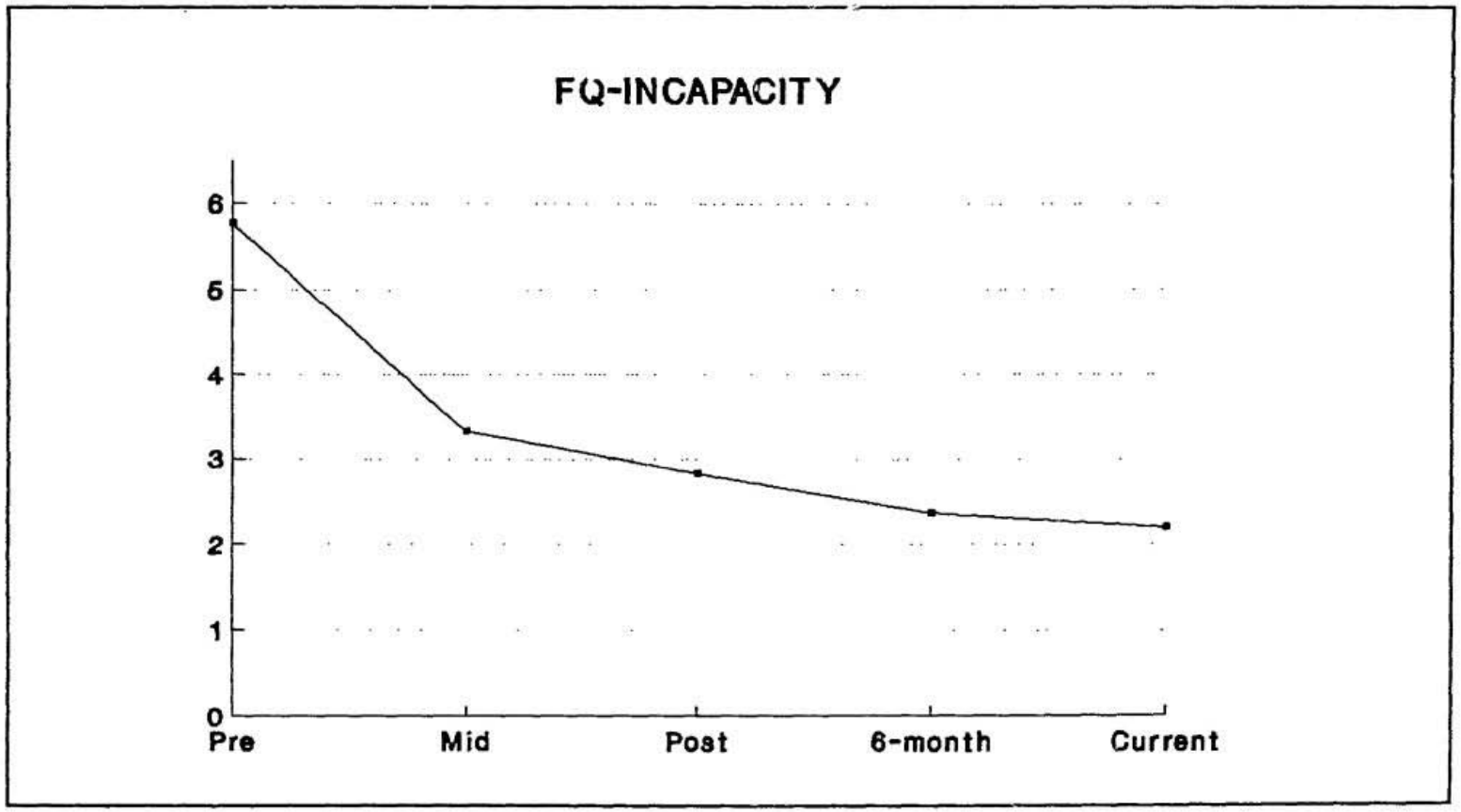

Figure 5 Follow-up subjects' scores on FQ-INCAPACITY

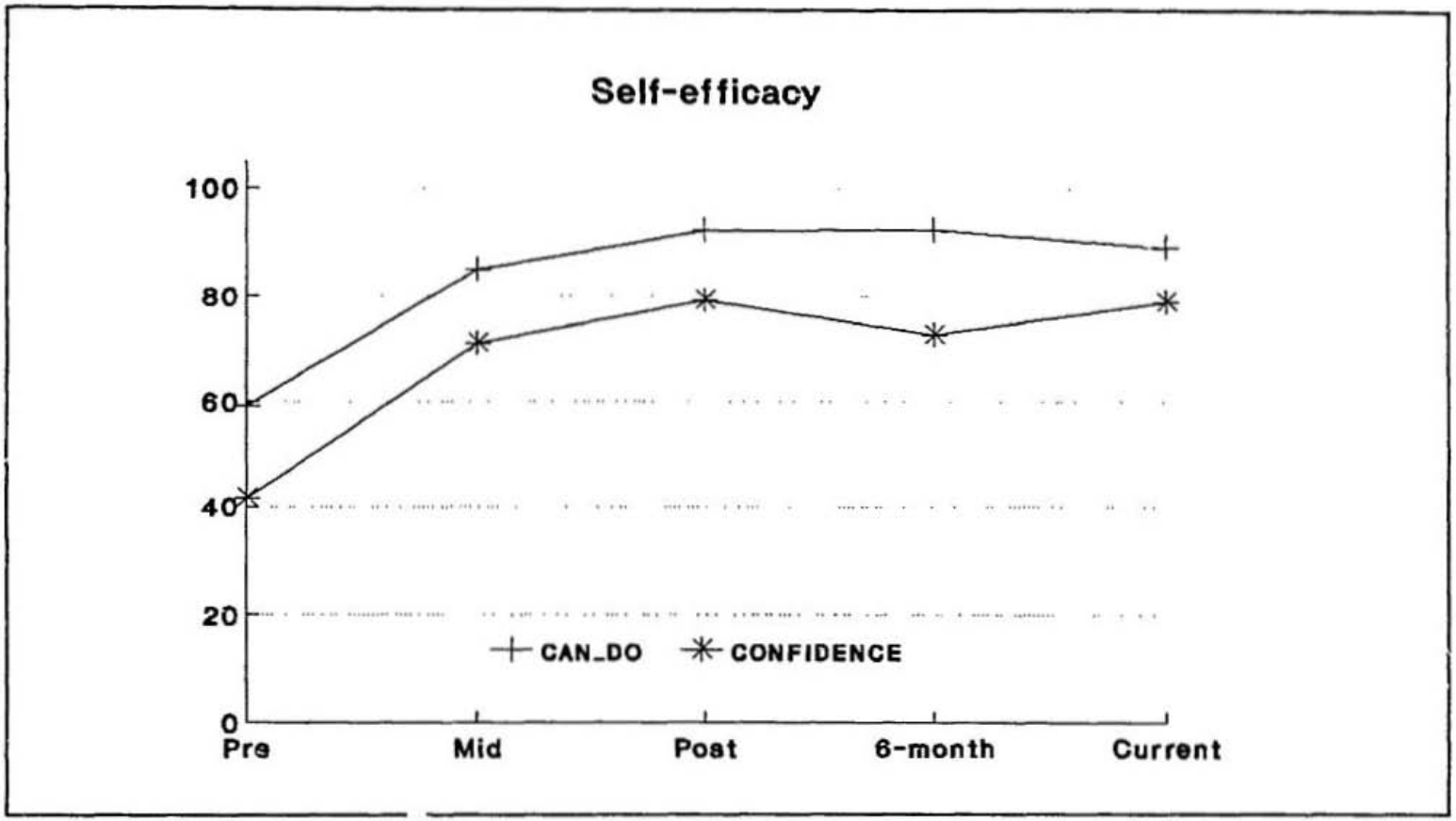

Figure 6 Follow-up subjects' scores on Self-efficacy measures

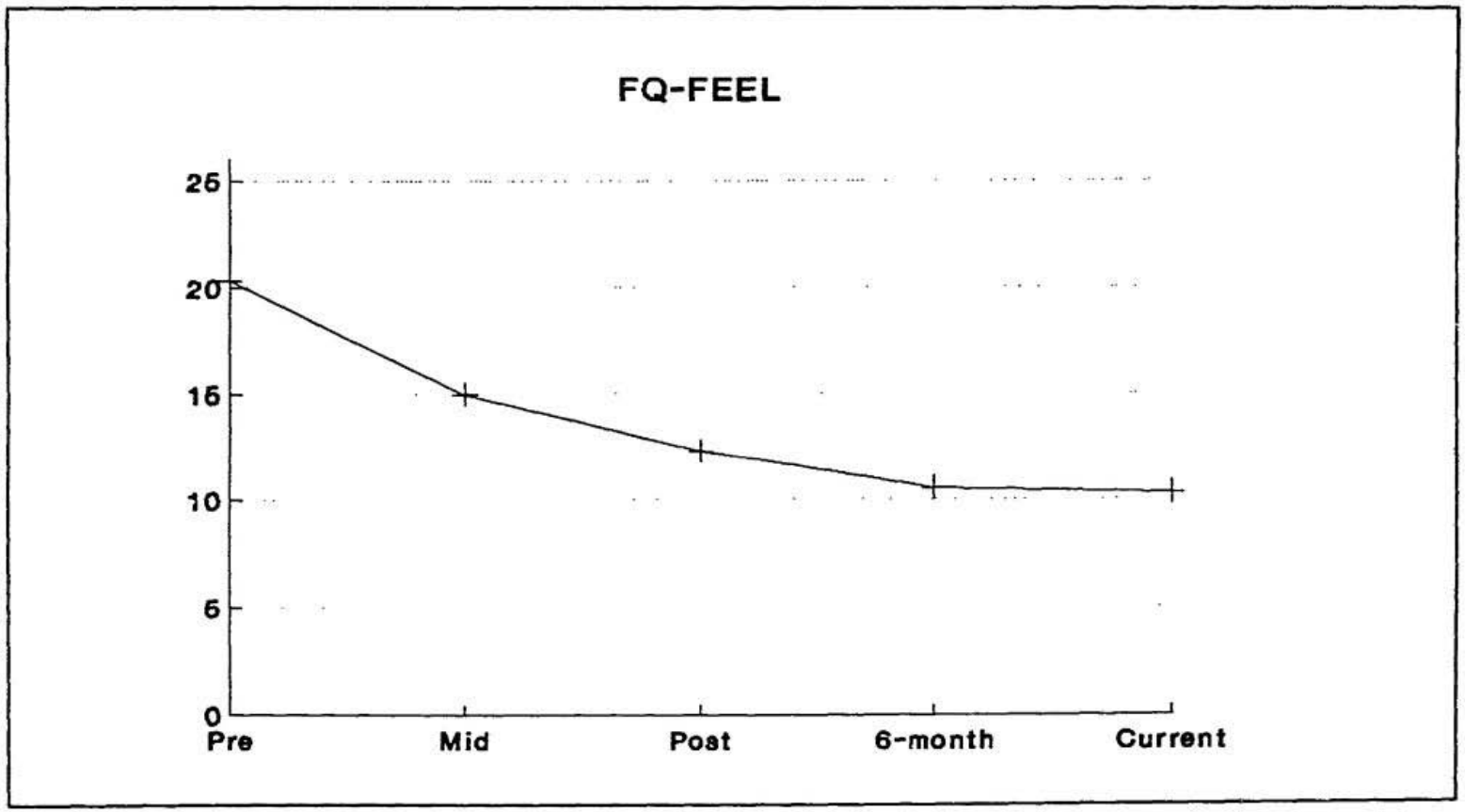

Figure 7 Follow-up subjects' scores on FQ-FEEL

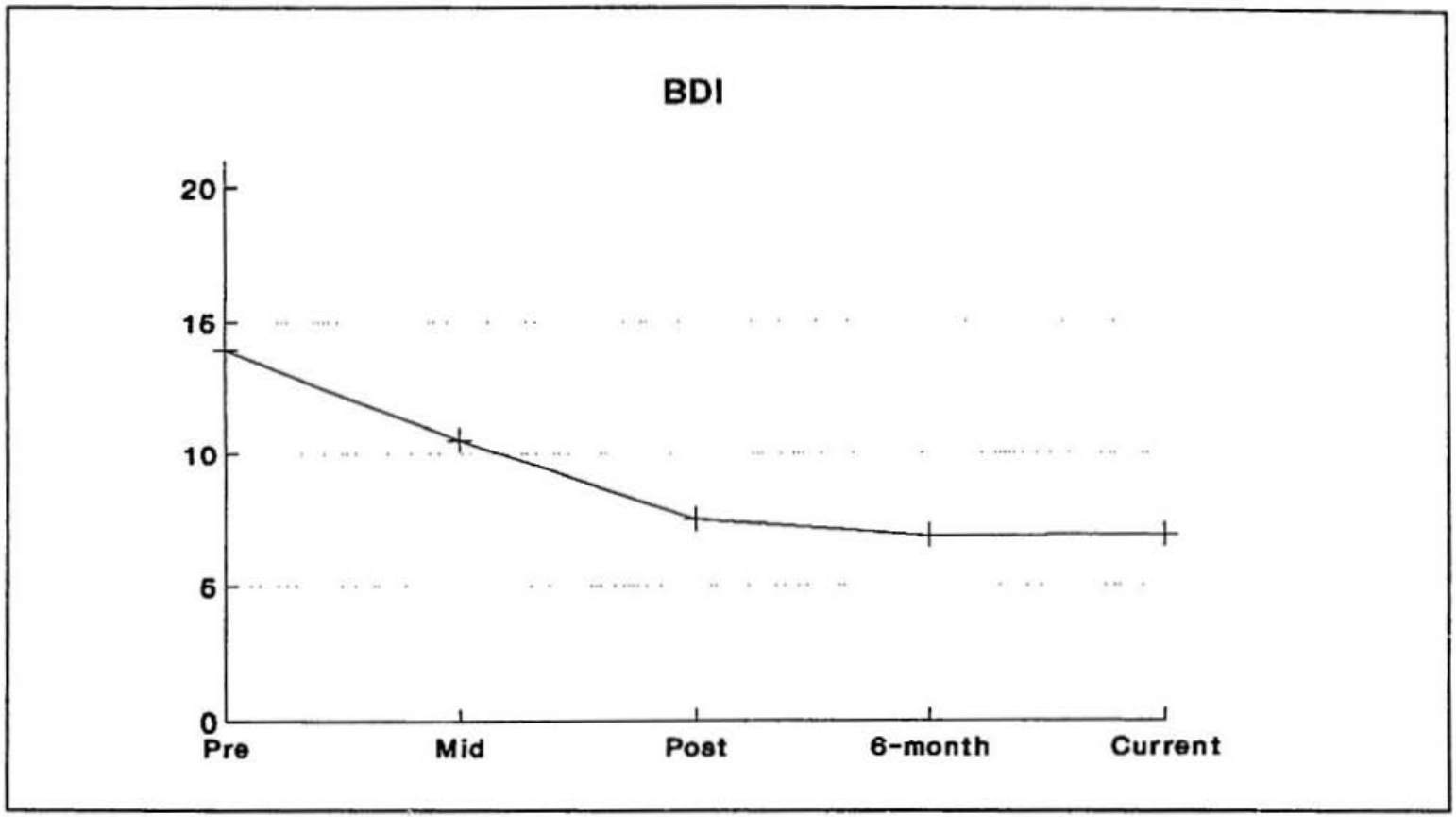

Figure 8 Follow-up subjects' scores on BDI

Prediction of "Endstate Functioning"

Demographic / Historical Variables, Mode of Onset

Chi-square analyses of 10 demographic and historical variables revealed one statistically significant difference between HEF and LEF groups: HEF clients were less likely to have sought subsequent treatment during the follow-up phase (Tables 18 and 19; Appendix A). The groups did not differ on age (HEF: 36.00 [11.80]; LEF: 39.93 [11.35]; $p > .05$), duration of phobia [HEF: 8.88 years [12.28]; LEF: 11.50 [7.937]; $p > .05$), or type of phobia onset (Table 19).

Clinical Assessment Measures

Two sets of direct discriminant function analyses were calculated. In the first set of analyses, measures of phobic severity at each assessment phase served as predictors of endstate functioning. Measures of mood were used as predictors in the second set of analyses. Repeated-measures ANOVA's (pre-mid-post) and *t*-tests were also conducted on all clinical measures (Tables 20 through 23; Appendix A).

Phobic Severity Summaries of four (pre, mid, post, 6-month) discriminant function analyses are provided in Tables 24 through 27 (Appendix A). A statistically significant

discriminant function emerged at each assessment phase, accounting for 67%, 56%, 49%, and 58% of the between-group variance, respectively. Classification of clients to endstate groups using jackknifed classification techniques (Tabachnick & Fidell, 1983) ranged from 81.5% at pretreatment, to 77.3% at 6-month follow-up.

The matrix of correlations between predictor variables and discriminant functions, as seen in Tables 24 through 27, suggest that the most important early predictors of treatment outcome were self-efficacy (CONFIDENCE; squared semi-partial correlation [sr^2] = .29) and social phobia (FQ-SOCIAL; sr^2 = .18). FQ-SOCIAL remained an important predictor of treatment outcome at each assessment phase. In contrast, the main measure of agoraphobia (FQ-AGOR) did not emerge as an important predictor until later in the treatment process.

Repeated-measures (pre-mid-post) analyses of each individual measure revealed significant between-groups effects for all but two measures (FQ-INJURY, FQ-INCAPACITY). The finding that no significant group X time interactions emerged for any measure suggests that the LEF group experienced similiar patterns of change / improvement to that of the HEF group. Visual inspection of the data (Figures 9 through 15) supports this conclusion.

Mood HEF and LEF groups were compared using a second set of discriminant function analyses, this time using measures of mood / depression (FQ-FEEL, BDI) as predictors (Tables 29

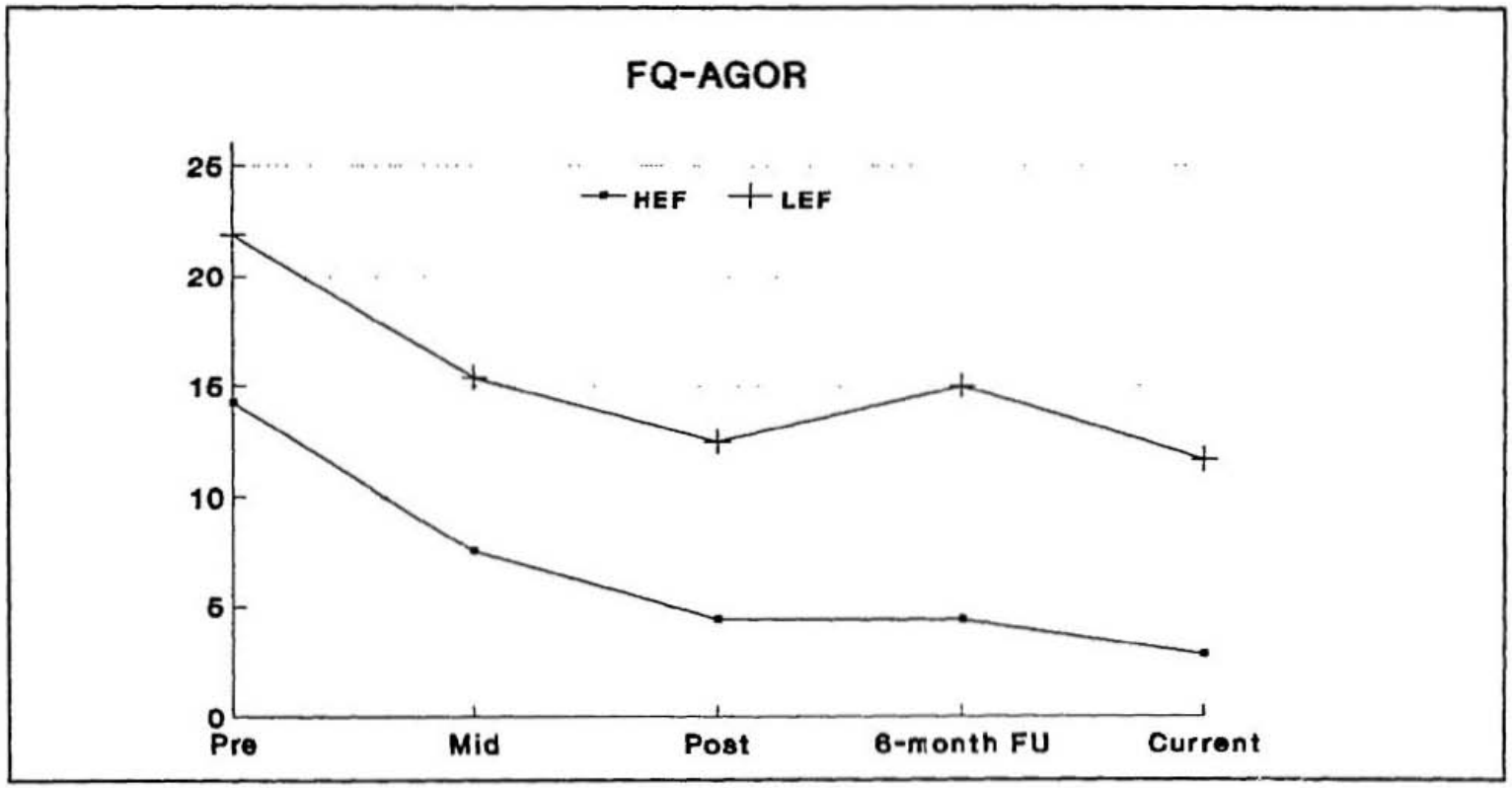

Figure 9 HEF versus LEF clients' performance on FQ-AGOR from pretreatment to current follow-up.

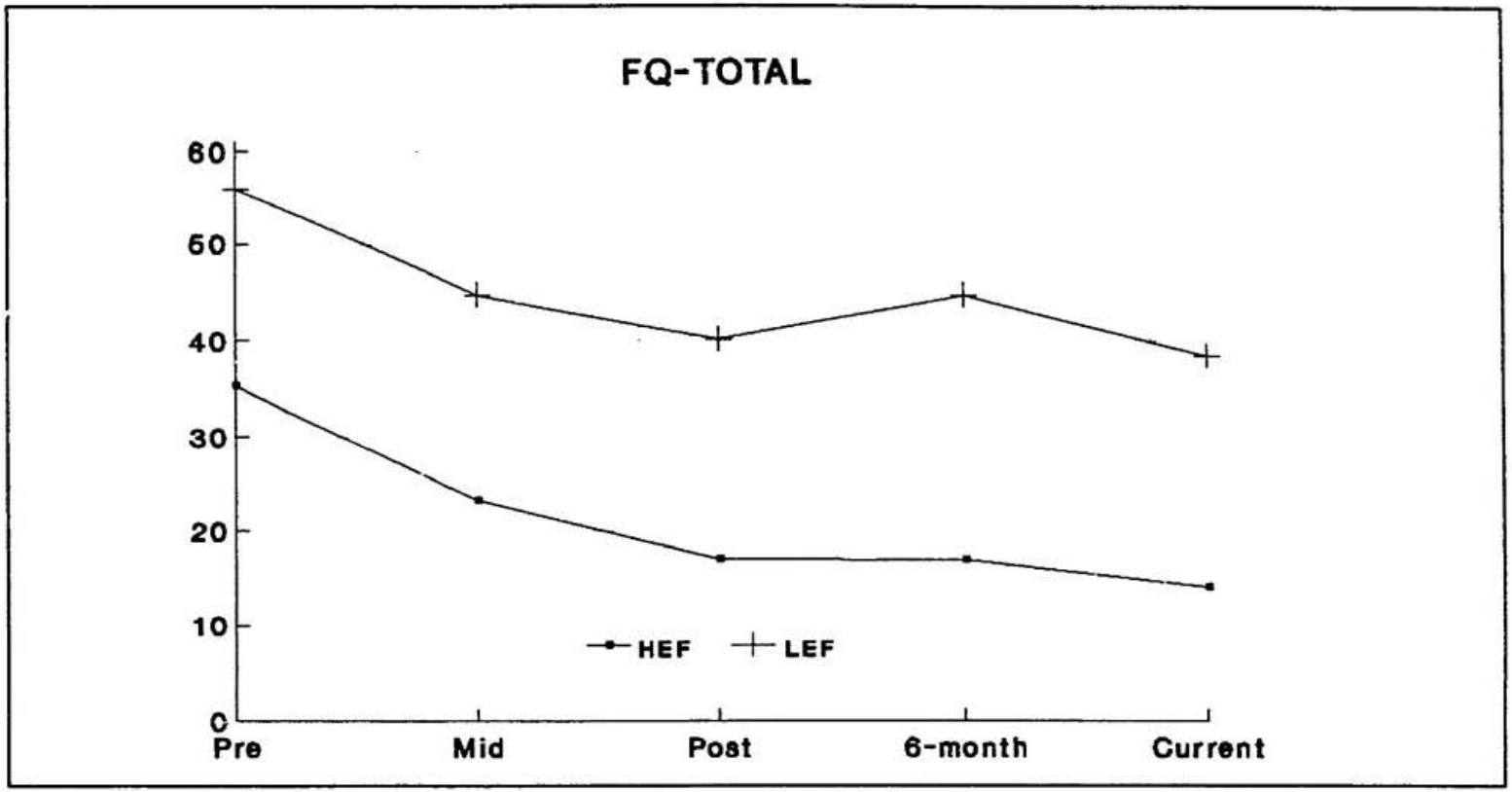

Figure 10 HEF versus LEF clients' performance on FQ-TOTAL from pretreatment to current follow-up.

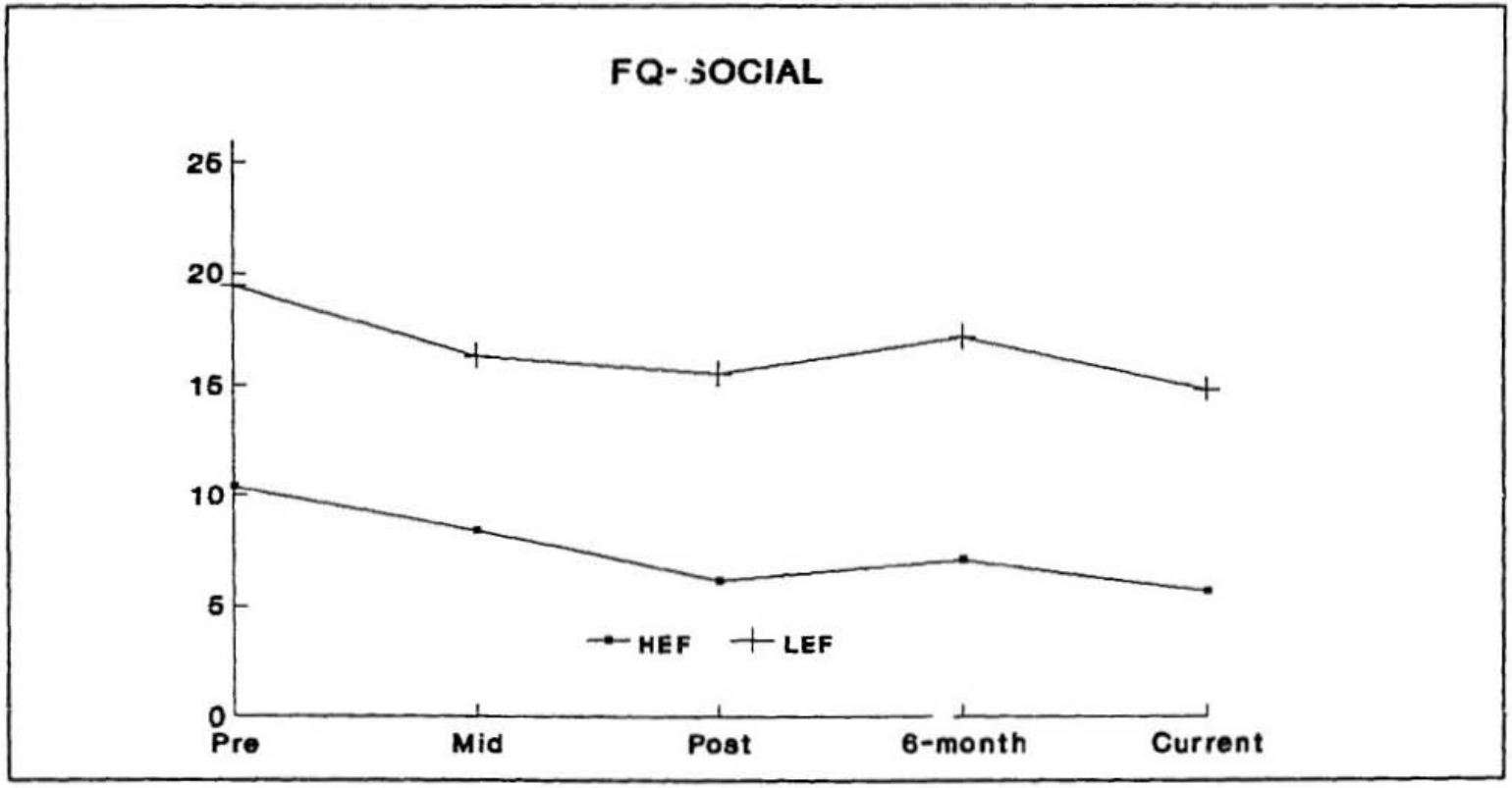

Figure 11 HEF versus LEF clients' performance on FQ-SOCIAL from pretreatment to current follow-up.

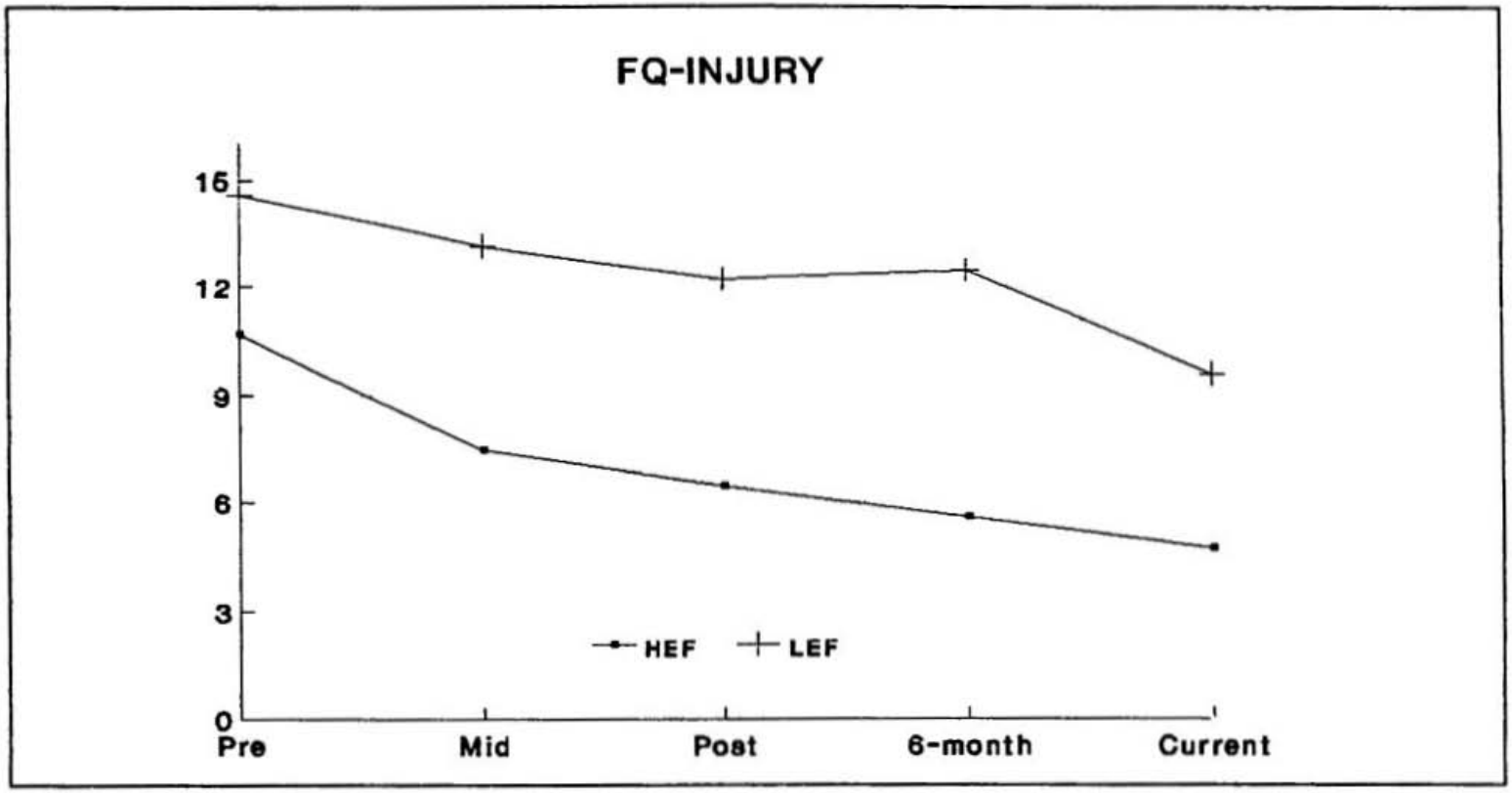

Figure 12 HEF versus LEF clients' performance on FQ-INJURY from pretreatment to current follow-up.

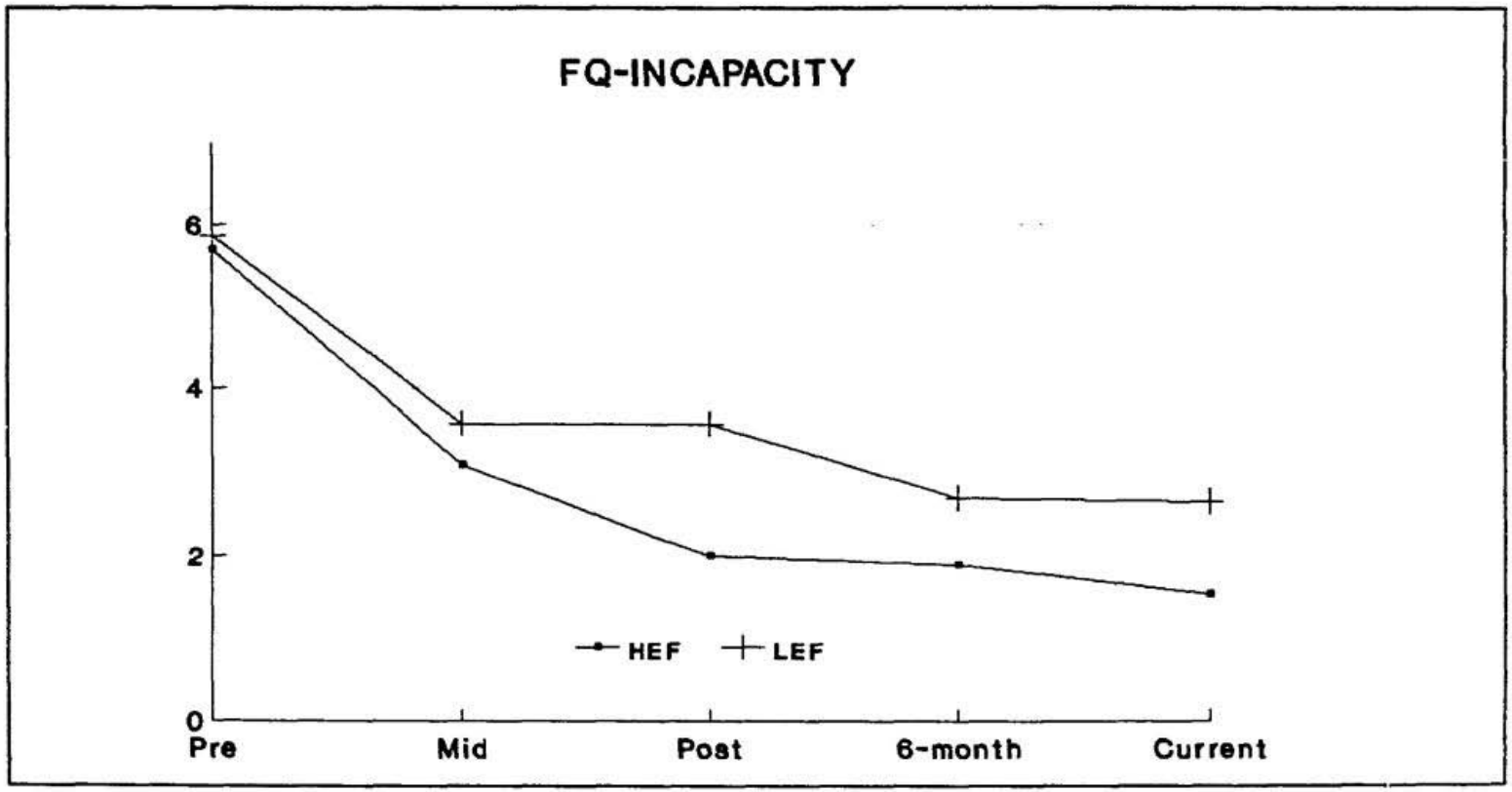

Figure 13 HEF versus LEF clients' performance on FQ-INCAPACITY from pretreatment to current follow-up.

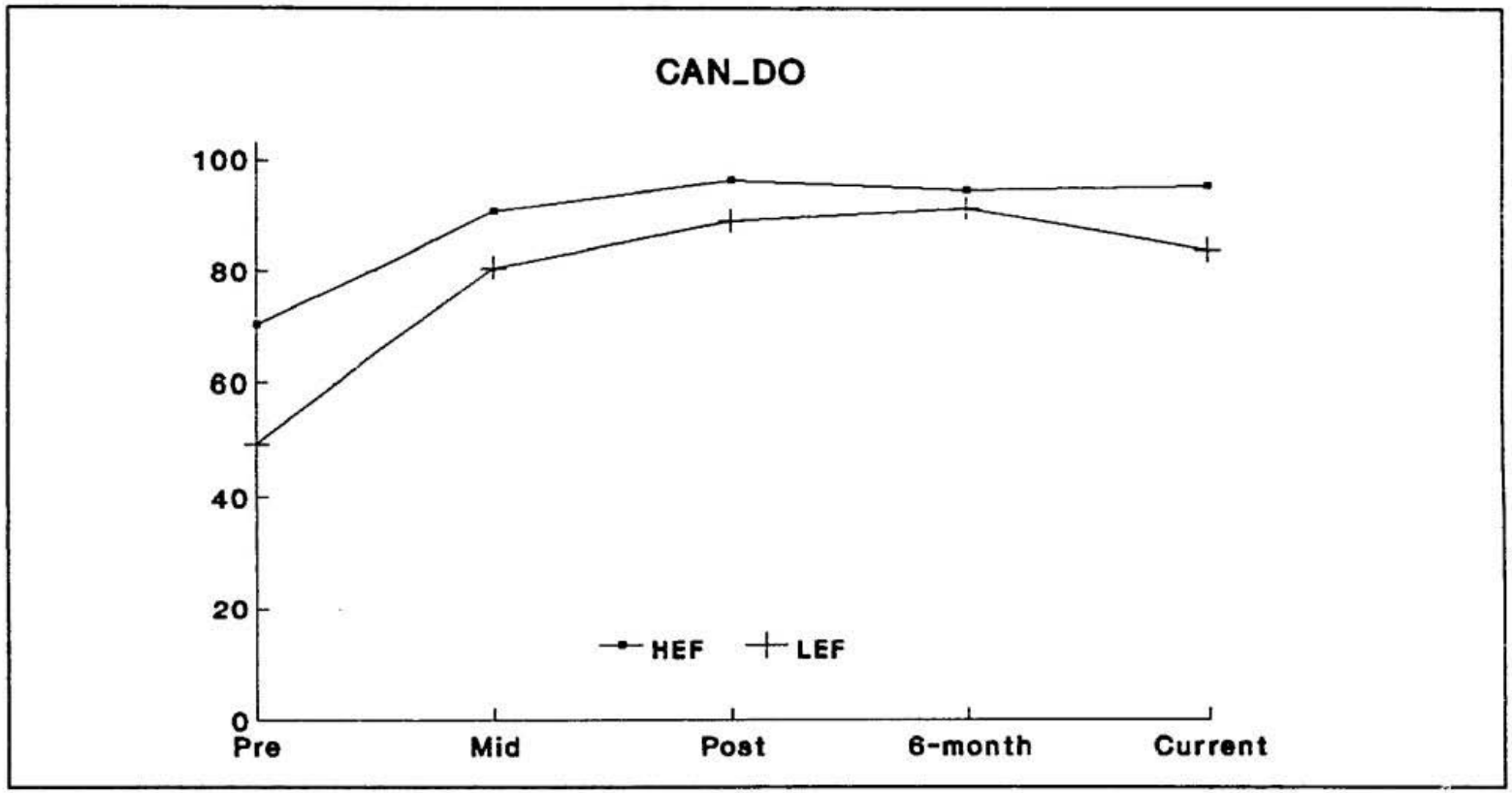

Figure 14 HEF versus LEF clients' performance on CAN_DO from pretreatment to current follow-up.

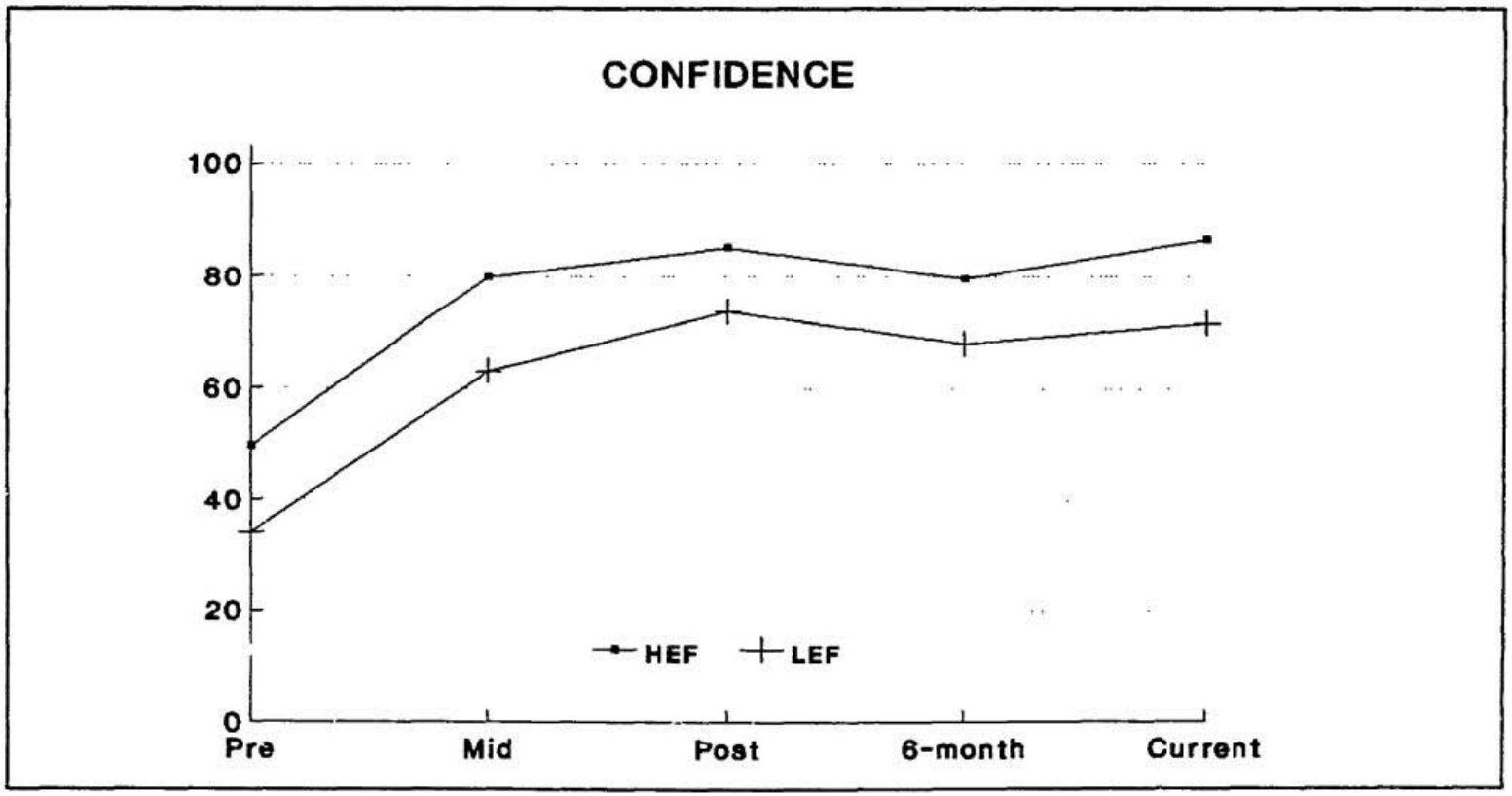

Figure 15 HEF versus LEF clients' performance on CONFIDENCE from pretreatment to current follow-up.

through 32; Appendix A). Statistically significant discriminant functions emerged at pretreatment and 6-monthfollow-up. In each case, both mood measures correlated significantly with the discriminant function. No significant function emerged at either mid- or post-treatment.

Mood at pretreatment (FQ-FEEL) accounted for 21.6% of the between-group variance. Correct classification of clients using jackknifed classification procedures was 77.8%. At 6-month follow-up, mood (BDI) accounted for 33.8% of the variance, while the percentage of correctly classified clients was 72.7%.

Visual inspection of the data suggests that the groups experienced similar patterns of improvement until mid- (FQ-FEEL) or post-treatment (BDI), at which time the LEF group began to relapse while the HEF group continued to improve (Figures 16 and 17). However, no significant between-group or group X time effects emerged for either measure (Table 33; Appendix A).

Attitude toward Treatment

A direct discriminant function analysis was performed using the five sub-scales of the Attitudes Questionnaire as predictors of endstate functioning (Table 34; Appendix A). No statistically significant discriminant function emerged. *T*-tests also failed to reveal differences between groups on

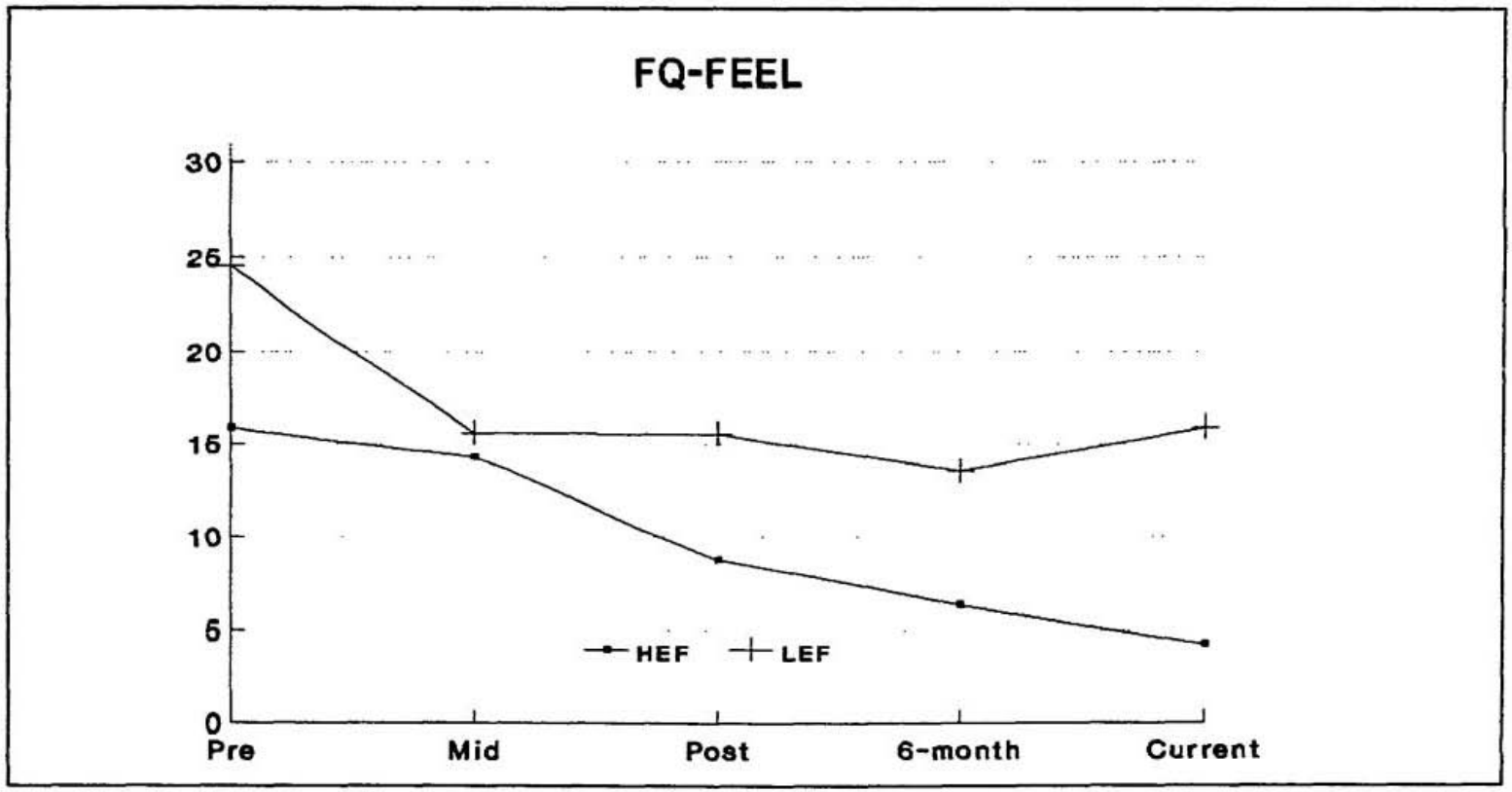

Figure 16 HEF versus LEF clients' performance on FQ-FEEL from pretreatment to current follow-up.

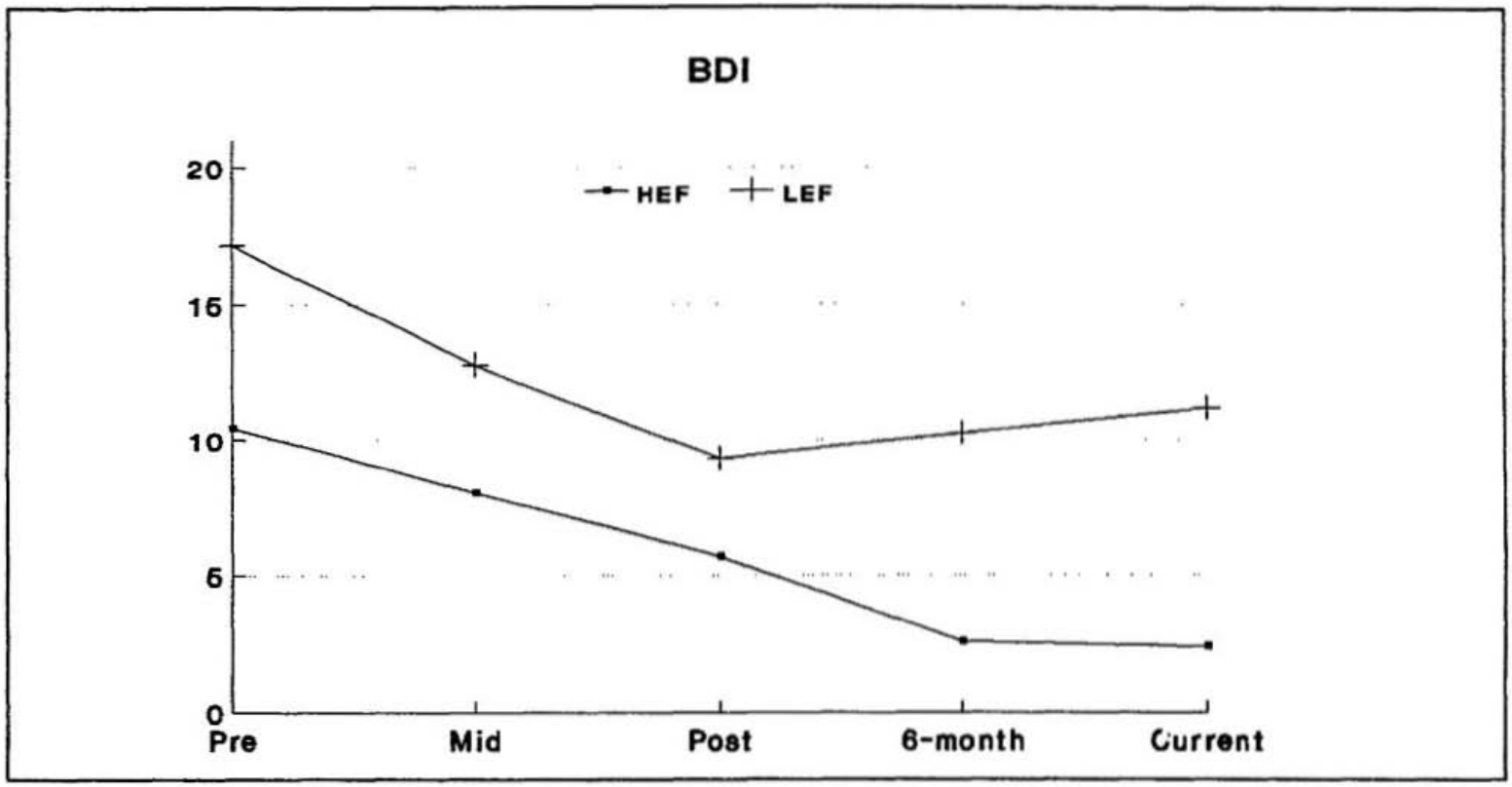

Figure 17 HEF versus LEF clients' performance on BDI from pretreatment to current follow-up.

any sub-scales of the Attitudes Questionnaire (Table 35; Appendix A).

T-tests were also conducted on the pre- and post-treatment TEST_MODEL and TEST_DRUG scores. As shown in table 35, the LEF group performed better on TEST_DRUG at pretreatment. This difference had disappeared by post-treatment. No differences emerged between groups on the overall TEST_MODEL, either at pre- or post-treatment.

Response Profile

Analyses were performed to determine if grouping subjects on their "dominant" response system at pretreatment would help to predict endstate functioning. The follow-up sample were operationally categorized as "cognitive" (CR; $n = 5$), "behavioural" (BR; $n = 9$), or "somatic" (SR; $n = 8$) responders, based on their pretreatment scores on the SQ.

Response profile group was a significant predictor of endstate functioning [$\chi^2(2) = 8.163$; $p = 0.0169$][1]. Inspection of the data shows that behavioural responders had poorer outcome (LEF: $n = 7$; HEF: $n = 2$), while all cognitive responders had achieved the criteria for HEF ($n = 5$). The SR group were more evenly divided between LEF ($n = 3$) and HEF ($n = 5$) outcomes.

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[1] Since the expected frequency of some cells is less than 5, these results must be read with some caution and ONLY considered suggestive of what might be found in a larger study.

T-tests revealed significant differences between endstate groups on all sub-scales of the SQ at all assessments, except for SQ-COG at pretreatment (Table 36; Appendix A). All of these differences were in the expected direction, with LEF clients scoring higher (i.e., worse) on each sub-scale at each assessment.

SQ sub-scales yielded statistically significant discriminant functions at each assessment phase (pre, mid, post, 6-month), accounting for 67%, 37%, 56%, and 58% of the between-groups variance (Tables 37 through 40; Appendix A). The factor-loadings sub-scales suggest that behavioural avoidance (SQ-BEH) was an important early predictor of treatment outcome, while scores on SQ-COG were more important later in treatment.

Finally, differences between HEF and LEF groups did not emerge on any of the sub-scales of the BDI until 6-month follow-up (Table 41; Appendix A). Scores were in the expected direction, with LEF clients showing greater dysfunction on each sub-scale.

Social Support

Endstate functioning could not be predicted using a direct discriminant function analysis of the four sub-scales of the ISSB (Table 42; Appendix A). *T*-tests also revealed no statistically significant differences between HEF and LEF groups on any of the sub-scales of the ISSB, nor on the composite measure of pretreatment social support (Table 43;

Appendix A). Additionally, chi-square analyses on each pretreatment social support variable failed to reveal any significant differences between HEF and LEF groups (Table 44; Appendix A).

Exploratory and Post-hoc Analyses

Two sets of exploratory analyses were conducted. First, the relationship between the clients' treatment preferences and their clinical history was evaluated. Second, analyses were performed to assess the relationship between mode of phobia onset and response profile measures.

In addition, post-hoc analyses were performed to assess the inter-relationships between the various predictor domains at each assessment phase. That is, these analyses were used to provide a measure of the unique and shared components of explained variance among the various predictor variables.

Predicting Treatment Preference

In order to determine factors affecting clients' treatment preferences, a series of standard multiple regression analyses were performed. Measures of agoraphobia (FQ-AGOR), social phobia (FQ-SOCIAL), self-efficacy (CONFIDENCE), and mood / depression (BDI) at each stage of treatment and follow-up served as predictors. Preference for drug versus psychological treatments (PREFERENCE) was

calculated by subtracting the average ratings of the two drug treatments (ANTIDEPRESSANTS, MINOR_TRANQUILLIZERS) from the average of the three psychological treatments (EXPOSURE, RELATIONSHIP therapy, COGNITIVE therapy). Thus, high PREFERENCE scores indicate a tendency to high ratings for psychological treatments, and/or low ratings for pharmacological treatments.

As shown in Tables 45 through 47 (Appendix A), PREFERENCE for drug- versus psychological treatments was associated with higher depression, higher phobic severity, and lower self-efficacy. Depression was a consistently strong predictor of treatment PREFERENCE, contributing most of the unique variance ($[sr^2]$ = .25 to .28). Phobia severity and self-efficacy measures did not emerge as significant predictors until later in treatment, were more weakly associated with treatment PREFERENCE, and generally did not contribute statistically significant variance to the equation after depression had been accounted-for.

Interestingly, no significant relationship emerged between PREFERENCE and the clinical measures taken at the current follow-up (Table 49; Appendix A).

Relationship between Mode of Phobia Onset and Response Profile

Analyses were performed to determine if clients' mode of phobia response is related to response profile. Chi-square analysis showed no relationship between mode of onset

and response profile group (Table 50; Appendix A). Further, neither group was more likely to recall a specific precipitating event, to have used medications prior to or following treatment, or to have suffered from panic attacks prior to or following treatment. Clients with cognitive learning onset had higher scores on the somatic sub-scale of the SQ at pre- and mid-treatment, and at the current follow-up (Table 51; Appendix A). No differences between groups emerged on the sub-scales of the BDI (Table 52; Appendix A).

Interrelationships between Outcome Predictors

For each assessment stage, the best predictors from each predictor domain was included in a direct discriminant function analysis differentiating HEF from LEF subjects. Analyses were performed to ascertain the unique variance contributed by each variable.

Four pretreatment variables were selected: FQ-SOCIAL, FQ-FEEL, CONFIDENCE, and SQ-BEH (Table 53; Appendix A). These variables accounted for approximately 69% of the between-group variance. Unique contributions were made by CONFIDENCE (sr^2 = .15) and SQ-BEH (sr^2 = .09).

Mid-treatment variables (FQ-AGOR, FQ-SOCIAL, CONFIDENCE, SQ-BEH) accounted for 50% of the between-groups variance, none of which was unique to one single predictor. Likewise, none of the variance accounted for at post-treatment (FQ-AGOR, FQ-SOCIAL, SQ-BEH) and 6-month follow-up (FQ-AGOR, BDI, SQ-COG) was unique to one predictor.

DISCUSSION

This study addressed two issues related to the outcome of behavioural treatment for agoraphobia. First, the long-term clinical and statistical significance of an exposure-based treatment was evaluated. Second, four categories of variables were evaluated as possible predictors of treatment outcome: (1) type of phobia onset, (2) client attitudes toward treatment, (3) response profile measures, and, (4) social support.

Long-term Outcome of Behavioural Treatment for Agoraphobia

Treatment resulted in highly significant improvements on all measures in both short- and long-term. Considering the high percentage of clients participating in the study (77%), and the long-term nature of these clients' problems (10.13 years), there is little doubt that these findings verify the long-term effectiveness of exposure-based treatment. The pattern of improvement was similar to that observed in other long-term follow-up studies. Treatment gains were maintained for periods of up to five years, but patients generally did not experience significant continued improvement during the follow-up period.

Despite these positive findings, statistical improvements in group averages do not address questions regarding clinical significance of individual outcomes. There was a great deal of variability in the outcomes of individual clients: only 48% achieved all of the a priori criteria for high endstate functioning. The remaining

subjects still had some significant lingering effects of the disorder. These results are similar to those of previous researchers who have reported that roughly half of their clients attain satisfactory levels of functioning (e.g., Arrindell et al., 1986; Cerny et al., 1987; Craske et al., 1989; Himadi et al., 1986; Jacobson et al., 1988; Mavissakalian, 1986; Mavissakalian & Hamann, 1987; Mavissakalian & Michelson, 1983; Michelson et al., 1985, 1988; Michelson et al., 1986). Also, the rates of drop-out (37%) and subsequent treatment (44%) correspond to results reported in earlier studies (e.g., Arrindell, Emmelkamp & Sanderman, 1986; Cohen et al., 1984; Burns et al., 1986; Emmelkamp & Kuipers, 1979; Lelliott et al., 1987; Marks, 1971; Marks et al., 1983; Mavissakalian & Michelson, 1986a; McPherson et al., 1980; Munby & Johnston, 1980; Öst, 1989; Roberts, 1964).

Variables Predicting Treatment Outcome

It is not completely clear what differentiates patients who achieved the a priori criteria for treatment success from those who did not. In fact, the evidence presented here suggests that there are not two "types" of clients, one for whom treatment was "effective," and another "ineffective." Rather, the LEF group entered treatment somewhat worse-off, but experienced the same pattern of improvement over the course of treatment and follow-up. In this sense, treatment had similar effects for both groups.

It may be that these clients were simply slow to catch on to the benefits of treatment, and might have continued to improve had treatment been longer.

Nonetheless, the results from the current study suggest some variables which are associated with poorer treatment outcome. The best predictors of outcome were social phobia, self-efficacy, behavioural avoidance, and later in treatment, agoraphobic severity and cognitive reactivity. On the other hand, the mode of phobia onset, level of depression, attitude toward treatment, and social support were poor predictors of long-term treatment outcome.

Mode of Phobia Onset

Wolpe (1981) has been critical of behavioural outcome research since researchers fail to distinguish cases on the basis of the type of phobia onset. However, there is no evidence from the current study to suggest that the mode of phobia onset is at all related to treatment outcome. However, the treatment programme included components of both response competition (i.e., graduated exposure) and cognitive restructuring, and therefore may have been equally effective for both types of onset. Öst (1985) similarly found that mode of acquisition does not predict outcome when the type of treatment is held constant.

Wolpe and others (e.g., Michelson, 1984) have also suggested that the mode of phobia onset has an influence on response profile, with classically-conditioned phobias

characterized by strong somatic and behavioural responses. Conversely, cognitively learned phobias would feature strong cognitive reactions. Again, this hypothesis was not supported by the current findings. In fact, clients with cognitive-learning acquisition scored higher on somatic items. It is important to note, however, that no direct *in vivo* assessments of cognitive, behavioural, and physiological reactivity were conducted. Thus, conclusions about the validity of Wolpe's model must necessarily be tentative.

Clinical Measures

In the current study, pretreatment clinical measures added significant power in predicting long term treatment outcome, resulting in over 80% correct "hits." This predictive power is significant, given that the ratio of HEF to LEF clients was close to 50:50. Further, measures taken later in treatment were not any more accurate in predicting treatment outcome. These results are contrary to previous findings, in which pretreatment clinical measures accounted for only a small percentage of the variance in outcome, but attained useful predictive power later in treatment (e.g., Cohen et al., 1984; Emmelkamp & Van Der Hout, 1983; Johnston et al., 1976; Lelliott et al., 1987; Mathews et al., 1976; Michelson et al., 1988; Munby & Johnston, 1980; Roberts, 1964).

Why were pretreatment scores effective in discriminating high- and low outcomes, when previous research suggests that clinical measures do not attain useful predictive power until later in treatment? The reason for the apparent inconsistency may lie in the abilities of the different measures to predict treatment outcome at different phases of treatment. The best early predictors of treatment outcome were social phobia (FQ-SOCIAL) and self-efficacy (CONFIDENCE). Alternatively, endstate groups were not differentiated on measures of agoraphobia (FQ-AGOR, FQ-INCAPACITY) until mid- or post-treatment. Previous studies which used measures specific to agoraphobia have similarly reported that significant differences between groups do not emerge until mid- or post-treatment. On the other hand, Cerny et al. (1987) and Stern and Marks (1973) have each reported that global definitions of phobic severity are more useful in predicting treatment outcome early in treatment.

Social anxiety was a particularly effective predictor, significantly differentiating between endstate groups at all assessment phases. There are two possible reasons for this: First, treatment offered in group format may be an additional hindrance to socially phobic clients who have to contend not only with agoraphobia, but also with the strain of facing the group each week. These clients might benefit more from individual therapy, where they can more easily concentrate on the task at hand. The second possibility is that the "social" components of agoraphobia, such as the

fear of looking foolish in public, are especially important in maintaining agoraphobia. These ideas are explored more fully below.

The other important early predictor of treatment outcome was clients' self-efficacy. It has been suggested that exposure works by enhancing the clients' confidence through confrontation of fear-evoking stimuli (Borkovec, 1973; Bandura, 1977). For this reason, lack of self-efficacy is suggested as an important factor maintaining agoraphobic behaviour (e.g., De Moor, 1985).

It is therefore interesting that in the current study, HEF and LEF groups exhibited near identical patterns of change in self-efficacy throughout treatment and follow-up. Further, self-efficacy was an important early predictor of treatment outcome, but became less important as treatment progressed. These findings are contrary to what would be expected given Bandura's model of exposure therapy: one would expect relatively few initial differences between groups, and larger group differences later in treatment as treatment responders experienced an increase in self-efficacy.

As to why early confidence resulted in better outcome but late confidence did not remains open to speculation. Apparently, self-efficacy was an important early variable in predicting outcome, but not for the reasons posited by Borkovec and Bandura. It may be that clients with early confidence in their abilities were more likely to engage in self-exposure activities from the first day of treatment.

If so, these individuals would have had a head start. Even though differences in self-efficacy gradually disappeared over the course of treatment, treatment may have finished before the others could catch up.

Attitude Toward Treatment

Surprisingly, clients with less successful outcome did not rate psychological treatments as less acceptable and effective than did those with better outcome. However, clients with a history of depression did rate pharmacological methods of treatment higher than did those with no history of depression. Previous phobia severity and self-efficacy scores were also associated with treatment preference, but did not add any predictive power after depression had been accounted for. It is possible that the relationship between previous depression and treatment preference is the result of a passive coping style, or "learned helplessness," associated with depression. Norton, Allen and Walker (1985) similarly reported that subjects' choice of "drug" versus "psychological" treatments could be predicted from knowledge of their coping style, as measured by the Millon Behavioral Health Inventory.

A second interesting finding is that poor pretreatment scores on the TEST_DRUG were predictive of better outcome. That is, clients who entered treatment favouring drug alternatives for coping with their anxiety attained more benefit than did those who favoured other strategies. It

appears that during treatment the clients learned that they were able to cope with their anxiety other than to take a pill. The idea that they had some personal control over their anxiety symptoms may have given these clients a sense of empowerment. Conversely, clients who scored well on TEST_DRUG at pretreatment were already less likely to look for external methods of controlling their anxiety, and therefore had less to learn from the treatment sessions.

Interestingly, neither pre- nor post-treatment scores on the test of the model predicted long-term treatment outcome. In an earlier study on a sub-set of the present sample, Liddell and Actcn (1988) reported that higher post-treatment scores on TEST_MODEL predicted improvements at post-treatment and 6-month follow-up on 2 of 4 outcome measures (FQ-INCAPACITY, self-efficacy), but did not predict improvement on 2 other measures (FQ-AGOR, BDI). When taken with the current findings, this suggests that attitude toward treatment is associated with short-term (i.e., post-treatment and 6-month follow-up), but not long-term treatment outcome. Other researchers have also found that congruent attitudes toward treatment are associated with short-term response to treatment, but not with lengthier outcome (e.g., Emmelkamp & Wessels, 1975; Persson & Nordlund, 1983).

Response Profile

Categorizing patients into behavioural, somatic, and cognitive responders at pretreatment was useful in predicting endstate functioning. In particular, behavioural responders fared somewhat worse than the other groups, while cognitive responders had better outcomes. Somatic responders were divided between high and low outcomes.

Of the three response modes, high behavioural avoidance was the strongest early predictor of treatment outcome. This finding supports previous research which has shown that good behavioural performance early in treatment is predictive of good outcome (Mavissakalian & Hamann, 1986; Mavissakalian & Michelson, 1986; Cerny et al., 1987; Craske et al., 1987; Michelson et al., 1988). The current results are particularly informative since previously, behavioural avoidance was measured through direct measurement on behavioural avoidance tests rather than self-report. It may be that self-reports of behavioural avoidance are as effective in predicting outcome as direct behavioural assessment.

Earlier studies have also reported that higher physiological arousal during exposure is predictive of better outcome (Craske et al., 1987; Stern & Marks, 1973; Vermilyea et al., 1984; Watson & Marks, 1971). These findings have led some to conclude that high physiological response early in treatment is indicative of "emotional processing" of the "fear structure" (e.g., Foa & Kozak,

1986; Rachman, 1980). It has also been suggested that clients with low physiological response get less benefit from treatment because they use more "avoidance tactics" and are less "courageous" during exposure sessions (e.g., Craske et al., 1987). However, contrary to these hypotheses, high physiological response in the current study was associated with poorer treatment outcome.

It is important to note that physiological response was operationalized by the patients' *self-report* of the physiological response, rather than direct measures of heart rate and/or skin conductance. That is, for the current study "physiological response" really represents the patients' *awareness* of their somatic responses. Thus, although previous researchers have reported that somatic reactivity early in treatment is a precursor of therapeutic effectiveness, it appears that *awareness* of physiological reactivity is associated with poorer treatment outcome. It is possible that awareness of physiological activity exacerbates thoughts of danger, and escalate the anxiety-panic cycle (e.g., "I'm having a heart attack!"). MacKay and Liddell (1986) similarly found that non-physiological responders had superior outcome at 6-month follow-up, when clients were categorized using their self-reports of physiological arousal. Future research should examine the inter-relationships between awareness of physical sensations, actual physiological reactivity, and treatment outcome.

The current study also provides some support for Sanderson and Beck's (1989) emphasis on cognitive factors in the maintenance of panic attacks and agoraphobic "fear of fear." These authors suggest that cognitive symptoms play an important role in determining whether panic attacks will occur under certain circumstances. However, differences between endstate groups on cognitive measures did not emerge until mid-treatment. This is consistent with Mavissakalian and Michelson (1983) and Michelson et al. (1986), who found that between-session *habituation*, rather than the absolute level of subjective anxiety, was prognostic of good outcome.

Finally, although poorer outcome was associated with high scores on each sub-scale of the SQ, the sub-scales of the BDI were generally not related to treatment outcome. This is informative, since the BDI is a measure of mood / depression, not anxiety. As noted earlier, there was little relationship between overall scores of mood and treatment outcome. Therefore, there may not necessarily be a relationship between mood response profile and anxiety response profile.

Social Support

Kleiner and Marshall (1985) suggest that interpersonal factors influence treatment outcome of agoraphobia via two possible mechanisms: (1) the interpersonal problems interfere with the direct treatment of phobic symptoms, or, (2) treatment-induced changes are adversely affected by the

patient's relationships. The former explanation is most compatible with the present findings. Social anxiety throughout treatment was one of the strongest predictors of treatment outcome, while neither the types of helping behaviours received, nor pretreatment social network size, were statistically related to treatment outcome.

It has been suggested that significant others who are excessively protective and unconcerned with encouraging independence have a negative influence the clients' success in treatment (e.g., Hudson, 1974; Thomas-Peter et al., 1983). Treatment programmes have been developed to include the participation of significant others, to teach them how to be effective managers of the patient's agoraphobic behaviour, to reinforce appropriate supportive behaviours and encouragement, and to reduce more harmful behaviours (e.g., Arnow et al., 1985; Barlow, O'Brien & Last, 1984; Cerny et al., 1987; Mathews et al., 1977; Munby & Johnston, 1980). The authors of such studies attribute positive results to the spouses' encouragement and reinforcement of continued practice once the formal treatment sessions have finished.

Nonetheless, there was no relationship between treatment outcome and the types of helping behaviours received, nor the pretreatment social network size. Some authors (e.g., Arrindell & Emmelkamp, 1986; Arrindell, Emmelkamp & Sanderman, 1986; Buglass, Clarke, Henderson, Kreitman, & Presley, 1977; Emmelkamp, 1980; Kleiner & Marshall, 1985; Mathews, Gelder & Johnston, 1981;

Vandereycken, 1983) have argued that there is little empirical evidence that the actions of significant others are counterproductive to treatment, and that assumptions about the "overprotectiveness" of spouses are based only on clinical anecdotes and/or subjective impressions of therapists. The positive effects of including significant others in treatment may not be due to their learning to perform particular helping behaviours. Alternative explanations include: (a) including significant others in treatment helps to bring family members "on side," since it is occasionally reported that family members purposely undermine therapy; (b) it may enhance generalization of treatment effects to the patient's environment; or (c) it may assist both the patient and spouse in adjusting to the changes brought about in treatment, thereby reducing stress in the marriage.

It is interesting that the most important individual predictor of long-term outcome during the early stages of treatment was social phobia (FQ-SOCIAL), which significantly differentiated between endstate functioning groups at all assessment phases. Hafner and Ross (1983) also reported that clients with higher "social fear" had poorer outcome. As mentioned earlier, there are at least two possible explanations for this.

First, treatment offered in group format may add additional stress to socially phobic clients. Some studies have found that agoraphobics treated in groups are less likely to drop-out of treatment and are more likely to have

positive outcome than those treated individually (e.g., Hafner, 1984; Hafner & Marks, 1976; Hand, Lamontagne & Marks, 1974; Sinnott et al., 1981). It has been speculated that the reason for this is the mutual support given and received in these groups. However, no study has examined whether group treatment is less effective for socially anxious clients. Further, no long-term outcome studies have assessed the value of group versus individual treatment.

Alternatively, the "social" components of agoraphobia, such as the fear of looking foolish in public, may be especially important in maintaining agoraphobia. For example, clients who are concerned about how they appear in public may be less likely to attempt self-exposure exercises in situations where there is the possibility of looking foolish. These clients may need more direct supervision and support of the therapist *in vivo*, rather than simply receiving self-exposure instructions. This is another topic for future research. Otherwise, therapists may need to address problems with social anxiety before other aspects of the agoraphobia can be successfully treated.

Strengths and Weaknesses of the Current Study

The relative strengths and limitations of this study must be considered when interpreting the findings.

Subject Selection and The Follow-up Sample

Seventy-seven percent of the clients who completed the treatment programme over the years were reassessed in the current study. This is a respectable percentage, given that the length of follow-up was up to five years for some clients. Also, the follow-up sample was representative of the group as a whole: they differed from those not followed-up on only two out of a possible 51 measures, a number which should be attributed to chance.

Secondly, subjects in this study were selected as part of the regular operation of an outpatient psychology clinic, and not as part of a formal research project. As such, treatment was offered to clients on an "as needed" basis; that is, if it was determined that the client could benefit from the programme. No specific psychometric cut-off scores or rigid research diagnostic criteria were applied to ensure consistency in the treatment samples over the years. This method of client selection offers the advantage of generalizability to "real world" situations, but it is at the expense of precise control over the characteristics of the treatment sample.

Design of the Study and Selection of Measures

The first concern related to the design of the study is it's correlational, rather than experimental nature. There were no "non-treatment" or "placebo" control groups to

compare outcomes. However, the long-term nature of these clients' disorders likely illustrates the effectiveness of this treatment programme, since the available data suggests that the rate of spontaneous recovery in agoraphobia is quite low (Agras, Chapin & Oliveau, 1972; Jansson & Öst, 1982; Marks, 1985; Marks & Herst, 1970).

A second concern pertains to the use of questionnaire and interview data to assess treatment outcome, and the lack of direct *in vivo* behavioural and somatic assessments. Unfortunately, there were no pretreatment behavioural tests with which to compare to the clients' current functioning. Further, it was not possible to design a standardized BAT which was relevant to all clients since there was a great deal of variability in the "target" items on individuals' fear and avoidance hierarchies. Instead, self-ratings of the clients' fear hierarchy items were used (i.e., the "target" fears at the time of treatment). Mavissakalian and Hamann (1986) have suggested that standardized behavioural avoidance tests have relatively little value in agoraphobia research, since unlike simple phobias, the essential fear in agoraphobia is a fear of panic rather than the fear of external objects or situations. They go on to suggest that assessments should instead measure the individual phobic avoidance and phobic anxiety dimensions of the client.

A related problem is the extensive use that was made of case notes and clients' recall of pretreatment functioning. This raises obvious questions about the validity and reliability of such data. This was particularly problematic

in the diagnosis of pretreatment DSM III-R "severity of agoraphobia" and "panic disorder", and in the ratings of pretreatment social support. Nevertheless, although there was some variability in the information provided by the case notes, the overall quality was high, and having the same clinical supervisor for all patients assured consistency in content. In addition, the format of the follow-up interview was kept constant. In all, it is felt that these data were quite reliable and valid.

Finally, there are obvious concerns about drawing conclusions about the "predictive" power of measures which were only taken at the current follow-up. In particular, no inferences can be made about the ability to predict treatment outcome based on scores on the Attitudes Questionnaire and the ISSB. Although both of these measures were unrelated to treatment outcome, whether or not they are useful prognostic tools remains an empirical question.

Summary and Future Directions

The current study demonstrates the long-term statistical- and clinical significance of this exposure-based therapy for agoraphobia. The pattern of improvement was similar to that observed in other long-term follow-up studies: treatment gains were maintained for periods of up to five years, but patients generally did not experience significant continued improvement during the follow-up period. Nonetheless, only a minority of subjects were

completely symptom free at follow-up, and a significant number of patients dropped-out of treatment before completing the entire programme.

In comparing the progress of treatment outcome groups, it becomes clear that treatment was "effective" for both high- and low endstate groups. There was no differential treatment effect, per se, for high- and low outcome groups. The differences between groups were quantitative, rather than qualitative. Nevertheless, some variables were effective predictors of endstate functioning.

As in previous studies, differences between endstate groups on measures of agoraphobia did not appear until later in the treatment process. However, self-efficacy and social anxiety were each shown to be significantly related to treatment outcome, even during the early stages of treatment. Self-efficacy became less important as a discriminator of treatment outcome as treatment progressed. If replicated, this finding has important theoretical implications, since it is contrary to expectations based on Bandura's model of exposure therapy.

Social phobia was a strong overall predictor of long-term outcome, significantly differentiating between endstate groups at all assessment phases. Neither the amount nor the types of social support were significantly related to overall treatment outcome.

Categorization of clients into "dominant" response profile groups was another effective predictor of outcome. High scores on each sub-scale were associated with poorer

treatment outcome. Awareness of "physiological" response, as opposed to direct measures of heart rate and/or skin conductance, was prognostic of poor outcome. This may be because too much awareness of physiological reactivity exacerbates the anxiety-panic cycle.

There is no evidence from the current study to support Wolpe's (1981) hypothesis that the mode of onset is predictive of treatment outcome. However, this may be because the treatment programme may have been appropriate for clients with both types of onset.

Finally, attitude toward treatment was unrelated to treatment outcome. Interestingly, clients with a history of depression identified better with more passive (i.e., pharmacological) methods of treatment, even though the ratings of these treatments were unrelated to current phobia severity or depression. Conversely, clients with no history of depression were more disposed toward "active" (i.e., "psychological") treatments. It may be that this is related to a "learned helplessness" associated with depressive symptomatology.

Future Directions

The data presented in this study suggest several implications for future research.

Barlow and Wolfe (1981) have stressed the importance of testing theoretical bases for the effectiveness of behaviour therapy, yet the role of self-efficacy as a determinant of

treatment outcome in agoraphobia has not previously been tested, and deserves further investigation. The present results suggest that entering into treatment with confidence in one's own ability to carry-out the self-exposure assignments is the important harbinger of treatment success. Self-confidence became less important as a discriminator of treatment outcome as treatment progressed. If replicated, these findings suggest that the models proposed by Borkovec (1973) and Bandura (1977) do not accurately describe the mechanism by which exposure works for this population.

In a similar vein, how is self-efficacy related to treatment preference and treatment outcome? Do clients who enter into treatment with low confidence in their abilities also prefer less active forms of treatment, such as pharmacotherapy? Is treatment preference, as measured by Norton et al.'s Attitudes Questionnaire, predictive of treatment outcome?

Future research might also include investigations of how social support varies over time in correspondence with clients' psychopathology. If it is discovered that types of supportive behaviours are unrelated to treatment outcome, then less time need be spent on training significant others in "helpful" and "unhelpful" behaviours, and more time on working with clients to address issues related to social aspects of their agoraphobia. Additionally, group treatment may be deleterious to socially phobic clients' ability to benefit from the in-group sessions. It would be useful to examine whether there is an interaction between outcome from

treatment offered in individual- versus group format, and level of social anxiety on the other. It may be that socially anxious clients would benefit more from individual therapy, where they can more easily concentrate on the tasks at hand.

Future research is also needed to assess the value of follow-up maintenance programmes, such as those described by Jansson et al. (1984) and Öst (1989), which are designed to preserve treatment gains during follow-up. Such programmes may be especially useful for clients with somewhat poorer outcomes, since as noted earlier, these clients do attain benefits from treatment. These clients may simply be slower to catch on. With support, LEF clients may continue to improve and achieve HEF criteria sometime during follow-up.

Finally, an area of knowledge which is sorely lacking is the long-term outcome of clients who drop-out of treatment: the findings of Liddell (1986) suggest that treatment dropouts are not necessarily "failures", since dropouts and irregular attenders showed significant improvements in depression and phobic avoidance at post-treatment, and did not differ from treatment completers on any of the outcome measures. It appears that treatment non-completers simply saw themselves as able to administer their own exposure-based programme without the assistance of a therapist. More should be learned about this "lost" group of patients.

Appendix A: Tables

Table 1: Summary of Prognostic Behavioural Treatment Studies for Agoraphobia

Authors	Subjects			Treatment	F.U. (months)	Factors Related to Outcome	Factors Unrelated to Outcome	Outcome Criteria
	Sex	Age	Dur					
Roberts (1964)	F38	?	.5 - 15 yrs	"psycho-therapeutic support and firm encouragement to go out" at an in-patient psychiatric facility	18-192	age at onset type of onset	severity of symptoms at pre, or 6-month FU experience with E.C.T. subsequent treatment	clinician's rating of patient mobility
Hudson (1974)	18[1]	?	?	graded exposure in vivo	12	clinician-rating of family adjustment		clinician-rating of improvement
Hafner (1976)	39	?	?	group, or individual exposure plus one of: (i) diazepam, or (ii) placebo	12	clinician-rating of quality of marriage	Middelsex Hospital Questionnaire self-rating of severity of 2 most salient phobias clinician-rating of severity of 2 most salient phobias FSS	"fresh symptom emergence" (increase on FSS or MHQ over pretreatment

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
							self-dissatisfaction (Semantic Differential) spouse-dissatisfaction (SD)	levels)
Hafner (1977b)	F30	?	9.5 yrs	*see Hafner (1976)*	12	decrease in hostility (HDHQ) (significant only for the "high hostility" group) increase in husbands' HDHQ (significant only for the "high hostility" group)		Middelsex Hospital Questionnaire + FSS
Emmelkamp & Kuipers (1979)	F58 M12	37.4	8.6 yrs	one of: (i) flooding & self-observation (n=20)	42-60		duration of phobia I/E scale (locus of control) Social Anxiety Scale	improvement on self-ratings of individual hierarchy

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
				(ii) self-observation & successive approxima-tions (n=13) (iii) exposure homework plus one of: (a) flooding in vivo (b) flood-ing in imagination (c) combined flooding in vivo & imagination (n=19) (iv) self-exposure homework, self-			Zung Depression Scale	

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
				monitoring, and film depicting ex-clients (n=29)				
Munby & Johnston (1980)	F62 M4	?	?	Trial I (n=12) one of: (i) desensitization (ii) flooding Trial II (n=34) one of: (i) exposure imagined & in vivo (ii) exposure in vivo only Trial III (n=12) home-based exposure program	60-108	Trial I clinician-rating of phobia severity (pre & post) (a) Trial II post clinician-rating of phobia severity (a) post FSS (Agoraphobia scale) (b) post personalized fear hierarchy (c) Trial III clinician-rating of phobia severity (pre & post) (a)	Trial I FSS (Agoraphobia scale) (pre & post) (b) personalized fear hierarchy (pre & post) (c) Trial II clinician-rating of phobia severity (a) FSS (Ag) (b) personalized fear hierarchy (c) Trial III personalized fear hierarchy (pre & post) (c) diary of time spent out of house (pre & post) (d)	a. clinician-rating of phobia severity b. FSS c. personalized fear hierarchy (self-ratings) d. diary recordings of time out of house

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
				using spouse as co-therapist				
Hafner (1983)	F10 M10	36.2	8.6 yrs	*see Hafner (1976)*	12	sex (a,b)	sex (c,d)	a. freq. of panic during exposure combined clinician- & self-ratings of: b. panic attack c. anxiety d. mood
Hafner & Ross (1983)	F33	?	9.7 yrs	*see Hafner (1976)*	12	HDHQ (extra-punitiveness toward spouse) FSS (travelling) SD (actual self) spouses' POMS (anger)		change in self- + clinician-ratings of 2 main phobias (multiple regression)

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
						POMS (confusion) SD (ideal spouse) FSS (social situations) spouses' POMS (depression) FSS (crowding)		
Marks, Gray, Cohen, Hill, Mawson, Ramm, & Stern (1983)	F38 M7	34	8 yrs	self-exposure homework, plus one of: (i) placebo (ii) imipramine; and one of: (i) exposure (ii) relaxation	9	spontaneous panic attacks during the week previous to first session (a) Hamilton Depression Scale (a) FQ-Blood & Injury (a) self-rating scale of physical side-effects (a) initial depression (Hamilton or Wakefield) (c)	clinician-ratings of client motivation (a,b) self-rating of individual fear hierarchy (a) clinician-rating of individual fear hierarchy (a) FQ (all other scales) (a) Wakefield Depression Inventory (a)	a. treatment drop-out b. phobic severity (self- & clinician-ratings) c. further treatment during follow-up

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
Persson & Nordlund (1983)	[2]F 103	31.1	?	information anxiolytic medication, self-exposure homework, plus one of: prolonged exposure [PE], supportive therapy [ST], relaxation therapy [RT], basic therapy only [BT]	9	PE: desired role of therapist: advice & guidance (post a) desired role of therapist: not help discover cause of disorder (post b,c) ST: main goal for treatment: to understand oneself better (post b,c) desired role of therapist: help discover causes of the disorder (post a) RT: expectancy of therapeutic gain (post a,d,e)	PE: expectation of improvement goals for treatment ST: expectation of improvement RT: desired role of therapist main goal for treatment	clinician-ratings of: a. global b. situational anxiety c. avoidance d. free anxiety e. ego restriction

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
						BT expectancy of therapeutic gain (post a-d; b,c at FU) desired role of therapist: advice and guidance empathic listening (post a) desired role of therapist: empathic listening (a,b,c at FU) desired role of therapist: not explaining the causes of the disorder (post e,f)	BT none	
Cohen, Monteiro & Marks	F34 M6	?	>1 yr	*follow-up of Marks et al (1983)*	24		age (a-c) sex (a-c) marital status (a-c)	a.clinician-rating of improvement of phobia

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
(1984)							duration of phobia (a-c) Wakefield Depression Inventory (a-c) Hamilton Depression Scale (a-c) clinician-rating of client motivation (a-c) clinician-rating of compliance with treatment (a-c) initial depression (Hamilton or Wakefield) (d-i)	b.clinician-rating of status of phobia c.clinician-rating of relapse d.clinician-rating of individual fear hierarchy e. self-rating of individual fear hierarchy f. FQ g. self-rating of non-phobic anxiety h. self-rating of non-phobic panic i. self-rating of

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
								global improvement
Monteiro, Marks & Ramm (1985)	F27	?	>1 yrs	self-exposure homework, plus one of: (i) placebo (ii) imipramine plus one of: (i) exposure (ii) relaxation	24	MMQ [coital freq. (a,c), work satisfaction (a-c,i)]	marital status (a-i) MMQ (marital adjustment)[3]	a.individual fear hierarchy - self-ratings b.individual fear hierarchy - clinician-ratings c. FQ d. FQ-anxiety/ depression e. Hamilton Depression Scale f. Wakefield Depression Inventory g. self-rating of non-phobic anxiety during past

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Unrelated to Outcome	Outcome Criteria
								week h. self-rating of spontaneous panic attacks during past week i. self-rating of global improvement
Arrindell, Emmelkamp & Sanderman (1986)	F23	32.1	4 yrs	prolonged group exposure in vivo, non-drug assisted	12		clinician-ratings of marital adjustment (a-c) Maudsley Marital Questionnaire (marital, sexual, general life) (a-c)[4]	a.performance on a BAT b.clinician-rating of mood, phobic anxiety / avoidance c. FQ-AG, FQ-Mood

Table 1 Continued

Authors	Subjects			Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
	Sex	Age	Dur					
Cerny, Barlow, Craske & Himadi (1987)	F41	?	?	cognitive restructuring & self-initiated exposure exercises, conducted either individually or with spouse as co-therapist	24	severity of phobia (multivariate) BAT performance social adjustment (multivariate) measures of general psychopathology (multivariate)	Middelsex Hospital Questionnaire BDI Subjective Symptom Scale Fear Questionnaire self-rating of severity clinician-rating of severity Marital Adjustment Test	treatment response (multivariate)

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
Lelliott, Marks, Monteiro, Tsakiris & Noshirvani (1987)	F35 M5	34	8 yrs	*follow-up of Cohen et al (1984)*	60	clinicians' rating of client motivation (e,f) self-rating of non-phobic anxiety (d-f) Hamilton Depression Scale (b,d-f) Wakefield Depression Inventory (d-f) Maudsley Marital Questionnaire Total (b,d-f) MMQ-Marital Adjustment (d) MMQ-Orgasmic freq (b,c,e) MMQ-Work & Social (d,e)	age (b-f) sex (b-f) duration of illness (b-f) clinician-rating of individual fear hierarchy (a)[5] self-rating of individual fear hierarchy (a)[5] FQ (a)[5] self-rating of global phobia (a)[5] clinician-rating of client compliance (b-f)	a.subsequent treatment b.clinician-rating of target phobias c. self-rating of target phobias d. FQ-Total e. FQ-AG f. self-rating of global phobia

Table 1 Continued

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
Liddell & Acton (1988)	F33 M9	38.1	10.3 yrs	self-paced in vivo group exposure, with cognitive and relaxation	6	improvement on a test of the behavioural model of etiology / treatment of anxiety (a,b)		a. FQ-Incapacity b. personalized fear hierarchy (self-efficacy) c. FQ-AG d. BDI

Table 1 Continued.

Authors	Subjects Sex	Age	Dur	Treatment	F.U. (months)	Factors Related to Outcome	Factors Urelated to Outcome	Outcome Criteria
Trull, Nietzel & Main (1988)	454[6]	36.3	4 yrs	meta-analysis of exposure-based agoraphobia tx studies	M18	sex [percent of female subjects] (a,b) age (a) FQ-TOTAL (a) FQ-AGOR (b)		a. FQ-TOTAL b. FQ-AG

1. if sex is not indicated, breakdown of numbers of males versus females were not provided by the author(s)

2. includes agoraphobics (n = 61), 31 social (n = 31), and mixed phobics (n = 11)

3. related to b-d & f at post, and i at post and 6-months FU, but not at 2-year FU

4. the "general life" subscale on the MMQ at post-treatment and follow-up was significantly related to b and c at subsequent follow-up assessments

5. although those seeking-out further treatment did not differ at pretreatment, they were significantly worse at post and current follow-up

6. meta-analytic study of 19 agoraphobia outcome studies

Table 2: Descriptive Summary of Subjects Who Completed Treatment

Variable	*n*
Year of Treatment	
83	17
84	4
85	4
86	7
87	3
Sex	
Male	7
Female	28
Marital Status	
Single	10
Married	25
Education	
Grade 8	7
High School	14
Post High School	10
Working Outside of Home	
Yes	19
No	15
Type of Phobia Onset	
Cognitive	11
Conditioned	20
Combined	3
Precipitating Event	
Yes	11
No	24
Previous Treatment	
Yes	19
No	16
Previous Use of Medication	
Yes	17
No	18

Table 3: Pretreatment Clinical Scores of Treatment Completers (n = 35)

Variable	*M* (*SD*)
Age	37.26 (12.50)
Duration of Symptoms	10.13 (10.29)
FQ-AGOR	18.97 (10.99)
FQ-TOTAL	49.77 (22.80)
FQ-SOCIAL	16.34 (8.34)
FQ-INJURY	14.43 (8.99)
FQ-INCAPACITY	5.57 (2.05)
CAN_DO	60.94 (23.56)
CONFIDENCE	43.14 (12.93)
FQ-FEEL	20.91 (9.42)
BDI	15.60 (10.00)

Table 4: Chi-square Comparison of Treatment "Completers" versus "Non-completers" on Demographic Variables

Variable	*n*		*df*	χ^2
	Completers	Non-completers		
Sex				
Male	7	5	1	*ns*
Female	28	16		
Marital Status				
Single	10	2	1	*ns*
Married	25	19		
Education				
Grade 8	7	6	2	*ns*
High School	14	8		
Post-High School	10	3		
Working Outside of Home				
Yes	19	8	1	*ns*
No	15	12		

Table 5: Chi-square Comparison of Treatment "Completers" versus "Non-completers" on Historical Variables

Variable	*n*		*df*	χ^2
	Completers	Non-completers		
Year of Treatment				
83	17	10	4	*ns*
84	4	4		
85	4	4		
86	7	1		
87	3	2		
Type of Phobia Onset				
Cognitive	11	7	2	*ns*
Conditioning	20	13		
Combined	3	1		
Precipitating Event				
Yes	11	13	1	3.81*
No	24	8		
Previous Treatment				
Yes	19	13	1	*ns*
No	16	8		
Previous Use of Medication				
Yes	17	11	1	*ns*
No	18	10		
Response Profile				
Cognitive	6	2	2	*ns*
Somatic	11	9		
Behavioural	10	4		

*$p < .05$

Table 6: *T*-test Comparison of Treatment "Completers" versus "Non-completers" on Pretreatment Measures

Measure	Completers (n = 35)	Non-completers (n = 21)	*df*	*t*
Age	37.26 (12.50)	36.33 (6.56)	53.3	*ns*
Duration of Symptoms	10.13 (10.29)	9.33 (9.17)	46.1	*ns*
FQ-AGOR	18.97 (10.99)	22.71 (10.79)	42.9	*ns*
FQ-TOTAL	49.77 (22.80)	54.81 (21.33)	44.5	*ns*
FQ-SOCIAL	16.34 (8.34)	16.81 (8.15)	43.1	*ns*
FQ-INJURY	14.43 (8.99)	15.29 (10.17)	38.2	*ns*
FQ-INCAPACITY	5.57 (2.05)	6.81 (1.50)	51.6	-2.60*
CAN_DO	60.94 (23.56)	69.31 (30.60) (n = 13)	17.6	*ns*
CONFIDENCE	43.14 (12.93)	46.46 (12.83) (n = 13)	21.7	*ns*
FQ-FEEL	20.91 (9.42)	24.91 (8.29)	46.5	*ns*
BDI	15.60 (10.00)	18.81 (11.23)	38.4	*ns*
TEST_MODEL	13.04 (3.59) (n = 27)	13.00 (4.41) (n = 15)	24.4	*ns*
TEST_DRUG	1.00 (0.78) (n = 27)	1.53 (0.99) (n = 15)	23.9	*ns*
Pretreatment Social Support	6.12 (1.89)	4.80 (2.19)	35.3	2.33*

Note. Due to the large differences in sample sizes, t-test results were calculated using separate rather than pooled variances.

*$p < .05$

Table 7: *T*-test Comparison of Treatment Completers versus "Non-completers" on Response Profile Measures

Measure	Completers (n = 35)	Non-completers (n = 21)	*df*	t
SQ-SOM	56.93 (28.31) (n = 27)	65.60 (29.54) (n = 15)	40	*ns*
SQ-BEH	32.89 (18.90) (n = 27)	37.27 (22.12) (n = 15)	40	*ns*
SQ-COG	51.59 (22.94) (n = 27)	59.53 (30.13) (n = 15)	40	*ns*
BDI-SOM	2.71 (2.53)	3.33 (2.29)	54	*ns*
BDI-BEH	2.83 (1.56)	2.81 (1.97)	54	*ns*
BDI-COG	10.06 (6.89)	12.67 (7.96)	54	*ns*

Table 8: Chi-square Comparison of Treatment Completers versus "Non-completers" on Pre-treatment Social Support Variables

Variable	*n*		*df*	χ^2
	Completer	Non-completers		
Partner / Relationship				
Yes	28	15	1	*ns*
No	4	5		
Presence of Partner in Town				
No	9	8	1	*ns*
Yes	24	12		
Children Living at Home				
Yes	4	6	1	*ns*
No	30	14		
Social Activities Outside of Home				
Yes	12	5	1	*ns*
No	3	3		
Church / Community Involvement				
Yes	12	3	1	*ns*
No	3	1		
Living with Parents in City				
Yes	7	2	1	*ns*
No	25	17		
Family In Town				
Yes	21	8	2	*ns*
No	6	2		

Table 8 (cont'd.): Chi-square Comparison of Treatment Completers versus "Non-completers" on Pre-treatment Social Support Variables

Varaible	*n* Completer	*n* Non-completers	*df*	χ^2
Contact with Family at Least Weekly				
Yes	19	5	1	*ns*
No	3	4		
Presence of Confidant				
Yes	23	16	2	*ns*
None	3	2		
Accompaniment to Fearful Situations				
Yes	12	9	1	*ns*
No	4	6		
Network of Friends				
Few / None	8	3	1	*ns*
Many	11	4		

Table 9: Direct Discriminant Function Analyses Predicting Treatment Drop-out Using Measures of Phobia Severity as Predictors

Variable	Completers (n = 35)	Drop-outs (n = 13)	Univariate F (1, 46)	Corr. with Function	F (1, 42) to Remove	sr^2 (unique)
FQ-AGOR	18.97 (10.99)	20.77 (11.42)	*ns*	-	*ns*	-
FQ-SOCIAL	16.34 (8.34)	18.62 (8.38)	*ns*	-	*ns*	-
FQ-INJURY	14.43 (8.99)	14.23 (10.80)	*ns*	-	*ns*	-
FQ-INCAPACITY	5.57 (2.05)	6.69 (1.60)	*ns*	-	*ns*	-
CONFIDENCE	43.14 (12.93)	46.46 (12.83)	*ns*	-	*ns*	-

Summary of Discriminant Function

NO STATISTICALLY SIGNIFICANT DISCRIMINANT FUNCTION EMERGED.

Table 10: Direct Discriminant Function Analyses Predicting Treatment Drop-out Using Measures of Mood / Depression as Predictors

Variable	Completers (n = 35)	Drop-outs (n = 13)	Univariate F (1, 46)	Corr. with Function	F (1, 53) to Remove	sr^2 (unique)
FQ-FEEL	20.91 (9.42)	24.90 (8.29)	*ns*	-	*ns*	-
BDI	15.60 (10.00)	18.81 (11.23)	*ns*	-	*ns*	-

Summary of Discriminant Function

NO STATISTICALLY SIGNIFICANT DISCRIMINANT FUNCTION EMERGED.

Table 11: Chi-square Comparison of Clients Followed-up versus Not Followed-up on Demographic and Historical Variables

Variable	Followed	Not Followed	*df*	χ^2
Year of Treatment				
83	12	5	4	*ns*
84	3	1		
85	2	2		
86	7	0		
87	3	0		
Sex				
Male	6	1	1	*ns*
Female	21	7		
Marital Status				
Single	8	2	1	*ns*
Married	19	6		
Education				
Grade 8	6	2	2	*ns*
High School	11	3		
Post-High School	8	2		
Working Outside of Home				
Yes	16	3	1	*ns*
No	10	5		
Type of Phobia Onset				
Cognitive	7	4	2	6.14*
Conditioned	18	2		
Combined	1	2		
Precipitant				
Yes	9	2	1	*ns*
No	18	6		
Previous Treatment				
Yes	14	5	1	*ns*
No	13	3		

*$p < .05$

Table 12: *T*-test Comparison of Clients Followed-up versus Not Followed-up on Demographic and Pretreatment Clinical Variables

Measure	Followed (n = 27)	Not Followed (n = 8)	*df*	*t*
Age	38.04 (11.52)	34.63 (16.00)	9.3	*ns*
Duration of Symptoms	10.24 (10.14)	9.75 (11.50)	10.5	*ns*
FQ-AGOR	18.19 (11.46)	21.63 (9.40)	13.8	*ns*
FQ-TOTAL	46.00 (22.97)	62.50 (18.04)	14.4	*ns*
FQ-SOCIAL	15.07 (8.34)	20.63 (7.25)	13.0	*ns*
FQ-INJURY	12.70 (8.46)	20.25 (8.78)	11.2	-2.20*
FQ-INCAPACITY	5.78 (1.93)	4.86 (2.42)	9.8	*ns*
CAN_DO	59.19 (24.34)	66.88 (21.03)	13.1	*ns*
CONFIDENCE	41.63 (13.15)	48.25 (11.42)	13.0	*ns*
FQ-FEEL	20.33 (9.48)	22.88 (9.55)	11.4	*ns*
BDI	13.93 (9.81)	21.25 (8.99)	12.4	*ns*

Note. Due to the large differences in sample sizes, *t*-test results were calculated using separate, rather than pooled variances.

*$p < .05$

Table 13: *T*-test Comparison of Clients Followed-up versus Not Followed-up on Mid-treatment Clinical Measures

Measure	Followed (n = 27)	Not Followed (n = 8)	*df*	*t*
FQ-AGOR	11.59 (7.32)	10.00 (7.52)	11.2	*ns*
FQ-TOTAL	34.41 (17.84)	36.38 (26.02)	9.0	*ns*
FQ-SOCIAL	12.44 (6.79)	12.13 (8.97)	9.5	*ns*
FQ-INJURY	10.41 (7.79)	14.25 (10.83)	9.2	*ns*
FQ-INCAPACITY	3.33 (1.69)	3.38 (1.77)	11.1	*ns*
CAN_DO	85.11 (14.86)	81.25 (15.15)	11.3	*ns*
CONFIDENCE	71.07 (13.59)	66.38 (15.63)	10.3	*ns*
FQ-FEEL	14.96 (9.99)	14.13 (8.22)	13.8	*ns*
BDI	10.52 (9.28)	11.63 (7.87)	13.8	*ns*

Note. Due to the large differences in sample sizes, *t*-test results were calculated using separate rather than pooled variances.

Table 14: *T*-test Comparison of Clients Followed-up versus Not Followed-up on Post-treatment Clinical Measures

Measure	Followed (n = 27)	Not Followed (n = 8)	*df*	*t*
FQ-AGOR	8.59 (7.30)	9.25 (7.13)	11.7	*ns*
FQ-TOTAL	29.04 (18.17)	31.00 (22.57)	9.8	*ns*
FQ-SOCIAL	11.00 (7.50)	8.88 (6.90)	12.4	*ns*
FQ-INJURY	9.44 (7.39)	12.88 (10.25)	9.3	*ns*
FQ-INCAPACITY	2.81 (1.84)	2.88 (1.73)	12.1	*ns*
CAN_DO	92.15 (10.26)	89.00 (12.11)	10.2	*ns*
CONFIDENCE	79.07 (14.09)	75.38 (14.73)	11.1	*ns*
FQ-FEEL	12.22 (9.66)	11.75 (6.90)	16.0	*ns*
BDI	7.56 (6.92)	6.88 (4.82)	16.5	*ns*

Note. Due to the large differences in sample sizes, *t*-test results were calculated using separate rather than pooled variances.

Table 15: *T*-test Comparison of Clients Followed-up versus Not Followed-up on Clinical Measures at 6-month Follow-up

Measure	Followed (n = 22)	Not Followed (n = 8)	*df*	*t*
FQ-AGOR	10.68 (8.09)	14.00 (9.81)	10.7	*ns*
FQ-TOTAL	33.32 (21.80)	40.00 (26.13)	10.8	*ns*
FQ-SOCIAL	13.00 (8.54)	11.50 (8.14)	13.0	*ns*
FQ-INJURY	9.64 (7.75)	14.50 (8.96)	11.1	*ns*
FQ-INCAPACITY	2.36 (0.79)	2.50 (1.41)	8.6	*ns*
CAN_DO	92.36 (9.98)	95.13 (9.88)	12.6	*ns*
CONFIDENCE	72.64 (15.66)	73.63 (16.09)	12.2	*ns*
FQ-FEEL	10.50 (6.91)	11.50 (7.03)	12.3	*ns*
BDI	6.91 (6.39)	5.00 (2.88)	26.6	*ns*

Note. Due to the large differences in sample sizes, *t*-test results were calculated using separate rather than pooled variances.

Table 16: Summary of Follow-up Interview Data

DSM III-R "Current Severity of Agoraphobic Avoidance"	
In Full Remission	13 (48%)
In Partial Remission	6 (22%)
Mild Agoraphobic Avoidance	7 (26%)
Moderate Agoraphobic Avoidance	1 (4%)
Severe Agoraphobic Avoidance	0 (0%)
DSM III-R "Diagnostic Criteria for Panic Disorder"	
No Panic Disorder	22 (81%)
Limited Symptom Panic Attacks	4 (15%)
Panic Disorder	1 (4%)
DSM III-R "Current Severity of Spontaneous Panic Attacks"	
In Full Remission	17 (63%)
In Partial Remission	7 (26%)
Mild Agoraphobic Avoidance	1 (4%)
Moderate Agoraphobic Avoidance	2 (7%)
Severe Agoraphobic Avoidance	0 (0%)
Self-report of Progress since End of Treatment	
Continues to Improve	13 (48%)
Showed some Further Improvement, but has since Levelled-off	13 (48%)
Unchanged from Post-treatment levels	1 (4%)
Deteriorated from Post-treatment levels	0 (0%)
Subsequent Treatment for Anxiety / Phobia	
Yes:	12 (44%)
Psychologist	1 (4%)
Psychiatrist	4 (15%)
Family Doctor	5 (19%)
Self-help Group	2 (7%)
No	15 56%)
Taking Medications for Anxiety Symptoms?	
Yes	8 (30%)
Was Since the End of Treatment, but not currently	3 (11%)
None since treatment	16 (59%)
Most Helpful Factor in their Recovery	
Strategies Learned in Treatment	13 (48%)
Subsequent Treatment	4 (15%)
Own Determination	2 (7%)
Family Support	2 (7%)
External / Miscellaneous Situations	4 (15%)

Table 17: Repeated-Measures ANOVA's of Clinical Measures for All Follow-up Subjects (n = 27)

Variable	Pretreatment	Post-treatment	Follow-up	*df*	Repeated Measures *F*-Ratio
FQ-AGOR	18.19 (11.46)	8.59 (7.30)	7.41 (6.38)	2,52	27.10*
FQ-INJURY	12.70 (8.46)	9.44 (7.39)	7.22 (5.13)	2,52	8.79*
FQ-SOCIAL	15.07 (8.34)	1.00 (7.50)	10.33 (7.24)	2,52	10.42*
FQ-TOTAL	46.00 (22.97)	29.04 (18.17)	26.74 (17.04)	2,52	20.61*
FQ-INCAPACITY	5.78 (1.93)	2.81 (1.84)	2.19 (1.21)	2,52	45.36*
CAN_DO	59.19 (24.34)	92.15 (10.26)	89.30 (13.22)	2,52	40.13*
CONFIDENCE	41.63 (13.15)	79.07 (14.09)	78.81 (15.44)	2,52	89.91*
BDI	13.93 (9.81)	7.56 (6.92)	6.96 (5.96)	2,52	13.19*
FQ-FEEL	20.33 (9.48)	12.22 (9.66)	10.30 (8.14)	2,52	20.87*

*$p < .0001$

Table 18: Chi-square Comparison of HEF versus LEF Clients on Demographic Variables

Variable	*n* HEF	*n* LEF	*df*	χ^2
Sex				
Male	3	3	1	*ns*
Female	10	11		
Marital Status				
Single	4	4	1	*ns*
Married	9	10		
Education				
Post High School	5	3	2	*ns*
High School	3	8		
Grade 8	5	1		
Working Outside of Home				
No	2	8	1	*ns*
Yes	10	6		

Table 19: Chi-square Comparison of HEF versus LEF Clients on Historical Variables

Variable	n HEF	n LEF	*df*	χ^2
Year of Treatment				
83	3	9	4	*ns*
84	2	1		
85	2	0		
86	3	4		
87	3	0		
Previous Treatment				
Yes	5	9	1	*ns*
No	8	5		
Previous Use of Medication				
Yes	4	9	1	*ns*
No	9	5		
Subsequent Treatment				
No	11	4	1	6.46*
Yes	2	10		
Current Use of medications				
Yes	2	6	2	*ns*
Not currently, but was at some time during follow-up	1	2		
No	10	6		
Type of Phobia Onset				
Cognitive	2	5	2	*ns*
Conditioning	11	7		
Combined	0	1		
Precipitating Event				
Yes	4	5	1	*ns*
No	9	9		

* $p \leq .01$

Table 20: *T*-test Comparison of HEF versus LEF Clients on Pretreatment Clinical Variables

Measure	HEF (n = 13)	LEF (n = 14)	df	t
FQ-AGOR	14.23 (11.50)	21.86 (10.51)	25	*ns*
FQ-TOTAL	35.31 (23.15)	55.93 (18.45)	25	-2.57**
FQ-SOCIAL	10.38 (7.07)	19.43 (7.11)	25	-3.31****
FQ-INJURY	10.69 (8.52)	14.57 (8.26)	25	*ns*
FQ-INCAPACITY	5.69 (2.10)	5.86 (1.83)	25	*ns*
CAN_DO	69.92 (24.32)	49.21 (20.41)	25	2.40*
CONFIDENCE	49.69 (10.68)	34.14 (10.73)	25	3.77****
FQ-FEEL	15.85 (7.60)	24.50 (9.36)	25	-2.62**
BDI	10.46 (9.73)	17.14 (9.05)	25	*ns*

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ **** $p \leq .001$

Table 21: *T*-test Comparison of HEF versus LEF Clients on Mid-treatment Clinical Variables

Measure	HEF (n = 13)	LEF (n = 14)	*df*	*t*
FQ-AGOR	7.54 (4.65)	15.36 (7.45)	25	-3.24**
FQ-TOTAL	23.23 (12.02)	44.79 (16.20)	25	-3.90****
FQ-SOCIAL	8.31 (5.01)	16.29 (6.01)	25	-3.73***
FQ-INJURY	7.46 (6.51)	13.14 (8.08)	25	-2.00*
FQ-INCAPACITY	3.08 (1.85)	3.57 (1.55)	25	*ns*
CAN_DO	90.31 (12.49)	80.29 (15.68)	25	*ns*
CONFIDENCE	79.77 (9.79)	63.00 (11.62)	25	4.04****
FQ-FEEL	14.23 (9.45)	15.64 (10.77)	25	*ns*
BDI	8.00 (10.06) (n = 12)	12.85 (8.19) (n = 13)	23	*ns*

* $p \leq .05$ ** $p \leq .005$ *** $p \leq .001$ **** $p \leq .0005$

Table 22: *T*-test Comparison of HEF versus LEF Clients on Post-treatment Clinical Variables

Measure	HEF (n = 13)	LEF (n = 14)	*df*	*t*
FQ-AGOR	4.46 (4.65)	12.43 (7.32)	25	-3.34**
FQ-TOTAL	17.08 (11.37)	40.14 (16.29)	25	-4.23***
FQ-SOCIAL	6.15 (3.56)	15.50 (7.45)	25	-4.11***
FQ-INJURY	6.46 (5.74)	12.21 (7.86)	25	-2.16*
FQ-INCAPACITY	2.00 (1.22)	3.57 (2.03)	25	-2.41*
CAN_DO	96.08 (7.52)	88.50 (11.34)	25	2.03*
CONFIDENCE	85.15 (11.82)	73.43 (14.04)	25	2.34*
FQ-FEEL	8.62 (7.21)	15.57 (10.66)	25	*ns*
BDI	5.69 (6.88)	9.29 (6.74)	25	*ns*

* $p \leq .05$ ** $p \leq .005$ *** $p \leq .0005$

Table 23: *T*-test Comparison of HEF versus LEF Clients on Clinical Variables at 6-month Follow-up

Measure	HEF (n = 9)	LEF (n = 13)	df	t
FQ-AGOR	4.44 (3.78)	15.00 (7.45)	20	-3.90****
FQ-TOTAL	17.00 (9.19)	44.62 (20.92)	20	-3.70****
FQ-SOCIAL	7.00 (3.24)	17.15 (8.66)	20	-3.34***
FQ-INJURY	5.56 (5.64)	12.46 (7.92)	20	-2.24*
FQ-INCAPACITY	1.89 (0.33)	2.69 (0.85)	20	-2.67**
CAN_DO	94.44 (10.54)	90.92 (9.73)	20	*ns*
CONFIDENCE	79.56 (16.06)	67.85 (14.02)	20	*ns*
FQ-FEEL	6.22 (4.29)	13.46 (6.94)	20	-2.77**
BDI	2.60 (3.20)	10.23 (6.30)	21	-3.49***

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ **** $p \leq .001$

Table 24: Direct Discriminant Function Analysis using Pretreatment Measures of Phobia Severity to Predict Endstate Functioning

Variable	HEF (n = 13)	LEF (n = 14)	Univariate F (1, 25)	Corr. with Function	F (1, 21) to Remove	sr^2 (unique)
FQ-AGOR	14.23 (11.50)	21.86 (10.51)	*ns*	-0.41	*ns*	-
FQ-SOCIAL	10.38 (7.07)	19.43 (7.11)	10.97**	-0.67	11.87**	0.18
FQ-INJURY	10.69 (8.52)	14.57 (8.26)	*ns*	-0.28	*ns*	-
FQ-INCAPACITY	5.69 (2.10)	5.86 (1.83)	*ns*	-0.05	6.00*	0.09
CONFIDENCE	49.69 (10.68)	34.14 (10.73)	14.21***	0.73	18.41***	0.29

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
8.68***	5, 21	0.82	2.07	61.5%	100.0%	81.5%

* $p \leq .05$ ** $p \leq .005$ *** $p \leq .001$

Table 25: Direct Discriminant Function Analysis using Mid-treatment Measures of Phobia Severity to Predict Endstate Functioning

Variable	HEF (n = 13)		LEF (n = 14)		Univariate F (1, 25)	Corr. with Function	F (1, 21) to Remove	sr^2 (unique)
FQ-AGOR	7.54	(4.65)	15.36	(7.45)	10.51**	-0.72	*ns*	-
FQ-SOCIAL	8.31	(5.01)	16.29	(6.01)	13.94***	-0.80	*ns*	-
FQ-INJURY	7.46	(6.51)	13.14	(8.08)	*ns*	-0.49	*ns*	-
FQ-INCAPACITY	3.08	(1.85)	3.57	(1.55)	*ns*	-0.20	*ns*	-
CONFIDENCE	79.77	(9.79)	63.00	(11.62)	16.31***	0.84	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
5.45***	5, 21	0.75	1.30	76.9%	85.7%	81.5%

* $p \leq .05$ ** $p \leq .005$ *** $p \leq .001$

Table 26: Direct Discriminant Function Analysis using Post-treatment Measures of Phobia Severity to Predict Endstate Functioning

Variable	HEF (n = 13)	LEF (n = 14)	Univariate F (1, 25)	Corr. with Function	F (1, 21) to Remove	sr^2 (unique)
FQ-AGOR	4.46 (4.65)	12.43 (7.32)	11.18***	-0.79	*ns*	-
FQ-SOCIAL	6.15 (3.56)	15.50 (7.45)	16.86****	-0.90	*ns*	-
FQ-INJURY	6.46 (5.74)	12.21 (7.86)	4.66*	-0.56	*ns*	-
FQ-INCAPACITY	2.00 (1.22)	3.57 (2.03)	5.83*	-0.62	*ns*	-
CONFIDENCE	85.15 (11.82)	73.43 (14.04)	5.47*	0.60	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
4.09**	5, 21	0.70	0.97	92.3%	50.0%	70.4%

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ **** $p \leq .001$

Table 27: Direct Discriminant Function Analysis using Measures of Phobia Severity at 6-month Follow-up to Predict Endstate Functioning

Variable	HEF (n = 9)		LEF (n = 13)		Univariate F (1, 20)	Corr. with Function	F (1, 16) to Remove	sr^2 (unique)
FQ-AGOR	4.44	(3.78)	15.00	(7.45)	15.19***	-0.87	5.12*	0.14
FQ-SOCIAL	7.00	(3.24)	17.15	(8.66)	11.15**	-0.79	*ns*	-
FQ-INJURY	5.56	(5.64)	12.46	(7.92)	5.04*	-0.59	*ns*	-
FQ-INCAPACITY	1.89	(0.33)	2.36	(0.85)	7.11*	-0.68	*ns*	-
CONFIDENCE	79.56	(16.03)	67.85	(14.02)	*ns*	0.50	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
4.27*	5, 16	0.76	1.33	100.0%	69.2%	77.3%

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ **** $p \leq .001$

Table 28: Comparison of LEF and HEF Groups on Phobia Severity: 2 (groups) X 3 (assessment phases) Repeated-Measures ANOVA

Group	Pre *M* (*SD*)	Mid *M* (*SD*)	Post *M* (*SD*)	Repeated Measures *F*-Ratio	Group *F*-Ratio	Group X Time *F*-Ratio
FQ-AGOR						
LEF	21.86 (10.51)	15.36 (7.45)	12.43 (7.32)	17.99***	9.77***	*ns*
HEF	14.23 (11.50)	7.54 (4.65)	4.46 (4.65)			
FQ-INJURY						
LEF	14.57 (8.26)	13.14 (8.08)	12.21 (7.86)	4.26*	*ns*	*ns*
HEF	10.69 (8.52)	7.46 (6.51)	6.46 (5.74)			
FQ-SOCIAL						
LEF	19.43 (7.11)	16.29 (6.01)	15.50 (7.45)	7.07***	18.73****	*ns*
HEF	10.38 (7.07)	8.31 (5.01)	6.15 (3.56)			
FQ-TOTAL						
LEF	55.93 (18.45)	44.79 (16.20)	40.14 (16.29)	16.34*****	16.19****	*ns*
HEF	35.31 (23.15)	23.23 (12.01)	17.08 (11.37)			

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ **** $p \leq .0005$ ***** $p \leq .0001$

Table 28 (cont'd.): Comparison of LEF and HEF Groups on Phobia Severity: 2 (groups) X 3 (assessment phases) Repeated-Measures ANOVA

Group	Pre *M* (*SD*)	Mid *M* (*SD*)	Post *M* (*SD*)	Repeated Measures *F*-Ratio	Group *F*-Ratio	Group X Time *F*-Ratio
FQ-INCAPACITY						
LEF	5.86 (1.83)	3.57 (1.55)	3.57 (2.03)	32.23*****	*ns*	*ns*
HEF	5.69 (2.10)	3.08 (1.85)	2.00 (1.22)			
CAN_DO						
LEF	49.21 (20.41)	80.29 (15.68)	88.50 (11.34)	45.91*****	7.35**	*ns*
HEF	69.92 (24.32)	90.31 (12.49)	96.08 (7.32)			
CONFIDENCE						
LEF	34.14 (10.73)	63.00 (11.62)	73.43 (14.04)	81.81*****	30.13*****	*ns*
HEF	49.69 (10.68)	79.77 (9.79)	85.15 (11.82)			

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ **** $p \leq .0005$ ***** $p \leq .0001$

Table 29: Direct Discriminant Function Analysis using Pretreatment Mood Measures to Predict Endstate Functioning

Variable	HEF (n = 13)		LEF (n = 14)		Univariate F (1, 25)	Corr. with Function	F (1, 24) to Remove	sr^2 (unique)
FQ-FEEL	15.85	(7.60)	24.50	(9.36)	6.88*	-0.99	*ns*	-
BDI	10.46	(9.73)	17.14	(9.05)	*ns*	-0.74	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
3.40*	2, 24	0.47	0.28	84.6%	64.3%	74.1%

* $p \leq .05$

Table 30: Direct Discriminant Function Analysis using Mid-treatment Mood Measures to Predict Endstate Functioning

Variable	HEF (n = 13)	LEF (n = 14)	Univariate F (1, 23)	Corr. with Function	F (1, 22) to Remove	sr^2 (unique)
FQ-FEEL	13.08 (8.88)	16.69 (10.44)	*ns*	-	*ns*	-
BDI	8.00 (10.06)	12.85 (8.19)	*ns*	-	*ns*	-

Summary of Discriminant Function

NO STATISTICALLY SIGNIFICANT DISCRIMINANT FUNCTION EMERGED.

Table 31: Direct Discriminant Function Analysis using Post-treatment Mood Measures to Predict Endstate Functioning

Variable	HEF (n = 13)	LEF (n = 14)	Univariate F (1, 25)	Corr. with Function	F (1, 24) to Remove	sr^2 (unique)
FQ-FEEL	8.62 (7.21)	15.57 (10.66)	*ns*	-	*ns*	-
BDI	5.69 (6.88)	9.29 (6.74)	*ns*	-	*ns*	-

Summary of Discriminant Function

NO STATISTICALLY SIGNIFICANT DISCRIMINANT FUNCTION EMERGED.

Table 32: Direct Discriminant Function Analysis using Mood Measures at 6-month Follow-up to Predict Endstate Functioning

Variable	HEF (n = 9)	LEF (n = 13)	Univariate F (1, 20)	Corr. with Function	F (1, 19) to Remove	sr^2 (unique)
FQ-FEEL	6.22 (4.29)	13.46 (6.94)	7.69*	-0.86	*ns*	-
BDI	2.89 (3.26)	10.23 (6.30)	10.22**	-0.94	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
5.31*	2, 19	0.62	0.61	77.8%	76.9%	77.3%

* $p \leq .05$ ** $p \leq .005$

Table 33: Comparison of LEF and HEF Groups on Mood Measures: 2 (groups) X 3 (assessment phases) Repeated-Measures ANOVA

Group	Pre *M* (*SD*)	Mid *M* (*SD*)	Post *M* (*SD*)	Repeated Measures *F*-Ratio	Group *F*-Ratio	Group X Time *F*-Ratio
FQ-FEEL						
LEF	24.50 (9.36)	15.64 (10.77)	15.57 (10.66)	11.86*	*ns*	*ns*
HEF	15.85 (7.60)	14.23 (9.45)	8.62 (7.21)			
BDI						
LEF	16.46 (9.03)	12.85 (8.19)	9.62 (6.90)	19.65*	*ns*	*ns*
HEF	10.58 (10.16)	8.00 (10.06)	5.58 (7.18)			

* $p \leq .0001$

Table 34: Direct Discriminant Function Analysis using the Attitudes Questionnaire Sub-scales to Predict Endstate Functioning

Variable	HEF (n = 13)	LEF (n = 14)	Univariate F (1, 25)	Corr. with Function	F (1, 21) to Remove	sr^2 (unique)
Antidepressant	19.38 (15.79)	27.00 (9.40)	*ns*	-	*ns*	-
Tranquillizers	21.54 (15.20)	28.14 (7.79)	*ns*	-	*ns*	-
Exposure	54.15 (11.75)	51.57 (9.13)	*ns*	-	*ns*	-
Relationship	48.62 (10.65)	44.50 (10.05)	*ns*	-	*ns*	-
Cognitive	54.69 (9.17)	50.71 (9.94)	*ns*	-	*ns*	-

Summary of Discriminant Function

NO STATISTICALLY SIGNIFICANT DISCRIMINANT FUNCTION EMERGED.

Table 35: *T*-test Comparison of HEF versus LEF Clients on Treatment Attitude Variables

Measure	HEF (n = 13)	LEF (n = 14)	*df*	*t*
Pretreatment TEST_MODEL	13.83 (3.01) (n = 12)	12.10 (3.67) (n = 10)	20	*ns*
Post-treatment TEST_MODEL	18.58 (3.96) (n = 12)	17.80 (2.20) (n = 10)	20	*ns*
Pretreatment TEST_DRUG	1.50 (0.80) (n = 12)	2.30 (0.82) (n = 10)	20	-2.31*
Post-treatment TEST_DRUG	2.75 (1.06) (n = 12)	3.10 (0.88) (n = 10)	20	*ns*
Antidepressants	19.38 (15.79)	27.00 (9.40)	25	*ns*
Minor Tranquillizers	21.54 (15.20)	28.14 (7.79)	25	*ns*
Exposure	54.15 (11.75)	51.57 (9.13)	25	*ns*
Relationship Therapy	48.62 (10.65)	44.50 (10.05)	25	*ns*
Cognitive Therapy	54.69 (9.17)	50.71 (9.94)	25	*ns*

* $p \leq .05$

Table 36: *T*-test Comparison of HEF versus LEF Clients on Symptom Questionnaire Sub-scales

Measure	HEF (n = 12)	LEF (n = 10)	df	t
Pretreatment SQ-SOMATIC	2.70 (1.66)	4.56 (1.33)	20	-2.87**
Pretreatment SQ-BEHAVIOUR	2.27 (1.35)	5.14 (1.50)	20	-4.73****
Pretreatment SQ-COGNITIVE	4.01 (2.27)	5.40 (1.60)	20	*ns*
Mid-treatment SQ-SOMATIC	1.60 (1.07)	3.16 (1.43)	20	-2.92**
Mid-treatment SQ-BEHAVIOUR	1.65 (1.26)	3.41 (1.37)	20	-3.15***
Mid-treatment SQ-COGNITIVE	2.74 (1.61)	4.43 (2.02)	20	-2.18*
Post-treatment SQ-SOMATIC	1.14 (0.88)	2.80 (1.29) (n = 8)	18	-3.46***
Post-treatment SQ-BEHAVIOUR	1.04 (0.79)	3.50 (1.68) (n = 8)	18	-4.45****
Post-treatment SQ-COGNITIVE	2.11 (1.45)	4.26 (1.87) (n = 8)	18	-2.89**
6-month SQ-SOMATIC	1.05 (0.89) (n= 8)	2.59 (1.03) (n = 9)	15	-3.27***
6-month SQ-BEHAVIOUR	0.89 (0.69) (n= 8)	3.33 (1.87) (n = 9)	15	-3.47***
6-month SQ-COGNITIVE	1.24 (0.72) (n= 8)	3.82 (1.87) (n = 9)	15	-3.66***

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ **** $p \leq .0005$

Table 37: Direct Discriminant Function Analysis using Pretreatment SQ Sub-scales to Predict Endstate Functioning

Variable	HEF (n = 12)		LEF (n = 20)		Univariate F (1, 20)	Corr. with Function	F (1, 18) to Remove	sr^2 (unique)
SQ-Somatic	2.70	(1.66)	4.56	(1.33)	8.23**	-0.66	6.06*	0.11
SQ-Behavioural	2.27	(1.35)	5.14	(1.50)	27.36***	-0.89	20.30***	0.37
SQ-Cognitive	4.01	(2.27)	5.40	(1.60)	*ns*	-0.42	6.73*	0.12

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
12.30***	3, 18	0.82	2.05	83.3%	80.0%	81.8%

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .001$

Table 38: Direct Discriminant Function Analysis using Mid-treatment SQ Sub-scales to Predict Endstate Functioning

Variable	HEF (n = 12)		LEF (n = 10)		Univariate F (1, 20)	Corr. with Function	F (1, 18) to Remove	sr^2 (unique)
SQ-Somatic	1.60	(1.07)	3.16	(1.43)	8.51**	-0.36	*ns*	-
SQ-Behavioural	1.65	(1.26)	3.41	(1.37)	9.94***	-0.50	*ns*	-
SQ-Cognitive	2.74	(1.61)	4.43	(2.02)	4.77*	-0.79	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
3.54*	3, 18	0.61	0.59	66.7%	70.0%	68.2%

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$

Table 39: Direct Discriminant Function Analysis using Post-treatment SQ Sub-scales to Predict Endstate Functioning

Variable	HEF (n = 12)		LEF (n = 8)		Univariate F (1, 18)	Corr. with Function	F (1, 16) to Remove	sr^2 (unique)
SQ-Somatic	1.14	(0.88)	2.80	(1.29)	11.98***	-0.69	*ns*	-
SQ-Behavioural	1.04	(0.79)	3.50	(1.68)	19.76****	-0.46	4.93*	0.14
SQ-Cognitive	2.11	(1.45)	4.26	(1.87)	8.34**	-0.85	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
6.83***	3, 16	0.75	1.28	91.7%	50.0%	75.0%

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ **** $p \leq .001$

Table 40: Direct Discriminant Function Analysis using SQ Sub-scales at 6-month Follow-up to Predict Endstate Functioning

Variable	HEF (n = 8)	LEF (n = 9)	Univariate F (1, 15)	Corr. with Function	F (1, 13) to Remove	sr^2 (unique)
SQ-Somatic	1.05 (0.89)	2.59 (1.03)	10.66*	-0.85	*ns*	-
SQ-Behavioural	0.89 (0.69)	3.33 (1.87)	12.07**	-0.88	*ns*	-
SQ-Cognitive	1.24 (0.72)	3.82 (1.87)	13.38**	-0.90	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
5.98*	3, 13	0.76	1.38	87.5%	66.7%	76.5%

* $p \leq .01$ ** $p \leq .005$

Table 41: *T*-test Comparison of HEF versus LEF on BDI Sub-scales

Measure	HEF (n = 13)	LEF (n = 14)	*df*	*t*
Pretreatment BDI-Cognitive	6.54 (6.35)	11.21 (6.47)	25	*ns*
Pretreatment BDI-Behavioural	2.15 (1.46)	3.21 (1.72)	25	*ns*
Pretreatment BDI-Somatic	1.77 (2.39)	2.71 (2.30)	25	*ns*
Mid-treatment BDI-Cognitive	3.83 (5.89) (n= 12)	7.85 (5.87) (n = 13)	23	*ns*
Mid-treatment BDI-Behavioural	2.00 (2.13) (n = 12)	2.69 (1.49) (n = 13)	23	*ns*
Mid-treatment BDI-Somatic	2.17 (2.82) (n = 12)	2.31 (1.89) (n = 13)	23	*ns*
Post-treatment BDI-Cognitive	2.85 (4.47)	5.64 (5.08)	25	*ns*
Post-treatment BDI-Behavioural	1.15 (1.21)	2.07 (1.21)	25	*ns*
Post-treatment BDI-Somatic	1.69 (2.32)	1.57 (1.74)	25	*ns*
6-month BDI-Cognitive	1.20 (1.75) (n = 10)	6.08 (4.36) (n = 12)	20	-3.32*
6-month BDI-Behavioural	0.50 (0.85) (n = 10)	2.25 (1.06) (n = 12)	20	-4.22**
6-month BDI-Somatic	0.90 (1.52) (n = 10)	2.08 (2.50) (n = 12)	20	*ns*

* $p \leq .005$ ** $p \leq .0005$

Table 42: Direct Discriminant Function Analysis using ISSB Sub-scales to Predict Endstate Functioning

Variable	HEF (n = 13)		LEF (n = 14)		Univariate F (1, 25)	Corr. with Function	F (1, 22) to Remove	sr^2 (unique)
Emotional	22.62	(7.71)	22.29	(9.35)	*ns*	-	*ns*	-
Tangible	13.23	(4.82)	11.14	(3.51)	*ns*	-	*ns*	-
Cognitive	23.92	(8.57)	23.07	(10.09)	*ns*	-	*ns*	-
Guidance	14.77	(4.97)	14.00	(7.01)	*ns*	-	*ns*	-

Summary of Discriminant Function

NO STATISTICALLY SIGNIFICANT DISCRIMINANT FUNCTION EMERGED.

Table 43: *T*-test Comparison of HEF versus LEF Clients on Social Support Measures

Measure	HEF (n = 13)	LEF (n = 14)	*df*	*t*
Pretreatment Composite of Social Support	5.75 (1.48) (n = 12)	5.50 (1.91)	24	*ns*
ISSB-Total	90.62 (29.14)	84.00 (31.77)	25	*ns*
ISSB-Emotional	22.62 (7.71)	22.29 (9.35)	25	*ns*
ISSB-Tangible	13.23 (4.82)	11.14 (3.51)	25	*ns*
ISSB-Cognitive	23.92 (8.57)	23.07 (10.09)	25	*ns*
ISSB-Guidance	14.77 (4.97)	14.00 (7.01)	25	*ns*

Table 44: Chi-square Comparison of HEF versus LEF Clients on Pretreatment Social Support Variables

Measure	*n* HEF	*n* LEF	*df*	χ^2
Partner / Relationship				
No	1	2	1	*ns*
Yes	10	11		
Presence of Partner In Town				
No	2	5	1	*ns*
Yes	9	9		
Children living at Home				
Yes	2	0	1	*ns*
No	10	14		
Social Activities Outside of Home				
No	0	3	1	*ns*
Yes	4	5		
Church / Community Involvement				
No	0	2	1	*ns*
Yes	3	6		
Living With Parents in City				
No	8	11	1	
Yes	3	2		
Contact with Family at Least Weekly				
No	2	1	1	*ns*
Yes	5	7		
Presence of a Confidant				
No	2	1	1	*ns*
Yes	8	9		
Accompaniment to Fear-Evoking Situations				
No	2	2	1	*ns*
Yes	6	2		
Network of Friends				
Few / None	0	5	1	*ns*
Many	5	6		

Table 45: Standard Multiple Regressions of Pretreatment Clinical Variables on Clients' Preference for Psychological versus Drug Treatments

Variable	Bivariate *r*	Bivariate *t* (*df* 25)	*B*	β	sr^2 (unique)
FQ-AGOR	-.05	*ns*	0.2790	0.24	-
FQ-SOCIAL	-.14	*ns*	-0.1287	-0.08	-
CONFIDENCE	.16	*ns*	-0.0590	-0.06	-
BDI	-.53	-3.11**	-0.8677*	-0.63	0.28

Summary of Regression Analysis

Multiple R	Multiple R^2	Adjusted R^2	*df*	*F*	Unique Variability	Shared Variability
0.57	0.32	0.20	4, 22	2.64†	0.32	0.04

* $p \leq .01$ ** $p \leq .005$ (two-tailed)
† $p \leq .05$

Table 46: Standard Multiple Regressions of Mid-treatment Clinical Variables on Clients' Preference for Psychological versus Drug Treatments

Variable	Bivariate *r*	Bivariate *t* (*df* 23)	*B*	β	sr^2 (unique)
FQ-AGOR	-.34	-1.71*	0.1995	0.11	-
FQ-SOCIAL	-.45	-2.39*	0.1458	0.07	-
CONFIDENCE	.50	2.79**	0.5324**	0.53	0.17
BDI	-.57	-3.32***	-0.9075***	-0.60	0.25

Summary of Regression Analysis

Multiple *R*	Multiple R^2	Adjusted R^2	*df*	*F*	Unique Variability	Shared Variability
0.74	0.54	0.45	4, 20	5.91†	0.43	0.09

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ (two-tailed)
† $p \leq .005$

Table 47: Standard Multiple Regressions of Post-treatment Clinical Variables on Clients' Preference for Psychological versus Drug Treatments

Variable	Bivariate r	Bivariate t (*df* 25)	*B*	β	sr^2 (unique)
FQ-AGOR	-.21	*ns*	0.2715	0.15	-
FQ-SOCIAL	-.40	-2.20*	-0.2009	-0.11	-
CONFIDENCE	.34	1.79*	0.3461	0.36	-
BDI	-.54	-3.25***	-1.0900**	-0.56	0.25

Summary of Regression Analysis

Multiple *R*	Multiple R^2	Adjusted R^2	*df*	*F*	Unique Variability	Shared Variability
0.66	0.44	0.34	4, 22	4.32†	0.36	0.08

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ (two-tailed)
† $p \leq .01$

Table 48: Standard Multiple Regressions of Clinical Variables taken at 6-month Follow-up on Clients' Preference for Psychological versus Drug Treatments

Variable	Bivariate *r*	Bivariate *t* (*df* 20)	*B*	β	sr^2 (unique)
FQ-AGOR	-.49	-2.55**	0.0507	0.03	-
FQ-SOCIAL	-.64	-3.74***	-0.7524*	-0.54	0.15
CONFIDENCE	.39	1.92*	0.0942	0.13	-
BDI	-.40	-1.97*	-0.3019	-0.16	-

Summary of Regression Analysis

Multiple *R*	Multiple R^2	Adjusted R^2	*df*	*F*	Unique Variability	Shared Variability
0.67	0.45	0.32	4, 17	3.43†	0.18	0.27

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$ (two-tailed)
† $p \leq .05$

Table 49: Standard Multiple Regressions of Current Clinical Variables on Clients' Preference for Psychological versus Drug Treatments

Variable	Bivariate *r*	Bivariate *t* (*df* 25)	*B*	β	sr^2 (unique)
FQ-AGOR	-.19	*ns*	0.2936	0.14	-
FQ-SOCIAL	-.40	-2.17*	-0.6786	-0.36	-
CONFIDENCE	.25	*ns*	0.1095	0.11	-
BDI	-.23	*ns*	-0.3521	-0.16	-

Summary of Regression Analysis

NO SIGNIFICANT MULTIPLE REGRESSION EQUATION EMERGED.

* $p \leq .05$ (two-tailed)

Table 50: Chi-square Comparison of Classically-Conditioned versus Cognitive Learning Clients on Historical Variables

Variable	*n*		*df*	χ^2
	Classical Conditioning	Cognitive Learning		
Response Profile				
Cognitive	4	3	2	*ns*
Behavioural	10	3		
Somatic	12	6		
Precipitating Event				
Yes	14	8	1	*ns*
No	19	10		
Use of Medication Prior to Treatment				
Yes	12	12	1	*ns*
No	21	6		
Use of Medications Subsequent to Treatment				
Yes	5	5	1	*ns*
No	13	2		
DSM III-R Panic Disorder Prior to Treatment				
Yes	7	2	2	*ns*
Limited Symptom	0	1		
No	10	4		
DSM III-R Panic Disorder Subsequent to Treatment				
Yes	0	1	2	*ns*
Limited Symptom	2	1		
No	16	5		

* $p \leq .05$ (two-tailed)

Table 51: *T*-test Comparison of Classically-Conditioned versus Cognitive Learning Clients on SQ Sub-scales

Measure	Class. Cond.	Cognitive	*df*	*t*
Pretreatment SQ-SOMATIC	3.25 (1.68) (*n* = 26)	4.81 (1.72) (*n* = 12)	21.1	2.61*
Pretreatment SQ-BEHAVIOUR	3.55 (2.20) (*n* = 26)	4.53 (2.14) (*n* = 12)	22.1	*ns*
Pretreatment SQ-COGNITIVE	4.64 (2.53) (*n* = 26)	5.56 (1.96) (*n* = 12)	27.3	*ns*
Mid-treatment SQ-SOMATIC	1.90 (1.27) (*n* = 19)	2.95 (1.27) (*n* = 9)	15.8	2.05*
Mid-treatment SQ-BEHAVIOUR	2.15 (1.73) (*n* = 19)	3.30 (1.91) (*n* = 9)	14.4	*ns*
Mid-treatment SQ-COGNITIVE	3.07 (2.01) (*n* = 19)	4.11 (2.09) (*n* = 9)	15.2	*ns*
Post-treatment SQ-SOMATIC	1.47 (1.36) (*n* = 15)	2.16 (1.09) (*n* = 8)	17.5	*ns*
Post-treatment SQ-BEHAVIOUR	1.79 (1.67) (*n* = 15)	2.08 (1.70) (*n* = 8)	14.2	*ns*
Post-treatment SQ-COGNITIVE	2.77 (2.00) (*n* = 15)	2.82 (1.77) (*n* = 8)	16.1	*ns*

Note. *T*-tests were calculated using separate rather than pooled variances.

*$p < .05$

Table 51 (cont'd.): *T*-test Comparison of Classically-Conditioned versus Cognitive Learning Clients on SQ Sub-scales

Measure	Class. Cond.	Cognitive	*df*	*t*
6-month SQ-SOMATIC	1.90 (1.59) (*n* = 13)	1.97 (1.02) (*n* = 9)	19.9	*ns*
6-month SQ-BEHAVIOUR	2.09 (1.81) (*n* = 13)	2.38 (2.15) (*n* = 9)	15.3	*ns*
6-month SQ-COGNITIVE	2.68 (2.28) (*n* = 13)	2.25 (1.46) (*n* = 9)	19.9	*ns*
Current SQ-SOMATIC	1.12 (1.07) (*n* = 18)	2.69 (1.64) (*n* = 7)	8.1	2.34*
Current SQ-BEHAVIOUR	1.96 (1.85) (*n* = 18)	2.33 (1.58) (*n* = 7)	12.8	*ns*
Current SQ-COGNITIVE	1.93 (1.70) (*n* = 18)	3.84 (2.11) (*n* = 7)	9.2	*ns*

Note. *T*-tests were calculated using separate rather than pooled variances.

*$p < .05$

Table 52: *T*-test Comparison of Classically-Conditioned versus Cognitive Learning Clients on BDI Sub-scales

Measure	Classically Conditioned	Cognitive Learning	*df*	*t*
Pretreatment BDI-Cognitive	10.64 (7.81) (*n* =33)	12.11 (6.88) (*n* = 18)	39.0	*ns*
Pretreatment BDI-Behavioural	2.52 (1.54) (*n* = 33)	3.17 (2.04) (*n* = 18)	27.9	*ns*
Pretreatment BDI-Somatic	2.88 (2.41) (*n* = 33)	2.94 (2.51) (*n* = 18)	33.8	*ns*
Mid-treatment BDI-Cognitive	6.86 (7.02) (*n* = 21)	5.91 (5.20) (*n* = 11)	26.2	*ns*
Mid-treatment BDI-Behavioural	2.57 (1.94) (*n* = 21)	2.18 (1.66) (*n* = 11)	23.4	*ns*
Mid-treatment BDI-Somatic	2.33 (2.29) (*n* = 21)	2.09 (2.34) (*n* = 11)	20.0	*ns*
Post-treatment BDI-Cognitive	4.21 (4.77) (*n* = 24)	6.13 (5.44) (*n* = 15)	26.9	*ns*
Post-treatment BDI-Behavioural	1.50 (1.22) (*n* = 24)	1.73 (1.33) (*n* = 15)	27.7	*ns*
Post-treatment BDI-Somatic	1.58 (1.86) (*n* = 24)	1.93 (2.09) (*n* = 15)	27.3	*ns*

Note. *T*-tests were calculated using separate rather than pooled variances.

Table 52 (cont'd.): *T*-test Comparison of Classically-Conditioned versus Cognitive Learning Clients on BDI Sub-scales

Measure	Classically Conditioned	Cognitive Learning	*df*	*t*
6-month BDI-Cognitive	4.17 (5.86) (*n* = 18)	4.27 (2.24) (*n* = 11)	26.1	*ns*
6-month BDI-Behavioural	1.44 (1.89) (*n* = 18)	1.91 (0.94) (*n* = 11)	26.3	*ns*
6-month BDI-Somatic	1.39 (1.58) (*n* = 18)	2.27 (2.53) (*n* = 11)	14.8	*ns*
Current BDI-Cognitive	3.00 (3.79) (*n* = 16)	7.00 (6.16) (*n* = 6)	6.5	*ns*
Current BDI-Behavioural	0.94 (1.44) (*n* = 16)	2.17 (1.72) (*n* = 6)	7.8	*ns*
Current BDI-Somatic	1.38 (1.63) (*n* = 16)	1.83 (1.17) (*n* = 6)	12.7	*ns*

Note. *T*-tests were calculated using separate rather than pooled variances.

Table 53: Direct Discriminant Function Post-hoc Analysis using Pretreatment Measures to Predict Endstate Functioning

Variable	HEF (n = 12)	LEF (n = 10)	Univariate F (1, 20)	Corr. with Function	F (1, 17) to Remove	sr^2 (unique)
FQ-SOCIAL	10.42 (7.38)	18.10 (7.29)	5.98*	-0.58	*ns*	-
CONFIDENCE	49.00 (10.85)	31.70 (11.41)	13.24**	0.76	7.97*	0.15
FQ-FEEL	15.83 (7.94)	23.70 (10.73)	*ns*	-0.49	*ns*	-
SQ-BEH	2.27 (1.35)	5.14 (1.50)	22.36***	-0.88	4.72*	0.09

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
9.22***	4, 17	0.83	2.17	75.0%	90.0%	81.8%

* $p \leq .05$ ** $p \leq .005$ *** $p \leq .001$

Table 54: Direct Discriminant Function Post-hoc Analysis using Mid-treatment Measures to Predict Endstate Functioning

Variable	HEF (n = 12)	LEF (n = 10)	Univariate F (1, 20)	Corr. with Function	F (1, 17) to Remove	sr^2 (unique)
FQ-AGOR	7.58 (4.85)	14.50 (7.09)	7.34*	-0.73	*ns*	-
FQ-SOCIAL	8.25 (5.22)	15.20 (6.77)	7.38*	-0.76	*ns*	-
CONFIDENCE	81.25 (8.57)	63.50 (13.37)	14.22**	0.91	*ns*	-
SQ-BEH	1.65 (1.26)	3.41 (1.37)	9.94**	-0.82	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
4.24*	4, 17	0.71	1.00	58.3%	80.0%	63.6%

* $p \leq .05$ ** $p \leq .005$

Table 55: Direct Discriminant Function Post-hoc Analysis using Post-treatment Measures to Predict Endstate Functioning

Variable	HEF (n = 12)		LEF (n = 8)		Univariate F (1, 18)	Corr. with Function	F (1, 16) to Remove	sr^2 (unique)
FQ-AGOR	4.50	(4.85)	13.50	(8.80)	8.74*	-0.75	*ns*	-
FQ-SOCIAL	5.83	(3.51)	15.63	(7.73)	14.96**	-0.88	*ns*	-
SQ-BEH	1.04	(0.79)	3.50	(1.68)	19.76***	-0.94	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
7.55**	3, 16	0.77	1.42	100.0%	62.5%	85.0%

* $p \leq .01$ ** $p \leq .005$ *** $p \leq .001$

Table 56: Direct Discriminant Function Post-hoc Analysis using 6-month Follow-up Measures to Predict Endstate Functioning

Variable	HEF (n = 8)		LEF (n = 9)		Univariate F (1, 15)	Corr. with Function	F (1, 13) to Remove	sr^2 (unique)
FQ-AGOR	3.88	(3.60)	13.22	(6.89)	11.80***	-0.87	*ns*	-
BDI	3.25	(3.28)	10.67	(7.40)	6.81*	-0.73	*ns*	-
SQ-COG	1.24	(0.72)	3.82	(1.87)	13.38***	-0.90	*ns*	-

Summary of Discriminant Function

F	df	canon. corr	eigenvalue	Jackknifed Classification (% of subjects correctly classified) HEF	LEF	total
6.05**	3, 13	0.76	1.40	100%	66.7%	82.4%

* $p \leq .05$ ** $p \leq .01$ *** $p \leq .005$

Appendix B: Letter to Prospective Follow-up Clients

CONFIDENTIAL

Dear (Client Name),

Some time has passed since you attended our treatment programme for agoraphobics. I'm sure you will remember how concerned we are to improve our programmes by learning from our clients. We are currently planning a further follow-up study of those who have completed the programme and would like to ask for your help once more. This time, we are particularly interested in evaluating long term effectiveness.

You will be telephoned within the next few weeks and asked for your cooperation in this evaluation. In practice, this would mean making an appointment to come back to our Elizabeth Avenue Clinic for approximately an hour to complete some of the assessment forms you completed before, during and immediately after treatment, as well as, a few new ones. As always, the information is strickly confidential and your providing it voluntary. We hope to be able to obtain a better understanding of the circumstances associated with good outcome. Therefore, it is just as important for us to see you if you haven't progressed as well as you had hoped, so that we can have a complete picture. Thank you in advance for your help.

Yours sincerely,

Andree Liddell, Ph.D., F.B.Ps.S.
Director
MUN Department of Psychology Clinic

Appendix C: Fear Questionnaire

Choose a number from the scale below to show how much you would avoid each of the situations if you could, because of fear or their unpleasant feelings. Then write the number you chose on the line opposite each situation.

0	1	2	3	4	5	6	7	8
Would not avoid it		Slightly avoid it		Definitely avoid it		Markedly avoid it		Always avoid it

1. Main phobia you want treated (please describe in your own words)

2. Injections or minor surgery		____	
3. Eating or drinking with other people			____
4. Hospitals		____	
5. Travelling alone by bus or coach	____		
6. Walking alone in busy streets	____		
7. Being watched or stared at			____
8. Going into crowded shops	____		
9. Talking to people in authority			____
10. Sight of blood		____	
11. Being criticised			____
12. Going alone far from home	____		
13. Thought of injury or illness		____	
14. Speaking or acting to an audience			____
15. Large open spaces	____		
16. Going to the dentist		____	
17. Other situations (please describe)			
	(AG)	(BI)	(SOC)

Now choose a number from the scale below to show how much you are troubled by each problem listed, and write the number in the box opposite.

0	1	2	3	4	5	6	7	8
Hardly at all		Slightly troublesome		Definitely troublesome		Markedly troublesome		Very severely troublesome

18. Feeling miserable or depressed ____

19. Feeling irritable or angry ____

20. Feeling tense or panicky ____

21. Upsetting thoughts coming into your mind ____

22. Feeling you or your surroundings are strange or unreal ____

23. Other feeling (please describe)

How would you rate the present state of your phobic symptoms on the scale below?

0	1	2	3	4	5	6	7	8
No phobias present		Slightly disturbing/ not really disabling		Definitely disturbing/ disabling		Markedly disturbing/ disabling		Very severely disturbing/ disabling

PLEASE CIRCLE ONE NUMBER BETWEEN 0 AND 8

Appendix D: Ratings of Self-efficacy

10 20 30 40 50 60 70 80 90 100
Quite uncertain — Moderately certain — Certain

		CanDo	Confid.
1.	.....	____	____
2.	.....	____	____
3.	.....	____	____
4.	.....	____	____
5.	.....	____	____
6.	.....	____	____
7.	.....	____	____
8.	.....	____	____
9.	.....	____	____
10.	.....	____	____
11.	.....	____	____
12.	.....	____	____
13.	.....	____	____
14.	.....	____	____
15.	.....	____	____
16.	.....	____	____
17.	.....	____	____
18.	.....	____	____
19.	.....	____	____
20.	.....	____	____
21.	.....	____	____
22.	.....	____	____
23.	.....	____	____
24.	.....	____	____
25	.....	____	____
26.	.....	____	____
27.	.....	____	____
28.	.....	____	____
29.	.....	____	____
30.	.....	____	____

Appendix E: Beck Depression Inventory

On this questionnaire are groups of statements. Please read each group of statements carefully. Then pick out the one statement in each group which best describes the way you have been feeling the PAST WEEK, INCLUDING TODAY! Circle the number beside the statement you picked. If several statements in the group seen to apply equally well, circle each one. Be sure to read all the statements in each group before making your choice.

1. 0 I do not feel sad
   1 I feel sad
   2 I am sad all the time an I can't snap out of it
   3 I am so sad or unhappy that I can't stand it

2. 0 I am not particularly discouraged about the future
   1 I feel discouraged about the future
   2 I feel I have nothing to look forward to
   3 I feel that the future is hopeless and that things cannot improve

3. 0 I do not feel like a failure
   1 I feel I have failed more than the average person
   2 As I look back on my life, all I can see is a lot of failures
   3 I feel I am a complete failure as a person

4. 0 I get as much satisfaction out of things as I used to
   1 I don't enjoy things the way I used to
   2 I don't get real satisfaction out of anything anymore
   3 I am dissatisfied or bored with everything

5. 0 I don't feel particularly guilty
   1 I feel guilty a good part of the time
   2 I feel quite guilty most of the time
   3 I feel guilty all of the time

6. 0 I don't feel I am being punished
   1 I feel I may be punished
   2 I expect to be punished
   3 I feel I am being punished

7. 0 I don't feel disappointed in myself
   1 I am disappointed in myself
   2 I am disgusted with myself
   3 I hate myself

8. 0 I don't feel I am any worse than anybody else
   1 I am critical of myself for my weaknesses or mistakes
   2 I blame myself all the time for my faults
   3 I blame myself for everything bad that happens

9. 0 I don't have any thoughts of killing myself
   1 I have thoughts of killing myself, but I would not carry them out
   2 I would like to kill myself
   3 I would kill myself if I had the chance

10. 0 I don't cry anymore than usual
    1 I cry more now than I used to
    2 I cry all the time now
    3 I used to be able to cry, but now I can't cry even though I want to

11. 0 I am no more irritated now than I ever am
    1 I get annoyed or irritated more easily than I used to
    2 I feel irritated all the time now
    3 I don't get irritated at all by the things that used to irritate me

12. 0 I have not lost interest in other people
    1 I am less interested in other people than I used to be
    2 I have lost most of my interest in other people
    3 I have lost all of my interest in other people

13. 0 I make decisions about as well as I ever could
    1 I put off making decisions more than I used to
    2 I have greater difficulty in making decisions than before
    3 I can't make decisions at all anymore

14. 0 I don't feel I look any worse than I used to
    1 I am worried that I am looking old or unattractive
    2 I feel that there are permanent changes in my appearance that make me look unattractive
    3 I believe that I look ugly

15. 0 I can work about as well as usual
    1 It takes an extra effort to get started at doing something
    2 I have to push myself very hard to do anything
    3 I can't do any work at all

16. 0 I can sleep as well as usual
    1 I don't sleep as well as I used to
    2 I wake up 1-2 hours earlier than usual and find it hard to get back to sleep
    3 I wake up several hours earlier than I used to and cannot get back to sleep

17. 0 I don't get more tired than usual
    1 I get tired more easily than I used to
    2 I get tired from doing almost anything
    3 I am too tired to do anything

18. 0 My appetite is no worse than usual
    1 My appetite is not as good as it used to be
    2 My appetite is much worse now
    3 I have no appetite at all anymore

19. 0 I haven't lost much weight, if any lately
    1 I have lost more than 5 pounds
    2 I have lost more than 10 pounds
    3 I have lost more than 15 pounds

I am purposely trying to lose weight by eating less
Yes ____ No ____

20. 0 I am no more worried about my health than usual
    1 I am worried about physical problems such as aches and pains; or upset stomach; or constipation
    2 I am very worried about physical problems and it's hard to think of much else
    3 I am so worried about my physical problems, that I cannot think about anything else

21. 0 I have not noticed any recent change in my interest in sex
    1 I am less interested in sex than I used to be
    2 I am much less interested in sex now
    3 I have lost interest in sex completely

Appendix F: Outline of Semi-structured Follow-up Interview

1. How have they been since completion of treatment? - progressed? regressed? stayed at the same level?

(a) other problems?
depression?
anxiety?
marital / interpersonal / familial?
vocational?

(b) Subsequent treatment?
psychologist?
psychiatrist?
family doctor / GP?
currently on medication for anxiety / agoraphobia or other?
If yes, has it helped?

(c) What do they feel has most been helpful during the period since treatment?

2. If 100% represents no problems at all, where would you place yourself now relative to where you were at the time of treatment? What are remaining problem areas?

3. Diagnosis of DSM III-R Panic Disorder:

Now Then

spontaneous, unexpected, not triggered by situations in which the person was the focus of others' attention.

four attacks within a four-week period, or one or more attacks followed by at least one month of persistent fear of having another attack.

at least four of the following symptoms during at least one of the attacks:

Now Then

(a) shortness of breath (dyspnea) or smothering sensations
(b) dizziness, unsteady feelings, or faintness
(c) palpitations or accelerated heart rate (tachycardia)
(d) trembling or shaking
(e) sweating
(f) choking
(g) nausea or abdominal distress
(h) depersonalization or derealization
(i) numbness or tingling sensations (paresthesias)
(j) flushes (hot flashes) or chills
(k) chest pain or discomfort
(l) fear of dying
(m) fear of going crazy or of doing something uncontrolled

(four or more symptoms are panic attacks; three or fewer are limited symptom attacks)

frequency / duration / other symptoms / etc.:

Current severity of panic attacks:

Now Then

Mild: During the past month, either all attacks have been limited symptom attacks (i.e. fewer than four symptoms), or there has been no more than one attack.
Moderate: During the past month panics have been intermediate between "mild" and "severe".
Severe: During the past month, there have been at least eight panic attacks.
In partial remission: The condition has been intermediate between "In full remission" and "Mild".
In full remission: During the past six months, there have been no panic or limited symptom attacks.

4. DSM III Criteria for Diagnosis of Panic Disorder with Agoraphobia, or Agoraphobia without history of panic attacks:

(a) typical "agoraphobic" situations:

Now Then

(b) agoraphobic avoidance:

Now

Then

Mild: Some avoidance (or endurance with distress), but relatively normal lifestyle, e.g., travels unaccompanied when necessary, such as to work or to shop; otherwise avoids traveling alone.
Moderate: Avoidance results in constricted life-style, e.g., the person is able to leave the house alone, but not to go more than a few miles unaccompanied.
Severe: Avoidance results in being nearly or completely housebound or unable to leave the house unaccompanied.
In partial remission: No current agoraphobic avoidance, but some Agoraphobic avoidance during the past six months.
In full remission: No current agoraphobic avoidance and none during the past six months.

5. Order of questionnaires:
   Fear Questionnaire
   Beck Depression Inventory
   Symptom Questionnaire
   "Can-Do" / Self-efficacy
   Inventory for Socially Supportive Behaviors
   Attitudes Questionnaire

Appendix G: Test of Model

INSTRUCTIONS

For each of the questions below, indicate your answer by circling the appropriate letter.

1. Someone with Agoraphobia is likely to be afraid of:

   (a) Open spaces in the country
   (b) Losing control in crowded public places
   (c) Staying at home with someone
   (d) Being with other people

2. Agoraphobia panic is different from ordinary fear or shock because:

   (a) It can't be controlled very easily
   (b) It causes bodily changes, such as your heart's beating faster
   (c) It is an automatic bodily reaction
   (d) It is the same as fear but without any real danger

3. Conditioning means:

   (a) Association of a reaction with a situation
   (b) Learning to be afraid
   (c) An oversensitive state following an illness
   (d) Learning that two things always go together

4. If a child has been frightened by a large, fierce dog, would it be best to:

   (a) Keep him/her away from dogs for a while
   (b) Tell him/her to be braver next time
   (c) Give him/her candy to cheer him/her up
   (d) Introduce him/her to a more gently dog

5. Agoraphobia is:

   (a) A mental disease such as schizophrenia
   (b) Due to physical illness
   (c) A learned emotional reaction
   (d) Caused by a lack of willpower

6. If you avoid a store where you had a panic attack:

   (a) You will find to more an more difficult to go back
   (b) In time you will be able to go back without trouble
   (c) You should wait until you are well before going back
   (d) You should get someone else to go into the store for you

7. Agoraphobic symptoms often include:

   (a) Acting insanely
   (b) Feeling faint or strange
   (c) Collapse through physical overstrain
   (d) No special feelings

8. If you succeed in going to a particular place that you have avoided for some time:

   (a) It won't give you any more trouble
   (b) It will be even more difficult the next time
   (c) It won't have made any difference one way or the other
   (d) It will probably be slightly easier the next time

9. Before facing a situation that you have avoided for a long time you should:

   (a) Always take a tranquillizer
   (b) Avoid taking a tranquillizer if possible; take it only when you have to practice something new or difficult
   (c) Avoid tranquillizers completely
   (d) Take a tranquillizer if you feel panicky when going out

10. Which would be the wrong thing to recommend for someone with agoraphobia:

    (a) Doing things one step at a time
    (b) Taking tranquillizers before occasional practice sessions
    (c) Practising going out every day
    (d) Having help from others with things like shopping

11. Which of the following would be a useful description of a treatment target:

    (a) Go out for a walk
    (b) Practice going out every day
    (c) Walk alone to the school
    (d) Try to keep calm when shopping in the supermarket

12. Which of the following would be the best target for an agoraphobic person:

    (a) Start practice in going shopping
    (b) Go to the local supermarket alone on a Wednesday morning, when it is least crowded
    (c) Find ways to make yourself feel differently about crowded stores
    (d) None of these

13. Daily practice in learning to overcome avoidance is important because:

    (a) If several days go by without practice, it may get harder
    (b) It builds confidence for harder items later
    (c) With each practice, the fear will tend to get less
    (d) All of these

14. If you succeed the first time you practice an item, you should:

    (a) Try it again tomorrow
    (b) Try a more difficult one
    (c) Try an easier one
    (d) Congratulate yourself and have a well-earned rest

15. Which might bridge the gap between "Walking to the Supermarket" and "Going alone by bus to the school":

    (a) Going with someone by bus to the school
    (b) Going alone for just one stop at first
    (c) Going alone, and being met at the other end
    (d) All of these

16. Practice items between target behaviours are useful because:

    (a) They are slightly easier than the last target item successfully practised
    (b) They build confidence
    (c) They bridge any large gaps in difficulty between targets
    (d) All of these

17. Suppose you succeed with practice after taking several pills but then find that you cannot mange without any. You should:

    (a) Go on to the next most difficult item
    (b) Repeat the same item several times
    (c) Stop practice for awhile
    (d) Gradually reduce the dose while practising the same item

18. Which is a correct description of treatment practice:

    (a) Try each item once: if successful, move on
    (b) Decide on target behaviours, and practice one every day
    (c) Start practising with easier items, and progress to more difficult ones
    (d) Use tranquillizers during all treatment practice sessions

19. Which of these is likely to cause or contribute to a panic attack:

    (a) The conditioned fear reaction to certain places
    (b) Worry about strange feelings during practice
    (c) Thinking that the fear is going to get out of control
    (d) All of these

20. Which would you say indicates most progress:

    (a) Doing something new without any trouble the first time
    (b) Trying something new even if you have to come back because of tension
    (c) Doing something new despite experiencing some panic at first
    (d) Doing something new but finishing in a total panic

21. If you become frightened in a store, it would be best to:

    (a) Try to snap out of it
    (b) Get home as soon as possible
    (c) Go to another store
    (d) Stay until you feel better

22. You are on a bus. In a panic, you find yourself getting off earlier than planned. You should:

    (a) Force yourself to get on the next bus
    (b) Try again, soon possibly after taking a tranquillizer
    (c) Try an easier "in-between" item
    (d) All of these

23. The best way to cope with panic during practice is to:

    (a) Continue practice without stopping
    (b) Let it happen an wait for it to pass
    (c) Go home and relax
    (d) Take a tranquillizer as soon as possible

24. A job or outside interest is important because:

    (a) It provides regular practice in going out
    (b) It is a source of satisfaction away from home
    (c) Meeting new situations and people helps break the habit of avoidance
    (d) All of these

Appendix H: Attitudes Questionnaire

Below you will read a brief hypothetical story about a woman having difficulty coping with her anxieties. On the following pages you will find a brief description of five different types of treatment that are available to this woman. You are asked to rate how appropriate you feel each treatment is.

Susan is 29 years old, married, and the mother of two children. She experiences intense feelings of panic whenever she goes into public places such as shipping centres, using public transportation, etc.. She also experiences sensations of panic in anticipation of going into these situations. The feelings of panic, which began about five years ago, are accompanied by intense physiological and cognitive sensations, such as rapid heart rate, shallow breathing, and thoughts of going crazy. Susan finds that these symptoms are even worse when she is not accompanied by her husband. Her disorder has recently begun causing problems within her family because she is unable to accompany family members to social, business, and school activities.

Antidepressants

The use of antidepressants in treating Susan's symptoms have two important benefits: they reduce her feelings of panic, and, they lesson the feelings of depression which are brought about by her inability to engage in everyday activities. Further, reducing her feelings of panic would allow her to better cope with fearful situations.

Minor tranquilizers

Minor tranquilizers produce a state of relaxation. Therefore, they might possibly reduce Susan's physiological arousal, as well as her thoughts that she is going crazy. Lower levels of anxiety also might possibly help her to cope better with the feared situations.

Exposure

Graded exposure to feared situations involves gradually having Susan approach situations which she currently fears. During initial exposure sessions she would be accompanied by the therapist, but, as she becomes less fearful, she would face the feared situations alone. The purpose of this treatment is to help her learn to lessen her fears in frightening situations.

Relationship therapy

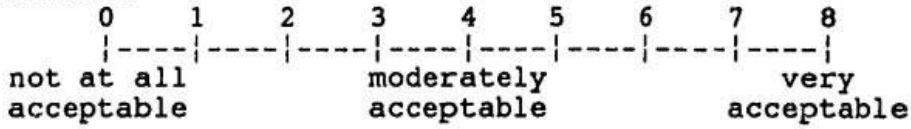
Therapy would focus on Susan's relationships with significant people in her life. The therapist and client would focus on her feelings of dependency and her feelings towards her parents, spouse, and children. The purpose of this treatment is to aid her in understanding how her feelings, especially feelings of dependency, can lead to her fear and experiences of panic.

Cognitive therapy

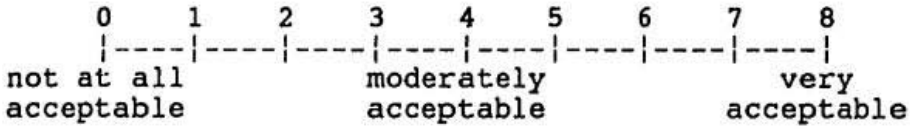
In cognitive therapy the client is aided by the therapist to realistically evaluate what would happen if she were to panic in a fearful situation. Once she is able to objectively evaluate her feelings and beliefs, Susan would learn to replace her now fearful thoughts with more positive, coping thoughts. The purpose of this treatment is to help her to form more appropriate beliefs and cognitions in situations that bring about her fear.

Antidepressants

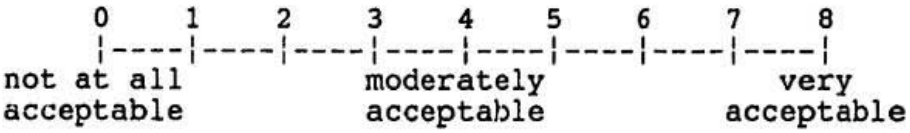
If I had the clients' problem, I would consider this treatment...



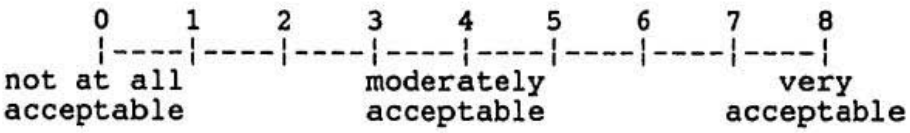
For members of the population at large who have her problem, I would consider this treatment ...



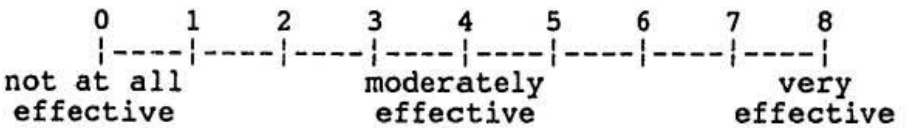
From an ethical point of view, I believe this treatment (for people with her problem) is ...



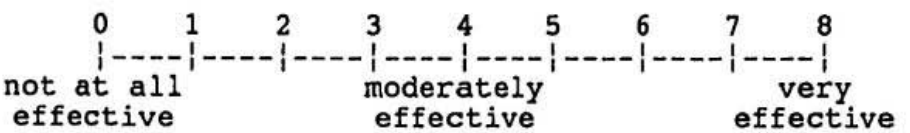
I think other people would think this treatment to be ...



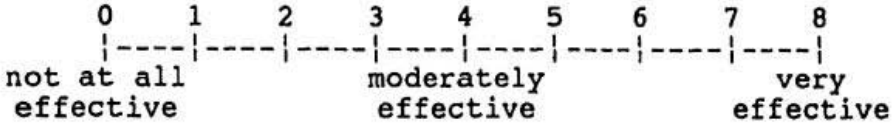
I believe that this treatment would be, in the short term, ...



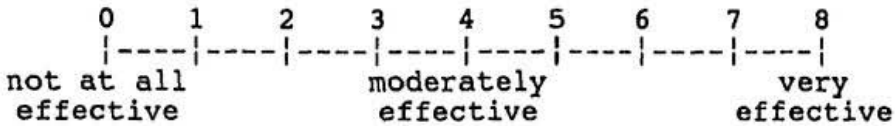
I believe that, for producing a permanent cure, this treatment would be ...



In addition to the panic symptoms, how effective would this treatment be for improving other aspects of the clients' life (i.e., depression, self-concept, etc.)?

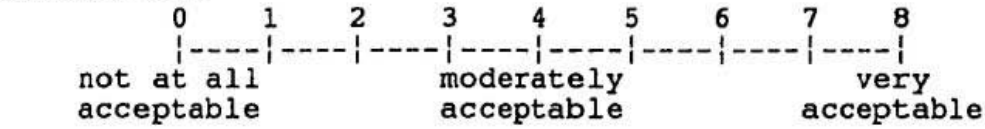


In addition to the panic symptoms, how effective would this treatment be for improving the client's relationship with significant others (i.e., spouse, children, etc.)?

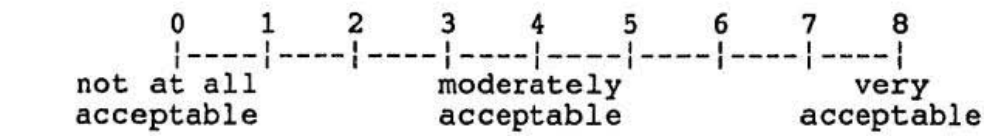


Minor tranquilizers

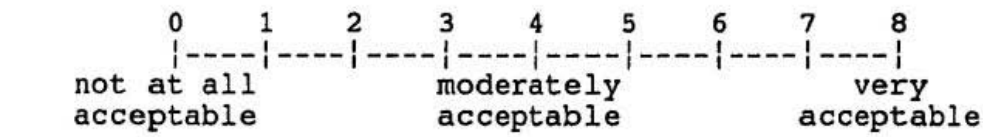
If I had the clients' problem, I would consider this treatment...



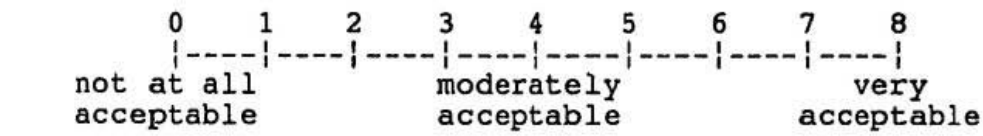
For members of the population at large who have her problem, I would consider this treatment ...



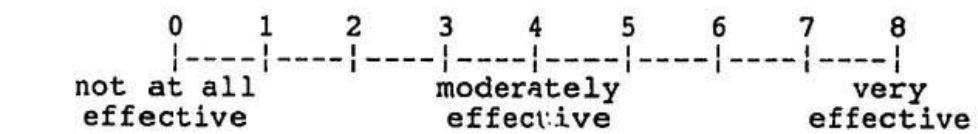
From an ethical point of view, I believe this treatment (for people with her problem) is ...



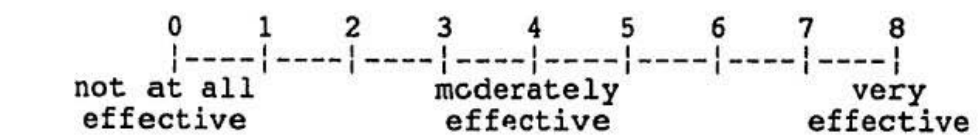
I think other people would think this treatment to be ...



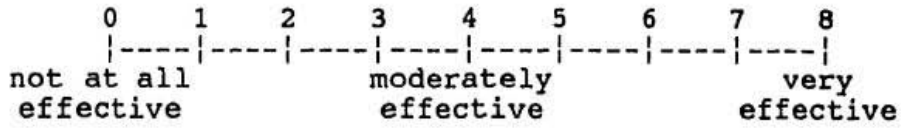
I believe that this treatment would be, in the short term, ...



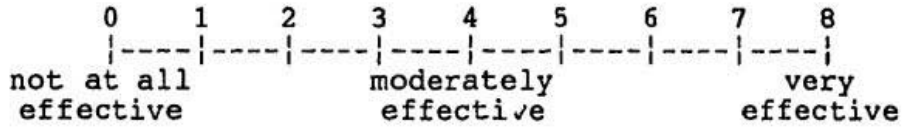
I believe that, for producing a permanent cure, this treatment would be ...



In addition to the panic symptoms, how effective would this treatment be for improving other aspects of the clients' life (i.e., depression, self-concept, etc.)?

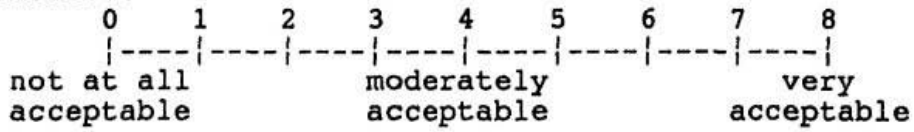


In addition to the panic symptoms, how effective would this treatment be for improving the client's relationship with significant others (i.e., spouse, children, etc.)?

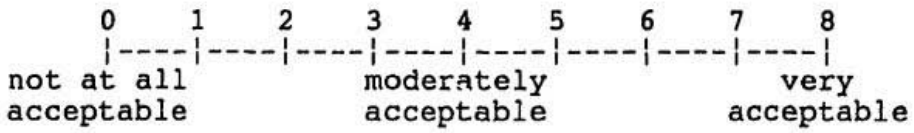


Exposure

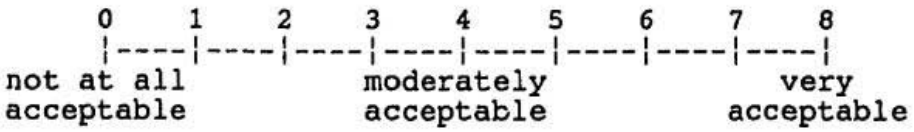
If I had the clients' problem, I would consider this treatment...



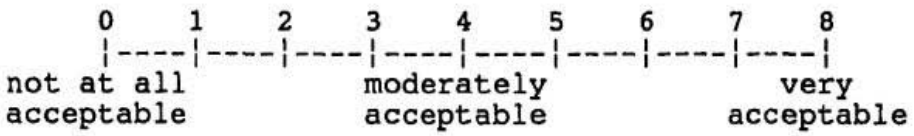
For members of the population at large who have her problem, I would consider this treatment ...



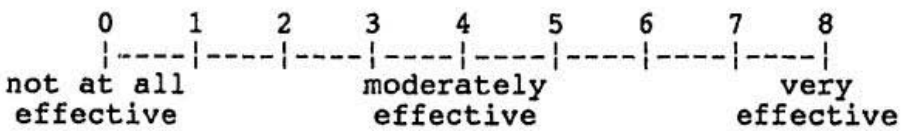
From an ethical point of view, I believe this treatment (for people with her problem) is ...



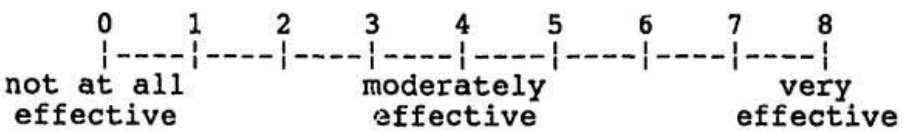
I think other people would think this treatment to be ...



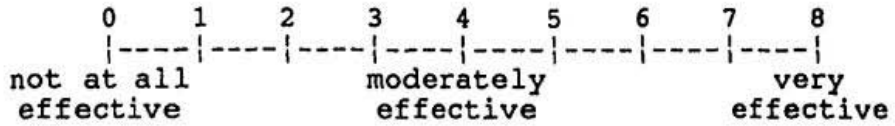
I believe that this treatment would be, in the short term, ...



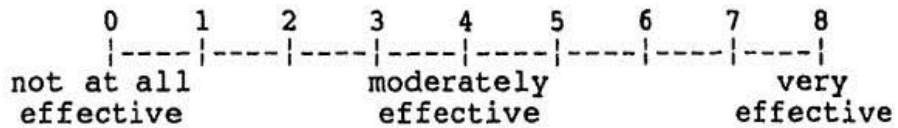
I believe that, for producing a permanent cure, this treatment would be ...



In addition to the panic symptoms, how effective would this treatment be for improving other aspects of the clients' life (i.e., depression, self-concept, etc.)?

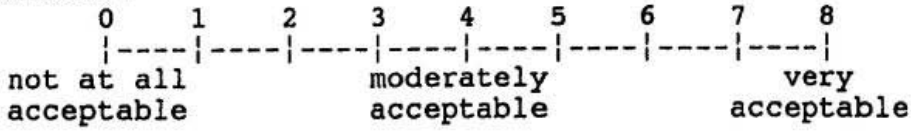


In addition to the panic symptoms, how effective would this treatment be for improving the client's relationship with significant others (i.e., spouse, children, etc.)?

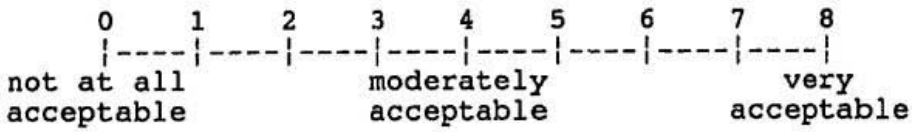


Relationship therapy

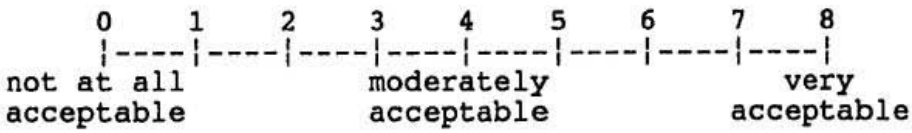
If I had the clients' problem, I would consider this treatment...



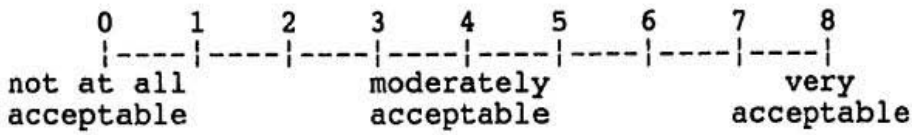
For members of the population at large who have her problem, I would consider this treatment ...



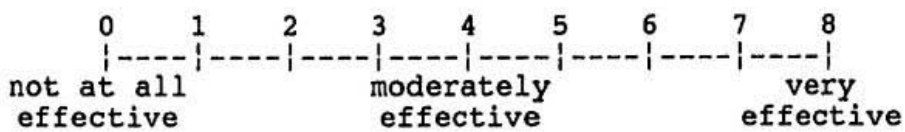
From an ethical point of view, I believe this treatment (for people with her problem) is ...



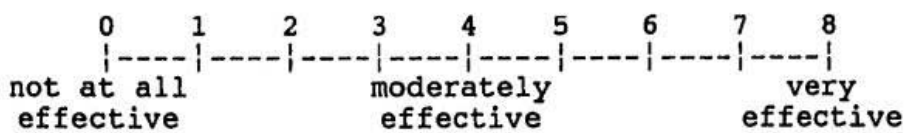
I think other people would think this treatment to be ...



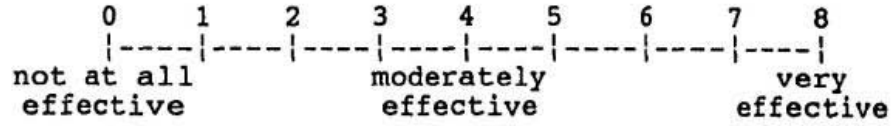
I believe that this treatment would be, in the short term, ...



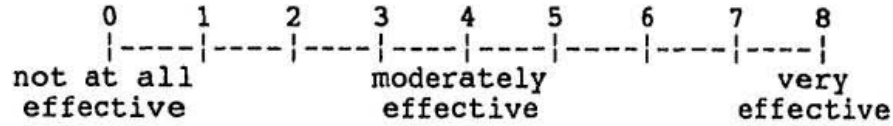
I believe that, for producing a permanent cure, this treatment would be ...



In addition to the panic symptoms, how effective would this treatment be for improving other aspects of the clients' life (i.e., depression, self-concept, etc.)?

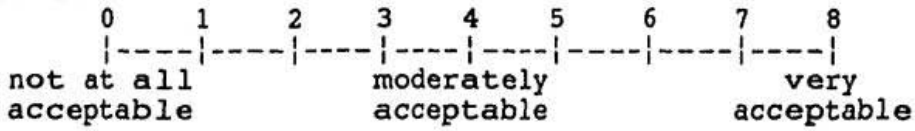


In addition to the panic symptoms, how effective would this treatment be for improving the client's relationship with significant others (i.e., spouse, children, etc.)?

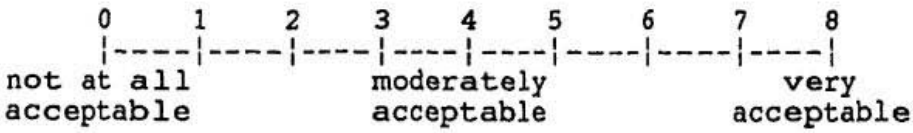


Cognitive therapy

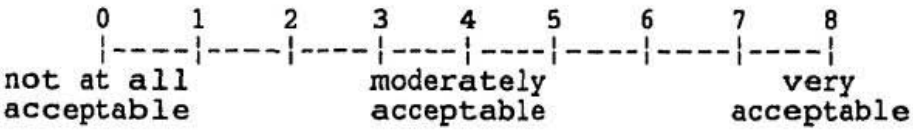
If I had the clients' problem, I would consider this treatment...



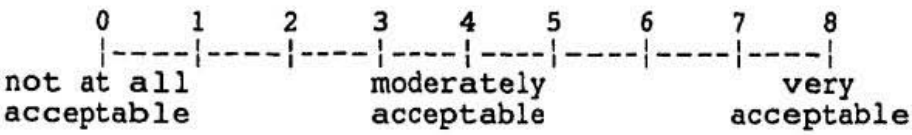
For members of the population at large who have her problem, I would consider this treatment ...



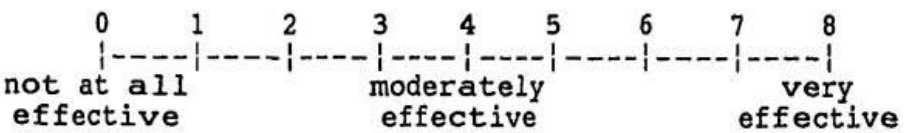
From an ethical point of view, I believe this treatment (for people with her problem) is ...



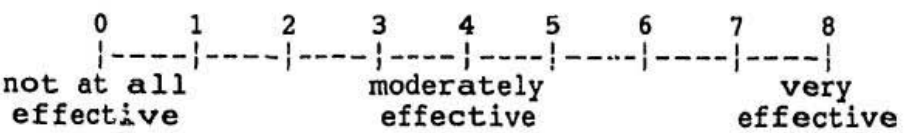
I think other people would think this treatment to be ...



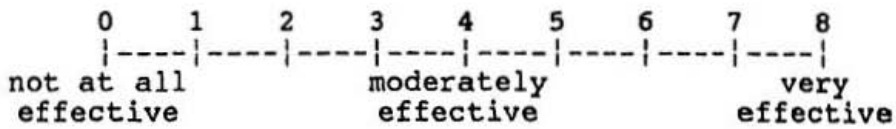
I believe that this treatment would be, in the short term, ...



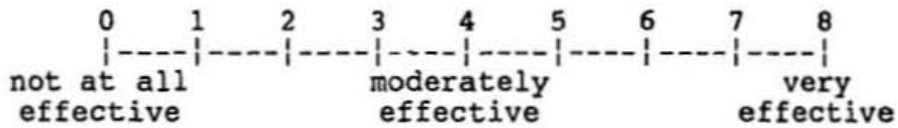
I believe that, for producing a permanent cure, this treatment would be ...



In addition to the panic symptoms, how effective would this treatment be for improving other aspects of the clients' life (i.e., depression, self-concept, etc.)?



In addition to the panic symptoms, how effective would this treatment be for improving the client's relationship with significant others (i.e., spouse, children, etc.)?



Appendix I: Inventory of Socially Supportive Behaviours

Below you will find a number of behaviours or supportive actions which people could do for each other. Please estimate the frequency with which you think you have *received* each of these behaviours *in the past month*, on a scale of 1 (not at all) to 5 (about every day).

1. Looked after a family member while you were away

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

2. Was right there with you (physically) in a stressful situation

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

3. Provided you with a place where you could get away for awhile

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

4. Watched over your possession when you were away (pets, plants, home apartment, etc.)

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

5. Told you what he/she did in a situation that was similar to yours

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

6. Did some activity together to get your mind off things

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

7. Talked with you about some interest of yours

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

8. Let you know that you did something well

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

9. Went with you to someone who could take action

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

10. Told you that you are OK just the way you are

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

11. Told you that he/she would keep the things that you talk about private - just between the two of you

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

12. Assisted you in setting a goal for yourself

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

13. Made it clear what was expected of you

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

14. Expressed esteem or respect for a competency or personal quality of yours

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

15. Gave you some information on how to do something

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

16. Suggested some action that you should take

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

17. Gave you over $25

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

18. Comforted you by showing you some physical affection

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

19. Gave you some information to help you understand a situation you were in

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

20. Provided you with some transportation

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

21. Checked back with you to see if you followed the advice you were given

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

22. Gave you under $25

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

23. Helped you understand why you didn't do something well

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

24. Listened to you talk about your private feelings

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

25. Loaned or gave you something (a physical object other than money) that you needed

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

26. Agreed that what you wanted to do was right

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

27. Said things that made your situation clearer and easier to understand

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

28. Told you how he/she felt in a situation that was similar to yours

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

29. Let you know that he/she will always be around if you need assistance

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

30. Expressed interest and concern in your well-being

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

31. Told you that he/she feels very close to you

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

32. Told you who you should see for assistance

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

33. Told you what to expect in a situation that was about to happen

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

34. Loaned you over $25

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

35. Taught you how to do something

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

36. Gave you feedback on how you were doing without saying it was good or bad

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

37. Joked and kidded to try to cheer you up

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

38. Provided you with a place to stay

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

39. Pitched in to help you do something that needed to get done

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

40. Loaned you under $25

1	2	3	4	5
not at all	once or twice	about once a week	several times a week	about every day

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