THE COGNITIVE TREATMENT OF AGORAPHOBIA

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by

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Abstract

The present study assessed the efficacy of cognitive therapy in treating agoraphobics. Subjects were nine community residents who responded to newspaper advertisements announcing a treatment program for agoraphobia, and who met specified screening criteria. They were randomly assigned to one of three treatment groups, which differed only in the length of time subjects waited for treatment.

Subjects completed the Multiple Affect Adjective Checklist (Zuckerman and Lubin, 1965) daily, and rated peak anxiety levels on a 0-10 point scale at 3-hour intervals throughout the day. Subjects also kept diaries of time away from home. All daily measures were kept through a baseline phase of 3, 6, or 9 weeks, a 6-week treatment phase, and a 3-week follow-up phase. Assessments were also made at pre- and posttreatment, and at follow-ups of 3 weeks and 2 months. They were carried out by the therapist (Watson and Marks', 1971, phobic anxiety and avoidance scales), by an independent assessor (Watson and Marks', 1971, phobic anxiety and avoidance scales), and by the subjects (Watson and Marks', 1971, phobic anxiety and avoidance scales; State-Trait Anxiety Inventory, Spielberger and Lushene, 1970).

All measures of anxiety showed significant reductions following treatment, and improvement was maintained into the follow-up period. Time out of the house, analyzed in terms of the hours away from home and the number of journeys made increased significantly, and ratings of phobic avoidance showed a significant reduction.

It was concluded that cognitive therapy is effective in the treatment of some agoraphobics, and that this finding does not support the hypothesis that systematic practice in entering feared situations is essential for the treatment of agoraphobia.

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There is a need for improvement in the treatment of agoraphobia. Although the efficacy of exposure in vivo procedures is reasonably well established, there are a few patients who do not benefit at all from these procedures. Several researchers now believe that maladaptive cognitions play a crucial role in the development and maintenance of agoraphobia, and as such, cognitive therapy constitutes an effective alternative treatment. This hypothesis, however, lacks empirical support. The present study investigates the effectiveness of cognitive procedures with agoraphobics.

Clinical Features of Agoraphobia

The term "agoraphobia" derives from the Greek root "agora"; meaning an assembly, the place of assembly, and market place. It was first used over a century ago by Westphal (1871), who published a monograph Die Agoraphobie, describing three male patients who experienced acute anxiety when walking across open spaces or through empty streets. Two years earlier, Benedikt (1870) had created for the same syndrome, the name "platzschwindel", meaning dizziness in public places.

The similarities between these original descriptions and the condition now called agoraphobia are clear. The main features are:

> Fears of going out into the open, into streets, shops, crowds, closed spaces such as elevators, theaters, cinemas, or church, of travel on subways, trains, buses or coaches, ships and airplanes (but not usually cars), fears of going on bridges, into tunnels, having haircuts or hairstylings, of heights, and of remaining alone at home or of leaving home. These fears occur in many combinations over a variable period of time and, at least in cases seen by psychiatrists, are associated with other symptoms such as general anxiety, panic attacks, depression, obsessions, and depersonalization. Certain social fears are also found in this condition--fears of trembling, blushing, eating, or writing in front of other people or fears of being stared at (Marks, 1970, p. 542).

The situations that provoke anxiety share certain themes, usually distance from home, crowds, and confinement.

Agoraphobia typically starts with discrete episodes of anxiety outside the home. The individual suddenly feels weak, anxious, lightheaded and dizzy, has palpitations and sweats profusely, feels unable to breathe or breathes rapidly to the point of hyperventilating, and experiences the whole variety of physical sensations that can accompany anxious mood. Mounting feelings of anxiety often make the individual fearful of fainting, dying, or losing control. The anticipation of worse consequences, in turn, generates more anxiety. The panic may become so intense that the individual will remain fixed to the same spot for several minutes until the intensity diminishes. The anxiety attack may last from a few minutes to several hours. After anxiety diminishes, the individual may run to a place of safety--to the home of a trusted friend or relative.

Following the first anxiety attack, most individuals experience anxiety only when they return to the same or to a similar surrounding. A succession of such episodes may occur before they begin to restrict their activities. At this stage, before there is obvious avoidance of situations, agoraphobia is indistinguishable from an anxiety state. From these beginnings, the condition progresses more or less quickly so that other situations become associated with fear, and the fear experienced in the original situation becomes worse. First avoidance is of situations in which the anxiety attack was experienced, and this gradually spreads to include novel situations for fear they too might precipitate panic. In some cases, the onset of phobic avoidance is

immediate. After an acute sustained anxiety attack individuals return home, stay indoors for days, and thereafter have great difficulty in leaving the house.

As agoraphobics restrict their activities, family routines are disrupted. They may require an escort to undertake chores, or ask husband and children to do the tasks for them. Social activities are restricted or abandoned.

A Discrete Syndrome

There is a substantial amount of evidence establishing agoraphobia as a discrete syndrome. Clinical evidence comes from studies by Agras, Sylvester, and Oliveau (1969), and Snaith (1968). These authors noted that agoraphobics are more anxious, have a more remitting course, and a different distribution of phobias from patients with other phobias. Furthermore, the characteristic features of agoraphobia are similar in widespread reports from America and Europe.

Evidence also comes from statistical enquiries in which fear questionnaires have been given to patient populations, and the results subjected to factor analysis (Dixon, de Monchaux, and Sandler, 1957; Hallam and Hafner, 1978; Marks, 1967; Shapira, Kerr, and Roth, 1970). These studies confirm the presence of an agoraphobic factor.

The relationship between agoraphobia and generalized states of anxiety is less clear. The more diffuse varieties of agoraphobia merge with anxiety states. Clinically more than one diagnostic label may be appropriate. Statistical enquiries fail to obtain a clear separation between the two. Hallam (1978) concluded that agoraphobia should not be

classified with the phobias; rather it is a variable feature of anxiety neurosis. Mathews, Gelder, and Johnston (1981) point out that despite the relationship between agoraphobia and anxiety states at the onset, once agoraphobia has developed, there is no evidence to suggest that the clinical picture subsequently changes to that of anxiety neurosis. The pattern of phobic avoidance remains.

Precipitating Factors

Most agoraphobics report a sudden onset to their symptoms, usually in the form of an anxiety attack. It appears that nonspecific background stress may contribute to the onset of agoraphobia as well. Marks (1970) noted that in a substantial number of cases, agoraphobia began after a major change in the patient's life situation; for example, serious illness in the patient or relative, leaving home, childbirth, or marriage. Solyom, Beck, Solyom, and Hugel (1974) reported a significantly greater incidence of death or illness of a relative or friend, and domestic or other conflicts in agoraphobics at the time of onset, as compared to patients with specific phobias. It must be acknowledged, however, that in some cases, agoraphobia starts without any obvious change in the patient's life.

The Course of Agoraphobia

Agoraphobia usually begins in young adulthood, between the ages of 18 and 35 years (Marks and Herst, 1970). In a sample of 2,000 agoraphobics throughout Britain, belonging to a correspondence club,

mean age of onset was 28 years (Marks and Herst, 1970). Bowen (1979) and Marks (1970) reported a bimodal distribution of onset, one at 20 years and the second at 30 years. Most reports indicate that about two-thirds of the agoraphobics seen by psychiatrists are women (Errera and Coleman, 1963; Marks and Gelder, 1965, 1966; Roth, 1959; Terhune, 1949; Tucker, 1956).

The course of agoraphobia is marked by relapse and remission. The anxiety fluctuates with changes in individuals and their life situations. Any stress might intensify the symptoms; for example, depression, physical illness, and domestic conflict. Relief is provided by circumstances that share common themes, usually the possibility of aid and of immediate escape. Thus agoraphobics generally feel less anxious in the presence of a trusted companion. Some journeys are easier if they pass a hospital or the home of a friend, as the individual knows help is available if needed. Going to a church, theater, or shopping centre is easier if the individual can stay near an exit, so a quick escape is possible if an anxiety attack occurs.

Many cases of agoraphobia are short-lived, but in cases seen by psychiatrists, where agoraphobia has been present for a year or more, partial rather than total remission seems to be the usual outcome without treatment (Marks, 1970). In a 23 year follow-up of phobic patients who had received brief outpatient treatment, Errera and Coleman (1963) found that 63% remained unchanged. Agras, Chapin, and Oliveau (1972) followed up a group of untreated phobics, 37% of whom were agoraphobic, for 5 years. No reduction in phobias occurred over that time.

Epidemiology

One of the few systematic studies of the prevalence of phobic disorders in the general adult community was conducted by Agras, et al. (1969), in Vermont. The total prevalence of phobias was estimated at 76.9 per 1,000, and 2.2 per 1,000 were found to be receiving treatment. Of these phobias, agoraphobia contributed 6 per 1,000. When a series of phobics from the community hospital were examined, agoraphobia was found to comprise about 50% of that population. Marks (1969) also reported that about 50% of phobics seen by psychiatrists are agoraphobics.

In psychiatric practice, the incidence of phobias as the main complaint is about 2% to 3% (Errera and Coleman, 1963; Marks, 1969; Terhune, 1949). The majority of these are agoraphobic.

Theoretical Formulations: Nature and Treatment

Theoretical explanations of agoraphobia diverge widely. The major models for conceptualizing the syndrome are the psychoanalytical model, the biological model, and various learning theory and cognitive theory models.

Psychoanalytical Model. In the psychoanalytical model (Weiss, 1964) the phobia is conceptualized as a mere symptom caused by neurotic anxiety, which in turn is caused by unconscious conflicts involving sexual and aggressive drives. The defense mechanisms, repression and displacement, work together, so that the individual not only keeps the original conflict from consciousness, but becomes doubly protected against such awareness by attributing the anxiety to a more manageable

cause or situation. In the case of agoraphobia, the underlying motives are theorized to be sexual, aggressive, or dependency needs, and more recently unsatisfactory interpersonal or marital relationships.

It is not possible to assess the results of psychoanalysis for the treatment of agoraphobia. The literature contains only successful case studies. A review of the literature on the psychological treatment of agoraphobia in general, however, indicates that treatments in which the patient adopts a passive role produce poor results (Mathews, et al., 1981).

Biological Model. Agoraphobics have been found to display an elevated level of autonomic arousal as compared with normals and patients with specific and other phobias, and an unusually slow rate of habituation as compared with normals (Lader, 1978). Lader and Mathews (1968) proposed a biological model of agoraphobia, based on these findings:

> A critical level of arousal would be predicted above which a repetitive stimulus would not be accompanied by any habituation, instead the level of arousal would become higher with each successive stimulus producing a positive feedback mechanism (p. 422).

The authors hypothesize that the abnormal level of psychophysiological arousal is the result of prolonged stress. Once the threshold has been exceeded and the individual experiences panic, cognitive factors may ensure that panic is reached on subsequent occasions when threshold is passed.

The major aim in the biological treatment of agoraphobia is anxiety reduction. Anxiolytic drugs of various kinds have been used to treat the condition. Although these drugs give substantial temporary relief of symptoms, there is no evidence that they shorten the course of the

disorder (Mathews, et al., 1981).

More recently, antidepressant drugs of the monoamine oxidase inhibitor type and tricyclic type have been investigated in the treatment of agoraphobia (Kelly, Guirguis, Frommer, Mitchell-Heggs, and Sargant, 1970; Zitrin, Klein, and Woerner, 1978). Results indicate that these drugs produce no more than temporary relief as well, and patients relapse when the drugs are stopped. It must be concluded that the biological treatment of agoraphobia leads to no more than temporary relief of symptoms, when given without other measures.

Learning Theory Models. The learning theory models are rooted in experimental psychology. The two-factor theory (Mowrer, 1939) emphasizes phobic anxiety and avoidance. It is hypothesized that anxiety is classically conditioned to certain stimuli and the patients' avoidance of these stimuli is reinforced by the termination of conditioned anxiety. Successful avoidance assures the conservation of anxiety; thus the phobia is perpetuated. In the case of agoraphobia, the relevant stimuli are the places that agoraphobics fear.

In addition to classical conditioning, Rachman (1977) proposed that parental modelling and other forms of vicarious learning are components of etiology in agoraphobia.

A further alternative suggested is that the experience of an anxiety attack can itself act as a traumatic conditioning event. The subsequent avoidance behavior is an attempt, not only to avoid the situation in which the panic occurred, but also the possibility of another panic.

The efficacy of behavior therapy for the treatment of agoraphobia has been studied experimentally for the past 20 years. It is now

reasonably well established that a variety of behavioral treatments, all of which involve exposure to the feared situation, lead to a reduction of fear and avoidance in agoraphobics, and that this reduction is greater than that achieved by other treatment techniques.

Emmelkamp (1979), in a review of the research on the treatment of clinical phobias concluded that:

> Unlike research in the area of social anxiety, where no single treatment has been found to be effective, studies on agoraphobics and specific phobics have shown that exposure in vivo procedures are the most effective procedures to date (p.109).

While behavioral treatments may be effective for a number of agoraphobics, it has to be acknowledged that a minority of patients fail to benefit at all from these procedures. Furthermore, studies of hospital-based exposure treatments indicate that progress does not usually continue after treatment has ended (Gelder, 1977).

Gelder (1977) concluded that the therapeutic limitations of behavioral techniques with agoraphobics may be related to a failure to deal adequately with the cognitive components of anxiety. His research (Gelder, 1977) with patients presenting cognitive components of anxiety as the main complaint indicated three effects of these cognitions: (a) they amplify physiological arousal, (b) they appear as intrusive thoughts which initiate anxiety, and (c) they direct attention selectively to specific bodily sensations. He also observed that the self-report of patients with agoraphobia and social phobias confirmed the presence of cognitions of this kind, and emphasized the importance of dealing with them, so as not to leave patients after treatment with self-perpetuating anxiety symptoms which may block further progress.

Emmelkamp (1977) hypothesized that because the agoraphobic is

characterized by a lack of internal control (Emmelkamp and Cohen-Kettenis, 1975) self-control may be an important therapeutic goal. He suggested it may be therapeutically wise to focus less on stimulus-response relationships, as is the case with flooding, and more on teaching generalizable coping skills by means of, for example, cognitive modification procedures.

Chambless and Goldstein (1980) proposed that the maladaptive cognitions associated with agoraphobia play a crucial role in the development and maintenance of the syndrome, and are the most resistant to treatment of all components of agoraphobia. Thoughts of catastrophic consequences of anxiety contribute heavily to spiralling panic once anxiety is triggered, and heighten the level of generalized anxiety through distressing ruminations. In addition, these thoughts preoccupy agoraphobics' minds, distracting them from resolving other problems.

Mathews, et al. (1981) acknowledged that programmed practice would not be effective in the long term, if the agoraphobic's fears of physical collapse, illness, insanity, or public humiliation were not reduced also. They proposed that the simple interpretation of anxiety as conditioned fear maintained by avoidance behavior is complicated by the fact that agoraphobics have these secondary cognitive reactions to their own physical anxiety symptoms. They further suggest these cognitions play a part in increasing and maintaining anxiety.

Emmelkamp (Note 1) also noted that the treatment of agoraphobia by exposure methods may be complicated by anxiety-inducing thoughts. With a number of patients, these negative thoughts change spontaneously as a result of exposure treatment. The patients realize that the disastrous consequences they fear do not occur. For other patients, cognitive

changes do not occur at all, or are short-lived. In addition, although patients are exposed to the phobic situation in vivo, exposure may be cognitively avoided (Emmelkamp, Note 1). Some patients reassure themselves with statements such as "there is a hospital near by if something goes wrong" or "nothing went wrong today because I felt good but tomorrow I'll probably have a real attack." Emmelkamp (Note 1) concluded that it is probable that such cognitive avoidance mitigates against the effects of exposure treatment. In support of this conclusion, Marks (1975) reported that patients who complained of feeling more anxious after exposure to the phobic situation, revealed, on enquiry, that they were rehearsing internal avoidance responses throughout the exposure.

In conclusion, it seems that although exposure may be quite effective for a number of agoraphobics, it is not the panacea for the treatment of agoraphobia. There is an obvious need for improvement in the treatment of these patients, and at the same time growing evidence of the important role of cognitions in the development and maintenance of the syndrome. This situation suggests taking a closer look at the cognitive model, focusing on the role of irrational beliefs, negative self-statements, and misinterpretation of arousal, in agoraphobia.

Cognitive Theory Models. At the present time, the cognitive learning perspective of emotional disorders in general continues to be a relatively diversified amalgam of principles that have yet to be formalized into a single coherent model. In the particular case of agoraphobia, there is no agreement on a cognitive model of the disorder. Proponents of a cognitive model of agoraphobia range widely in their specific emphases. Overall, theorists have emphasized the role of

irrational beliefs, repetitive cognitions centering on the theme of danger, faulty information processing (e.g., personalization, overgeneralization), and misattribution of arousal.

Goldstein and Chambless (1978) proposed that the way individuals view the experience of acute anxiety is an important component of phobic avoidance. While the authors believe that agoraphobia onset occurs following a period of prolonged stress, they hypothesize two additional preconditions for the onset of agoraphobia: (a) agoraphobics are nonassertive individuals who perceive themselves to be incapable of functioning independently, and (b) agoraphobics are characterized by a maladaptive cognitive style, a type of misattribution in which affects are not labeled congruently with situational determinants, but diffusely categorized as anxiety. Faced with an interpersonal conflict, such as, for example, wanting to leave a relationship but being afraid to do so, could precipitate intense anxiety and anxiety attacks. Failing to correctly attribute the anxiety to the conflict situation, might lead individuals to interpret the anxiety attack as a sign of "nervous breakdown," death, or some other disaster. The anxiety attack, paired with the individuals' low level of self-sufficiency, reinforces the agoraphobics' belief that someone must take care of them. This establishes a self-defeating feedback loop, in which anxiety attacks increase dependency, which in turn increases the likelihood of remaining in the conflict. Thus anxiety is maintained.

Mathews, et al. (1981) proposed a model of agoraphobia integrating contributions made by the biological, learning, and cognitive theories. They hypothesized that at least three general vulnerability factors may predispose individuals to develop agoraphobia: (a) an unstable family

background, or one marked by overprotection or lack of parental care, leading to dependent behavior in the child and characteristic avoidance of activity requiring independent handling of fearful situations (Andrews, 1966; Shafar, 1976; Solyom, et al., 1974), (b) a high genetic loading for trait anxiety, and (c) "nonspecific" background stress. The first experience of acute anxiety is precipitated by the interaction of increased general anxiety and exposure to arousing environmental stimuli. It is the experience of an acute anxiety episode while out of doors that contributes to the development of phobic avoidance, rather than the usual pattern of anxiety neurosis. Two other factors also contribute: (a) the individual's tendency to cope by avoidance and dependence on others is reactivated, and (b) because of the individual's lack of internal control (Emmelkamp and Cohen-Kettenis, 1975) the acute anxiety is attributed to external provoking stimuli. Several additional factors serve to maintain the phobic behavior: (a) fearful thoughts that the attack may recur establish a self-defeating feedback loop in which anticipatory anxiety produces the very symptoms that are feared, and that in turn appear to confirm the frightening thoughts, and (b) sympathy and support from family and friends, support and reinforce avoidance.

Ellis (1978) hypothesized that agoraphobics have strong elements of ego anxiety and discomfort anxiety. Ego anxiety is defined as emotional tension that results when people feel that (a) their personal worth is threatened, (b) that they should or must perform well and be approved of by others, and (c) that it is catastrophic when they do not perform well or receive other's approval. Thus agoraphobics demand that they must be able to approach fearful situations and see themselves as

worthless if they do not. Discomfort anxiety, or fear of fear, is more important and is both a primary and secondary cause of agoraphobia. As soon as agoraphobics "awfulize" about their anxiety, and thereby make themselves more anxious about being anxious, they (a) increase the actual anxiety that they experience in feared situations, (b) anticipate beforehand that they will experience unmanageable anxiety, (c) are obsessed almost constantly by the possibility of unmanageable anxiety, (d) compulsively avoid all danger, and (e) feel worthless because they permit themselves to avoid situations.

Beck and Rush (1975) also proposed that a thinking disorder is at the core of neurotic anxiety. Beck, Laude, and Bohnert (1974) reported that phobic and anxiety neurotics experienced repeated cognitions that occurred in verbal form and in the form of visual images, centering on the theme of personal danger. The main difference between a phobia and anxiety neurosis lies in specificity. Anxiety neurotics are thought to experience cognitions about danger that are more internal in origin, less easily avoided, and not directly tied to specific situations. For phobics, the situations triggering anxiety are more concrete, external, and therefore avoidable. Mathews, et al. (1981) noted that agoraphobics share many of the cognitions attributed by the authors to anxiety neurotics. Cognitive errors, or faulty information processing, are also observable in patients with anxiety problems and serve to maintain the patient's belief in the validity of the anxiety-inducing thoughts.

There are now three studies which have investigated the efficacy of cognitive therapy for agoraphobia, two which found a cognitive intervention to be effective (Jannoun, Munby, Catalan, and Gelder, 1980; Emmelkamp and Mersch, Note 1), and one which found cognitive

therapy to be of little value (Emmelkamp, Kuipers, and Eggeraat, 1978).

Emmelkamp, Kuipers, and Eggeraat (1978) compared cognitive restructuring and prolonged exposure in a crossover design with agoraphobics. Cognitive restructuring consisted of three phases: (a) relabelling of anxiety-producing stimuli to provide a rational explanation for the development of fear (Goldfried and Goldfried, 1980), (b) a discussion of eight irrational beliefs (Ellis, 1962), and (c) self-instructional training (Meichenbaum, 1977). Treatment was carried out in five 2-hour sessions over the period of 1 week. Results on a behavioral test and phobic anxiety and avoidance scales indicated the superiority of prolonged exposure; cognitive restructuring led to slight improvement. The authors concluded that cognitive therapy is not effective with a clinical population. However, there are a number of factors in experimental design which may have contributed to the lack of effectiveness of the cognitive intervention. The use of a crossover design precluded conclusions about the long-term effectiveness of cognitive restructuring. Moreover, treatment was conducted in a very short time period (1 week), which might be too short to result in significant cognitive changes.

Jannoun, Munby, Catalan, and Gelder (1980) assigned agoraphobic women to either programmed practice in entering feared situations or to problem solving therapy. Each treatment was carried out by one of two therapists, conducted in the patient's home, actively involved the spouse, and presented as a self-help program. An average of 3.5 hours was spent with each patient in treatment, over a 4-week period. In the problem solving treatment, agoraphobia was described as being the result of chronic anxiety; as such it could be treated by identifying and

solving relevant life stresses. Overall, the results showed the superiority of programmed practice on behavioral measures and ratings of phobic severity, phobic anxiety, and general anxiety. However, problem solving produced significant improvement which was comparable to the results of previously investigated clinic-based exposure programs, and led to continuing improvement at follow-ups of 3 and 6 months. Furthermore, one therapist obtained results with problem solving which were comparable to those obtained by both therapists with programmed practice. The authors suggested that it is anxiety reduction, rather than systematic practice in entering fearful situations that is essential in the treatment of agoraphobia.

Emmelkamp and Mersch (Note 2) compared cognitive restructuring, prolonged exposure in vivo, and a combination of cognitive restructuring and prolonged exposure with agoraphobics. Treatment consisted of eight 2-hour sessions, held three times weekly. Cognitive restructuring proceeded as in Emmelkamp, et al. (1978) except that more emphasis was placed on insight into unproductive thinking. Patients had to analyze their own feelings in terms of rational-emotive theory (Ellis, 1962) in each session. Assessment proceeded as in Emmelkamp, et al. (1978). At posttest, prolonged exposure and the combined procedure were clearly superior to cognitive restructuring. However, at 1 month follow-up the difference between treatments was minimal, due to a continuing improvement in the cognitive group. Thus, although the short term effects were similar to the results of Emmelkamp, et al. (1978), in the long term, cognitive restructuring was about equally effective. Moreover, cognitive restructuring led to significant improvement on depression, locus of control, and assertiveness between pretest and

follow-up. The authors suggested that cognitive restructuring may teach patients general coping skills which they can apply, not only to phobic situations but to other situations as well. Comparing the results of their two investigations of the efficacy of cognitive therapy with agoraphobics, the authors concluded that cognitive therapy conducted over a longer time interval might prove to be more effective than when conducted over a short period, and insight into unproductive thinking might be more relevant than self-instructional training.

It is impossible to draw any firm conclusions regarding the efficacy of cognitive therapies for the treatment of agoraphobia. Results to date are conflicting, due to differences in both experimental design and emphasis on particular cognitive techniques.

Outcome Studies of Cognitive Therapy

Reservations about the use of cognitive therapy in the treatment of agoraphobia are based on the lack of appropriately controlled clinical studies, as well as a lack of knowledge regarding what constitutes the necessary and sufficient procedures of a cognitive program. Cognitive strategies have, however, been used with some success with both student populations and various patient populations.

Research with student populations has indicated that cognitive therapy procedures are effective in the treatment of interpersonal anxiety (Alden, Safran and Weideman, 1978; Carmody, 1978; Derry and Stone, 1979; Glass, Gottman, and Shmurak, 1976; Linehan, Goldfried, and Goldfried, 1979; Thorpe, 1975), speech anxiety (Fremouw and Harmatz, 1975; Karst and Trexler, 1970; Meichenbaum, Gilmore, and Fedoravicius,

1971; Trexler and Karst, 1972; Weissberg, 1977), test anxiety (Cooley and Spiegler, 1980; Goldfried, Linehan, and Smith, 1978; Holroyd, 1976; Hussian and Lawrence, 1978; Meichenbaum, 1972; Warren, Deffenbacher, and Brading, 1977), and phobic anxiety (D'Zurillia, Wilson, and Nelson, 1973; Meichenbaum, 1971; Wein, Nelson, and Odom, 1975).

Recently, a number of studies have evaluated the efficacy of cognitive procedures with clinical populations. Mathews and Shaw (1977) found that generalized anxiety patients could report anxiety-related cognitions, that the frequency of such thoughts could be modified by thought-stopping, and that changes in thought frequency were associated with improvement in anxious mood. Woodward and Jones (1980) assigned generalized anxiety patients to modified systematic desensitization, modified systematic desensitization plus cognitive restructuring, a combination of modified systematic desensitization plus cognitive restructuring, or no treatment control. The results indicated the superiority of the combined group on measures of subjective anxiety, behavioral anxiety, and cognitive anxiety. Cognitive restructuring alone did not lead to significant improvement. Lipsky, Kassinove, and Miller (1980) assigned patients diagnosed as having an "adjustment reaction of adulthood" or a neurosis to rational-emotive therapy alone, or in combination with rational role reversal or rational-emotive imagery, relaxation and support, or no contact control. On measures of rational thinking, anxiety, depression, and neuroticism, rational-emotive therapy, particularly in combination with role reversal or rational-emotive imagery, produced significantly better results than relaxation and support, or no contact control.

Several studies have examined the efficacy of cognitive methods in the treatment of phobic disorders. Gelder (1977) assigned dental phobics to flooding in imagination performed with high anxiety, low anxiety, and the presence or absence of prior rehearsal of coping statements. The addition of coping statements did not enhance the effectiveness of flooding on behavioral measures at posttreatment. In the follow-up period, however, there was evidence that coping statements improved the results of flooding. Gelder concluded that coping statements have their main effect on behavior after treatment ends. Negative results on the efficacy of cognitive methods with phobics were reported by Biran and Wilson (1981) and Biran, Augusto, and Wilson (1981). The first authors compared the effectiveness of guided exposure in vivo with a cognitive intervention modified after Emmelkamp, et al. (1978). Guided exposure was found to be significantly superior to cognitive restructuring in enhancing approach behavior, reducing subjective fear, and decreasing physiological reactivity to imagined phobic scenes. The results of this study must be interpreted in light of the fact that Emmelkamp, et.al (1978) reported negative findings with a similar treatment package. When more emphasis was placed on insight into unproductive thinking in a subsequent study (Emmelkamp and Mersch, Note 1), the effects of cognitive therapy did not differ from the effects of exposure at 1-month follow-up. The same criticism applies to the Biran, Augusto, and Wilson (1981) study. Patients with scriptophobia were assigned to exposure in vivo or cognitive restructuring. Results indicated the superiority of exposure. Furthermore, this study was conducted on only three patients. The importance of including rational-emotive theory (insight into

unproductive thinking) was also highlighted in a study by Emmelkamp, Van Der Helm, Van Zanten, and Plochg (1980). Obsessive-compulsives were assigned to exposure in vivo alone or in combination with self-instructional training. Both groups improved significantly, and there were no differences in the effect of treatments: Self-instructional training did not enhance the effectiveness of exposure.

The majority of studies examining the efficacy of cognitive therapy with a clinical population has been conducted on patients or community residents with social anxieties. Wolfe and Fodor (1977) compared assertion skills training, skills training with rational-emotive therapy, a consciousness-raising procedure, and a wait list control in regard to their effect on unassertive female outpatients. On behavioral measures, skills training and skills training with rational-emotive therapy were superior to consciousness-raising and the control group. On self-report measures of anxiety, only the skills training with rational-emotive therapy group showed significant reduction.

Kanter and Goldfried (1979) assigned socially anxious community residents to self-control desensitization, systematic rational restructuring, a combined procedure, or wait-list control. All treatments resulted in significant reduction in anxiety, although they were not equally effective. On self-report measures, rational restructuring was more effective than desensitization in reducing state anxiety, trait anxiety, and irrational beliefs. Behavioral measures failed to differentiate among treatments. Hammen, Jacobs, Mayol, and Cochran (1980) compared skills training, skills training plus cognitive restructuring, and a wait-list control using a population of community residents responding to newspaper announcements of free assertiveness

training. At posttreatment and follow-up there were no significant overall differences between treatment groups on questionnaire measures of assertion. However, the authors noted a tendency for skills training plus cognitive restructuring subjects to improve during the follow-up period while skills training subjects decreased slightly.

In conclusion, studies evaluating the efficacy of cognitive procedures with clinical populations yield conflicting results. The research is marked by the same problems that characterize studies examining the efficacy of cognitive procedures with agoraphobics: differences in experimental design and cognitive procedures employed. Nevertheless the literature does provide support for the efficacy of cognitive procedures.

The Current Investigation

There is a need for improvements in the treatment of agoraphobia and growing evidence of the important role of cognitions in the syndrome. It is appropriate, therefore, to direct future research efforts towards the assessment of cognitive therapies for agoraphobia, controlling for some of the problems evident in prior studies.

The purpose of the proposed study is to assess the efficacy of a cognitive therapy procedure, conducted over a longer time interval (6 weeks), for the treatment of agoraphobia. The following implication can be drawn from the clinical research:

By pinpointing the patient's cognitive distortions in content and processing and demonstrating their invalidity, the therapist can achieve

a reduction in the symptoms of agoraphobia, which continues after treatment has ended.

To the writer's knowledge, the implication that cognitive therapy effects a reduction in the symptoms of agoraphobia has not been explicitly validated; the implication thus becomes the hypothesis of the proposed study. Based on the foregoing research on the effectiveness of cognitive therapy for agoraphobia and for various clinical populations, it is hypothesized that:

Cognitive therapy is effective in reducing anxiety and avoidance, as assessed by the following measures: (a) Peak anxiety ratings on a 0-10 point scale of anxiety, at three hour intervals throughout the day, (b) The Multiple Affect Adjective Checklist Anxiety Scale - Today Form (Zuckerman and Lubin, 1965), (c) The State Trait Anxiety Inventory (Spielberger, Gorsuch, and Lushene, 1970), (d) The Watson and Marks' (1971) rating scale of phobic anxiety and avoidance, and (e) A behavioral diary of time out of the house in hours, and number of journeys made.

Method

Subjects

Subjects were selected from a total of 46 respondents to an advertisement (see Table 1) placed in community newspapers and medical clinics, announcing a treatment program for agoraphobia being conducted at a university psychology clinic. The method of acquiring subjects served as an initial screening device. On the basis of a brief telephone interview, respondents were excluded if their main complaint was other than a fear of leaving home and entering public places because of a fear of anxiety attacks. (See Appendix A for the specific questions asked in the telephone interview.) Forty-one respondents who met this criterion were mailed a personal data questionnaire (see Appendices B and C) and the Marks and Mathews' (1979) Fear Questionnaire (see Appendix D) to complete and return. The personal data questionnaire, derived from Goldstein and Foa (1981) and Marks (1978), contained questions about the nature of the problem, past and present medical and psychiatric history, medications, and availability for and commitment to treatment. Respondents were excluded if (a) they obtained a score of less than 20 on the agoraphobic subscore of the Marks and Mathews' (1979) Fear Questionnaire, (b) their usual reaction to an anxiety attack was other than escape or avoidance, (c) their symptoms had been present for less than one year, (d) they were moderately or severely depressed, or indicated any other mental disorder, (e) they indicated an unhappy marital relationship, (f) they suffered from a major physical illness

Table 1

Newspaper Advertisement for

Treatment Program

AGORAPHOBIA

DO YOU FEAR?
Being away from home?
Going out into the open, into streets, shops, crowds?
Entering buses, elevators, movies?
Remaining home alone?

DO YOU FEEL in any of the above:
Panic or terror?
Dizziness, faintness, weakness?
Rapid heart beat?
Tightness in your chest?
And that you must get away?

DO these feelings prevent you from leaving home or otherwise seriously interfere with your life?

IF YES to the above:
A limited treatment program will be offered under supervision of members of the Psychology Department of Memorial University of Newfoundland in the Fall of 1981.

(e.g., heart condition), (g) they were taking psychotropic medication that they would not, or could not discontinue, (h) they were currently seeing another professional for help with their phobias, or any other psychiatric condition, and (i) they did not commit themselves to participating in the treatment program if accepted, and/or agree to follow-ups of 3 weeks and 2 months. Of the 34 respondents who returned the questionnaires, 16 met the selection criteria. They were requested to attend a 90-minute initial assessment interview at the psychology clinic. (The questions asked in the interview are presented in Appendix E.) The interview was conducted at the homes of two respondents because of the severity of their phobia. At this time the accuracy of the questionnaire information was checked, and respondents were required to meet two final criteria. These were: (a) the regular avoidance of a wide range of situations had persisted for at least the preceding 6 months, and (b) respondents agreed to meet the requirements of the program. These included: (a) agreeing to wait for treatment during the baseline period which ranged between 3 and 9 weeks, (b) completing diaries of anxiety and time out of the house each day throughout the course of therapy, beginning with baseline and up to 3 weeks after treatment ended, (c) agreeing to attend two 90-minute sessions weekly for 6 weeks, (d) maintaining availability for follow-ups of 3 weeks and 2 months, and (e) agreeing to assessment by an independent psychologist. Those who did not meet these criteria, or the criteria specified initially in the selection process, were advised where to obtain suitable alternative treatment.

Eight women and one man participated in the study. All subjects met the Diagnostic and Statistical Manual of Mental Disorders, 3rd Edition (DSM-III), criteria for the diagnosis of agoraphobia with panic attacks. The mean age of the sample was 35 years (range 29 to 42), and the mean symptom duration was 8 years (range 2 to 12). All subjects were married and none held regular jobs. The average educational level was 12 years (range 12 to 15). All subjects had previously sought professional help for their phobias, and reported no improvement as a result of psychotherapy or drug therapy. The personal data for individual subjects are presented in Table 2.

Design

In this study a multiple-baseline design was employed. Subjects were assigned on a random basis to one of three treatment groups (n=3) which differed only in the length of time they waited for treatment. Group 1 waited for 3 weeks; group 2 had a 6-week wait, and group 3 had a 9-week wait.

Each individual subject's self-reported level of anxiety, self-reported level of peak anxiety, and self-reported level of time out of the house in terms of both hours and number of journeys away from the house were assessed everyday on a repeated measures basis. Data were collected for each subject during the 3, 6, or 9 weeks preceding treatment, for 6 weeks during the treatment phase, and for 3 weeks following treatment. Assessments of state and trait anxiety, and phobic anxiety and avoidance were made pre- and posttreatment and at follow-ups of 3 weeks and 2 months. All subjects received 12 treatment

Table 2

Personal Data for each Subject

Subject	Age	Duration of Therapy in Years	Educational Level in Years
1	35	10	15
2	30	5	12
3	42	12	13
4	32	2	13
5	29	4	12
6	42	12	12
7	41	11	12
8	36	6	13
9	33	8	12

sessions over a 6-week period. No treatment was provided during the follow-up period, although in a number of cases treatment was renewed after the last follow-up. Data collected after the last follow-up are not presented.

Measures

Screening Measure. The Marks and Mathews' (1979) fear questionnaire was used in the study only in the initial selection process. It is reproduced in Appendix D. Three phobic subscores can be derived from the questionnaire: agoraphobia from items 5, 6, 8, 12, and 15; blood injury from items 2, 4, 10, 13, and 16; and social phobia from items 3, 7, 9, 11, and 14. A suggested cutting score for agoraphobia is 20, those scoring lower being considered non-agoraphobic (Mathews, Note 3).

The questionnaire is relatively new, so that there is little research available on its reliability and validity. In a study by Marks and Mathews (1979), the questionnaire was administered twice, with a retest interval of 7 days, to 20 phobic patients. The authors reported test-retest reliabilities of .85 for total phobia score and .82 for the agoraphobic subscore. They also reported that the questionnaire was sensitive to clinical improvement after treatment, in a sample of 26 phobics treated by exposure therapy. There was significant improvement on the total phobia score (36.5 to 26.6), the agoraphobic subscore (14 to 8) and the social phobia subscore (16 to 13). Moreover, on the agoraphobic subscore, the agoraphobics scored higher and improved significantly more, than did social phobics or other phobics.

Main Measures. Data collected from diaries kept by the subjects constituted the main measures in the study.

Subjects kept a diary, modified from Mathews and Shaw (1977) in which they noted peak anxiety levels (defined as the most anxious moment) every 3 hours throughout the day. At 9 a.m., 12 noon, 3 p.m., 6 p.m., 9 p.m., and 12 midnight or bedtime) they recorded their peak anxiety in the preceding 3 hours on a 0-10 point scale of anxiety. The instructions for completing the diary and the anxiety scale are reproduced in Appendix F. The highest level of anxiety, out of the six recordings for each day, served as a daily measure of subjects' self-reported level of peak anxiety.

Daily measures of anxiety were also available from the Anxiety Scale of the Multiple Affect Adjective Checklist (MAACL) - Today Form (Zuckerman and Lubin, 1965). The MAACL is a self-administered test which provides a measure of anxiety, depression, and hostility. It is purported to be ideally suited to studies requiring repeated measurement of affect over time (Zuckerman and Lubin, 1965). Zuckerman and Lubin (1965) reported that the internal reliability of the Anxiety Scale - Today Form was adequate (ranging from .72 to .92) in samples composed of college and nursing students, while test-retest reliability was low, as would be expected if the scale was sensitive to day to day fluctuations in anxiety. In terms of concurrent validity, the authors cite several studies reporting significant correlations between the anxiety scale and clinical and behavioral ratings of anxiety (ranging from .30 to .64).

Subjects also kept a diary, modified from Mathews, et al. (1981) in which they noted the time of each departure from home, time of return, purpose of the departure, the means of transport, and whether alone or

accompanied. (The diary form and instructions are reproduced in Appendices G and H). The diary served as a daily measure of subjects' total time out of the house in hours, and total number of journeys out of the house. Time spent at the home of neighbouring friends and relatives was excluded in that, according to Mathews, et al. (1981), these situations are often less frightening to the patient, and therefore may not be valid measures of agoraphobia. These authors report that diaries of time out of the house are a reasonable measure of agoraphobia. They suggest that it is important to measure what the patient actually does from day to day, since a treatment that does not affect daily life is of limited value. They further note that although time out of the house is only a correlate of the patient's central problem, their studies have shown that treatments that decrease fear and avoidance in agoraphobia also increase the time spent out of the house.

Supplementary Measures. The supplementary measures were included to facilitate comparability of the results of the present study with the results observed in previously conducted studies of agoraphobia (e.g., Jannoun, et al., 1980; Emmelkamp and Mersch, Note 1). They were the State-Trait Anxiety Inventory - STAI (Spielberger, Gorsuch, & Lushene, 1970) and the Watson and Marks' (1971) Scales of Phobic Anxiety and Avoidance.

The State-Trait Anxiety Inventory is self-administered, and consists of separate self-report scales for state anxiety and trait anxiety. Spielberger, et al. (1970) reported that the test-retest reliability of the Trait Scale was relatively high (ranging from .73 to .86), while that for the State Scale was relatively low (ranging from .16 to .54), as would be expected for a measure designed to be

influenced by situational factors. Both State and Trait Scales have a high degree of internal consistency (ranging from .83 to .92). In terms of concurrent validity, Spielberger, et al. (1970) cite several studies which report correlations of .52 to .83 between the Trait Scale and other questionnaire measures of trait anxiety. These authors also report satisfactory construct validity for the State Scale, ranging from .60 to .94.

The Watson and Marks' (1971) scales of phobic anxiety and phobic avoidance are clinical rating scales. There are 9 points in each scale (scores 0 to 8), 0 indicating no disability and 8 indicating maximal disability. (The 9 point scales for anxiety and avoidance are reproduced in Appendices I and J.) Separate ratings of anxiety and avoidance are made for a series of specific phobic situations, one being characterized as the main phobia the patient wants treated, as well as four other phobic situations. These situations are elicited from the patient during an assessment interview. Both scales are scored by the subject, the therapist, and an independent assessor. Scores for the five phobic situations are pooled to form a total phobic avoidance score and a total phobic anxiety score. Psychiatric rating scales, such as Watson and Marks' have been the most widely used method of assessing agoraphobics. Watson and Marks (1971) reported that the reliability of such ratings, as assessed by correlating the ratings of independent assessors with ratings of the patients' therapists was .80. The ratings are also sensitive to the effects of treatment, and correlate at a satisfactory level with other more objective measures of agoraphobic behavior (Mathews, Gelder and Johnston, 1981).

Therapists

One advanced graduate student in clinical psychology (the author) with 2 years of experience in conducting cognitive-behavior therapy, served as the therapist.

The independent assessor held a doctoral degree in clinical psychology, and had extensive experience in the behavioral treatment of agoraphobia.

Procedure

Assessment. Several days prior to the initiation of the baseline period, the therapist met with the subjects to distribute diaries and explain how records were to be kept. Subjects were furnished copies of the MAACL, and instructed to complete one each night at bedtime. The standard instructions for the administration of the MAACL, given on the checklist form, were followed. The only amplification concerned the time set; the "today" was explained as "from the time you got up this morning until now."

Subjects were also given behavioral diary forms, with instructions to fill them in every time they went out, excepting visits to neighbourhood friends and relatives. (See Appendices G and H for diary forms and instructions given to subjects.)

Finally subjects were given a notebook in which to record peak anxiety levels at 9 a.m., 12 noon, 3 p.m., 6 p.m., 9 p.m., and 12 midnight (or bedtime) each day, on a 0-10 point scale of anxiety. (See Appendix F for specific instructions given to subjects and a description

of the anxiety scale.) Days and specific recording times were written in the notebook, so subjects had only to record their peak anxiety level in the appropriate space.

Subjects were requested to complete these three diaries every day until treatment began, for the 6-week treatment program, and for 3 weeks following treatment. The importance of completing the diaries was emphasized. Subjects were told that the data collected from the diaries provided the therapist with precise information about their level of functioning, and such information was necessary to plan a treatment program, and assess whether or not it was working. Furthermore, treatment could not begin without complete diary records for the wait period.

At the end of the meeting subjects were informed of the time they had to wait for treatment, and arrangements were made for two further assessment interviews, one with the therapist, and one with the independent assessor. Subjects were also told that they would be contacted by the therapist at the beginning of every week during the baseline period to collect the diary measures; on the assigned day the therapist drove to the subjects' homes. This procedure served the dual purpose of reliably collecting the data and maintaining contact with the subjects.

Two days before the first treatment session the subjects met with the therapist who then made the clinical ratings of phobic anxiety and avoidance. Using a brief structured interview (see Appendix K), the therapist elicited five specific phobic situations subjects wanted treated, one being their main phobia. Based upon the information obtained in the interview, the therapist rated the subject on each

situation for phobic anxiety and avoidance (Watson and Marks, 1971). Subsequently, the subjects themselves rated phobic anxiety and avoidance for each situation (see Appendices I and J, repectively). Each then completed the STAI. On the following day, the subjects met with the independent assessor who made clinical ratings using the Watson and Marks' (1971) scales. The assessor was asked to interview each subject, focusing on the phobic situations which had been specified, and to rate subjects on phobic anxiety and avoidance on the basis of the information obtained in the interview.

All subjects received 12 treatment sessions over a 6-week period. During the 2 days following the last treatment session subjects were reassessed on measures of phobic anxiety and avoidance, and state and trait anxiety. Three weeks and again 2 months later this 2-day assessment procedure was repeated, and at 3-week follow-up subjects' diaries were collected.

The difference in times of assessment, that is a 3-week follow-up on daily measures and a 2-month follow-up on supplementary measures was necessary, in that a long-term follow-up on the effectiveness of cognitive therapy was desired, yet it was considered unrealistic to ask subjects to monitor for 2 months after treatment had ended.

Treatment. The treatment program was conducted in a university psychology clinic for seven of the subjects. For the remaining two subjects treatment was carried out in the home, due to the severity of the phobia. Treatment was administered individually to each subject in 12 sessions. Sessions were held twice weekly, and were approximately 90 minutes in duration.

With any cognitive treatment program the intervention depends a great deal upon the specific problematic client behaviors. One or more cognitions or beliefs can be elicited and addressed as targets. It was thus a dilemma to define a treatment which was flexible enough to allow for application to a variety of subjects, yet specific enough to permit replication and clear understanding. The following treatment package, modified from Emmelkamp and Mersch (Note 1), attempted to meet these criteria. The detailed plan of the treatment program, session by session, is presented in Appendix M.

Treatment consisted of three phases: (a) education, (b) cognitive restructuring (Beck and Emery, 1979), and (c) rational restructuring (Goldfried and Goldfried, 1980).

The first phase was designed to provide subjects with an explanatory scheme for understanding the nature of their problem. Prior to starting treatment, they were given an introductory manual (see Appendix L), which described the origin and maintenance of agoraphobia, and the approach to treatment. First, it was explained that people vary in their physical reactions to stress or tension in their lives, and that people who later develop agoraphobia manifest the effects of stress by nervous system oversensitivity. Subjects were told that this oversensitivity causes agoraphobics to react to everyday situations as if they were dangerous and frightening, that is, the natural bodily reaction to real danger (e.g., pounding heart, sweating) tends to be triggered automatically by quite ordinary situations. Second, these overreactions usually cause intense emotional repercussions; individuals start to worry about these feelings and label them as dangerous, a warning that something terrible is going to happen (e.g., insanity, loss

of control, death). Every activity the individual engages in comes to be interpreted in terms of its potential for panic or catastrophe. Over time these thoughts of dread and apprehension become firmly fixed, like a habit. The theme of personal danger becomes central in the individual's thoughts. Because of their fears, individuals give themselves instructions to be constantly on the alert in case of panic; so even after the initial stress that caused the first panic is removed from the individual's life, prolonged tension and hence oversensitivity remain. Individuals continue to worry, to anticipate that the feared event will occur. As they continue to worry, the anxiety level is maintained and sometimes spirals into panic. Panics continue because of the pattern of thinking that individuals have developed. As such, agoraphobia can be treated by altering the thinking process that was exacerbating the anxiety. Subjects were told that if their thoughts were monitored and then reshaped to conform with reality, the anxiety itself would be modified or even eradicated.

The second phase was designed to teach subjects to develop and carry out strategies for challenging their anxiety-arousing (automatic) thoughts and cognitive errors, and to generate alternative more adaptive interpretations of anxiety experiences. Ellis' (1962) A-B-C model of emotions was introduced in session two, through the use of simple examples. Subjects were given homework sheets (see Appendix N) modified from Beck & Emery (1979) on which they were to record every time they experienced anxiety: (a) a description of the situation, (b) the automatic thoughts, and (c) their anxiety level on a 0-10 point scale. Subjects' records of automatic thoughts were brought into therapy and were, thereafter, the focus of discussion. Starting in session three,

subjects' thoughts were analyzed in terms of how likely it was that their interpretations of particular situations were in fact true. The therapist reviewed the subjects' logic in interpreting situations to determine whether there were any cognitive errors or distortions. This procedure involved the analysis of automatic thoughts for each anxiety experience indicated on the records. Sample questions the therapist asked were: "How do you know (what exactly is the evidence)? Are your judgements based on thought or fact?, Are you focusing on irrelevant factors?, Are you using ultimatum type words that don't correspond with reality?, Are you overgeneralizing?, Are you self-referencing?, Why must you?, etc." Following this procedure, subjects were told that their closed and fixed way of thinking, as well as their cognitive errors, excluded alternative interpretations; hence each anxiety experience was discussed again, and this time the therapist helped subjects to generate alternative interpretations by correcting cognitive errors, and deciding whether the evidence supported their thoughts, or whether some other interpretation might be more appropriate. Subjects were instructed to apply this hypothesis testing between sessions as a written formal process. The recognition of automatic thoughts was to act as a cue for subjects to question themselves. Everytime they felt anxious, subjects were to record (a) the nature of the situation, (b) the automatic thoughts, (c) the initial anxiety level, (d) the rational response, and (e) the subsequent anxiety level. At the end of session three, subjects were given "A Rational Counseling Primer," (Young, 1964), a book which explains Ellis' model of emotions in simple terms.

In session four, subjects' thoughts were analyzed in terms of the ultimate consequences of their automatic thoughts, if true. Subjects were required to specify in detail what they thought would happen if their worst fears came true, so they could face this fear, and so the therapist could correct any gross misconceptions.

At the end of session eight, subjects were given a brief pamphlet (see Appendix O), outlining the importance of maladaptive assumptions in perpetuating anxiety. Beginning with session nine, the therapist and subjects worked together to identify subjects' maladaptive assumptions by determining general themes from the subjects' records of automatic thoughts. Thereafter subjects worked to dispute maladaptive assumptions in the same way they disputed automatic thoughts.

The third phase of treatment was designed to provide subjects with the opportunity to practice the skills they had learned in phobic situations. Using the rational restructuring method (Goldfried and Goldfried, 1980) subjects were presented phobic situations in imagination, and were requested to ferret out what they were telling themselves about the situation that was causing the anxiety. They were instructed to challenge the automatic thoughts, and replace them with a more realistic appraisal of the situation, as they had done with records of automatic thoughts. The therapist played an active role in questioning the subjects and helping them identify problematic thoughts. Imagery presentations were used in each session, starting in session six. The situations rehearsed were the five phobic situations subjects had specified in the initial assessment procedure. Subjects ordered these situations from least to most upsetting. The hierarchy of least to most upsetting situations was used to enable subjects to proceed

systematically one step at a time. Successful coping, defined as an anxiety level less than two on the 0-10 point scale, determined the progression to a more difficult situation in the sequence.

Results

Main Measures

Data collected from the diaries kept by subjects constituted the main measures. They were: (a) peak anxiety ratings, (b) MAACL Anxiety Scale scores, (c) number of hours away from home, and (d) number of journeys away from home. Data on these measures were averaged over 3-day periods for individuals and for groups. The performance of individuals on each of the measures is presented in Figures 1, 2, 3, and 4, respectively.[1] Although the data are extremely variable, it appears that for each subject changes were obtained only after the introduction of treatment. Group effects on the main measures are presented in Figures 5, 6, 7, and 8. These figures indicate that despite differences in baseline length among groups, changes occur only following the point of intervention. Since the patterns of group data reflect those of individual subjects, future analysis is carried out on group data, to permit statistical comparison.

Baselines for each measure within each group of subjects were relatively stable (Figures 5, 6, 7, and 8). Moreover, regression equations of baseline data, calculated by the method of least squares (Ferguson, 1981) failed to indicate a change in trend (Table 3). This stability permitted using only the last 3 weeks of baseline, for each group, in assessing treatment effects. To achieve equality in the length of all phases in the study, and thereby facilitate informative analysis, treatment was examined as two phases: pre- to midtreatment (Treatment 1), and mid- to posttreatment (Treatment 2). Consequently,

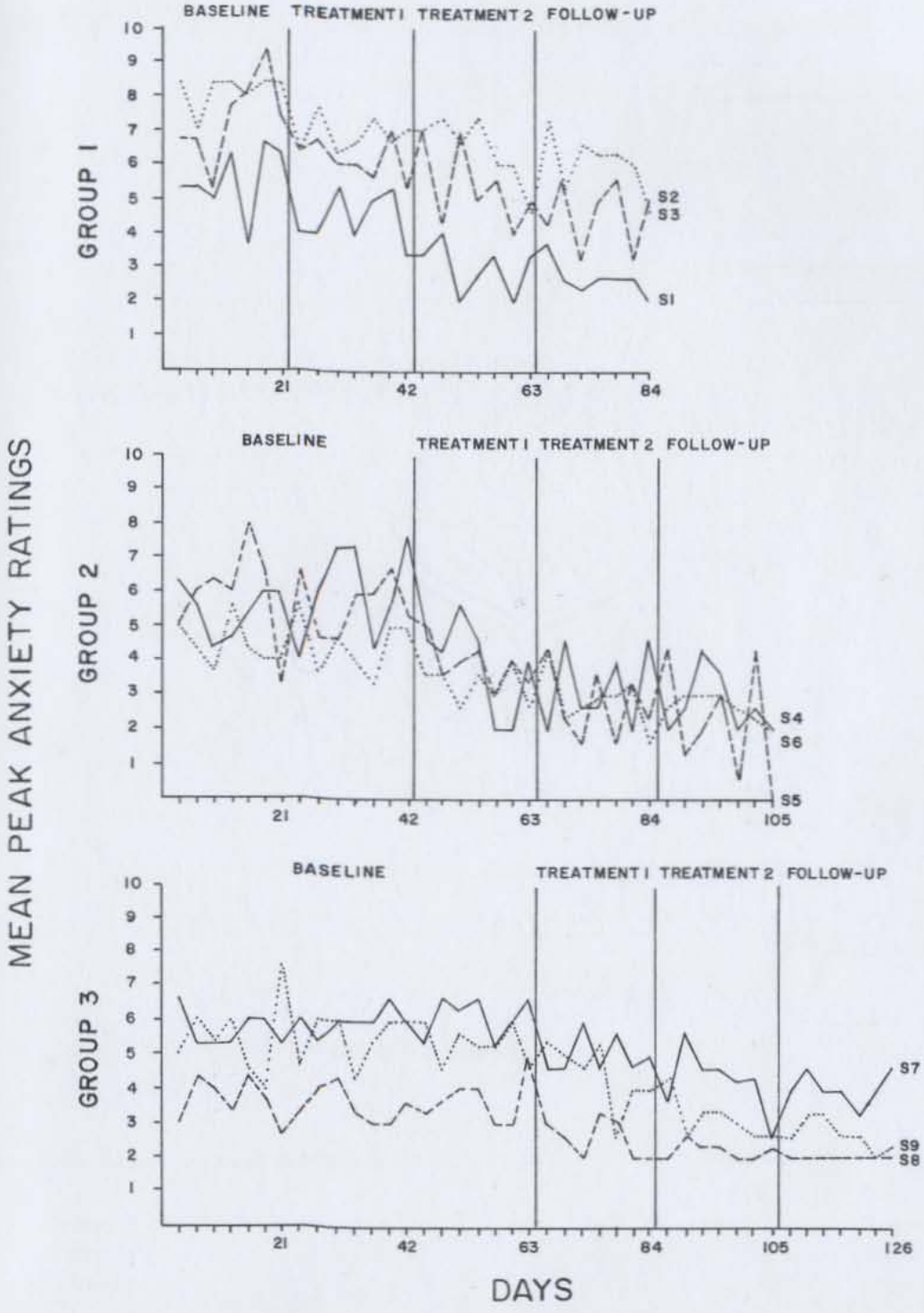

Figure 1. Peak anxiety ratings, averaged over 3-day periods for subjects in Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of of treatment. S = subject.)

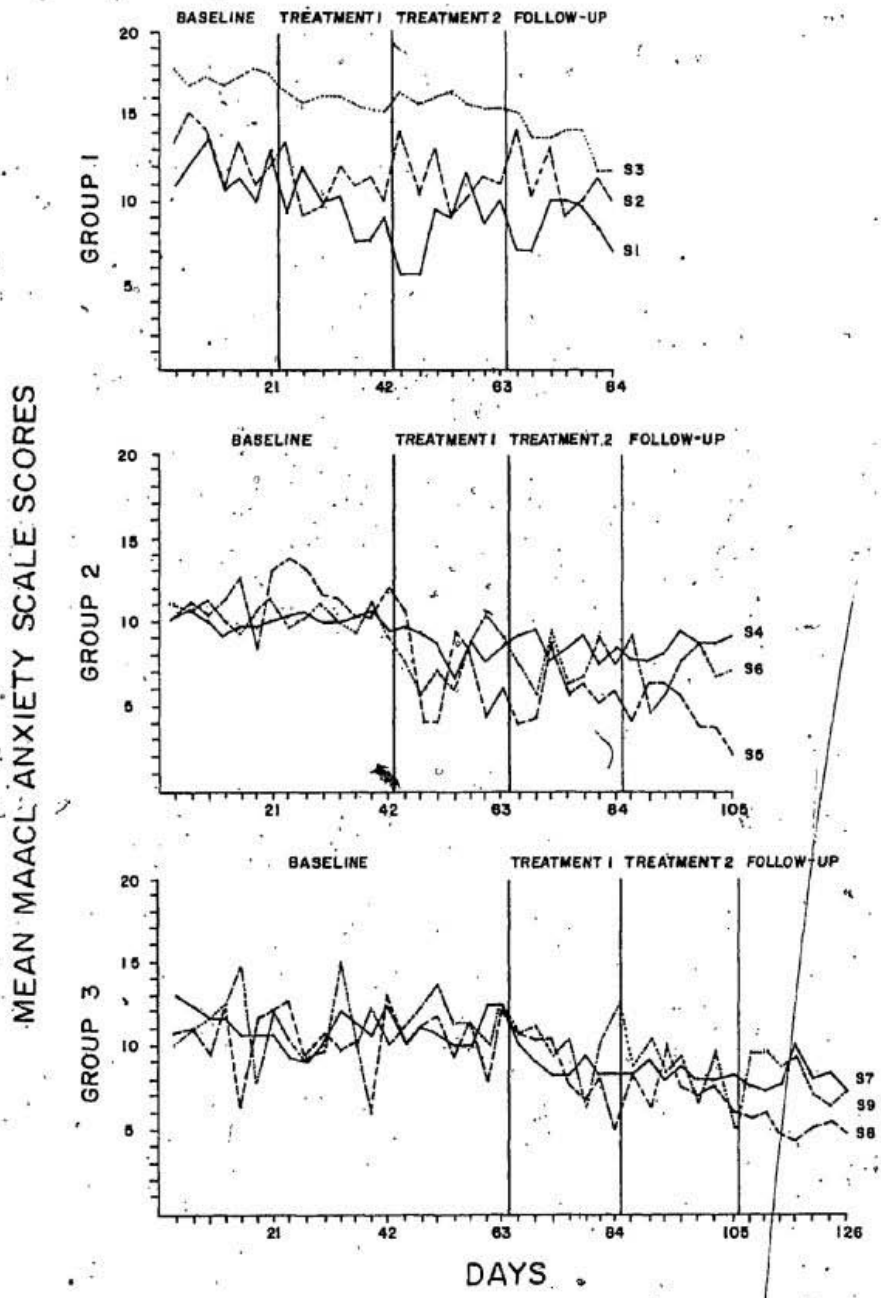

Figure 2. MAACL Anxiety Scale scores, averaged over 3-day periods for subjects in Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of treatment. S = subject.)

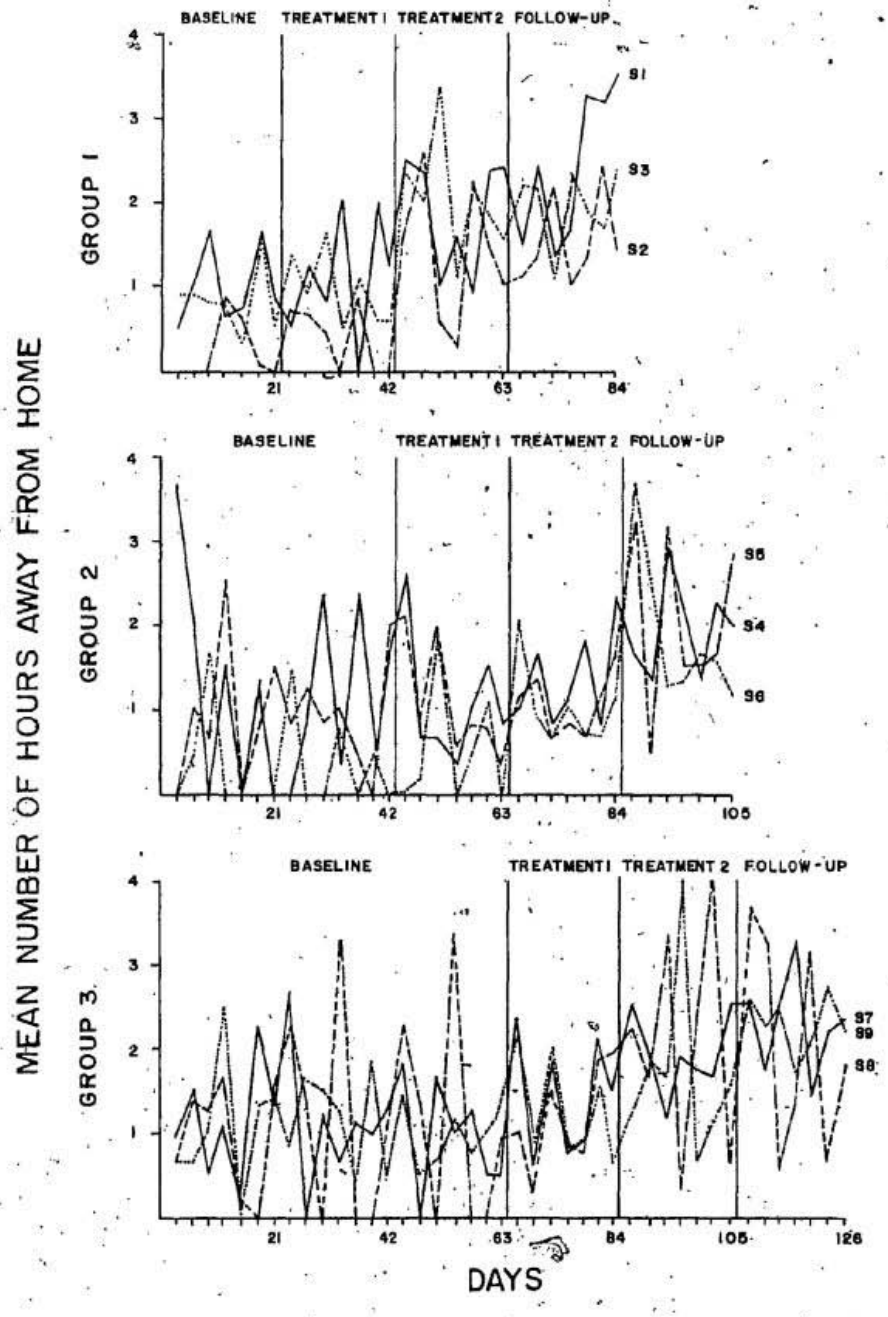

Figure 3. Number of hours away from home, averaged over 3-day periods for subjects in Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of treatment. S = subject.)

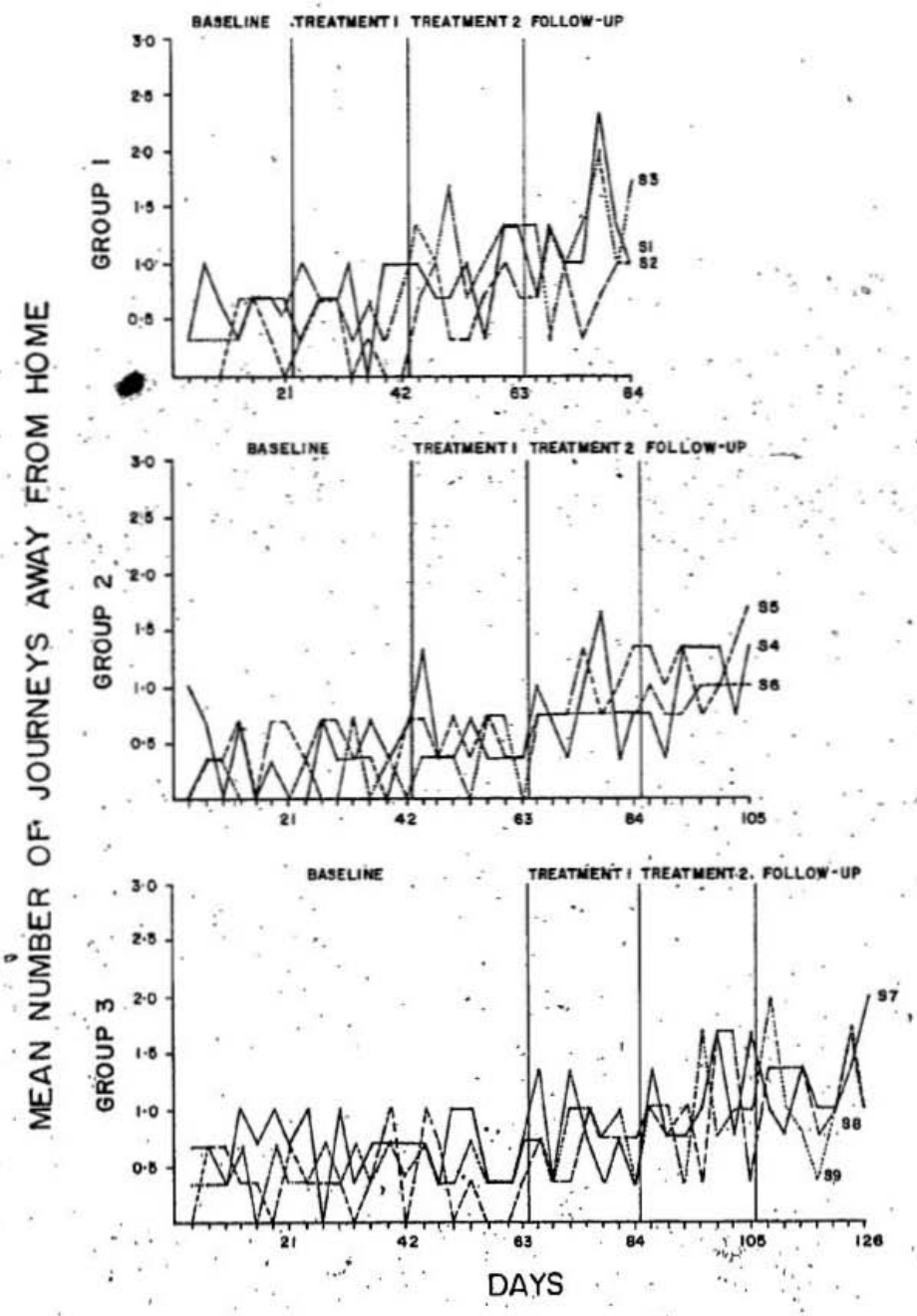

Figure 4. Number of journeys away from home, averaged over 3-day periods for subjects in Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of treatment. S = subject.)

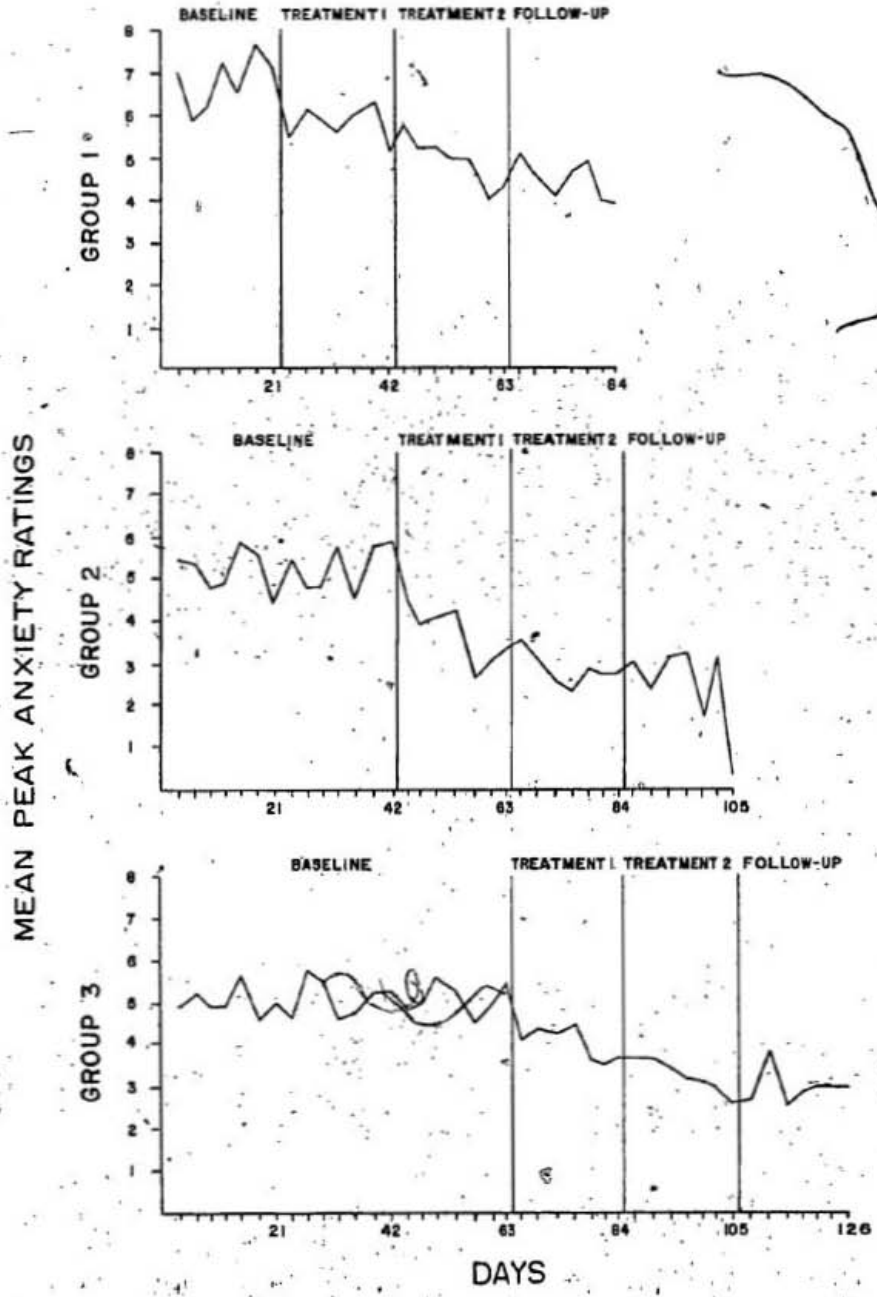

Figure 5. Peak anxiety ratings, averaged over 3-day periods for Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of treatment.)

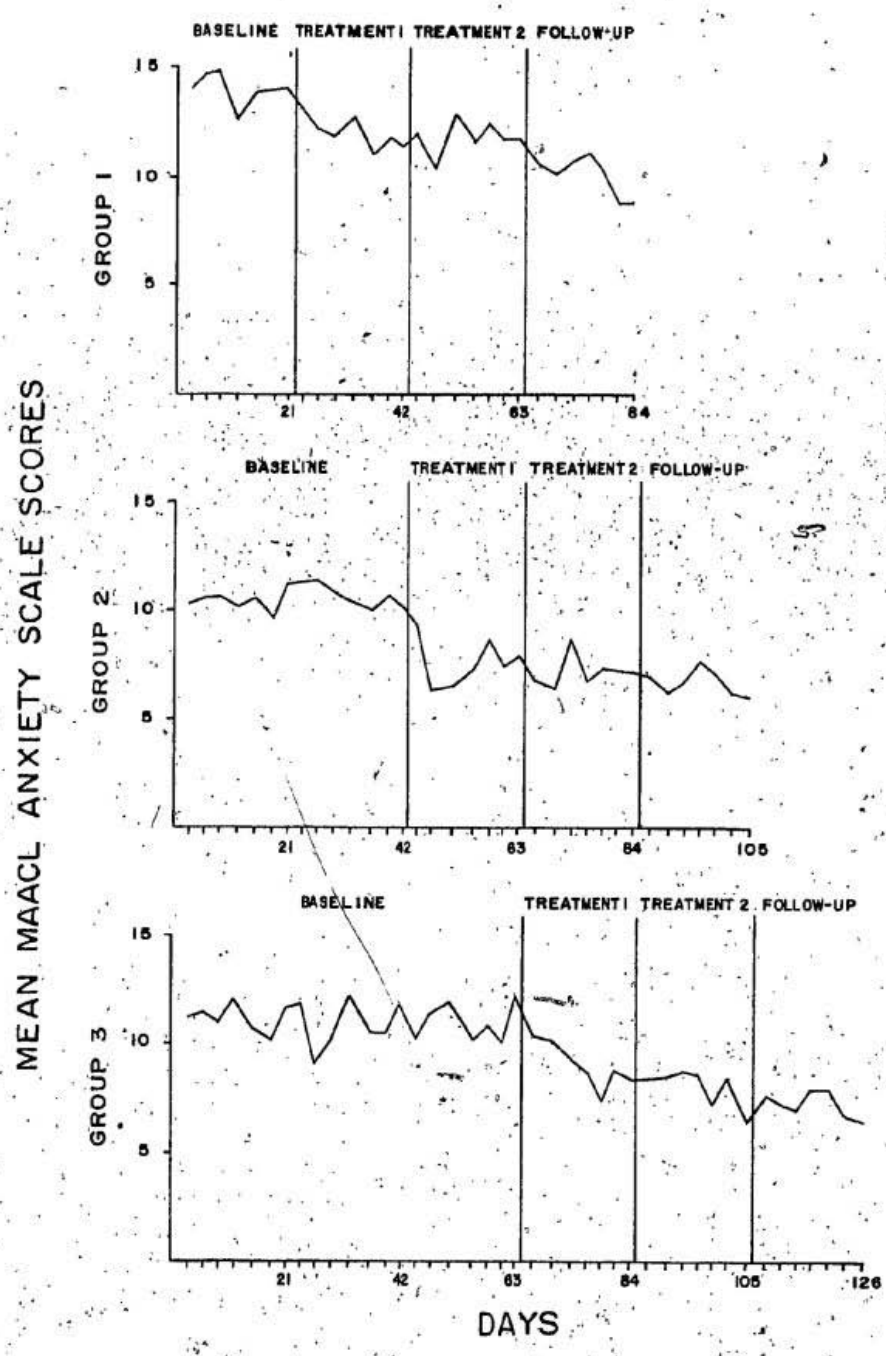

Figure 6. MAACL Anxiety Scale scores, averaged over 3-day periods for Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of treatment.)

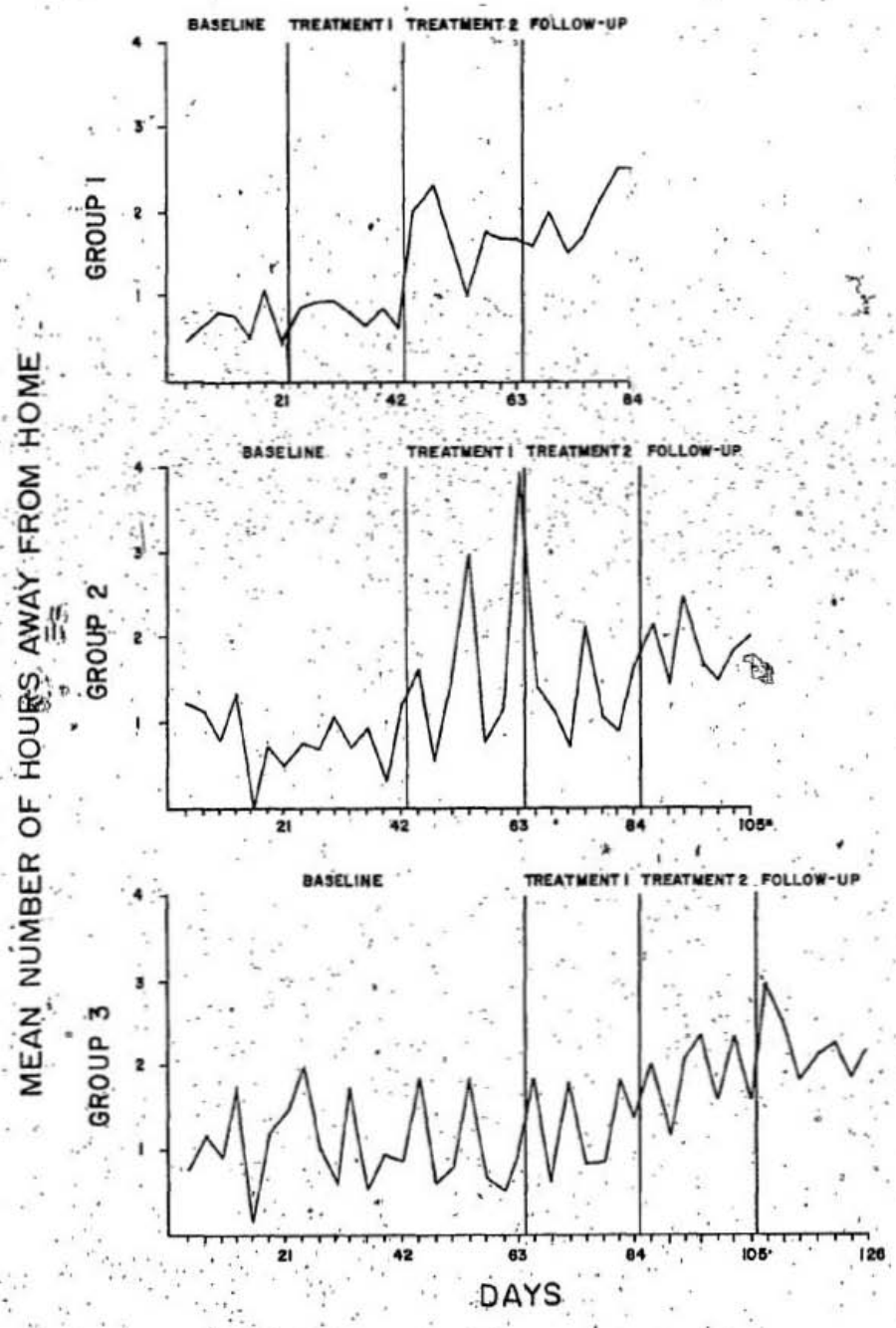

Figure 7. Number of hours away from home, averaged over 3 day periods for Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of treatment.)

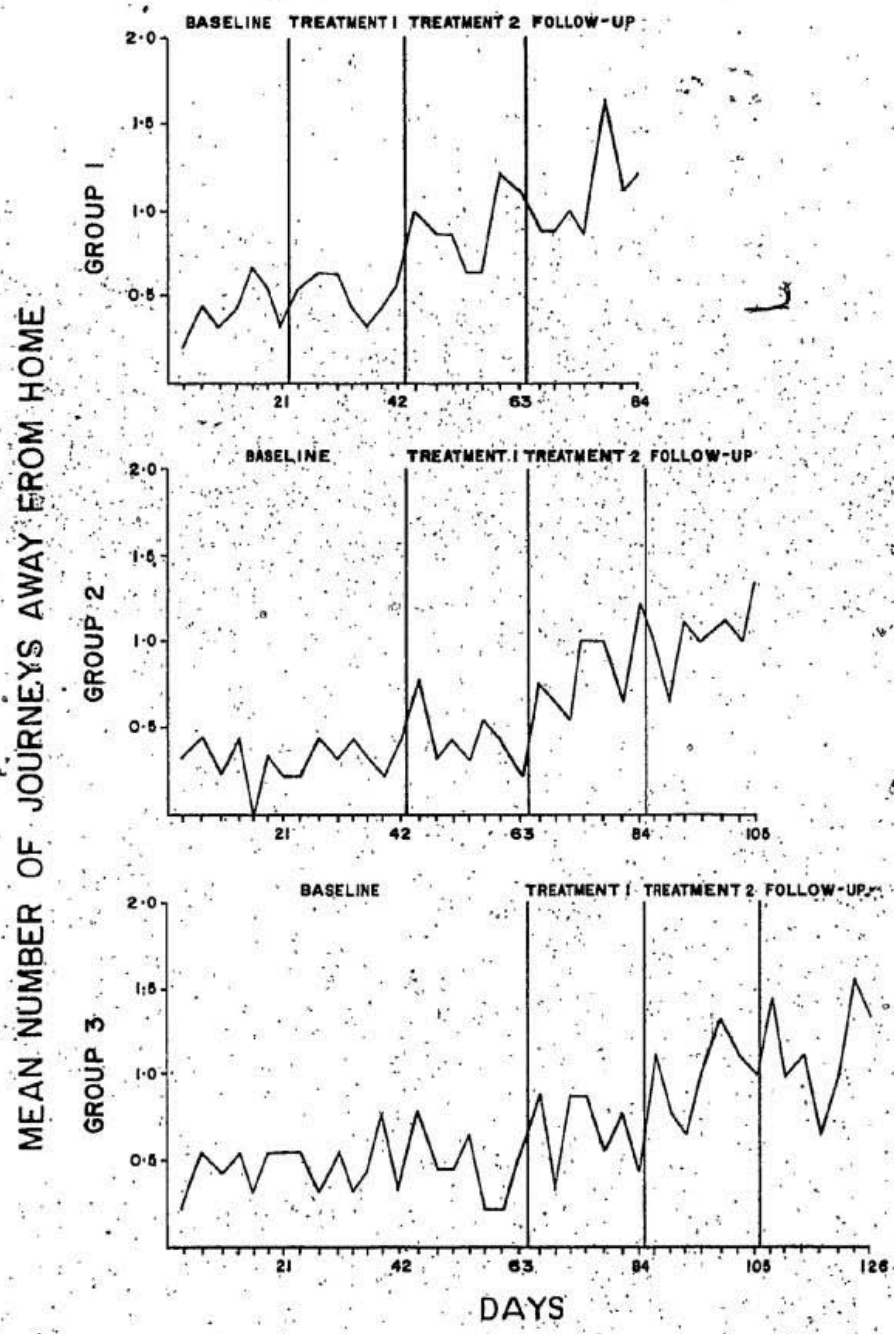

Figure 8. Number of journeys away from home, averaged over 3-day periods for Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of treatment.)

Table 3

Slope Equations of Main Measures During Baseline

Measure	Slope Equation
Peak Anxiety Ratings	
Group 1	$y' = -.09x + 6.93$
Group 2	$y' = -.02x + 5.38$
Group 3	$y' = -.01x + 4.95$
MAACL Anxiety Scale Scores	
Group 1	$y' = .07x + 13.74$
Group 2	$y' = .01x + 10.49$
Group 3	$y' = .01x + 10.86$
Number of Hours Away from Home	
Group 1	$y' = .02x + .60$
Group 2	$y' = -.01x + .89$
Group 3	$y' = -.001x + 1.06$
Number of Journeys Away from home	
Group 1	$y' = -1.22x + .32$ [a]
Group 2	$y' = -.01x + .36$
Group 3	$y' = .00x + .47$

[a] significant

all main measures were statistically analyzed by a 3(Groups) x 4(Treatment) x 7(Blocks) analysis of variance, with repeated measures on the last two factors. Factors were: (a) Groups: 1, 2, and 3, (b) Treatment: pre-, mid-, and posttreatment, and 3-week follow-up, and (c) Blocks: dependent variable averaged over 3-day periods, resulting in seven data points for each phase. Post-hoc comparisons among group means were made using the Newman-Keuls test (Ferguson, 1981).

Results for peak anxiety ratings (Table 4) were statistically significant only for the main treatment effect, $F(3,18)=95.76$, $p<.01$. Post-hoc comparisons showed a significant decrease in peak anxiety ratings from pre- to midtreatment, $p<.01$, (Table 5).

Only the main treatment effect was statistically significant for MAACL Anxiety Scale scores, $F(3,18)=30.42$, $p<.01$, (Table 6). Post-hoc comparisons revealed no significant phase changes; the overall decrease in anxiety scores from pretreatment to 3-week follow-up was significant, $p<.01$, (Table 5).

Results for the number of journeys away from home are presented in Table 7. Only the main treatment effect reached statistical significance, $F(3,18)=120.56$, $p<.01$. Post-hoc comparisons showed that there was a significant increase in the number of journeys away from home from pre-, and mid-, to posttreatment, $p<.01$, (Table 5).

Results for the number of hours away from home (Table 8) were statistically significant for the main treatment effect, $F(3,18)=98.23$, $p<.01$, and for the groups x treatment interaction, $F(6,18)=2.95$, $p<.05$. The interaction is presented in Figure 9. Post-hoc comparisons for Group 1 showed that mid-to posttreatment changes were statistically significant, $p<.01$. For Group 3, post-hoc comparisons also revealed

Table 4

Summary Table for the
Repeated Measures Analysis of Variance on
Peak Anxiety Ratings

Source	df	MS	F	p
Group (G)	2	91.56	2.61	*
Error	6	35.09		
Treatment (T)	3	76.65	95.76	.01
GxT	6	.70	.88	*
Error	18	.80		
Block (B)	6	1.64	1.49	
GxB	12	.69	.62	*
Error	36	1.11		
TxB	18	.93	1.42	*
GxTxB	36	.51	.7	*
Error	108	.65		

*nonsignificant

Table 5

Mean Ratings on Three Main Measures

During each Phase of the Study

	Pre- Treatment	Mid-	Post-	3-week Follow-up	Overall Change
Peak Anxiety Ratings	5.82	4.52	3.70	3.33	2.49
MAACL Anxiety Scale Scores	11.85	9.57	9.01	7.95	3.90
Number of Journeys Away from Home	.41	.55	.91	1.07	.66

Table 6

Summary Table for the
Repeated Measures Analysis of Variance on
MAACL Anxiety Scale Scores

Source	df	MS	F	p
Group (G)	2	362.19	3.40	*
Error	6	106.67		
Treatment (T)	3	171.09	30.42	.01
GxT	6	3.38	.60	*
Error	18	5.62		
Block(B)	6	4.23	1.92	*
GXB	12	1.49	.68	*
Error	36	2.20		
TxB	18	2.83	1.55	*
GxTxB	36	1.21	.66	*
Error	108	1.82		

*nonsignificant

Table 7

Summary Table for the
Repeated Measures Analysis of Variance on
Number of Journeys Away from Home

Source	df	MS	F	p
Group (G)	2	.57	.87	*
Error	6	.62		
Treatment (T)	3	5.92	120.56	.01
GxT	6	.02	.46	*
Error	18	.50		
Block(B)	6	.17	1.66	*
GxB	12	.12	1.17	*
Error	36	.10		
TxB	18	.15	1.27	*
GxTxB	36	.14	1.11	*
Error	108	.12		

*nonsignificant

Table 8

Summary Table for the
Repeated Measures Analysis of Variance on
Number of Hours Away from Home

Source	df	MS	F	p
Group (G)	2	12206.1	1.66	*
Error	6	7351.62		
Treatment (T)	3	75728.9	98.23	.01
GxT	6	2276.99	2.95	.05
Error	18	770.97		
Block(B)	6	2571.56	1.64	*
GxB	12	2508.20	1.60	*
Error	36	1572.25		
TxB	18	1525.14	.59	*
GxTxB	36	1973.29	.77	*
Error	108	2565.15		

*nonsignificant

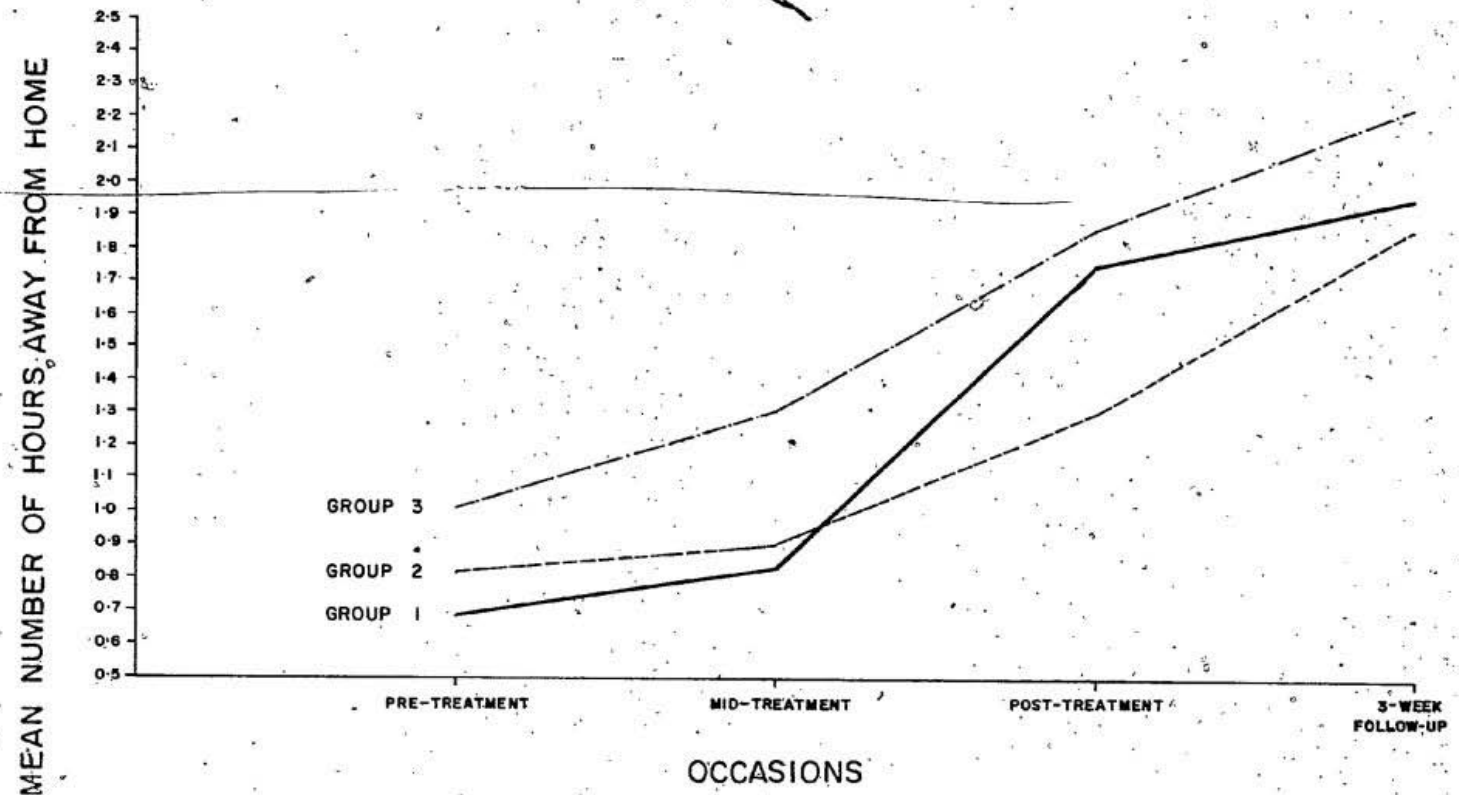

Figure 9. Number of hours away from home pre-, mid-, and posttreatment, and during follow-up for Groups 1, 2, and 3. (Treatment 1 = first 3 weeks of treatment; Treatment 2 = second 3 weeks of treatment.)

statistically significant changes from mid- to posttreatment, $p<.05$. In addition, the overall increase in the number of hours away from home from pretreatment to posttreatment was significant ($p<.01$) for these two groups. Group 2 showed significant increases from pre-, mid-, and posttreatment, to follow-up, $p<.01$.

Supplementary Measures

As a supplementary procedure subjects completed the State-Trait Anxiety Inventory (Spielberger, Gorsuch, and Lushene, 1970) and rated themselves on the Watson and Marks' (1971) Phobic Anxiety and Avoidance Scales. The therapist and the independent assessor also rated subjects on total phobic anxiety and avoidance.[2] The reliability between subject, therapist, and assessor ratings was assessed using Cronbach's alpha test (Ferguson, 1981).

State and trait anxiety measures were analyzed by a 3(Groups) x 4(Treatment) analysis of variance with repeated measures. Post-hoc comparisons were made using the Newman-Keuls test (Ferguson, 1981). The reliability coefficients between subject, therapist, and assessor ratings of total phobic anxiety (.97) and total phobic avoidance (.98) reached acceptable levels, allowing the statistical analysis of these measures to proceed in the same fashion as the analysis of state and trait anxiety.

Results for state anxiety (Table 9) were statistically significant for the main treatment effect, $F(3,18)=139.53$, $p<.01$. Post-hoc comparisons showed that all changes were significant, $p<01$, (Table 10); the level of state anxiety decreased at the end of treatment, and continued to improve at follow-ups of 3 weeks and 2 months.

Table 9

Summary Table for the
Repeated Measures Analysis of Variance on
State Anxiety

Source	df	MS	F	p
Group (G)	2	10.03	.09	*
Error	6	105.83		
Treatment (T)	3	762.25	139.53	.01
GxT	6	4.03	.74	*
Error	18	5.46		

*nonsignificant

Table 10

Mean Ratings of State and Trait Anxiety
Before and After Treatment and During Follow-up

State Anxiety

Pre-Treatment	Post-Treatment	3-week Follow-up	2-month Follow-up	Overall Change
53.78	45.00	38.33	32.33	21.45

Trait Anxiety

Pre-Treatment	Post-Treatment	3-week Follow-up	2-month Follow-up	Overall Change
62.11	54.67	50.67	46.67	15.44

Results for trait anxiety are presented in Table 11. Only the main treatment effect was statistically significant, $F(3,18)=14.03$, $p<.01$. Post-hoc comparisons indicated that all changes were significant, $p<.01$, (Table 10). The level of trait anxiety, like state anxiety, decreased after treatment, and continued to improve during follow-up.

The main treatment effect was also the only statistically significant effect for subject, therapist, and assessor ratings of total phobic anxiety, $p<.01$, (Tables 12, 13, and 14, respectively). Post-hoc comparisons indicated a significant decrease in phobic anxiety from pre- to posttreatment, $p<.01$, (Table 15).

Results for subject, therapist, and assessor ratings of total phobic avoidance (Tables 16, 17, and 18, respectively) were statistically significant for the main treatment effect, $p<.01$. Post-hoc comparisons indicated a significant decrease in phobic avoidance from pre- to posttreatment, for subject, therapist, and assessor ratings, $p<.01$, (Table 15); posttreatment to follow-up changes were significant for assessor ratings only, $p<.01$ (Table 15).

Table 11

Summary Table for the
Repeated Measures Analysis of Variance on
Trait Anxiety

Source	df	MS	F	p
Group (G)	2	3.69	.04	*
Error	6	86.22		
Treatment (T)	3	390.69	34.03	.01
GxT	6	4.25	.37	*
Error	18	11.48		

*nonsignificant

Table 12

Summary Table for the
Repeated Measures Analysis of Variance on
Subject Ratings of Total Phobic Anxiety

Source	df	MS	F	p
Group (G)	2	1.78	.01	*
Error	6	169.42		
Treatment (T)	3	809.29	43.77	.01
GxT	6	6.60	.36	*
Error	18	18.50		

*nonsignificant

Table 13

Summary Table for the
Repeated Measures Analysis of Variance on
Therapist Ratings of Total Phobic Anxiety

Source	df	MS	F	p
Group (G)	2	7.19	.06	*
Error	6	122.25		
Treatment (T)	3	782.52	37.02	.01
GxT	6	58.82	.28	*
Error	18	21.14		

*nonsignificant

Table 14

Summary Table for the
Repeated Measures Analysis of Variance on
Assessor Ratings of Total Phobic Anxiety

Source	df	MS	F	p
Group (G)	2	16.78	.11	*
Error	6	156.31		
Treatment (T)	3	1112.25	41.75	.01
GxT	6	17.67	.66	*
Error	18	26.64		

*nonsignificant

Table 15

Mean Ratings of Total Phobic Anxiety and Avoidance Before and After Treatment and During Follow-up

Phobic Anxiety

	Pre-Treatment	Post-Treatment	3-week Follow-up	2-month Follow-up	Overall Change
Subject	37	21.44	17.67	16.44	20.56
Therapist	38	23.11	18.89	17.78	19.11
Assessor	38.33	22.11	17.67	12.67	25.66

Phobic Avoidance

	Pre-Treatment	Post-Treatment	3-week Follow-up	2-month Follow-up	Overall Change
Subject	36.89	25.67	21.44	18.78	18.11
Therapist	38.33	25.11	21.11	19.22	19.11
Assessor	38.44	24.22	19.33	16.89	21.55

Table 16

Summary Table for the
Repeated Measures Analysis of Variance on
Subject Ratings of Total Phobic Avoidance

Source	df	MS	F	p
Group (G)	2	1.69	.01	*
Error	6	117.67		
Treatment (T)	3	573.66	27.71	.01
GxT	6	20.43	.99	*
Error	18	20.70		

*nonsignificant

Table 17

Summary Table for the
Repeated Measures Analysis of Variance on
Therapist Ratings of Total Phobic Avoidance

Source	df	MS	F	p
Group (G)	2	21.86	.27	*
Error	6	81.78		
Treatment (T)	3	668.19	34.30	.01
GxT	6	24.71	1.27	*
Error	18	19.48		

*nonsignificant.

Table 18

Summary Table for the
Repeated Measures Analysis of Variance on
Assessor Ratings of Total Phobic Avoidance

Source	df	MS	F	p
Group (G)	2	15.36	.12	*
Error	6	124.50		
Treatment (T)	3	836.85	52.36	.01
GxT	6	10.21	.64	*
Error	18	15.98		

*nonsignificant

Discussion

Overall Results

Several research hypotheses were generated for this study concerning the effects of the cognitive therapy of agoraphobia. For each of the four main measures and two supplementary measures it was hypothesized that during the treatment phase rated symptoms would improve, and continue to improve into the follow-up period.

The results support the hypotheses generated for the four main measures. These hypotheses were tested with a time series design. Since the baselines of each of the measures were relatively stable, it is unlikely that improvements observed in each group during the treatment phase represent the natural course of the behaviors. Furthermore, statistical analysis of baseline versus treatment for each of the measures revealed significant changes.

The cognitive intervention significantly decreased daily peak anxiety ratings and daily MAACL Anxiety Scale scores. Visual and statistical analysis of peak anxiety levels indicated that the reduction occurred as an immediate response to treatment, and thereafter showed slight improvement. As a result, at 3-week follow-up, subjects were reporting peak anxiety levels in the mild to moderate range. The finding that the cognitive intervention produced a significant reduction in peak anxiety at midtreatment but not in MAACL Anxiety Scale scores must be explained. Two possible explanations are considered. The first is that the MAACL Anxiety Scale scores do not accurately reflect anxiety levels. All subjects reported difficulty with this measure and

continually remarked that they "didn't know if they were doing it right." Several subjects reported feeling anxious while completing the checklist because they were worried about portraying their day accurately. The second explanation is that the cognitive intervention focused more specifically on decreasing peak anxiety levels. Initial therapeutic effort was directed at the construction placed on physical signs of arousal. First, subjects were educated and reassured about the nature of anxiety to enable them to relabel the symptoms as harmless. Second, subjects were taught to relabel arousal congruently with situational determinants, to identify and accept normal frustration, anger, and excitement, and to ask why they were experiencing arousal rather than to immediately interpret the arousal as a sign of oncoming panic. Dealing with initial signs of arousal in a more productive way serves to lessen the likelihood of extreme anxiety levels. Thus a decrease in peak anxiety levels is observed.

The number of journeys away from home and the number of hours away from home showed a significant increase at the end of treatment, with slight improvement continuing into the follow-up period. Visual inspection of these measures indicated a delayed treatment effect: each group showed increases only after the point of midtreatment. Statistical analysis of the number of journeys away from home confirmed that mid- to posttreatment changes were significant. There was a slight increase in the number of journeys away from home during follow-up, though not to a significant degree. It is possible that at the end of treatment subjects were going out the same number of times as normal individuals in similar circumstances. If this is true, it is understandable that they show only a slight increase during follow-up.

Groups responded differently to cognitive therapy in terms of the number of hours away from home. Groups 1 and 3 showed a significant increase in the number of hours away from home at posttreatment, while improvement in Group 2 lagged behind, so that significant increases were not observed until follow-up. It is not clear why this happened. It limits the generalizability of results in that it suggests that for some individuals more time is required for the effects of cognitive therapy to be translated into behavior. This finding further suggests that it may be important to conduct cognitive therapy over a relatively long time interval and assess the long term effectiveness of the procedure.

Hypotheses generated for the supplementary measures were supported by the results. These hypotheses were tested by a 3 x 4 analysis of variance with repeated measures. State anxiety and trait anxiety showed significant reductions at posttreatment, with further significant improvement occurring at follow-ups of 3 weeks and 2 months. The significant reduction in trait anxiety suggests that subjects had learned coping skills that they could apply not only in phobic situations but in other situations as well. Ratings of phobic anxiety and avoidance made by an independent assessor, the therapist, and the subjects themselves showed a significant reduction at the end of treatment. There was further slight improvement during the follow-up periods, though not to a significant degree.

To sum up, the cognitive intervention was shown to affect performance on a variety of measures: self-reports of covert phenomena (feelings) and overt behavior. More importantly, the improvement during treatment was maintained during follow-up, suggesting that subjects had learned to use these newly acquired cognitive techniques, and continued

to use them when they were no longer seeing the therapist. The results are in agreement with, and indirectly support, the basic premises underlying the cognitive treatment of clinical disorders. By using cognitive techniques cognitive distortions may be alleviated, and decreases in anxiety and avoidance behavior in agoraphobia may be observed. The results do not support the hypothesis that systematic practice in entering feared situations is an essential part of the treatment of agoraphobia. DeSilva and Rachman (1981) propose that while in many cases exposure may be a sufficient condition for fear-reduction, there is no good reason to suppose that exposure is a necessary condition for success. It seems that changes in phobic behavior can be achieved, either by instructing patients to enter feared situations, or by altering maladaptive cognitions.

The present experiment replicates the results of Emmelkamp and Mersch (Note 2) in demonstrating the efficacy of cognitive therapy, and provides support for their suggestion that cognitive therapy conducted over a longer time interval might be effective. Furthermore, the results are comparable to those obtained in the exposure treatment of agoraphobia.

An interesting observation is that treatment effects on peak anxiety were immediate, while changes in avoidance behavior lagged behind. One possible explanation for this can be derived from the way treatment proceeded. In the first 3 weeks of treatment, subjects were learning about cognitive techniques and how to use them. In the latter part of the third week subjects were given the opportunity to practice in imagination the skills they had learned in phobic situations. It might be that the cognitive imaginal rehearsal of phobic situations

provided subjects with a model for their own subsequent behavior. A second explanation is that the reduction in anxiety level achieved during the earlier phase of treatment made it relatively easier for subjects to go out. Jannoun, et al. (1980) also suggested a similar conclusion in their study comparing programmed practice with a treatment aimed at anxiety reduction by resolving life problems (problem solving). Problem solving resulted in a significant decrease in anxiety levels at posttreatment, but no increase in average time out per week. However, after treatment the problem solving group reported an increase in time out, so that at 6-month follow-up their performance did not differ significantly from those of the programmed practice group. The authors suggested that the reduction in the patients' general anxiety level achieved during treatment made it easier for them to go out. They also noted that the therapist whose problem solving patients changed more in terms of phobic severity was more effective in reducing anxiety in those patients. DeSilva and Rachman (1981) theorize that the three response systems of fear--the subjective, the behavioral, and the physiological--should show differential changes, depending upon the focus of treatment. They suggest that it might be logically deduced that avoidance behavior can be expected to decrease more rapidly, relative to subjective and physiological responses, as a result of an exposure program. Likewise, a cognitive type of intervention can be expected to affect the subjective responses most easily.

Limitations

It does appear that cognitive therapy in some way reduces anxiety and phobic avoidance. This finding must, however, be interpreted in

light of the design limitations of the present study. The apparently positive aspects of the finding do not in any way provide evidence of a causal relationship between cognitive change and change in the behavioral and other subjective (feelings) response systems of fear. To provide clear evidence it would have been necessary to demonstrate cognitive change. There are, unfortunately, no valid instruments for the assessment of cognitions available.

It is not known whether different therapists using this treatment program would achieve the same results. The program was administered to all subjects by a single therapist, so that the confounding of therapist variables (e.g., style of administering treatment, skill in establishing a working relationship with the subjects) can not be ruled out.

Generality across subjects is limited in that results were obtained with a carefully selected population. Only those agoraphobics who, for example, indicated no other mental disorder, who were not taking medications or agreed to discontinue them, and who were not seeing another professional were accepted into the study.

Finally, no definitive conclusions can be drawn about the efficacy of this procedure across a variety of settings. The present study was performed in a university psychology clinic. It may be that the same intervention applied in a hospital or community mental health center would not effect the same changes.

Implications

The results of the study suggest implications for the theory and treatment of agoraphobia. It was noted in the introduction that

agoraphobia is a complex syndrome and one that is resistant to treatment. The focus of treatment in the present study was a single component of this complex problem; yet all nine subjects showed improvement. This is not to suggest that cognitive therapy alone is sufficient to help agoraphobics achieve satisfactory adjustment. Rather, it is suggested that the maladaptive cognitions associated with agoraphobia play an important role in maintaining the syndrome, and that cognitive therapy should be considered as a vital component of a complete program aimed at agoraphobics.

There is an obvious need for the development of better measures of cognitive variables. Progress in the area of cognitive therapy is limited by the lack of valid instruments for the assessment of cognitions. Adequate assessment is necessary for a better understanding of treatment mechanisms. If valid instruments were available, it might be possible to divide patients into those who are in need of some form of cognitive therapy, and those who are not.

The present study was conducted in a university psychology clinic. Subjects were community residents who met certain selection criteria. Certainly research is in order which tests the applicability of cognitive interventions with agoraphobics who display other difficulties (e.g., depression, marital problems) and with agoraphobics in other settings (e.g., hospitals). At the present time, it is suggested that cognitive therapy is another treatment method which is effective with some agoraphobics.

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Footnotes

[1] The performance of each individual on each of the main measures is presented in Appendices P, Q, R, and S, for those readers who may wish to compare the performance of individual subjects to group trends.

[2] The performance of each individual on each of the supplementary measures is presented in Appendices T, U, V, and W, for those readers who may wish to compare the performance of individual subjects to group trends.

Appendix A

Format of Telephone Interview

The following questions were asked during the telephone interview:

1. Do you fear?
   - being away from home
   - going out into the open, into streets, shops, crowds
   - entering buses, elevators, movies
   - remaining home alone
2. Do you avoid?
   - being away from home
   - going out into the open, into streets, shops, crowds
   - entering buses, elevators, movies
   - remaining home alone
3. Do you feel in any of the above situations?
   - panic or terror
   - dizziness, faintness, weakness
   - rapid heart beat
   - tightness in the chest
   - and that you must get away
   - other
4. How long have you had this problem?
5. How long have you been avoiding situations?
6. If accepted into the program, are you committed to coming?

Appendix B

Instructions for Completing the Questionnaire

The specific instructions, accompanying the questionnaire were:

"Please complete the enclosed questionnaire as accurately as possible. The information serves the purpose of giving a clear picture of what is going on with you at present, and whether the treatment program is suitable for yourproblem.

Please return this information as soon as possible. If you have any difficulties in answering the questions don't hesitate to contact me. You will be informed as to acceptance within 2 weeks of returning this information.

Thank you for your cooperation in filling out this questionnaire. I can assure you the information will be held in strictest confidence."

Appendix C

Screening Questionnaire

NAME_____

AGE_____

ADDRESS_____

TELEPHONE NUMBER_____

SEX_____

EDUCATION LEVEL ACHIEVED_____

MARITAL STATUS:

(Please check) Married_____

Single_____

Divorced_____

Separated_____

Widowed_____

If married, how would you describe your relationship with your spouse (please circle).

very unhappy	unhappy	average	happy	very happy
0	1	2	3	4

1. What are the major fears troubling you? Please check appropriate space.

FEARS	Only when I'm Alone	When I'm Alone Or Accompanied
- going out into open areas (e.g., streets, parks)		
- crowds (e.g., department stores, church)		
- closed spaces (e.g., elevators, movies, church)		
- waiting in line (e.g., supermarket)		
- public transport:		
airplanes		
buses		
trains		
- going on bridges, or into tunnels		
- being at home		
- being away from home		
If yes, how far		
- driving a car		
- other (please specify)		

2. Do you avoid situations you fear. Please check apropriate space.

SITUATIONS	I will enter this situation when I am alone	I will enter this situation only if accompanied or if I take medication or alcohol beforehand or bring it with me	I do not enter this situation at present under any circumstances
- going out into open areas, (e.g.,streets, parks)			
- crowds (e.g., department stores, church)			
- closed spaces (e.g., elevators, movies, church)			
- waiting in line (e.g., supermarket)			
- public transport: airplanes			
buses			
trains			
- going on bridges, or into tunnels			
- being at home			
- being away from home If yes, how far			
- driving a car			
- other (please specify)			

3. - When did your problem start? (e.g., how many years ago) _____

- When did you last have an attack of anxiety/ weakness/panic? _____

- How often do you have these attacks? _____

- What do you usually do when you have an attack? (Check all applicable descriptions)

- run home _____ - stick it out _____

- never go anywhere that will cause one _____ - call for help _____

- other (please specify) _____

4. - Are you depressed?

Yes _____

No _____

- If yes, please rate yourlevel of depression on the scale below:

0 2 3 4 5 6 7
Mild Medium Severe

- If yes, are you so depressed you're seriously thinking about suicide?

Yes _____

No _____

5. - Because of your problem, have you given up many things you used to enjoy?

Yes _____

No _____

- Have you been able to work since your problem began?

Yes _____

No _____

- If yes, how has it affected you in your work? _____

_____

_____

6. - Have you had a physical examination by a general practitioner?

Yes _____

No _____

If yes, when? _____

- Do you have a confirmed physical disease such as: (Please check)

heart trouble _____

asthma _____

epilepsy _____

colitis _____

other (please specify) _____

7. - Are you presently receiving treatment for agoraphobia?

Yes _____

No _____

- If yes, are you seeing a (Please check)?

general practitioner _____

psychiatrist _____

psychologist _____

- Type of treatment:

drug _____ Other _____

Psychotherapy _____

- If yes to drug treatment:

What drugs are you taking	Daily Dosage	Take them as I need them (estimate dosage)
_____	_____	_____
_____	_____	_____
_____	_____	_____

- Would you be willing to discontinue taking medications?

Yes _____

No _____

8. Did you receive treatment for agoraphobia in the past?

Yes _____

No _____

If yes, please specify kind of professional seen, type of treatment, dates of treatment, and outcome.

_____

_____

_____

- Have you ever received psychiatric treatment for a condition other than agoraphobia?

Yes _____

No _____

If yes, Please specify:

type of professional seen _____

type of treatment _____

condition you were treated for _____

date of treatment _____

outcome (e.g., improvement, no change) _____

9. - If accepted into this program, I can attend sessions in the:

Mon.-Fri.: morning _____ Sat.: morning _____

afternoon _____ afternoon _____

night _____

anytime _____

- Prior to start of treatment, I will agree to attend all sessions:

  Yes _____

  No _____

- I will agree to a 3-week and 2-month follow-up assessment of my condition

  Yes _____

  No _____

10. - Would it really make a difference to your life if you overcame this problem?

  Yes _____

  No _____

  If yes, what would some of the gains be?

  _____

  _____

- Are you willing to give top priority to finding the time and effort necessary to overcome your problem?

  Yes _____ No _____

  I think so _____

Appendix D

Fear Questionnaire

Choose a number from the scale below to show how much you would avoid each of the situations listed below because of fear or other unpleasant feelings. Then write the number you chose in the space 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 (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 criticized _____
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 (describe) _____

Appendix E

Format of Structured Interview

The therapist began the interview by informing the subject that (a) the treatment program was conducted over a 6-week period, (b) 1.5 hour sessions were held twice weekly, (c) 3-week and 2-month follow-ups were required, and (d) in addition to therapist assessment, assessments were made by an independent assessor. If the subject did not agree with, or was not able to meet the conditions of the program, the interview was terminated. Otherwise, the following questions were asked:

1. Nature of the problem as defined by the client:

   How would you describe your problem?

2. Definition of anxiety attacks:

   What physical sensations do you have?

   What are your thoughts while this is going on?

   What mental pictures or images are bothersome to you?

   What do you actually feel at the time?

   How long do the panics last?

   How frequently do you have panics?

   What do you do when you panic?

3. Pervasiveness of general anxiety:

   How do you generally feel throughout the day?

   Describe the kinds of thoughts that make you feel anxious.

4. Generality of Problem:

   What specific situations trigger anxiety attacks?

   Name situations wherein this problem is not interfering?

5. Conditions which intensify problem:

   Think about a time when the problem was worse.

   What was going on then?

6. Conditions which alleviate problem:

   Under what conditions is it easier for you to travel from home?

7. Antecedent contributing conditions:

   What were things like before you had this concern?

   When and where was the first time this happened?

   What was happening in your life at that time?

   Can you say what made you anxious?

   How did you deal with the anxiety?

   How did you feel afterwards?

   What did you do?

   When did you start to avoid?

8. Consequences of problem:

   Is your work impaired because of your problem?

   Has your problem interfered with home management?

   Are your interpersonal relationships impaired because of the problem?

   How does having this problem make you feel about yourself?

9. Previous psychiatric treatment and outcome:

   Have you received psychiatric treatment in the past for agoraphobia or any other problem?

   What did treatment consist of?

   What was the outcome?

10. Associated complaints:

   Do you have any other problems you feel need attention?

   Are you depressed?

   If so, do you at times have suicidal ideas?

11. Would you describe your marriage as a happy one?

   Is your spouse understanding of your problem and supportive?

Appendix F

Instructions for Completing Diary of Peak Anxiety

Each subject was given a small notebook to record peak anxiety at 3 hour intervals. The specific instructions, given on the first page were:

"On the following page is a rating scale of anxiety (nervousness). At 9 a.m., 12 noon, 3 p.m., 6 p.m., 9 p.m., and 12 midnight each day, please indicate the most anxious (nervous) you have felt for the 3 hours previous to these times using this rating scale. For example, when recording at 12 p.m. on Monday, look over the time between 9 a.m. and 12 p.m. and pinpoint the moment you were most anxious (nervous). If your peak anxiety (nervousness) for that period was slight, record a 2 at 12 p.m. on Monday. If your peak anxiety was severe, record an 8."

The anxiety scale is illustrated below:

0	1	2	3	4	5	6	7	8	9	10
Not Anxious At all		Slightly Anxious		Moderately Anxious		Strongly Anxious		Severely Anxious		Very Severely Anxious-Panic

The therapist read through the instructions with the subjects and took them through the scale point by point.

Appendix G

Instructions accompanying the Diary of Time out of the House

"Starting tomorrow, I want you to keep a record of everytime you leave your house, except when you visit neighborhood friends, and relatives. Usng this form, record the date, the time you went out, the time you came back, where you were going, whether or not you were alone, accompanied, or met someone, and how you got there, whether by walking, car, or bus. For example, let's say this afternoon you walk to the drug store. You leave your house at 2 o'clock and get back by 2:30. On your record form, you would indicate today's date, the time you went out as 2 o'clock, the time you came back as 2:30, and your destination as the drug store. You went alone so you place a checkmark in the alone column, and you walked, so you place a checkmark in the walk column. Do this everyday, starting tomorrow, for every trip you make outside your house, except as I said, when you visit neighborhood friends and relatives. Make no exceptions other than visits to neighborhood friends and relatives, even if the trip is only a five minute walk to the store."

The therapist read through these instructions with the subject and took them through the example step by step.

Appendix H

Behavioral Diary

Date	Time Out	Time Back	Destination and/or purpose of Journey	Accompanied	Met	Alone	Transport: Walk	Car	Bus	Other

Appendix I

Phobic Anxiety Scale - Subject Rating

Choose a number from the scale below to indicate how much anxiety you would feel in each of the situations listed below. Then write the number you chose in the space opposite each situation.

0	1	2	3	4	5	6	7	8
None		Slight		Moderate		Marked		Very Severe-Panic

Situation	Rating
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Appendix J

Phobic Avoidance Scale - Subject Rating

Choose a number from the scale below to indicate how much you would avoid each of the situations listed below because of fear or other unpleasant feelings. Then write the number you choose in the space opposite each situation.

0	1	2	3	4	5	6	7	8
Would not Avoid (Never)		Slightly Avoid (Sometimes)		Moderately Avoid (Often)		Markedly Avoid (Very Often)		Always Avoid

Situation	Rating
1. _____	_____
2. _____	_____
3. _____	_____
4. _____	_____
5. _____	_____

Appendix K

Specifying Phobic Situations

The interview began with an explanation of its purpose:

"At this stage, we need to decide what your priorities are. The first step is to specify your main problems and get them written down." Subsequently the subjects were asked the following questions: "Describe in your own words the main phobia you want treated?" If the subject's responses were vague, e.g., "I want to be able to go out," the therapist replied, "I want you to tell me of a specific situation or event that you avoid at present, and that you consider to be your top priority in terms of treatment. An example might be fear of being alone in closed-in situations, or fear of going for a walk." After the subject responded the therapist continued, "Now I want you to name four other specific situations or events you avoid because of your anxiety, and that you would like to be able to enter at the end of treatment." After the five phobic situations were specified, the therapist proceeded to question the subjects about them. On the basis of the information obtained, the therapist rated each situation on Watson and Marks' 0-8 point scales of phobic anxiety and avoidance. The scales are illustrated in Appendices I and J. Finally, the therapist gave the subjects the phobic anxiety and avoidance scales, read through the instructions with them, and took them through the scales point by point. The subjects were told to complete the scales on their own, without checking with the therapist, as it was their perception of the severity of anxiety and avoidance the therapist was interested in.

Appendix L

Introduction to Treatment Manual

To be human is to have emotional problems. Sometimes we can deal with these problems by ourselves or with the help of family and friends. But just as we would not wait until a physical illness reached the critical stage before consulting a physician, we sometimes benefit from professional help in overcoming emotional problems before they became so severe as to be disabling. The decision to get help is a sign of wisdom, common sense and faith in one's own potential. In order to make the most of your experience in therapy, please read this pamphlet several times before your first session. You might find answers to some of the questions in your mind. Underline passages that seem to describe your experiences.

What is Agoraphobia

An agoraphobic is someone who has a wide assortment of fears, including fears of crowds whether on the street or in shops, fears of enclosed places such as elevators and airplanes, fears of being away from home beyond a certain circle of safety, and fears of being alone-because of a fear of panic attacks occurring in these situations. Agoraphobics also often experience a moderate degree of anxiety regardless of the situation they are in, forming a kind of background tension.

Because of their fears agoraphobics tend to avoid places that could trigger off a panic attack and this avoidance tends to become a habit. Often, they feel better with someone they know well, and so can be dependent on having someone with them when they go out. Once a person regularly avoids being alone, going out alone, or avoids many different places for this reason, they are said to have "agoraphobia."

Agoraphobia is quite a common problem - about 1 in 160 people suffer from it, and more than two-thirds of these are women. It is not connected with serious mental disease (like schizophrenia) or with any physical illness.

What Causes Agoraphobia

Agoraphobia is caused in the first place by the body reacting to everyday situations as if they were dangerous and frightening, in the second place by the worry caused by these strange feelings, and in the third place by the fact that agoraphobics tend to avoid places connected with these feelings.

To understand this, think about the way your body reacts at the time of real danger - say a near miss in what could have been a fatal accident. Your heart may beat hard and fast, your stomach may turn, you may feel weak, or you may sweat and tremble, and so on. The exact reaction varies from person to person, but it is usually quite strong.

In agoraphobia it seems that this natural bodily reaction has become oversensitive for a while, and tends to be automatically triggered by quite ordinary everyday situations. It is not always possible to say what started this oversensitivity which leads to the

first panic attack, but research indicates that preagoraphobic individuals often find themselves in very stressful situations. Examples include a physical illness, pregnancy, or miscarriage, when physical resistance is low; an emotional shock such as the serious illness or loss of a loved one; other major changes in the individual's life such as leaving home, engagement, or marriage; or prolonged tension for some other reason. Under these conditions individuals may experience considerable anxiety (tension); in some, this anxiety will peak in the form of an anxiety (panic) attack - which is the body's usual and natural reaction to prolonged tension. Individuals suddenly feel ill, afraid and weak; have a racing heart beat, lightness and dizziness in the head; feel weakness in their legs, and feel like they are walking on shifting ground. They may feel as though they can not breathe or they may breathe rapidly. They fear fainting or dying, or losing control. This panic can become so great that they may want to run to safety - to a friend or to their own home.

There can be no doubt that a severe panic attack, coming without any explanation or cause, is both an extremely frightening and confusing experience - and the way individuals interpret this experience is important in determining their future behavior. The panic experience may have been such a frightening one that the individuals' confidence in their ability to deal with it has been seriously shaken. They may dwell on the notion that they will experience such an attack again in the future, and the picture of this possibility may arise in their mind with such a realness that they react emotionally and physically as though they were actually having an attack. They may create in their mind the situation occurring and project themselves into it. Their dread of

confronting that which they fear may cause them to dwell upon the possibility - which they see as a real probability - that it will happen again. They may conjure up a picture of what might become of them if the dreaded situation does occur again, and underestimate their ability to cope with it. These thoughts and mental pictures are now all that it takes to bring about the physical symptoms of anxiety - symptoms which now bear no relation to any clear and present danger. As the anxiety wears on, or anxiety attacks occur again, they begin more and more to dread the unpleasant symptoms. The thoughts and mental pictures which make them anxious seem to arise automatically, beyond their power to dismiss or control them. Their fear may become more generalized, spreading to other situations so that they become anxious not only about going to the market, for example, but about leaving the protection of their home, or people they depend upon. To protect themselves from panic, they start to withdraw from situations. Avoidance develops especially following several panic attacks. At first avoidance is of situations in which the panic attack was experienced, and this gradually spreads to include new situations for fear that they too might bring about a panic. Since oftentimes a big concern is being embarrassed if one of these attacks should occur in public, individuals are even more worried when in public, dwell more on the possibility of an attack occurring - hence this is where most agoraphobics experience their panic attacks.

More specifically then, following the experience of the first panic attack individuals start worrying about these symptoms. They label these symptoms as dangerous - a warning that something terrible is about to happen. Thoughts that an attack may occur again and fears of a worse

attack, of loss of control in public, of possible physical disease, or even of death, are frequent and distressing. These thoughts create more anxiety. The more anxious one becomes, the more these symptoms increase. It becomes circular. Such fearful thoughts establish a kind of feedback loop, in which the thoughts help to bring about the symptoms that are feared; these symptoms in turn appear, to confirm the frightening thoughts.

In other words, the agoraphobic person learns to be afraid of the anxiety experience itself. Since anxiety attacks seem to occur unpredictably to the individual, the best indication that they are about to occur are physical signs, for example, one's own breathing, heart rate, or temperature. The individual becomes very watchful of these physical signs indicating the onset of anxiety, in an attempt to prevent the occurrence of a panic attack. But the low levels of anxiety produce frightening thoughts that serve to bring about even higher levels of anxiety or panic.

Thereafter during a panic attack there may be at least two kinds of thoughts occurring. First, there is often a mental picture of what may happen. Once individuals experience the initial symptoms of anxiety due to this upsetting mental image, their thoughts tend to trigger severe anxiety. At the point of panic, thoughts are usually remarkably similar from person to person. For example, a person might think "I'm going to lose control," or "I'll never get out of this," or "I'll die from fright," or "I'll make a fool of myself." These thoughts create more anxiety and the subsequent uncomfortable physical symptoms seem to confirm the person's belief that something terrible will indeed happen.

These thoughts play an important part in both the development and continuation of agoraphobia. Because of their overlearned nature, they occur more or less automatically, rather than being carefully thought out. Even though you may not deliberately tell yourself certain things prior to or during an emotionally upsetting situation, you nonetheless react as if you view the situation in a certain way.

For each agoraphobic, a particular set of thoughts keeps the individual sensitized and avoidant of situations in which the person feels unable to cope. So despite the experience of a racing heart and other feelings of anxiety, it was the mind's reaction to them, that is what one thinks, that causes the panic. Because agoraphobics are afraid of their own anxiety, they fail to examine it fully. As a result they maintain certain thoughts and beliefs about the dreaded consequences of strong anxiety.

You see, when you are frightened by a real danger your whole mind is usually occupied with doing something about it. In the case of agoraphobia, the same feeling of fear seems to come, and keep on, but there isn't any real danger. For this reason there is a tendency to dwell on the feelings themselves - and this just serves to make them worse. The more one worries about these feelings, the more they tend to become firmly fixed, like a habit. It is very easy to get into the vicious circle of worrying and being afraid of the feelings of fear themselves. Some people think that they might make a fool of themselves in public, faint or be sick, perhaps physically collapse, or even lose control permanently. In actual fact, agoraphobics run no more risk of any of these things than anyone else.

After the first panic individuals may begin to think that bad things can happen to them and dwell on that possibility. Over time an increasingly fixed way of thinking may develop. Most of the individual's attention is stuck, as it were, on the concept of "danger", and the perception of "danger" signals. In any situation where there is any possibility of an unpleasant outcome, individuals dwell on the most extreme negative consequences possible. They are so keyed to the possibility of harm that they are constantly warning themselves" about potential "dangers" - and so may be in a constant state of anxiety.

Danger related thoughts are subsequently more easily activated by other concerns - concerns that are less avoidable and more internal (e.g., one's physical health or sanity). Individuals may frequently feel as if they were on the edge of a cliff ready to fall off.

Introduction to Therapy

In order to overcome agoraphobia individuals have to work on whatever is presently maintaining the condition: thoughts and beliefs that have been learned well and long practiced.

The connection between thoughts and beliefs and the experience of anxiety suggested to those studying the problem that if these thoughts and beliefs were monitored and then changed to conform with reality, the anxiety experience itself would be lessened. Experience with patients has shown the effectiveness of this method, which is called cognitive therapy, because it is concerned with the way people's thoughts and beliefs affect their emotions and behavior.

How can cognitive therapy help those of you whose anxious thoughts and fantasies interfere with your ability to live the kind of life that is rewarding to you? By helping you learn to recognize the mistakes in your thinking about what would happen if you dared to act as you really wish. Through therapy you will learn to apply new skills in situations in your life which are causing anxiety. When you gradually eliminate the errors in your own thinking, you will develop a workable approach to dealing with life situations.

The first step is to recognize your own automatic thoughts whenever you feel anxious. In order to help you recognize them, keep these characteristics in mind:

1. These thoughts just seem to come out of nowhere. They are not the result of any thinking effort on your part.
2. The thoughts are unreasonable, yet seem very believeable and reliable at the time you are experiencing them. You tend to accept them as readily as a realistic thought, like "The phone is ringing - I should answer it."
3. These thoughts serve no useful purpose and interfere with your ability to control your own behavior. The more you believe them, the more anxious you feel.

Try to remember what you say to yourself and what fantasies you have in your mind when you begin to feel anxious. Try to differentiate between your initial experience of anxiety at any given time and the things you say to yourself and what fantasies come to mind that add on to that experience. Your automatic thoughts may have been triggered by an immediate challenge - being asked to go out for a social event; or they may relate to the possibility of an event in the distant future.

When you have identified your automatic thoughts you may find that the errors in your thinking fall into these general categories:

(a) Self-reference: In a sense everybody has a private world of which they are the center of attention. Nonetheless, people are

generally capable of making objective judgements about external events -- or even about themselves. They are able to make judgements on two levels - one relevant to themselves and the other detached from themselves. We find though, that anxious people tend to overestimate the degree to which events are related to them, and to be excessively absorbed in the personal meanings of events. Anxious people for example, relate every danger signal to themselves: A passing ambulance makes them think their child has had an accident.

(b) Catastrophizing: When anxious people anticipate danger or difficulty, they perceive total disaster as the probable outcome. Anxious individuals facing a relatively simple surgical procedure fear that death will be the result.

(c) Arbitrary Inference: Anxious individuals often jump to conclusions on the basis of little or no evidence. An anxious person, for example, with a swollen gland may assume they have cancer; an anxious person who feels warm while out shopping because of the heat in the store, assumes they are warm because they are anxious, and this may bring on panic.

(d) Overgeneralizing: One bad experience in a particular situation is interpreted to mean that situation will always turn out bad. An anxious person who panics in a market may believe that they will always be panicky in the market.

(e) Ignoring the positive: Anxious individuals overlook all the indications of their own ability to cope successfully, forget all the positive experiences in their past, and anticipate only problems they can't deal with in the future.

Conclusion

Since you are just starting therapy, here are some general ideas to keep in mind.

Beginnings are important. The decision to get help is the first step in the change process.

Remember that "you can only get out what you put in." Effort is required if any significant changes are to take place. You have been subject to anxiety for a long time. It will take time and effort to isolate old patterns and develop ways to counteract them.

Be conscientious in the use of techniques learned in therapy. Although therapy itself is time-limited, the methods you learn are applicable throughout life. No one is forever free of emotional problems, but you will find that the anxiety they create need not dominate your existence.

The very fact that you have shown enough initiative to seek help indicates that there is a spark of hope and expectation within you that you can change. Believe it, and be prepared to work for it.

Appendix M

Treatment Manual

Session One: The purpose of session one is to educate subjects about agoraphobia and cognitive therapy. The therapist begins by asking subjects about their response to the introductory manual in order to determine what is actually understood and what the subjects see as relevant to themselves. The therapist then goes through the manual with the subjects. Several points are highlighted. The therapist says:

"Agoraphobia is not connected with serious mental disease nor is it connected with any known physical illness. It is caused in the first place by the body reacting to everyday situations as if they were dangerous and frightening. You see, agoraphobics almost always have oversensitive nervous systems. It is not possible to say what starts this oversensitivity in the first place, but it is usually the result of prolonged tension, which may have followed a major change in life situation (e.g., marriage, childbirth, new job). People vary in their physical reactions to prolonged stress. Some people develop ulcers, some have migraine or tension headaches, and some are not affected in any physical way. People who later develop agoraphobia, however, manifest the effects of stress by nervous system oversensitivity. I want you to think about the way the body reacts in a time of real danger, to tell me about a time in your life when you were confronted with a real threat." The therapist listens and delineates the symptoms of anxiety experienced. The therapist continues:

"You see, in agoraphobia, it is as if this same natural bodily reaction has become oversensitive, so that it tends to be triggered automatically by quite ordinary situations. This anxiety reaction is not dangerous in any way, though it is often distressing, especially in that individuals have no idea what's happening to them."

The therapist discusses with the subjects, their first panic experience: "Tell me about your first panic attack. How did you feel emotionally and physically, and how did you interpret the experience?" The therapist continues, "Most individuals feel frightened and confused, as you did, following the first panic experience, and following several such attacks individuals usually start to worry about these symptoms. They label the symptoms as dangerous, a warning that something terrible is about to happen. They may begin to think that they are going insane, that they will eventually lose control of themselves, or die, or humiliate themselves in public if one of these attacks occur. Everytime they begin to do something, like go to the market or take a walk, they worry about having another attack. The sense of dread and apprehension creates more anxiety, and the more anxious one becomes the more the symptoms increase. It becomes circular. The person develops anxiety over anxiety. Over time, these thoughts of dread and apprehension become firmly fixed, like a habit. The theme of personal danger or catastrophe becomes central in the individuals' thoughts. Every activity the individual engages in is interpreted in terms of its potential for catastrophe or panic. Thoughts of catastrophe just seem to 'automatically pop' into the individual's mind when the opportunity arises to go somewhere."

"Because of their fear of panic individuals instruct themselves to be constantly on the alert for any sign that panic might occur. The surest sign seems to be that of physiological arousal. So individuals begin to overmonitor their physiological reactions. Mild signs of arousal are perceived as evidence that there is something to be afraid of, that panic is imminent. This excessive self-monitoring is one of the crucial problems in anxiety. When individuals overmonitor their internal states, a feedback loop is created: individuals recognize a change in arousal; they label the arousal as anxiety; the anxiety is interpreted as a sign that panic may occur; thoughts of panic create more anxiety and the symptoms increase; recognizing that symptoms are getting worse makes individuals more anxious and confirms the thoughts that panic is imminent. The process continues until panic occurs."

"So you see that even after the initial stress that caused the first panic is removed from the individuals' life, prolonged tension and hence oversensitivity continues, because individuals instruct themselves to be constantly on the alert in case of panic. Individuals continue to worry, to anticipate the worst. As they continue to worry, the anxiety level is maintained, and sometimes spirals into panic. Panics continue because of the pattern of thinking the individual has developed."

"It is important for you to know that the physiological symptoms of day to day frustration, excitement, anger, etc., are very similar to the physiological symptoms of anxiety. Using signs of physiological arousal as indicators of panic often leads individuals to interpret all physiological symptoms, whatever the cause, as anxiety. Thus when feeling strongly, whether the feeling be anger, excitement, happiness, or grief, or sometimes even when feeling physically ill, individuals

interpret these sensations as anxiety. Once labeling them as anxiety, individuals may spiral them into panic as well. Can you think of an example, where you were feeling aroused, e.g., overheated, physically tense, and labeled the arousal as anxiety, though it really may have been frustration with the kids, or feeling warm because the temperature of the room was high?" Through the use of the subjects' examples it is thus explained that many situations, e.g., being irritable with the kids, feeling overheated, feeling angry, are not in themselves anxiety arousing, but that anxiety is aroused as a result of the way they interpret the situation.

The following rationale for cognitive therapy is presented:

"Since your anxiety is related to the way you think about and interpret various situations, therapy will be directed at your thoughts. Research directed at the connection between thoughts and the experience of anxiety has shown that if these thoughts are monitored and then reshaped to conform with 'reality', the anxiety itself will be modified or even eradicated. Experience with patients has borne out the effectiveness of this method, called cognitive therapy."

"The first step in cognitive therapy is to identify your automatic thoughts and errors in thinking." (The characteristics of automatic thoughts and the cognitive errors often observable in anxiety patients, as presented in the manual, are discussed.) "In the next session, we will work to identify your automatic thoughts and cognitive errors. In the meanwhile, I'd like you to question any arousal you experience. Whenever you notice any physiological symptoms of arousal, try to identify the situation leading to the arousal, without automatically labeling it as anxiety. For example, have the kids been getting on your

nerves, have you just argued with your husband, are you thinking about something your neighbour said yesterday that made you angry. Then decide whether the arousal would be more appropriately labeled frustration, anger, excitement, etc."

Session Two. The purpose of session two is to identify subjects' automatic thoughts and to introduce Ellis' (1962) A-B-C model of emotions. The therapist begins the session by answering any questions subjects may have about the information presented in the first meeting.

The therapist discusses the tendency of many individuals to believe that they have to control their anxiety:

"Many individuals believe that if they do not control their anxiety by clamping down on it, something bad will happen to them. This sense of having to control usually intensifies anxiety. Focusing on anxiety symptoms and purposely trying to control them is counterproductive as it is not possible to always work directly on the symptoms. You can, however modify the thinking process that is exacerbating the symptoms. In fact, if you think about it, you do have control over your anxiety, very exact control. You are thinking frightening thoughts and therefore commanding your nerves to be in a state of alert. However, this type of control is maladaptive. As you learn to control your thinking, by using a variety of techniques presented in treatment, you will have more adaptive control over your anxiety. The control of thinking, or what you say to yourself, comes about by first becoming aware of when we are catastrophizing or talking to ourselves in a frightening way. The recognition that we are in fact doing this will be a step forward in changing. You should not try to control the symptoms of anxiety

directly, or be overconcerned with control, or you will only exacerbate the problem."

The homework assignment is discussed; subjects are asked whether they, as a result of questioning their arousal experiences in the past few days, have relabeled any of the experiences as something other than anxiety.

The therapist then explores those categories of the subjects' thoughts that have to do with the experience of anxiety. Through questioning, and a review of the information obtained in the assessment interview, the subjects' automatic thoughts are identified:

"In your initial assessment interview, you talked about your anxiety attacks and situations you are afraid to enter. On the one hand, you reported quite a bit of tenseness and anxiety in those situations. This seemed to take many forms, such as a pounding heart, dizziness, sweaty palms, and nausea, etc. (the therapist uses the specific symptoms the subject reported). At the same time, you also reported feeling very confused; your thinking seemed to get in the way of listening to what other people were saying and what you had to do. You were 'obsessed' with thoughts about panic and catastrophe. Am I right? What are the specific thoughts that go through your mind when you are anxious?"

Guided fantasy that recreates the feared situations is employed to elicit the automatic thoughts where necessary.

To help subjects identify their automatic thoughts in future situations, Ellis (1962) A-B-C model of emotions is introduced through the use of simple examples:

"If I was holding a pen, would that make you nervous? (subjects'

response) Why not? If instead I was holding a gun, would that make you nervous? (subjects' response) But a gun is an object just like a pen. Unlike a pen, however, a gun can actually hurt you. Its' not really the object that causes the emotional upset in people, but rather what you think about the object. If you had never seen a gun, do you think you would be upset?" (subjects' response) The therapist explains that this holds true for all situations: "Something happens at A, like a gun is pointed at you, and you react at C, like you get anxious. The point is that having the gun pointed at you does not cause the anxiety. What causes the anxiety is what you think about the gun at B, like that can kill me." Subjects are then asked to think about a recent event that has upset them and to sort out three parts of the problem: the event (A), the thoughts (B), and the feelings (C). The therapist gives the subjects the homework assignment to begin listening to themselves with a "third ear", noting and recording the content of automatic thoughts and in some sense performing an A-B-C analysis. The subjects are told that the emotional reaction must now serve as a cue for them to stop and think what they were saying to themselves. Subjects are given homework sheets, modified from Beck and Emery (1979), on which they are to indicate, every time they experience feelings of anxiety: (a) a description of the situation (A), (b) the automatic thoughts (B), (c) the initial anxiety level on the 0-10 point scale (C), (d) a rational response (D), and (e) the subsequent anxiety level (E). This form is reproduced in Appendix N. Subjects are asked to fill in the first three columns of the record, as soon as possible after they become anxious. The following examples are reviewed with the subjects:

Example 1

A going shopping

B it's going to be crowded, I panicked the last time

C 5

Example 2

A thinking about going to the store

B I always feel sick in that store

C 6

Example 3

A talking to a friend about her vacation

B mental picture of being lost and panicky in unknown city

C 8

Example 4

A noticing you are feeling very warm

B I'm warm - I'm uptight - I'm going to panic

C 4

Subjects are instructed to continue questioning the symptoms of arousal instead of automatically labeling them as anxiety, and are told to bring their records to the next therapy session.

Session Three. The purpose of session three is to teach subjects how to challenge their automatic thoughts and to generate alternative more rational interpretations of feared situations.

The subjects' records of automatic thoughts are brought into therapy and are the focus of much of the therapy session. The thoughts are analyzed in terms of how likely it is that the subjects' interpretations of particular situations are in fact true. The therapist reviews the subjects' logic in construing their experiences to

determine whether there are any cognitive errors or distortions. The following are examples of questions the therapist asks the subjects about each anxiety experience indicated on the records, as they examine the logic of the automatic thoughts:

- How do you know? (What exactly is the evidence)

- Are your judgements based on what you think rather than what you know for sure?

- Are you thinking in all-or-none terms, rather than in degrees? (There is almost nothing that is either/or.)

- Are you using ultimatum type words that don't correspond to reality, such as always, never, need, should, must, can't, everytime?

- Are you assuming certain situations are identical, without considering factors of time, location, and other subtle degrees of difference? For example, I won't be able to handle this situation because I failed in one exactly like it before.

- Are your judgements based on introspection rather than on facts? For example, I'll be anxious when I get there.

- Are you focusing on irrelevant factors? (Three people I know died of heart attacks.)

- What evidence would it take for you to give up this belief?

- Are you self-referencing?

- Are you overgeneralizing?

- Can you prove it?

- Why must you, should you, can't you, etc.

Following this procedure it is pointed out to the subjects that their closed and fixed way of thinking, as well as their cognitive errors, has excluded alternative interpretations of the situations. Hence, the therapist discusses with the subjects each anxiety experience again, this time helping them generate alternative more rational interpretations by correcting the cognitive errors, and deciding whether the evidence supports their thoughts or whether some other

interpretation might be more appropriate.

Subjects are provided with a list of these questions and instructed to apply this hypothesis testing between sessions, as a written formal process. The recognition of automatic thoughts is to act as a cue for subjects to question themselves. In this way subjects have a reminder (e.g., their own maladaptive thoughts) of when to use the "coping procedure." Subjects are told that it would be no easy task at first, but with practice the procedure becomes less and less tedious and deliberate until subjects can totally eliminate the initial upset phase by having made the more realistic appraisal an automatic one. Between sessions subjects are to record the nature of the situation in the first column, to record the automatic thoughts identified in the second column, to note the anxiety and rate the degree of intensity in the third column, to identify cognitive errors in the fourth column as well as record the rational response guided by the standard questions given to them, and to re-rate the degree of anxiety in the fifth column. In this way, a recorded body of data disproving subjects' thoughts about the certainty of misfortune is built up.

At the end of the session, subjects are given "A Rational Counseling Primer" (Young, 1964), a book which explains Ellis' model of emotions in simple terms, to read before the next session.

Session Four. The purpose of session four is to challenge subjects' automatic thoughts and guide them in generating alternative, more rational interpretations; to encourage subjects to outline in detail the ultimate consequences of their worst fear, so they could face it.

The therapist asks the subjects about their reaction to Young's book, and goes through the book clarifying the information presented.

Homework sheets are reviewed, with particular attention to rational reevaluation, and subjects' automatic thoughts are analyzed as in session three. Any difficulties subjects had encountered in rational reevaluation are dealt with: the therapist guides subjects through the analysis. Concerns subjects have about future situations are analyzed in the same fashion.

Subjects' automatic thoughts are analyzed from another possible source of irrationality: what are the ultimate consequences of subjects' worst fears. The therapist explains:

"I have noticed that when you talk about your worst fear occurring (therapist mentions subject's fear specifically), your fantasy always stops at that point; that is you don't predict what the natural consequences would be if this incident actually did occur. While it's very natural to stop yourself from thinking about something that frightens you, not thinking about it doesn't make it go away. The reason is because attempts at thought stoppage, instead of resolving the problem, achieve only premature closure. The problem therefore reappears, it's always there. I want you to spell out in detail what the ultimate consequences of your worst fear would be, so you can confront them head on. Your anxiety might increase initially during this discussion, but it will only be temporary, and after the worst has been faced, I'm sure you will feel better." Sample questions used at this point are:

- What would happen if you actually did...?
- How would you feel?

- What would you do?
- How would your family feel?
- Would they support you?
- What would other people say?
- Would that bother you?
- For how long?
- And then what?

As the subjects indicated their worst fears, the therapist stressed the rescue factors and the subjects' strengths. Through questioning, the therapist conveyed the belief that the subjects' discomfort and embarrassment, however intense, would be time limited, and therefore tolerable.

Session Five. Session five follows the same plan as session three. The therapist reviews the subjects' records of automatic thoughts with particular attention to rational reevaluation. Situations which are particularly troublesome for subjects are "reanalyzed." Fears about future situations are also handled by an A-B-C-D-E analysis.

Session Six. The plan of session three is repeated. Starting with this session, therapy is also designed to provide subjects the opportunity to practise in imagination the skills they have learned in phobic situations (Goldfried and Goldfried, 1980). The therapist explains:

"So far in therapy, you have been taught how to analyze your automatic thoughts, and you are becoming skilled in this procedure. Today I want you to practice dealing with these thoughts in phobic situations by means of imagination. Practicing in imagination will provide you with a model for your own behavior, and the closer the image

comes to represent real experiences, the greater the likelihood of generalization to the real world. At the beginning of therapy we specified five situations which were causing you difficulty. I want you to order these situations from the most to the least upsetting. We will start with the least upsetting situation. I will ask you to imagine this situation as if you were actually in it right now. When you feel anxious, you are to stop and think what you are saying to yourself that is upsetting you. I want you to think aloud as you attempt to identify the automatic thoughts. Then I want you to challenge and dispute these thoughts the same way we challenged the thoughts you recorded. I'll be asking you questions about the scene as we go along, and asking you to rate your anxiety on the 0-10 point scale we have been using. Only when you have successfully coped with one situation will we move onto the next."

Successful coping is defined as an anxiety level no greater than two on the 0-10 point scale. Scenes are only introduced by the therapist, e.g., "Close your eyes and imagine you are shopping in the market." Images are clarified by asking subjects, e.g., "what they saw, what part of the store they were in, what they heard, what they were wearing, what they were doing, etc." The therapist assists the subjects in uncovering their automatic thoughts by the use of incomplete sentences: prompting subjects at various times during the scene presentation, the therapist introduces such thoughts as, "If people notice I'm anxious, it bothers me because..." The therapist guides the subjects in attempts to challenge and dispute the automatic thoughts by asking questions in the same way the records of automatic thoughts are analyzed. Subjects are asked to re-rate their anxiety levels after

evaluating the situation in a more realistic way. Each situation is rehearsed until subjects can imagine it with an anxiety level no greater than two on the 0-10 point scale.

Sessions Seven and Eight. The plan of session six is followed. At the end of the eighth session, subjects are given a brief pamphlet, outlining the importance of maladaptive assumptions and how they might be identified, to read before the next session. The pamphlet is reproduced in Appendix O.

Session Nine. The focus of treatment shifts to the underlying assumptions that predispose the subjects to anxiety. The therapist discusses the pamphlet introducing maladaptive assumptions with the subjects. The therapist and the subjects work together to identify general themes from their records of automatic thoughts. The therapist guides the subjects in the exploration by inferring assumptions from the automatic thoughts and then checking out these inferred assumptions with the subjects. For example, "These thoughts are alike in that they both seem to be saying that you must have certainty; these thoughts are alike in that both seem to be saying that you need other people's approval."

The imaginal coping procedure is practiced in the last half hour.

Sessions Ten and Eleven. The therapist works with the subjects to modify the irrational assumptions. The techniques used to modify automatic thoughts are employed: challenges to the subjects' assumptions are presented in the form of questions. Where possible, adaptive assumptions are used to counter maladaptive assumptions, e.g., "It is not possible to be approved of by everyone."

The imaginal coping procedure is practiced in the last half hour.

Session Twelve. The plan of sessions ten and eleven is followed.

The last half hour is devoted to a review of principles subjects request to go over again. Subjects are encouraged to use these principles to solve future problems.

Appendix N

Daily Record of Dysfunctional Thoughts

A Situation	B Automatic Thoughts	C Anxiety ((1-10)	D Rational Response	E Anxiety (1-10)

Appendix O

Introduction to Discovering Irrational Assumptions

We know from our own observations that people may behave quite differently in identical circumstances. We find that they interpret situations differently, and evidently issue different self-instructions. Furthermore, we find that given individuals tend to show regularities in their reactions to many situations that are similar in certain crucial respects. Their responses may become so predictable that we often attach characteristics to them, e.g., they are shy.

The observation of consistency of responses suggests that each person has a set of general rules that guide how they react to specific situations. These rules, by which individuals interpret their experiences, are based on fundamental assumptions they hold - assumptions which shape both their automatic thought patterns and their behaviors. These assumptions are rarely articulated or questioned.

Maladaptive assumptions underlie anxiety. Effort is required to discover and modify them. Even when the symptoms of anxiety have lessened, individuals will remain vulnerable to future anxiety until these assumptions have been identified and changed. You can help discover your fundamental assumptions by looking for general themes in your records of automatic thoughts. In the next session, we will begin to work together to uncover these assumptions and examine their validity.

Appendix P

Individual Subject Results for Peak Anxiety Ratings

S1	S2	S3	S4	S5	S6	S7	S8	S9
5.33	6.66	8.33	6.33	5	5	6.66	3	5
5.33	6.66	7	5.66	6	4.33	5.33	4.33	6
5	5.33	8.33	4.33	6.33	3.66	5.33	4	5.33
6.33	7.66	8.33	4.66	6	5.66	5.33	3.33	6
3.66	8	8	5.33	8	4.33	6	4.33	4.66
6.66	9.33	8.33	6	6.66	4	6	3.66	4
6.33	7.33	8.33	6	3.33	4	5.33	2.66	7.66
4	6.33	6.33	4	6.66	5.66	6	3.33	4.66
4	6.66	7.66	6	4.66	3.66	5.33	4	6
5.33	6	6.33	7.33	4.66	4.66	6	4.33	6
4	6	6.66	7.33	6	4	6	3.33	4.33
5	5.66	7.33	4.33	6	3.33	6	3	5.33
5.33	7	6.66	5.66	6.66	5	6.66	3	6
3.33	5.33	7	7.66	5.33	5	6	3.66	6
3.33	7	7	4.66	5	3.66	5.33	3.33	6
4	4.33	7.33	4.33	3.66	3.66	6.66	3.66	4.66
2	7	6.66	5.66	4	2.66	6.33	4	5.66
2.66	5	7.33	4.66	4.33	3.66	6.66	4	5.33
3.33	5.66	6	2	3	3	5.33	3	5.33

S1	S2	S3	S4	S5	S6	S7	S8	S9
2	4	6	2	4	4	6	3	6
3.33	5	4.66	4	3.33	2.66	6.66	5	4.66
3.66	4.33	7.33	2	4.33	4.33	4.66	3	5.33
2.66	5.66	5.33	4.66	2.33	2.33	4.66	2.66	5
2.33	3.33	6.66	2.66	1.66	2.66	6	2	4.66
2.66	5	6.33	2.66	3.66	3	4.66	3.33	5.33
2.66	5.66	6.33	4	1.66	3	5.66	3	2.66
2.66	3.33	6	2	3.33	3.33	4.66	2	4
2	5	4.66	4.66	2.33	1.66	5	2	4
			2	4.33	2.66	3.66	2	4.33
			2.66	1.33	3	5.66	2.66	2.66
			4.33	2	3	4.66	2.33	3.33
			3.66	3	3	4.66	2.33	3.33
			2	.66	2.66	4.33	2	3
			2.66	4.33	2.33	4.33	2	2.66
			2	0	2	2.66	2.33	2.66
						4	2	2.66
						4.66	2	3.33
						4	2	3.33
						4	2	2.66
						3.33	2	3.66
						4	2	2
						4.66	2	2.33

Note. S = Subject

Appendix Q

Individual Subject Results for MAACL Anxiety Scale Scores

S1	S2	S3	S4	S5	S6	S7	S8	S9
11	13.33	17.66	10	10	11	13	10.66	10
12.33	15	16.66	10.66	11	10	12.33	11	11
13.66	14	17	10	10.33	11.33	11.66	9.33	11.66
10.66	10.66	16.66	9	11.33	10	11.66	12	12.33
11.33	13.33	17	9.66	12.66	9.33	10.66	6.33	14.66
10	11	17.66	9.66	8.33	10.66	10.66	11.66	8
13	12	17.33	10	13	11.33	10.66	12	12
9.33	13.66	16.33	10.33	13.66	9.66	9.33	12.66	10.33
12	9	15.66	10.50	13	10.33	9	9.33	9.10
10	9.66	16	10	11.66	11	10	10.66	9.66
10.33	12	16	10	11.33	10	12	9.66	15
7.66	11	15.66	10.33	10.33	9.33	11.33	10.33	10
7.66	11.44	15.33	10.66	10.33	11	10.66	6	12.33
9	10	15.33	9.33	12	9	12.33	13	10
5.66	14	16.33	9.66	10.66	7.66	10	10	11
5.66	10.33	15.66	9.33	4	5.66	11	11	12.33
9.66	13	16	8.66	4	7	10.66	11.66	13.66
9	9	16.33	6.66	9.33	6	10	9.33	11.33

S1	S2	S3	S4	S5	S6	S7	S8	S9
11.66	10	15.66	8.66	8.33	8.66	10	11.33	11.33
8.66	11.33	15.33	7.66	4.33	10.33	12.33	8	10
10	10	15.33	8.66	6	9	12.33	12	12.33
7	14	15	9	4	7.33	10	10.66	10.66
7	10.33	13.66	9.33	4.33	5.66	9	10.33	11
10	13	13.66	7.66	8.66	9.33	8.33	10.33	9.33
10	9	14	8.33	5.66	6.33	8.33	7.66	10.33
9.66	10	14	9	6.33	6.66	9.33	6.66	6.33
8.33	11.33	11.66	7.33	5.33	9	8.33	8	10
7	10	11.66	8.33	5.66	7.33	8.33	5	12
			7.66	4	9	8.33	8.33	8.66
			7.66	6.33	4.66	9	6.33	10.33
			8	6.33	5.66	8	10	8.33
			9.33	5.66	7.66	8.66	7.66	9.33
			8.66	3.66	8.66	8	7	6.66
			8.66	3.66	6.66	8	7.66	9.66
			9.00	2	7	8.33	6	5
						7.66	5.66	9.66
						7.33	6	9.66
						7.66	4.66	8.66
						10	4.33	9.33
						8	5	7
						8.33	5.33	6.33
						7.33	4.66	7.33

Note. S = Subject

Appendix R

Individual Subject Results for Number of Hours away from Home

S1	S2	S3	S4	S5	S6	S7	S8	S9
.50	0	.89	3.66	0	0	.94	.67	.67
1	0	.89	1.83	1	.50	1.50	1.33	.67
1.67	0	.81	0	.67	1.67	.50	1.25	1
.67	.86	.78	1.50	2.50	0	1.08	1.67	2.50
.75	.61	.33	0	0	0	.25	.19	0
1.67	.06	1.50	1.33	.83	0	2.25	0	1.33
.83	0	.53	0	1.50	0	1.31	1.56	1.42
.50	.72	1.36	0	.83	1.46	2.66	2.25	.83
1.25	.67	.92	.83	1.25	0	0	1.33	1.64
.83	.44	1.61	2.33	.83	0	1.22	0	1.50
2	0	.50	.33	1	.75	.67	3.25	1.25
0	.83	1.08	2.33	.47	0	1.11	0	.42
2	0	.58	.50	0	.47	1	0	1.83
1.25	0	.58	1.67	2	0	1.28	.92	.50
2.50	1.53	2.31	2.58	2.08	.02	1.83	2.25	1.44
2.33	2.56	2	.67	.83	.17	0	1.33	.50
1	.58	3.36	.67	2	1.83	1.67	0	.67
1.58	.25	1.11	.33	.59	0	1	3.36	1.16
.92	2.22	2.14	1	.83	.47	1.25	0	.78

S1	S2	S3	S4	S5	S6	S7	S8	S9
2.33	1.44	1.83	1.50	.78	1.06	.50	0	1
2.39	1	1.56	.83	.33	0	.50	.92	1.33
1.50	1.11	2.19	1	1.17	2.03	2.33	1	2.14
2.42	1.33	2.17	1.67	1.33	.94	.61	.33	.89
1.33	2.19	1.08	.83	.67	.67	1.83	1.50	2
1.67	1	2.33	1.11	.83	1.10	.75	.89	.83
3.25	1.33	1.89	1.83	.67	.69	.92	.75	.89
3.17	2.42	1.72	.83	1.17	.67	2.08	1.85	1.53
3.50	1.42	2.39	2.33	1.64	1.17	1.50	1.94	.67
			1.67	3.19	3.64	2.50	2.25	1.22
			1.33	.50	2.53	1.86	1.67	1.83
			2.89	3.17	1.28	1.17	3.33	1.69
			2.17	1.50	1.31	1.89	.33	4
			1.33	1.50	1.64	1.75	2.33	.67
			2.22	1.67	1.58	1.67	4	1.14
			2	2.83	1.17	2.50	.67	1.58
						2.50	3.67	2.53
						1.75	3.25	2.25
						2.50	.58	2.50
						3.28	1.33	1.72
						1.42	3.17	2.11
						2.17	.67	2.75
						2.36	1.83	2.22

Note. S = Subject

Appendix S

Individual Subject Results for Number of Journeys away from Home

S1	S2	S3	S4	S5	S6	S7	S8	S9
.33	0	.33	1	0	0	.66	0	.33
1	0	.33	.66	.33	.33	.66	.66	.33
.66	0	.33	0	.33	.33	.33	.66	.33
.33	.66	.33	.66	.66	0	1	.33	.66
.66	.66	.66	0	0	0	.66	.33	0
.66	.33	.66	.33	.66	0	1	0	.66
.66	0	.33	0	.66	0	.66	.66	.33
.33	.33	1	0	.33	.33	1	.33	.33
.66	.66	.66	.66	.66	0	0	.33	.66
.66	.66	.6	.33	.66	0	1	.33	.33
1	0	.33	.33	.33	.66	.33	0	.66
0	.33	.66	.66	.33	0	.66	.33	.33
1	0	.33	.33	0	.33	.66	1	.66
1	0	.66	.66	.66	0	.66	0	.33
1	.66	1.33	1.33	.66	.33	.66	1	.66
.66	1	1	.33	.33	.33	.33	.66	.33
.66	.33	1.66	.33	.66	.33	1	0	.33
1	.33	.66	.66	.33	0	1	.33	.66
.33	.66	1	.33	.66	.66	.33	0	.33

S1	S2	S3	S4	S5	S6	S7	S8	S9
1.33	1	1.33	.33	.33	.66	.33	0	.33
1.33	.66	1.33	.33	.33	0	.66	.33	.66
.66	.66	1.33	1	.66	.66	1.33	.66	.66
1.33	.33	.33	.66	.66	.66	.33	.33	.33
1	1	1	.33	.66	.66	1.33	.33	1
1	.33	1.33	1	1.33	.66	.66	1	1
2.33	.66	2	1.66	.66	.66	.33	.66	.66
1.33	1	1	.33	1	.66	.66	.66	1
1	1	1.66	.66	1.33	.66	.33	.66	.33
			.66	1.33	1	1.33	1	1
			.33	1	.66	.66	.66	1
			1.33	1.33	.66	.66	1	.33
			1.33	.66	1	1	.33	1.66
			1.33	1	1	1.66	1.66	.66
			.66	1.33	1	.66	1.66	1
			1.33	1.66	1	1.66	.33	1
						1	1.33	2
						.66	1.33	1
						1.33	1.33	.66
						1	.66	.33
						1	1	1
						1.33	1.66	1.66
						2	1	1

Note. S = Subject

Appendix T

Individual Subjects' Ratings of State Anxiety before and after Treatment and during Follow-up

Group	Subject	Pre-Treatment	Post-Treatment	3-week Follow-up	2-month Follow-up
1	1	50	40	35	28
	2	55	45	39	30
	3	54	52	44	40
2	4	54	41	38	32
	5	50	40	30	26
	6	60	48	42	35
3	7	45	38	34	30
	8	61	54	43	35
	9	55	47	40	35

Appendix U

Individual Subjects' Ratings of Trait Anxiety before and after Treatment and during Follow-up

Group	Subject	Pre-Treatment	Post-Treatment	3-week Follow-up	2-month Follow-up
1	1	67	54	51	45
	2	60	55	51	50
	3	60	57	52	46
2	4	57	47	43	37
	5	69	58	52	45
	6	65	60	57	54
3	7	62	49	43	38
	8	59	55	53	43
	9	60	57	54	51

Appendix V

Individual Subjects' Ratings of Total Phobic Anxiety before and after Treatment and during Follow-up

Group	Subject	Pre-Treatment	Post-Treatment	3-week Follow-up	2-month Follow-up
1	1	36	11	10	10
	2	40	32	33	33
	3	36	15	09	10
2	4	40	18	14	13
	5	37	24	22	17
	6	35	21	17	17
3	7	38	26	26	24
	8	31	18	14	13
	9	40	28	14	11

Appendix W

Individual Subjects' Ratings of Total Phobic Avoidance before and after Treatment and during Follow-up

Group	Subject	Pre-Treatment	Post-Treatment	3-week Follow-up	2-month Follow-up
1	1	36	15	13	12
	2	36	33	36	35
	3	36	15	09	10
2	4	37	21	16	15
	5	38	25	29	18
	6	37	28	18	18
3	7	38	30	28	22
	8	30	25	18	15
	9	40	32	21	14