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The mediating influence of attributions on self-efficacy and behavioral changes following performance-based treatment of phobia

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The Mediating Influence of Attributions
on Self-Efficacy and Behavioral Changes
Following Performance-Based
Treatment of Phobia

Isabel Anne Sanchez

A Thesis

Presented to the Graduate and Research Committee
of Lehigh University
in Candidacy for the Degree of
Masters of Science
in
Psychology

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Certificate of Approval

We, the members of Isabel A. Sanchez's master's thesis committee, agree that this thesis and the study described herein are acceptable and fulfill the requirements of the thesis for the Master's of Science in Psychology.

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Abstract

The main purpose of the present study was to examine causal attributions' mediating influence on therapeutic changes in self-efficacy and behavior following performance-based treatment for phobias. Subjects were people with disabling phobias of situations or activities away from home. Subjects first underwent a behavioral pretreatment assessment which measured their behavior, anxiety, and self-efficacy while attempting a target phobic behavior. Subjects were included in the study if they showed behavioral disability during this procedure. After the pretest, subjects were randomly assigned to one of three treatment conditions. Subjects in the Accompanied condition completed 45 minutes of treatment during which the therapist continually accompanied them while they attempted the task. Subjects in the Alone condition received 45 minutes of treatment in which they attempted the task without therapist accompaniment. Subjects in the Control condition received no treatment. The purpose of the independent variable manipulation was to elicit different attributions for performance success among the subjects in the two active treatment groups. Immediately following treatment, subjects completed an attribution measure by indicating the main cause(s) for their performance during treatment. Subjects then completed a posttreatment assessment identical to that

completed prior to receiving treatment. An average of seven days later, subjects returned for follow-up assessment procedures in which they completed an attribution measure identical to the one given immediately following treatment, then completed a follow-up behavioral assessment identical with earlier tests.

The findings showed that subjects in both active treatment groups did not differ significantly in the attributions made for success. Moreover, attributions alone or in combination with treatment success did not aid in the prediction of self-efficacy and behavior change significantly more than performance success by itself. Attributions made for performance success during treatment remained stable from posttreatment to follow-up.

In general, subjects in both conditions did not differ in the amounts of therapeutic benefit gain on measures of self-efficacy and behavior. An effect size analysis demonstrated that treatment had sufficiently enhanced these psychological factors, but the sample sizes had precluded the demonstration of significant therapeutic changes among subjects in both conditions.

CHAPTER 1

Introduction

Phobic disorders are among the most common of all psychological problems (Pasnau & Bystritsky, 1990). A phobia is a persistent and irrational fear of an object, activity, or situation that results in anxiety and avoidant behavior (Spitzer & Williams, 1986). Although their physical proximity to the feared situation does not necessarily account for their avoidant behavior patterns, some people with phobic disorders are able to dismiss their fears when they are in a 'safe' place (Williams & Watson, 1985). The avoidant behavior, which is recognized by the phobic person as excessive or irrational, often leads to a limited lifestyle despite the person's desire to function normally (Williams, 1987).

Phobic disorders are further differentiated into the categories of specific phobias, social phobias, and agoraphobia (American Psychiatric Association, 1986). Although avoidant behavior characterizes all phobias, each type of phobia is associated with unique psychological phenomena that distinguishes each from the others.

Specific phobias are characterized by an intractable fear of a specific object, activity, or situation (e.g. snakes or air travel). Some people with specific phobias are free of phobia-related symptoms as long as they are not in or not anticipating the feared situation, but in other

cases, they are plagued by distressing thoughts even when they are far removed from what they fear, and may suffer from frequent nightmares about what they fear (Bandura, 1978). Social phobia is more complex in that it involves nonobjective events, such the potential scrutiny, negative evaluation, or rejection by others (Butler, 1989).

Agoraphobia means having a fear of public places, also a fear of being away from home or being away from people who provide psychological security (Barlow, 1988). Indeed, one feature often seen in agoraphobic people is that they are more fearful when alone, and, as a result, may require a companion to do common activities away from home (Chambless, 1982). Activities typically feared by agoraphobic people include the fear of walking busy streets, walking across bridges, driving, riding elevators, being in large open spaces or in crowds, such as malls, going to restaurants, and ascending heights (Williams, 1985). Agoraphobia is often, but not always, accompanied by panic attacks. During panic attacks, people generally experience a feeling of imminent danger and terror, possibly in conjunction with weakness of the limbs, palpitations, breathing difficulty, depersonalization or derealization, perspiration or trembling, and a fear of losing control, dying, or going crazy.

Traditionally, treatment for phobias was based on psychoanalytic theory and corresponding treatment

techniques. This proved to have relatively little beneficial effect in understanding phobias or helping people to overcome their phobias (Paul, 1966; Marks, 1969). Systematic desensitization, which involved imagining oneself coping with the feared object or activity was proposed as an alternative to insight therapy for anxiety problems (O'Brien, 1981; Wolpe, 1958) and proved to be more effective (Paul, 1966). Although people with specific phobias showed improvement in many cases when this form of treatment was implemented, people with agoraphobia did not receive the same effect (Barlow, 1988). Rather, it was demonstrated that agoraphobic people show a clear improvement if given the opportunity to cope with the feared object or situation (Agras, Leitenberg, & Barlow, 1968; Mavissakalian & Barlow, 1981). Despite this, 30-40% of agoraphobic people who receive performance-based treatment experience essentially no improvement (Barlow, 1988). This fact, in addition to the suffering agoraphobic people often experience, warrants further research into agoraphobia and panic.

It is widely assumed that performance-based treatments operate by "exposing" the phobic person to the feared stimuli so as to extinguish anxiety (e.g Marks, 1978). One form of performance-based treatment is based on the stimulus exposure model. According to this model, anxiety is considered the primary causal factor in phobic behavior, and treatment benefit is assumed to result from extinction of

anxiety through prolonged exposure to the phobic stimulus. But the exposure principle lacks explanatory value when considering the marked differences in therapeutic effects derived from this general mode of treatment (Williams, 1990).

Self-Efficacy Theory

An alternative concept of treatment focuses on the person's cognitive evaluation of the phobic object or setting. Bandura (1977, 1986) postulates that enhanced self-efficacy is the major factor governing behavior change in psychological treatment. Self-efficacy, within the context of phobic disorders, is people's perceptions that they can cope effectively with the feared object, event, or activity. If people come to believe that they are capable of coping, than they will exert more effort and will persist despite the personal threat of the activity, thereby gaining increased self-efficacy, and soon mastering their phobia (Bandura, 1977).

A form of cognitive-behavioral treatment called guided mastery is based on self-efficacy theory. The goal of therapy is to eliminate defensive behavior by using performance success as the major avenue of psychological change. The mastery therapist attempts to structure the environment so as to foster the individual's successful performance of a threatening activity. Mastery aids are used to enhance performance and to bring about subsequent

mastery behavior through rapid coping success (Williams, 1990).

Several studies have supported the self-efficacy theory of phobia by showing that self-efficacy perceptions strongly predict phobic behavior before and after various treatments (e.g. Bandura, Adams, & Beyer, 1977; Williams, Dooseman, & Kliefield, 1984; Williams, Turner, & Peer, 1985; Williams, Kinney, & Falbo, 1989). Additionally, ratings of self-efficacy proved to be better predictors of therapeutic changes than were anxiety ratings or ratings of other cognitive factors, such as anticipated anxiety, anticipated panic, and perceived danger (Williams, et al., 1984). The findings of several of these studies also demonstrate the effectiveness of guided mastery treatment. It proved better at enhancing self-efficacy and adaptive behavior change than treatment based on stimulus exposure alone (Williams, et al., 1984; 1985). Guided mastery was also more effective in reducing performance anxiety than was exposure treatment; further, this difference increased during the follow-up period (Williams & Zane, 1989).

Although people's previous performance successes strongly influence their current self-efficacy, two individuals may achieve the same performance success during phobia treatment, but differ in the extent of self-efficacy change (Bandura, Reese, & Adams, 1982). This may be because self-efficacy has been influenced by factors in addition to,

or other than, past behavior. Indeed, self-appraisals, such as self-efficacy, following performance success or failure can be affected by causal judgements (Bandura, 1986).

Attribution Theory

Attribution theory is the study of perceived causation for one's own or other's behavior (Kelley and Michela, 1980). Attribution theory postulates that people seek to causally explain their own and other peoples' behavior and the events that occur around them (Heider, 1958; Kelley, 1967).

The basic tenet of Weiner's (1985) theory of achievement motivation is that motivation is based, in part, on an individual's search for mastery and causal understanding in achievement settings. In an attempt to gain greater understanding of a success or failure experience, a person makes causal ascriptions for the outcome. The theory is relevant to the present study because self-efficacy expectations are also greatly affected by performance attainments.

Weiner (1983) proposes that the primary attributions people make for success or failure outcomes in achievement settings are related to ability, effort, task difficulty, and luck. These attributions can be placed on dimensions of causality. These dimensions are based on the underlying properties of the causes. The achievement relevant dimensions are locus of causality (internal-external),

stability (variable-invariant), and controllability (Weiner, 1985). For example, ability is often construed as an internal, stable, and uncontrollable factor.

The locus dimension relates to self-esteem and affective consequences (Weiner, 1990). The level of internality or externality a person gives a cause of an outcome will determine how much personal responsibility that person will take. So, for example, an attribution to internal causes for performance success should increase self-efficacy because the person is taking personal credit for the accomplishment.

The stability dimension is most closely related to expectancy change following success or failure (Weiner, Nierenberg, & Goldstein, 1978; Weiner, 1990). If one perceives that the cause of an outcome is enduring, one will anticipate future outcomes with greater certainty. For example, attributions for failure to stable factors, such as low ability or task difficulty, should lead to greater decreases in expectations of future success than attributions to unstable factors, such as bad luck and a lack of effort.

Controllability refers to the person's degree of volitional influence over the cause for the outcome (Weiner, 1983). Attributions made to ability or task difficulty are usually perceived as being less controllable than attributions made to causes such as effort expenditure or

performance strategy. If people attribute their performance success at a task to something controllable, they should feel more confident that they will be able implement control over similar tasks in the future.

Effort and ability are the most salient and general of the causal perceptions to which people ascribe success or failure in achievement settings (Weiner, 1985). Although both are considered internal factors, effort is further distinguished from ability as being more controllable and less stable.

Weiner (1983) cautions the researcher against making the a priori assumption that attributions to one or another cause will lead to consistent predictions with regard to subsequent behavior and affect. More specifically, research examining these consequences must accommodate for the possibility that causal perceptions made in one domain might not be relevant and, therefore, appropriately tested in another domain.

Attributions regarding coping successes are highly relevant to the examination of self-efficacy change in people during phobia treatment because performance attempts which lead to performance success can be ascribed to oneself (e.g. increased ability) or to other factors (e.g. a trusted companion), and attributing success to personal factors is assumed to have a greater enhancing effect on one's self-efficacy than attributing success made to external factors.

Relationship between self-efficacy and attributions.

Self-efficacy cognitions and anticipations regarding the outcomes of behavior have a reciprocal influence on attributions (Bandura, 1986). Studies that examine the relationship between attribution processes and self-efficacy within various settings have traditionally looked at the effects of the individual's self-efficacy on subsequent attribution processes (e.g. McAuley, 1991; McAuley, Duncan, & McElroy, 1989). Terms such as "performance expectancies" and "perceptions of competency" are used throughout much of the relevant research and are assumed to be closely related to the construct of self-efficacy.

People's self-efficacy influences their attributions for performance accomplishments. If people are confident performing a task, they will tend to attribute further success at that task to internal causes (Feather, 1969). More specifically, a highly efficacious person will attribute unexpected success to external causes (luck) and expected success to internal causes (ability). Similarly, when socially anxious people are given social feedback consistent with their self-efficacy, they attribute interpersonal outcomes to internal causes, while they attribute feedback inconsistent with their self-efficacy to external causes (Alden, 1986; 1987). Additionally, individuals with high self-efficacy for performing a motor task are more likely to attribute their performance to

stable, controllable factors than those with low self-efficacy (McAuley et al., 1989).

Not only does self-efficacy affect attributions, but the nature of the attributions made can affect self-efficacy as well. Bandura (1977; 1986) states that attributions for behavior affect future performance by influencing self-efficacy. A person will discount the potency of any given cause if there are a number of plausible causes for an event (Kelley, 1972). Self-efficacy can be influenced in either a negative or positive direction depending on the causal ascription the person makes. For example, a bridge phobic person might attribute success in walking across a bridge to the presence of a trusted companion, which could result in that person having low self-efficacy for crossing bridges when alone, despite the performance attainment. This is because the person is denying personal competency (self-efficacy) in favor of attributing success to situational factors. If performance success is attributed to skill rather than to external aids, self-efficacy is more likely to be enhanced. Conversely, if the person takes personal responsibility (e.g. makes a causal attribution to lack of ability) for poor performance, self-efficacy should be reduced. If, on the other hand, a person attributes a failure experience to lack of effort or other easily correctable or transient factors, one's positive appraisal of underlying capabilities is unaffected.

Few studies to date have examined the potential mediating role of attributions for performance on self-efficacy within the domain of phobias, but a number of studies have demonstrated this relationship within other domains.

Attributions to internal causes for success should enhance self-efficacy because the person is taking personal responsibility for the outcome, which could serve to enhance one's sense of competency. For example, Chambliss and Murray (1979) examined the effects of manipulating the subjects' self-efficacy ratings for reducing smoking by having subjects attribute their reduced smoking to either a placebo (external cause) or to themselves (internal cause). Overall, those subjects who ascribed their ability to stop smoking to themselves reduced their smoking significantly more than those who attributed it to a placebo. This finding suggests that attributions to internal causes serve to enhance self-efficacy, which, in turn, leads to a positive behavioral objective (significant smoking reduction).

Attributions for success to controllable factors could indirectly enhance self-efficacy because the person has taken personal responsibility for the accomplishment, which enhances his sense of competency in future attempts at similar tasks. For example, Anderson (1983) tested the effects of attribution manipulations on self-efficacy and

task performance. Subjects were assigned to either a ability/trait (uncontrollable cause) manipulation condition, a strategy/effort (controllable cause) manipulation condition, or a no manipulation control condition. College students who made strategy/effort attributions for their interpersonal failures expected more success than those who made ability/trait attributions. Additionally, those subjects who attribute failure to controllable factors performed better on the interpersonal task than those who make attributions to uncontrollable causes. This is consistent with prior experimental findings that have shown that people who make attributions to stable, uncontrollable, and internal factors are less likely to have future success expectancies and to make future attempts at the same or similar tasks (Weiner, 1983).

Attributing success or failure to stable causes influences whether people will come to expect similar outcomes in comparable situations in the future (Weiner, et al., 1976). Attributions for success to stable causes, such as one's ability, should increase self-efficacy because the person will be more confident for performing the same or similar task in the future. McMahan (1973) gave students from the sixth and tenth grades and college either failure or success experiences while solving anagrams. The findings show that following success, attributions to stable factors (ability and task difficulty) led to higher subsequent self-

efficacy than following failure. Attributions to unstable factors (effort and luck) lead to lower subsequent expectancies following success and higher ones following failure.

The potential influence of causal attributions on self-efficacy perceptions might account for subsequent behavioral persistence. Attributions for success to a stable, controllable, and internal cause such as ability should positively influence one's confidence, which would increase the likelihood of the task being attempted in the future. Conversely, the same attributions for failure could negatively influence one's confidence, which would decrease the likelihood of persistence. Andrews and DeBus (1978) found that attributions for failure to unstable causes, such as insufficient effort, were positively related to persistence, but attributions to stable causes, such as a lack of ability, were negatively related to persistence.

In a related study, which examined the mediating effects of self-efficacy and attributions on psychological momentum, Shaw, Dzewaltowski, and McElroy (1992) found that subjects attributed their performance to internal, unstable, and controllable causes following competitive success and failure. Interestingly, these attributions affected their self-efficacy ratings in a differential manner. Self-efficacy was enhanced by these attributions following competitive success, while it remained stable after failure.

This is consistent with Bandura's (1986) suggestion that following failure, self-efficacy would remain stable if one attributed the outcome to unstable, controllable causes, such as a lack of effort.

The aforesaid findings suggest that attributional manipulations could serve to change one's behavior by influencing self-efficacy beliefs. One study (Schunk, 1983), which examined the influence of performance feedback on self-efficacy and skills, had children with low subtraction skills undergo training for which they were given either ability, effort, effort-ability, or no performance feedback. Schunk (1983) found that children who were told that their progress was due to their high ability acquired greater skill and self-efficacy than those who were told that their progress was due to their effort or a combination of their effort and ability. On the other hand, research that examined the effects of feedback for failure in achievement settings on subsequent persistence and performance levels found that feedback that attributed failure to the child's lack of effort enhanced persistence and sustained engagement in difficult tasks among children who had previously displayed helpless patterns of behavior. (Dweck & Repucci, 1973; Dweck, 1975; Diener & Dweck, 1978, 1980).

Recent research has examined the relationships among performance success, attributions, and gains in self-

efficacy during performance-based phobia treatment among agoraphobic people (Kinney, 1992). The major point of interest was to examine whether causal attributions for performance success during treatment had any effect on therapeutic changes in self-efficacy and behavior.

Subjects were randomly placed into one of two treatment conditions. Those in the Alone condition received one hour of performance-based treatment during which a therapist never accompanied them as they attempted to do the phobia-related tasks in community settings. Subjects in the Accompanied condition received one hour of performance-based treatment during which a therapist continually accompanied them as they attempted to do the phobia-related task. The purpose of the experimental manipulation was to produce different attributions for performance success between the two treatment groups.

The primary reason for placing subjects in the two treatment groups was to manipulate their attributions for treatment success. Kinney (1992) predicted that compared with subjects in the Accompanied condition, the subjects in the Alone condition would be significantly more likely to attribute their performance success to their ability, internal causes, and controllable causes, and would be significantly less likely to attribute their performance success to the therapist. This is because subjects in the Alone condition would have greater cause to ascribe their

success to themselves, in the absence of therapist accompaniment. These predictions were supported. In addition, attributions were good predictors of therapeutic change in behavior and self-efficacy. Importantly, attributions added to the prediction of self-efficacy change and behavior change even with the influence of performance during treatment held constant, thus supporting attribution theory.

People with agoraphobia are more fearful when alone, and, as a result, are more confident in performing a task with a companion (Chambless, 1982; Chambless, Caputo, Jasin, Gracel and Williams, 1985). If one is accompanied by a therapist while performing a task, that person could attribute success to the therapist, rather than to one's ability. In this case, one's self-efficacy for doing the task will not be enhanced because the attribution for success is made to the therapist - an external, unstable, and, potentially, uncontrollable factor. Kinney (1992) found that accompanied subjects attributed their performance success not to themselves, but to the therapist, which led to a poorer transfer of therapeutic gain from treatment to the post-treatment test, in which subjects attempted the task unaccompanied. This finding suggested that the Accompanied subjects' attributions for success to an external cause, such as the therapist, did not serve to enhance self-efficacy, which, in turn to the poorer

therapeutic transfer.

Kinney (1992) also predicted that accompanied subjects would perform significantly more tasks during treatment than would unaccompanied subjects, based on the general assumption that phobic people are more likely to perform phobia-related tasks when accompanied. Interestingly, this prediction was not supported, which Kinney attributed to a ceiling effect, in that most subjects in both conditions achieved maximum performance during treatment. This is an important issue in that this assumption enters into treatment planning as well. Yet it has never been empirically tested prior to Kinney's (1992) study.

The Present Research

The present study examined the influence of people's causal attributions on their subsequent self-efficacy evaluations following performance success during treatment of phobias. The main goal of the study was to replicate and extend the findings of Kinney (1992). A number of modifications were made. First, the unexpected result that subjects in both conditions showed no differences in performance success was addressed. The ceiling effect might have been the result of the subjects in the Alone condition having had enough time to reach a similar level of performance success as those in the Accompanied condition. To test this hypothesis, the amount of time the subject received treatment was reduced. In addition, the subjects'

initial attempts during treatment were formally measured to determine whether subjects in the two conditions differed significantly in how much they could do at the inception of treatment. It was predicted that accompanied subjects would be able to perform more of the task than those who were not accompanied.

The present study also examined whether the treatment effects on subjects' behavior, attributions, and self-efficacy ratings were enduring. A number of days after treatment, a follow-up behavioral assessment was performed, during which another set of attribution measures was collected.

The present study examined the possibility of reversing people's attributions. The Kinney (1992) study demonstrated that subjects in the Alone condition were more likely to make more favorable attributions for their performance success, which subsequently resulted in a greater transfer of therapeutic behavior change and self-efficacy change. This finding would suggest, then, that subjects in the Accompanied condition would benefit from receiving supplemental Alone treatment after the follow-up test. Subjects who were in the Accompanied condition were given additional Alone treatment. After the treatment session, they completed a second set of attribution measures and then completed another behavioral test. It was predicted that after receiving Alone treatment, these subjects would be

more likely to attribute their performance success to ability, internal causes, and controllable causes, and less so to the therapist, thus demonstrating a within-subject change in attributions, self-efficacy, and behavior.

The attribution measure used in the previous study was modified. The globality dimension was excluded from the measure as a result of the finding that attributions to global causes have little influence on subsequent self-efficacy and behavior (Kinney, 1992). In addition, a measure of attributions to the amount of effort exerted was added. One's effort, like ability, is seen as being relevant to a number of causal dimensions. Lastly, many of the items were reworded for better comprehensibility.

In sum, the present study examined the mediating influence of attributions on self-efficacy and behavior change. Following completion of a pretreatment assessment, subjects were placed in either the Alone treatment condition, in which they attempted the task while unaccompanied, or the Accompanied treatment condition, in which they were continually accompanied by the therapist while attempting the task. Subjects from both conditions completed an attribution measure and then completed a posttreatment assessment identical to the one given at pretreatment.

It was predicted that: (1) Subjects in the Accompanied condition would perform significantly more of the task at

treatment during their initial and last attempts than subjects in the Alone condition; (2) Accompanied subjects would experience a significantly greater transfer loss during the behavioral post-test; (3) Alone subjects would be significantly more likely to attribute their performance success to internal, stable, and controllable causes and their increased ability and effort and would be significantly less likely to attribute their performance success to the therapist than Accompanied subjects; (4) Subjects' attributions for their performance success would aid in the prediction of subsequent self-efficacy significantly more than performance success during treatment or attributions alone. That is, neither performance success or attributions alone would predict self-efficacy change as accurately as the combination of these factors (attribution x success); (5) Subjects' attributions would aid in the prediction of behavior change from pretreatment to posttreatment in the same manner as stated in hypothesis 3; (6) Alone subjects would maintain their therapeutic gains in self-efficacy and behavior at follow-up; and (7) Subjects who received supplemental Alone treatment at follow-up would reverse their attributions for success to resemble those made by subjects in the Alone condition during the first treatment session.

CHAPTER 2

Method

Subjects and Preliminary Selection Procedures

Subjects were 20 individuals (15 women and 5 men) averaging 43 years old (range = 29-63 years old) who responded to local media announcements about the phobia treatment program or were referred to the program by practitioners. All subjects were avoidant of at least one of the following four target phobias typically seen in agoraphobia: walking over a bridge, driving, walking in a mall, and walking alone on a busy street. One target phobia for each subject was selected to be treated during the experimental procedures.

A brief telephone interview was conducted initially with those who contacted the program seeking treatment. The questions were guided by an outline [shown in Appendix A]. If the person appeared phobic, a set of preliminary questionnaires was sent to the individual. The questionnaires include the following inventories:

- 1) the Subject's Background Information and Treatment History inventory, which asked how much the person's life is affected by his or her phobia(s) and background information about the person's mental health history, including any treatment she might be presently receiving (Appendix B);

- 2) the Self-Efficacy Scales for Agoraphobia (SESA: Kinney & Williams, 1988; Williams, Andrews, Thornton, &

McKenna, 1992, Appendix C). Subjects rated their ability to do a number of hierarchically arranged tasks within fifteen potential areas of dysfunction. Four of the fifteen items corresponded with the areas that were treated in this study.

Subjects who rated themselves as unable to do at least 60% of the tasks in at least one of the four target areas were called in for a diagnostic interview. The diagnostic interview was not part of the selection procedure: the diagnosis of agoraphobia was not a requirement for participation in the study, although such a diagnosis was expected for most subjects. The purpose of the interview was to characterize the subject sample. During the office meeting, the subjects were given a description of the treatment program and were asked to sign an informed consent form.

Final Selection

The final selection was made by having the subject do a pre-treatment behavioral test on a single phobia that was subsequently treated in the study. These pretreatment behavioral tests involved testing the subject's behavior in one of the four target areas (see Pretreatment Measures, below, for details). To be included in the study, subjects had to display objective disability by performing fewer than 60% of the task in one of the four target areas.

Procedure

After the pretreatment behavioral test, the subjects

were randomly assigned to one of the three conditions. Subjects in the Control condition waited 2-3 days before being tested again. After these subjects completed a post-control behavioral test, they were reassigned to either the Alone or Accompanied condition.

Initially, 7 subjects were assigned to the Alone condition, and 5 subjects were assigned to the Accompanied condition, and 9 subjects in the Control condition. Four subjects were not reassigned to an active treatment condition because one subject withdrew during the control period, and three subjects exceeded the behavioral selection criterion during the post-control test. Following reassignment of Controls, subjects were 9 in the Alone condition and 8 in the Accompanied condition.

Subjects were told not to take any discretionary doses of anti-depressants or tranquilizers or to drink alcohol prior to any assessment or treatment sessions. The number of subjects in the Alone condition who received treatment for each kind of phobia were 6 bridge phobics, 1 driving phobic, and 1 walking phobic. In the Accompanied condition, there were 7 bridge phobics and 1 driving phobic.

Pretreatment Measures

Assessors. Pretreatment measures were administered by trained research assistants who took the subject out to community sites designated for each behavioral test. The assessors were unaware of the subjects assigned treatment

condition. These measures were standardized in that the assessor brought the subjects to designated areas in the community and read instructions verbatim to subjects (see sample behavioral test manual and assessment forms in Appendix D).

Self-efficacy. Prior to and immediately following each behavioral test, the subject was asked to complete the self-efficacy form by rating their confidence in completing related tasks while alone and accompanied. The scale ranged from 0, "cannot do", to 100, "certain can do", with the numbers in between representing increasing degrees of certainty. Self-efficacy level is the percentage of items the subject rated as 20 or above. Self-efficacy strength is the means of the scores given. This method of measurement is identical to that used in previous self-efficacy research (e.g. Bandura, et al., 1982). Ratings taken immediately after the pretreatment behavioral test, and those taken immediately before the posttreatment behavioral test were used in the analysis, so that the effects of self-efficacy change would not be confounded with the effects of the behavioral tests.

Approach behavior. Following the self-efficacy ratings, subjects attempted to perform the phobia-relevant task corresponding with those on the self-efficacy measure, first attempting the easier tasks and then progressing to more difficult tasks. The tasks were attempted alone, while the

assessor waited at the beginning of the assessment route. In the bridge test, subjects attempted to walk alone across the length of a bridge (.5 miles) that spans the Lehigh River. In the mall phobia assessment, subjects attempted to walk alone progressively farther through a large indoor shopping mall. In the walking assessment, subjects attempted to walk alone for a distance of 12 city blocks in Bethlehem. In the driving assessment, subjects attempted to drive alone along progressively more challenging driving routes, beginning with a quiet residential street and finishing with a busy highway.

Performance in all the tests was verified by objective indices. Subjects were asked to leave a piece of tape at the furthest point reached at the farthest point reached in the bridge, mall, and walking assessments. Odometer reading were taken at the end of each attempted route in the driving assessment. All behavioral assessments tested tasks ranging from quite easy to quite difficult, with equal intervals of difficulty between tasks, based on objective linear intervals (tests of bridges, malls, and walking a busy street) or a combination of both objective and subjective intervals (driving). Approach behavior was scored as the percentage of tasks performed, with a partial value added for partial task performance.

Anxiety. Subjects rated the level of anxiety they experienced while attempting the behavioral task, using a

scale from 0, "not anxious", to 10, "extremely anxious". Anxiety was scored as the average anxiety rated by subjects while performing the task.

Treatment

Factors common to both treatment conditions. Subjects completed the same hierarchy of tasks as those in the behavioral test, which were carried out in the same designated sites. Treatment sessions were forty-five minutes in length. Just prior to treatment, subjects in either condition were given identical instruction prior to attempting the feared task. The treatment rationale was as follows:

Let me explain what we will be doing and why. You fear [name of the activity], and because you always avoid it you deprive yourself of the opportunity to learn to react non-fearfully to [activity]. Our goal is for you to regain your ability to do [activity], and to be able to do it with less anxiety. The best way to overcome your fear and avoidance of [activity] is to practice [activity], and to keep doing so until it no longer frightens you. If you continually and repeatedly practice what you fear, the anxiety will usually decline. Sometimes the anxiety goes away quickly, and sometimes it takes longer, but in the vast majority of the cases anxiety subsides

with continued practice.

I will encourage you to practice steadily. The most important things to remember are: (1) that you persist despite any anxiety you might experience. I will not try to make you anxious, but anxiety goes along with exposure to feared situations. If you practice persistently, the anxiety will tend to go away on its own accord, (2) you can function effectively despite anxiety. You needn't let anxiety keep you from practicing, (3) anxiety is unpleasant, but not harmful; no matter how anxious you might become, it won't harm you, and (4) the more rapidly and persistently you confront the situation, the more quickly and completely the fear will fade. So let's get started now and see how it goes.

After delivering the treatment rationale, the therapist instructed the subjects to do as much as they could as rapidly as they could. The therapist provided praise and encouragement for the subjects' efforts at the end of each performance attempt; although, conversation was kept to a minimum. The author conducted the treatment.

In the Accompanied treatment subjects were continuously accompanied by the therapist while they attempted to perform the behavioral tasks.

In the Alone treatment subjects attempt the behavioral

tasks alone. The therapist did not accompany the subjects at any time during treatment forays.

When subjects initiated conversation with the therapist, the therapist repeated the basic instruction to continue practicing. Responses to the subjects' questions were limited to yes or no answers whenever possible. If subjects in the Alone condition asked why the therapist was not accompanying them, the therapist told them that performing the task alone was a good strategy for overcoming their phobias. If subjects in the Accompanied condition asked why the therapist always accompanied them, the therapist told them that initially it was a good strategy to practice with a trusted companion, then to graduate to practicing alone. Few subjects posed such questions.

Subjects in the Control condition completed two behavioral tests within a period of 2 to 3 days. After the second test, the subjects were reassigned into the Alone or Accompanied treatment condition. Data from the second test was used as their pretreatment data.

Measures of Treatment Performance and Performance Success

The therapist rated the level of the subject's performance on each foray. "Treatment performance" was scored as the percent of performance (out of a possible 100) of a given task that the subject completed during the last treatment foray. Treatment performance for Alone subjects was verified using the same method used during the

behavioral test (see "Approach behavior" for details). "Treatment success" was scored as the difference between the subjects' pre-treatment performance and their treatment performance. The same scale used during the behavioral test was used to score treatment performance and treatment success.

Posttreatment Assessment Procedures/Measures

Immediately after treatment, the subject completed posttreatment assessment procedures, which were administered by the same assessor who performed the pretreatment assessment.

Attribution Measure. Subjects first rated their attributions for their treatment success, using the "Performance Assessment Form" shown in Appendix E.

The assessor filled out the top of the form that specifically described the subject's performance success. The next portion asked the subjects to list the "main reason" and any "other reasons" for their performance success. These responses were gathered so that the subject's primary perceived cause could then be used while completing the remaining portion of the form.

The rest of the form consisted of items that covered a number of attribution dimensions on which the subjects rated their perceived causes for their performance success. The ratings for internal and stable attributions (items C and E) were adopted from the Attributional Style Questionnaire

(Seligman, Abramson, Semmel, and von Baeyer, 1979). The remaining attribution items, which were more efficacy-relevant causes, assessed the subjects' attributions for performance success to ability (item A), the therapist (item B), effort (item D), and controllability (item F).

Self-efficacy, behavior and anxiety. Following the administration of the Performance Assessment Form, the subjects' self-efficacy, behavior and anxiety were measured in the same manner as in the pre-treatment assessment. The subjects were told not to practice any target phobia-related activities in the interim.

Follow-up Assessment Procedures/Measures

After the posttreatment procedures were completed, 16 subjects (8 Alone subjects and 8 Accompanied subjects) completed follow-up procedures an average of seven days later.

Subjects first completed the "Performance Assessment Form" on which they again rated their attributions for the performance success they had achieved during the treatment session. They then completed the same self-efficacy, behavior, and anxiety measures as in pre- and posttreatment assessment procedures described earlier.

Supplemental Alone Treatment and Measures

Five subjects, who had previously received Accompanied treatment and performed less than 60% of the task during the follow-up assessment, were given supplemental Alone

treatment, identical to the treatment given to subjects assigned to the Alone condition (see "Alone treatment" p. 26, for details). Following this procedure, these subjects rated their attributions for performance success during supplemental Alone treatment using the Performance Assessment Form. "Treatment success" was the difference between their performance during the follow-up behavioral test and their treatment performance during the supplemental Alone treatment. Remember that treatment performance was scored as the percent of performance attempted during the last foray. Following this, the subjects' completed the same self-efficacy, behavior, and anxiety measures as in the previous assessments.

After completing the follow-up procedures, subjects were offered additional extra-experimental treatment at the Lehigh Phobia Program for any remaining phobias.

CHAPTER 3

Results

Tests for Intergroup Differences at Pretreatment

One-way analyses of variance were performed to test for intergroup differences at pretreatment among the treatment groups. The first analysis, which was performed on the three treatment groups, revealed that the groups did not significantly differ from each other on any of the measures. The mean scores for each measure by group across assessment phases are shown in Table 1.

A second analysis of pretreatment differences was performed on the two active treatment groups including reassigned of Control subjects. This test showed that the subjects in these groups did not differ significantly from each other on any of the measures at pretreatment. The mean of the scores for each measure by group at all assessment phases are shown in Table 2.

Therapeutic Change Within Groups From Pretreatment to Posttreatment

Analyses were performed to determine whether subjects within groups significantly improved in self-efficacy, anxiety, and behavior from pretreatment to posttreatment, using t -tests. As shown in Table 3, subjects in the Alone condition improved significantly on every measure. Subjects in the Accompanied condition experienced significant improvements in self-efficacy and anxiety, but not in

behavior. The Control subjects did not experience significant change on any of the dependent measures.

Intergroup Differences in Treatment Performance and Treatment Success.

Figure 1 displays pretreatment performance, treatment performance, posttreatment performance, and follow-up performance by group. The data for the active treatment groups was taken after adding data from reassigned Control subjects.

It was predicted that Accompanied subjects would perform significantly more of the task during treatment than the Alone subjects because it is generally assumed that phobic people are able to do more with a trusted companion. The present analyses does not support this prediction; there was no significant between group difference in treatment performance $t(15) = -.15$. Accompanied subjects experienced a mean treatment success of 62 percentage points, from 20% performance at pretreatment to 82% performance during treatment, while Alone subjects experienced a mean treatment success of 49 percentage points, from 30% performance at pretreatment to 79% performance during treatment. This difference was not significant, $t(15) = -1.08$.

Recall that Kinney (1992) found a similar result. This finding was attributed to the possibility that the subjects in the Alone condition had enough time to reach a similar level of performance success as the Accompanied subjects.

In addition to reducing the treatment session time, the initial performance of subjects in both groups was formally measured. It was predicted that Accompanied subjects would perform more of the task at treatment during their initial attempts than those in the Alone condition. This prediction was not supported. The performance attainment of subjects in both conditions during the first foray was not significantly different, $t(15) = -.08$.

Intergroup Differences in Therapeutic Change, Pretreatment to Posttreatment

Table 4 shows analyses to determine whether groups of subjects experienced differential therapeutic changes in self-efficacy, anxiety, and behavior from pretreatment to posttreatment. Change scores were calculated by subtracting the scores of the dependent measures at pretreatment from those at posttreatment. The first analysis was a t -test to determine the difference between active treatment subjects versus Control subjects. The second analysis was a t -test to determine the difference between the two active treatment groups.

Active treatments versus Control. Subjects in the active treatment groups improved significantly more than Control subjects in anxiety, but did not improve significantly more than Control in coping behavior or self-efficacy. This could possibly be due to the highly unusual finding that three subjects in the Control condition

improved substantially from the pre- to the post-control assessment and the Accompanied subjects having experienced a great behavioral transfer loss at posttreatment.

Active treatments compared. There were no significant differences between the Alone versus Accompanied subjects in changes on the dependent measures, as shown on the second row of Table 4. Subjects in the Alone condition did not experience significant therapeutic benefit over those in the Accompanied condition.

Treatment Effect Size for Treatment Groups Compared.

It was thought that the aforesaid findings might have been due to the small sample sizes of each treatment group. Treatment effect sizes were calculated to test for the effects of treatment on subjects' self-efficacy, anxiety, and behavior following treatment. The first row in Table 5 shows the effect sizes on the various measure when comparing subjects in the Alone and Control conditions. Alone subjects experienced a substantial beneficial effect from treatment over subjects in the Control condition. The second row shows the effects sizes when comparing the subjects in the Accompanied conditions with subjects in the Control condition. Accompanied subjects also experienced a substantial beneficial effect for self-efficacy, but experienced no such effect for anxiety, and actually had less of a beneficial treatment effect in behavior at posttreatment than Control subjects. It seems that subjects

in the Control condition benefited solely from performing the behavioral assessments. The comparison of subjects in the two active treatment groups revealed that Alone subjects experienced substantially more beneficial treatment effects than Accompanied subjects for all measures. This last finding suggests that nonsignificant findings reported in Table 4 were the result of small sample sizes.

Transfer of Therapeutic Change from Treatment to Posttreatment.

It was predicted that subjects in the Alone condition would perform as well on the behavioral post-test as during treatment (experience a transfer of therapeutic gain), while subjects in the Accompanied condition would perform less well during the post-test than they did during treatment (experience a transfer loss). This prediction was supported. As Figure 1 demonstrates, the Alone subjects performed an average of 3 percentage points less, but their performance on post-test was not significantly different than their performance during treatment, $p > .10$. The average Accompanied subject performed 38 points less on the post-test than during treatment, which is a significant transfer loss, $t(7) = 3.60$, $p < .01$. The transfer loss experienced by Accompanied subjects was significantly different from that of Alone subjects, $t(15) = -3.10$, $p < .05$.

Relationship Between Self-Efficacy and Behavior

Analyses were performed to examine the reciprocal relationship between self-efficacy and behavior. First, analyses were done to determine whether self-efficacy was a good predictor of future behavior. Pretreatment self-efficacy did not significantly predict pretreatment behavioral test performance, $r(18) = .42$, ns. Posttreatment self-efficacy predicted posttreatment behavioral test performance for the two active groups pooled, $r(15) = .75$, $p < .01$. Self-efficacy at follow-up predicted follow-up behavioral test performance for the two active groups pooled, $r(14) = .67$, $p < .01$. Treatment performance predicted posttreatment self-efficacy for both groups pooled, $r(15) = .65$, $p < .01$; for Alone subjects, $r(7) = .76$, $p < .05$, for Accompanied subjects, $r(6) = .70$, ns. The nonsignificant result for the Accompanied subjects can be attributed to the small number of subjects in this condition. Treatment performance predicted Alone subjects posttreatment behavioral test performance, $r(7) = .94$, $p < .01$, but not for Accompanied subjects, $r(6) = .61$, ns.

Partial correlations were performed to examine the independent contribution of self-efficacy and treatment performance on posttreatment behavior. For Alone subjects, self-efficacy did not predict posttreatment behavior when treatment performance was controlled $r(6) = -.06$, ns, however treatment performance strongly predicted posttreatment behavior when self-efficacy was controlled,

$r(6) = .88, p < .01$. For Accompanied subjects, neither self-efficacy or treatment performance predicted posttreatment behavior while controlling for the other factor.

Correlations were conducted examining the ability of self-efficacy to predict subsequent behavior at follow-up. For Alone subjects, self-efficacy remained a strong predictor of behavior, $r(6) = .84, p < .01$, even when the mediating influences of treatment performance, $r(5) = .89, p < .01$, and treatment success, $r(5) = .85, p < .01$, were statistically controlled. For Accompanied subjects, self-efficacy did not aid in the prediction of subsequent behavior at follow-up. It appears that the Accompanied subjects' significantly increased self-efficacy at follow-up did not sufficiently influence their coping behavior while performing the task alone.

Attribution Differences Between Groups

Structured attribution measure. Shown in Table 6 are the intergroup differences in subject responses on the structured attribution measure. Kinney (1992) found that Alone subjects were more likely to attribute their treatment success to ability and to internal causes and less so to the therapist than Accompanied subjects. The present analyses did not replicate these findings. Subjects in both active treatment conditions did not significantly differ in their attributions made for treatment success.

As expected, Alone subjects were marginally less likely to attribute their success to the therapist than Accompanied subjects, $p < .10$. Contrary to expectations, the Accompanied subjects attributed their treatment success to their ability more than Alone subjects, but the difference was not significant. The last four rows of Table 5 display essentially no differences between groups in attributions to effort and to internal, stable, or controllable causes.

Predicting Self-Efficacy Change from Attributions and Attributions X Success

The primary hypothesis of this study was that attributions combined with treatment success would predict self-efficacy better than treatment success alone. Analyses were performed to determine whether the correlation between the combination of an attribution and treatment success was a better predictor of self-efficacy change than treatment success alone. To do this, the variable, "attribution x success", was created. Attributions were linearly transformed from their original 1 - 7 scale to a 0 - 1 scale (0 = least of an attribution, 1 = most of an attribution). The transformation is shown below:

Before transformation:

1	2	3	4	5	6	7	
Least of							Most of
Attribute							Attribute

After transformation:

0	.167	.333	.5	.667	.833	1.0
Least of						Most of
Attribute						Attribute

The transformed attribution scores were multiplied by treatment success, which ranged from 0 - 100 (0 = no gain in treatment, 100 = maximal gain in treatment). The relationship between attributions and success is of a multiplicative nature. If, for example, a subject does not attribute success to self, any degree of success should not produce gains in self-efficacy. More specifically, 0 attribution to the self multiplied by success results in 0 predicted self-efficacy gain.

Two sets of correlations were computed for each attribution. The first correlation used attributions themselves to predict self-efficacy change, while the second used the combination of an attribution and success (i.e. attribution x success) to predict self-efficacy change. Table 7 shows the results by group and for the groups pooled. Neither treatment success, attributions, nor the combination of attributions x success were good predictors of self-efficacy change. Tests for significance for correlational between group differences were all non-significant. Additionally, tests of significance for within group differences between the correlations of attributions or attribution x success and self-efficacy change and the

correlations of treatment success and self-efficacy were non-significant.

Attributions to ability or the combinations of ability x success were nearly unrelated to self-efficacy change. This is contrary to Kinney's findings (1992), which showed that both were significantly related to self-efficacy change; indeed, the combination of ability x success strengthened treatment success' ability to predict self-efficacy change. Attributions to the therapist did not predict self-efficacy change, nor did the combination of therapist x success serve to enhance treatment success' predictability. Although not a significant finding, Alone subjects' attributions for success to the therapist related to therapeutic self-efficacy change, which is contrary to what was predicted. The Accompanied subjects did not show a similar pattern; rather, attributions for success to the therapist and to external causes tended to relate to less self-efficacy change. Lastly, referring to the pooled correlations, attributions to effort was negatively related to self-efficacy change, and, overall, attributions combined with success was not a better predictor of self-efficacy than treatment success alone.

Predicting Posttreatment Self-Efficacy from Attributions, Controlling for Treatment Performance and Treatment Success

Analyses were conducted to determine whether attributions were related to self-efficacy independent of

any influence of behavior during treatment, partial correlations were conducted to examine the relationship between attributions and posttreatment self-efficacy, controlling for treatment performance and treatment success. Recall that treatment performance refers to the amount of the task attempted during the last foray at treatment and that treatment success refers to the difference between the subject's performance during the pretreatment behavioral test and the subject's treatment performance. These results are shown on Table 8.

The left side of Table 8 shows that attributions to stable causes, when controlling for treatment performance, are accurate predictors self-efficacy. But, as the right side of Table 8 shows, attributions do not contribute to the prediction of self-efficacy when controlling for treatment success.

Analyses were also performed to determine whether attributions contributed to the prediction of self-efficacy change when controlling for treatment success. As Table 9 displays, attributions to internal causes significantly predicted self-efficacy change for Accompanied subjects.

Predicting Behavior Change from Attributions and from Attributions X Success

Table 10 shows the results of the analyses conducted to determine whether attributions and attributions x success predicted behavior change. The correlation analyses were

conducted in the same manner as the those used to examine whether attributions and attribution x success predicted self-efficacy change. Tests for significant differences between independent correlations revealed a significant difference between the Alone and Accompanied groups for the success variable, $Z = 4.52$, $p < .001$. Therefore, examination of pooled correlations between attributions or attributions for success and behavior change are not included. Table 10 shows the correlations for each group separately.

When combined with success, attributions for performance success made to the therapist, effort exerted, and controllable causes significantly predicted behavior change for subjects in the Alone group. Attributions for performance success to effort had a significant negative relationship with behavior change for subjects in the Accompanied condition, $r(6) = -.96$, $p < .01$. This last result is not interpretable, and is considered a statistical anomaly.

Predicting Behavior from Attributions, Controlling for Treatment Performance and Treatment Success

Analyses were conducted to examine the influence of attributions in predicting posttreatment behavior, controlling for treatment performance and performance success. The results are shown on Table 11. The left side of the table shows that attributions to effort significantly

predicted behavior, while controlling for treatment performance, for subjects in both treatment conditions, $r = -.49$, $p < .05$. Attributions to effort related to less of the task attempted during the posttreatment behavioral test. The right side of the table shows the correlations between attributions and behavior, controlling for treatment success. Tests for significant differences between independent correlations revealed a significant difference between Alone and Accompanied groups for attributions to effort, $Z = 2.43$, $p < .05$. Attributions to effort predicted to a decrease in the amount of the task attempted during posttreatment for subjects in the Accompanied condition, while controlling for treatment success, $r = -.82$, $p < .05$.

Lastly, analyses were performed to determine whether attributions predicted behavior change from pretreatment to posttreatment for subjects in each active treatment group while controlling for treatment success. Table 12 show correlations for each group separately because of the previously reported significant difference between Alone and Accompanied subjects on the treatment success variable. All attributions, with exception to those made to effort, were not significant predictors of behavior change when treatment success was held constant. Attributions to effort were inversely related to behavior change for Accompanied subjects. That is, attributions to effort correlated with

less behavior change from pretreatment to posttreatment for this group.

Analyses described in the previous sections do not support the prediction that attributions have a mediating influence on self-efficacy/self-efficacy change or behavior/behavior change when controlling for the influence of previous behavior. In general, these findings are not consistent with those found by Kinney (1992), which showed strong evidence of the influence of attributions in predicting self-efficacy and behavior. Although the present findings suggest that attributions might not have a significant influence on self-efficacy and behavior, such nonsignificant results might be the result of the smaller sample sizes than those used by Kinney (1992).

Predicting Transfer of Behavior from Attributions

Analyses were performed to determine the influence of attributions in predicting the transfer of therapeutic benefit from treatment to posttreatment for subjects in both treatment groups. Attributions made by subjects in either group did not significantly influence the amount of treatment success transferred to performing tasks alone at posttreatment. This is contrary to Kinney's (1992) finding that the more subjects attributed treatment success to the therapist, the less their success transferred to posttreatment; and that the more subjects attributed treatment success to internal causes, the more their success

transferred to performing at posttreatment.

Within Group Differences in Self-Efficacy and Behavior at Follow-up

Recall that the present study set out to examine the enduring nature of self-efficacy and behavior change for subjects in both groups. Table 13 displays the means of self-efficacy, anxiety and behavior at posttreatment and follow-up for subjects in the treatment groups. Table 14 shows the within group differences between self-efficacy and behavior at posttreatment and follow-up for Alone and Accompanied subjects. Subjects in the Alone group maintained their therapeutic gains on most of the dependent measures. They experienced a significant loss in self-efficacy strength. Subjects in the Accompanied group experienced a significant gain in self-efficacy from posttreatment to follow-up, while experiencing no significant changes in behavior. Figure 1 displays both groups performance during the behavioral test at follow-up. Subjects in the Alone condition maintained their level of coping behavior, while Accompanied subjects displayed a moderate, though nonsignificant, gain in their performance at follow-up. Finally, a one-way analysis of variance was conducted to examine intergroup differences on the dependent measures. The groups did not differ significantly on their levels of self-efficacy or behavior at follow-up.

Stability of Attributions

The present study set out to examine the enduring nature of attributions made for treatment success. T-tests revealed that subjects in both groups did not differ in the attributions they made for treatment success immediately following treatment and immediately preceding follow-up procedures. The temporal nature of the administration of the attribution measure does not significantly affect one's causal evaluation of treatment success. Attributions made to treatment success remained stable.

Predicting Follow-up Self-Efficacy Change from Attributions at Follow-up

Analyses were conducted examining the relationship between attributions measured at follow-up and self-efficacy change from posttreatment to follow-up. Attributions made for treatment success did not predict self-efficacy change for subjects in the Alone group. Attributions to ability predicted self-efficacy change for subjects in the Accompanied group, $r(5) = .77$, $p < .05$. Attributions to ability for performance success significantly enhanced self-efficacy at follow-up for subjects in the Accompanied group.

Changes in Self-Efficacy, Behavior, and Attributions Following Supplemental Alone Treatment

The Kinney (1992) study demonstrated that subjects in the Alone condition were more likely to make more favorable attributions for the performance success, which subsequently resulted in a greater transfer of therapeutic behavior

change and self-efficacy change. It was predicted that subjects in the Accompanied group would benefit from receiving supplemental Alone treatment after the follow-up test.

Analyses were performed to determine whether subjects who received supplemental Alone treatment experienced significant therapeutic gains in self-efficacy and behavior. Subjects improved significantly in coping behavior, $t(4) = 5.75$, $p < .005$. Prior to treatment, subjects were able to perform an average of 40% of the task, while they performed an average of 85% after receiving supplemental Alone treatment. Additionally, subjects experienced a good transfer of treatment benefit at posttreatment, from 88% of the task performed during Alone treatment to 85% of the task performed at posttreatment, $t(4) = 1.00$, ns.

The subjects did not experience a significant improvement in self-efficacy, $t(5) = 1.57$, ns. The non-significant result associated with self-efficacy change can be attributed to a ceiling effect. That is, the subjects' average self-efficacy level prior to supplemental Alone treatment was 78%, leaving little room for significant improvement. Indeed, their average self-efficacy level after supplemental Alone treatment was 100%.

The main point of interest in administering supplemental Alone treatment to subjects, who continued to be disabled during the follow-up behavioral test despite

having received prior Accompanied treatment, was to examine the possibility of changes in attributions. It was predicted that following Supplemental Alone treatment, these subjects would be more likely to attribute treatment success to ability, internal, and controllable causes, and less to the therapist. A t -test was performed to compare subjects' attributions for treatment success during Accompanied treatment to attributions for treatment success during Supplemental Alone treatment. Subjects attributed their success significantly less to the therapist following Supplemental Alone treatment than they had following Accompanied treatment, $t(4) = 3.21, p < .05$. Attributions to ability following Supplemental Alone treatment did not increase significantly, $t(4) = 1.63, ns$.

CHAPTER 4

Discussion

The present study did not support Kinney's (1992) finding that attributions influence self-efficacy and behavior changes following performance success. One of the primary reasons for this might be related to the differences in sample sizes used in the two studies. The present study had a total of twenty subjects participate in the study, while Kinney's study included thirty-six subjects.

It was predicted that the therapist accompanying or not accompanying the subjects would serve to influence the attributions they make for their treatment successes. Kinney's (1992) finding that subjects who received Alone treatment made significantly more efficacy enhancing attributions to their ability, and internal and controllable causes was not replicated. Indeed, in the present study, subjects in both conditions did not significantly differ in the attributions they made for performance success. Subjects in both condition tended to make attributions to the therapist. There were negligible differences between groups in attributions made to internal, stable, and controllable factors for performance success. It seems that the therapist's presence was salient enough that in reflecting on the main cause for their success, subjects in both groups might not have differed significantly because they were all making attributions to the same cause.

Indeed, the presence of external aids serves to decrease the likelihood of one taking credit for one's performance (Bem, 1972).

Subjects in both groups experienced significant gains in self-efficacy for performing the task while alone; however, subjects in both groups did not significantly differ in the amount of self-efficacy gained. In addition, Alone subjects experienced a significant improvement in their behavior from pretreatment to posttreatment, while Accompanied subjects did not.

The main intention of the present study was to replicate Kinney's (1992) finding that attributions and performance success interact in the prediction of self-efficacy change, and that this combination serves as a better predictor of self-efficacy than performance success alone. This was not achieved. The correlation between performance success and self-efficacy change for subjects in both groups, although not significant, was generally greater than the correlation between most attributions taken alone or in combinations with performance success and self-efficacy change.

The present results showed that attributions to stable causes significantly predicted self-efficacy at posttreatment, while controlling for treatment performance. This is consistent with Weiner et al.'s (1971) proposal of a conceptual linkage between the stability dimension and

people expectations for success. More specifically, attributions made to fixed factors following success lead to positive expectancies for future attempts (McMahan, 1973).

The present results do not support Kinney's (1992) finding that attributions influence self-efficacy independent of behavior. One possible cause for this inconsistency is the smaller sample sizes used in the present study.

Attributions to the therapist, effort and controllable causes, in combination with treatment success, predicted behavior change for Alone subjects. This finding is quite similar to Kinney's findings: that attributions to the therapist and internal and controllable causes, combined with success, predict behavior change. The finding that Alone subjects' attributions to the therapist predicted gains in coping behavior might serve to illustrate Bandura's (1986) contention that attributions are influenced by the evaluative reactions of significant people. Perhaps the therapist's encouragement and praise after each performance attempt served to foster the subjects' persistence at the task, despite the lack of direct accompaniment. Bandura (1986) contends that attributions affect behavior through their mediating influence on self-efficacy. That is, people are more likely to have more pride in their performance accomplishments when they ascribe them to their own efforts. Indeed, prior research (Schunk, 1983) has

demonstrated that attributions to effort leads to significantly more skill and persistence at performing a task. The prediction that attributions combined with treatment success would be better predictors of behavior change than treatment success alone was generally not supported. Attributions to the therapist, effort, and controllable causes did not predict behavior change for Alone subjects when treatment success was statistically controlled, which might suggest that past behavior is a better predictor of behavior change than attributions.

Kinney (1992) found that subjects in the Accompanied group experienced a significant loss of behavior from treatment to posttreatment, while subjects in the Alone group maintained their therapeutic gains. This finding might suggest that Alone subjects maintained their therapeutic gains because the treatment stimulus situation was identical to that during posttreatment, while Accompanied subjects experienced a loss because the stimulus situation, the constant presence of the therapist, was vastly different from the situation they faced at posttreatment. Kinney argued that this finding was in part due to the Accompanied subjects not making beneficial attributions for their treatment successes. He supported his argument by pointing out that the change in stimulus situation experienced by Accompanied subjects could not account for the differences in therapeutic behavior transfer

between groups because subjects in the Accompanied conditions did not uniformly respond to the differences in the stimulus situation changes from treatment to posttreatment. That is, some Accompanied subjects maintained their treatment gains, while others lost nearly all of their treatment gains, leaving room for the possible influence of cognitive activity.

The present study replicated the aforesaid result with regard to intergroup differences in therapeutic transfer of behavior. Subjects in the Accompanied group experienced a significant loss in therapeutic behavior from treatment to posttreatment, while subjects in the Alone group maintained their treatment gains. Additionally, subjects in the Accompanied group exhibited similar variability in the amount of transfer loss they experienced. It is difficult to determine whether these differences resulted from the influence of intervening cognitive activity because attributions generally did not predict self-efficacy and behavior change, nor did they predict posttreatment behavior when controlling for subjects' behavior during treatment. Additionally, treatment performance and posttreatment performance were highly correlated for subjects in the Alone group, leaving little room for the influence of attributions in predicting posttreatment behavior from treatment behavior.

The primary purpose of including follow-up procedures

was to examine the enduring nature of subjects' behavior and self-efficacy change, and their attributions for treatment success. Subjects in both treatment groups experienced no changes in behavior from posttreatment to follow-up, which is consistent with findings from previous studies (Williams, et al., 1985; Williams & Zane, 1989).

Subjects in the Accompanied group experienced significant gains in self-efficacy on average from posttreatment to follow-up, while subjects in the Alone group did not. This is most likely because subjects in the Alone condition were highly efficacious for performing the task while alone at posttreatment, and remained efficacious during follow-up, while subjects in the Accompanied condition were not efficacious at posttreatment, but became as efficacious as the Alone subjects by follow-up. The mediating influence of beneficial attributions for performance success might have served to enhance their gains in self-efficacy.

Attributions for treatment success remained stable between posttreatment and follow-up for subjects in both treatment conditions. This finding is not surprising. Subjects were brought to the identical setting and asked to make attributions about the same [treatment] outcome. Although the influence of the inquiry's temporal nature (an elapsed time period of seven days, on average) can not be discounted, it seems reasonable to consider the situation as

having a more powerful impact on the enduring nature of people's causal attributions for behavior.

Accompanied subjects were given supplemental Alone treatment following the follow-up procedures to examine whether they would make more beneficial attributions for their treatment success. Interestingly, following supplemental Alone treatment, subjects reversed their attributions to therapist; subjects made significantly less attributions to the therapist. They also experienced significant gains in coping behavior from the follow-up test to the post-test. Attributions did not significantly predict behavior change for these subjects. Additionally, this change can not be ascribed to the attributions made for performance success because their treatment performance and their performance during the post-test were very highly correlated, taking into account that sampling variability might be partially responsible for this correlation.

The present study did not replicate the findings of the Kinney (1992) study, which suggested that attributions people make for their performance success significantly influence people's self-efficacy and behavior change during performance-based treatment for phobias. There are many proposed reasons for this, in addition to the studies' disparate sample sizes. First, it could be that attributions do not influence therapeutic gains made during treatment. But, this blanket assumption could not explain

Kinney's (1992) findings or the significant, although few, findings in this study. Secondly, the studies' disparate results could relate to different therapists. Subjects in both studies experienced comparable levels of treatment success, which demonstrates that the therapists were both equally effective in getting the subjects to attempt the feared tasks. But, other therapist factors could account for the differences between subjects' attributions in the two studies. Therapy was administered by a male therapist in the first study, while it was administered by a female in the second. Gender of the therapist might have influenced the subjects' causal judgements. There could also have been subtle differences in how the therapists expressed encouragement after the subject's performance attempts.

Attributions to controllable and internal causes may have failed to predict self-efficacy change because the subjects were uncertain about the degree to which they could perform these activities outside the treatment setting. It is commonly known that people with agoraphobia have "good" and "bad" days; days on which they function more than average, and days on which they function with greater difficulty. This inconsistency might pose as an obstacle to perceiving themselves as having control over their ability to perform the task. In addition, subjects attributed their successes primarily to the therapist, ability, and effort. If ability refers to their acquired skill while

performing during treatment, they might perceive gains in ability as being dependent on treatment with a therapist, an unstable, uncontrollable, and external factor. Lastly, great effort expenditure might serve to inhibit feelings of competency.

The results of the present study suggest that attributions for performance success do not mediate changes in self-efficacy or behavior. Attributions for performance could become readily available only after the subject is cued, as was done in the present study. But these same causal attributions might not have served as plausible mediating factors during performance attempts or evaluations of competency. Failure of attributions to influence self-efficacy and behavior might be due to the subjects' inability to accurately identify the causes for their performance success; such causal factors might be outside their conscious awareness. Indeed, previous research (as cited in Bem, 1972) has demonstrated that attributions people make for previous behavior do little in predicting their subsequent behavior. Attributions might follow behavior change, rather than precede it, and such post hoc evaluations might serve only to assist the person in understanding the reasons for a given outcome, without significantly influencing changes in one's behavior or attitude.

The present study supports past findings that have

shown that self-efficacy perceptions strongly predict behavior before and after various performance-based treatments for phobias. Additionally, the study suggests that past behavior is a better predictor of self-efficacy than the attributions people make for behavior.

Table 1. Mean Scores on the Various Measures in the Original Treatment Groups Before Reassignment of Control Subjects.

Measure	Alone Treatment				Accompanied Treatment				Control			
	Pretest		Posttest		Pretest		Posttest		Pretest		Posttest	
	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>
S-E Level Alone	57	44	88	31	45	40	66	40	52	39	52	34
S-E Strength Alone	44	37	82	32	28	25	46	28	27	25	33	24
S-E Level Accomp	66	38	100	0	80	45	100	0	51	39	50	32
S-E Strength Accomp	60	42	89	20	57	38	94	14	33	26	41	29
Anxiety	6.2	3.3	3.0	2.5	7.5	2.6	5.4	2.1	4.9	2.4	5.4	1.7
Behavior	32	22	75	29	21	27	38	37	25	18	51	42

Note: ^s Accomp = Accompanied; S-E = Self-Efficacy. Alone, n = 7; Accomp, n = 5; Control = 8

Table 2. Mean Scores on the Various Measures in the Treatment Groups After Inclusion of Control Subjects.

Measure	Alone Treatment				Accompanied Treatment			
	Pretest		Posttest		Pretest		Posttest	
	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>
S-E Level Alone	49	43	91	28	33	35	65	35
S-E Strength Alone	38	34	86	28	23	21	47	23
S-E Level Accomp	63	36	100	0	63	47	100	0
S-E Strength Accomp	57	40	88	19	44	39	89	14
Anxiety	5.8	3.2	2.9	2.2	7.3	2.0	4.8	2.7
Behavior	30	21	76	27	20	22	44	37

Note: Accomp. = Accompanied; S-E = Self-Efficacy. Alone, n = 9; Accomp, n = 8.

Table 3. Tests of Significance for Within Groups Changes on the Dependent Measures from Pretreatment to Posttreatment

Group	Statistic(df)	Self-Efficacy		Anxiety	Behavior
		Level	Strength		
Alone	t(8)	3.18 [*]	3.56 ^{**}	-4.27 ^{**}	5.69 ^{***}
Accompanied	t(7)	2.82 [*]	3.27 [*]	-2.84 [*]	2.18
Control	t(7)	.01	1.20	.37	2.05

* $p < .05$ ** $p < .01$ *** $p < .001$

Table 4. Tests of Significance for Intergroup Differences in Therapeutic Changes on the Various Measures.

Comparison	Statistic(df)	Self-Efficacy Unaccompanied			
		Level	Strength	Anxiety	Behavior
Alone, Accompanied vs. Control	$\underline{t}(18)$	2.08	2.00	-2.61*	.53
Alone vs. Accompanied	$\underline{t}(16)$	.57	1.25	-.42	1.69

* $p < .05$

Table 5. Treatment Effect Size between Groups at Posttreatment.

Comparison	Self-Efficacy			
	Unaccompanied			
	Level	Strength	Anxiety	Behavior
Alone vs. Control	.06	.17	-1.7	.03
Accompanied vs. Control	.02	.04	0	-.05
Alone vs. Accompanied	.05	.04	-1.3	.04

Table 6. Means and Intergroup Differences in Attributions on the Structured Measures.

Attribution	Treatment Group				t(15)
	Alone		Accompanied		
	Mean	<u>SD</u>	Mean	<u>SD</u>	
Ability	4.2	1.7	5.1	1.8	-1.06
Therapist	5.2	1.6	6.4	.7	-1.82
Effort	6.2	1.0	6.5	.8	-.65
Internal factor	4.0	1.3	3.8	.9	.45
Stable factor	5.6	1.2	5.4	1.9	.23
Controllable factor	4.8	1.4	4.5	1.9	.34

Note: Higher numbers mean more attribution to that factor.

Maximum = 7.

Table 7. Predicting Self-Efficacy Change from Success, Attributions,
and Attributions X Success, by Treatment Group.

Predictor	Correlation with Self-Efficacy Change		
	Alone	Accompanied	Pooled
Success	.56	.35	.38
Attributions			
Ability	.01	.01	-.03
Ability X Success	.27	.13	.10
Therapist	.35	-.35	.09
Therapist X Success	.55	.24	.31
Effort	-.20	-.62	-.37
Effort X Success	.42	.09	.20
Internality	.20	-.69	-.07
Internality X Success	.53	-.17	.18
Controllability	.38	.14	.26
Control X Success	.67	.19	.36
Stability	-.41	.16	-.09
Stability X Success	.15	.51	.28

Note: df Alone = 7; Accomp. = 6; Pooled = 16.

Table 8. Predicting Posttreatment Self-Efficacy from Attributions, Controlling for Treatment Performance Level and Treatment Success.

Predictor	Partial Correlation with Self-Efficacy					
	Control For Treatment Performance			Control For Treatment Success		
	Alone	Accomp	Pooled	Alone	Accomp	Pooled
Attribution						
Ability	.57	.51	.28	.26	.55	.18
Therapist	.13	.03	-.18	.08	.22	-.07
Effort	.16	-.06	-.07	.16	-.28	-.14
Internal	.53	-.16	.24	.17	-.07	.07
Controllable	.29	-.14	.06	-.04	-.32	-.14
Stable	.47	.58	.46*	.17	.34	.30

Note: df = 6 for Alone; 5 for Accompanied; 14 for Pooled.

Accomp = Accompanied.

*
p < .05

Table 9. Predicting Self-Efficacy Change from Attributions.
Controlling for Treatment Success, by Group.

Predictor	Correlation with Self-Efficacy Change		
	Alone	Accomp	Pooled
Ability	-.22	.00	.01
Therapist	-.17	-.47	.05
Effort	.19	.55	.32
Internality	-.43	.67*	-.03
Controllability	-.49	-.11	-.27
Stability	.32	-.33	-.04

*
 $p < .05$

Table 10. Predicting Behavior Change from Success, Attributions, and Attributions X Success, by Treatment Group.

Predictor	Behavior Change ^a	
	Alone	Accompanied
Success	.90**	.55
Attributions		
Ability	-.17	-.28
Ability X Success	.22	.11
Therapist	.27	-.10
Therapist X Success	.73*	.44
Effort	-.28	-.96**
Effort X Success	.73*	.22
Internality	-.22	-.25
Internality X Success	.43	.25
Controllability	.13	-.05
Control X Success	.79*	.33
Stability	-.29	-.20
Stability X Success	.56	.35

Note: df 7 for Alone, 6 for Accomp.

df for multiple R's and partials are 6 for Alone;
5 for Accomp.

^a Pooled correlations not reported because the success with behavior change correlations were significantly different between groups.

* $p < .05$ ** $p < .01$

Table 11. Predicting Posttreatment Behavior from Attributions,
Controlling for Treatment Performance Level and Treatment
Success.

Predictor	Correlation with Behavior					
	Control For			Control For		
	Treatment			Treatment		
	Performance			Success		
	Alone	Accomp	Pooled	Alone	Accomp	Pooled
Attribution						
Ability	.03	-.27	-.31	-.21	-.07	-.29
Therapist	-.05	-.22	-.34	-.15	-.01	-.20
Effort	-.55	-.73*	-.49*	-.26	-.82*	a
Internal	-.23	-.05	.00	-.45	.00	-.12
Controllable	.29	-.21	-.02	-.28	-.34	-.21
Stable	-.24	.13	.08	-.05	.00	.00

Note: df = 6 for Alone; 5 for Accompanied; 14 for Pooled.

Accomp = Accompanied.

*
 $p < .05$

a The pooled correlation was not reported because the behavior with effort attribution correlation was significantly different between groups.

Table 12. Predicting Behavior Change from Attributions, Controlling for Treatment Success, By Group.

Predictor	Behavior Change ^a	
	Alone	Accompanied
Ability	.22	-.35
Therapist	-.20	-.27
Effort	-.48	-.94**
Internality	.02	-.17
Controllability	.39	-.12
Stability	-.12	.00

Note: df = 6 for Alone; 5 for Accompanied; 14 for pooled.

* $p < .05$ ** $p < .01$

^a Pooled correlations not reported because the success with behavior change correlations were significantly different between groups.

Table 13. Mean Scores on the Various Measures in the Treatment Groups At Posttreatment and Follow-up.

Measure	Alone Treatment				Accompanied Treatment			
	Posttest		Followup		Posttest		Followup	
	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>	Mean	<u>SD</u>
S-E Level Alone	91	27	79	40	39	34	82	34
S-E Strength Alone	79	26	60	29	32	25	50	22
S-E Level Accomp	100	0	86	38	79	39	91	23
S-E Strength Accomp	87	19	72	30	70	36	86	23
Anxiety	3.2	2.0	3.7	2.7	4.8	2.7	4.8	2.4
Behavior	73	27	71	34	44	37	50	37

Note: Accomp. = Accompanied; S-E = Self-Efficacy. Alone, n = 8; Accomp, n = 8.

Table 14. Tests of Significance for Within Groups Changes on the Dependent Measures from Posttreatment to Follow-up.

Group	Statistic(df)	Self-Efficacy		Anxiety	Behavior
		Level	Strength		
Alone	t(7)	-.91	-2.91*	.96	-.20
Accompanied	t(7)	3.39*	2.93*	.02	1.50

* $p < .05$

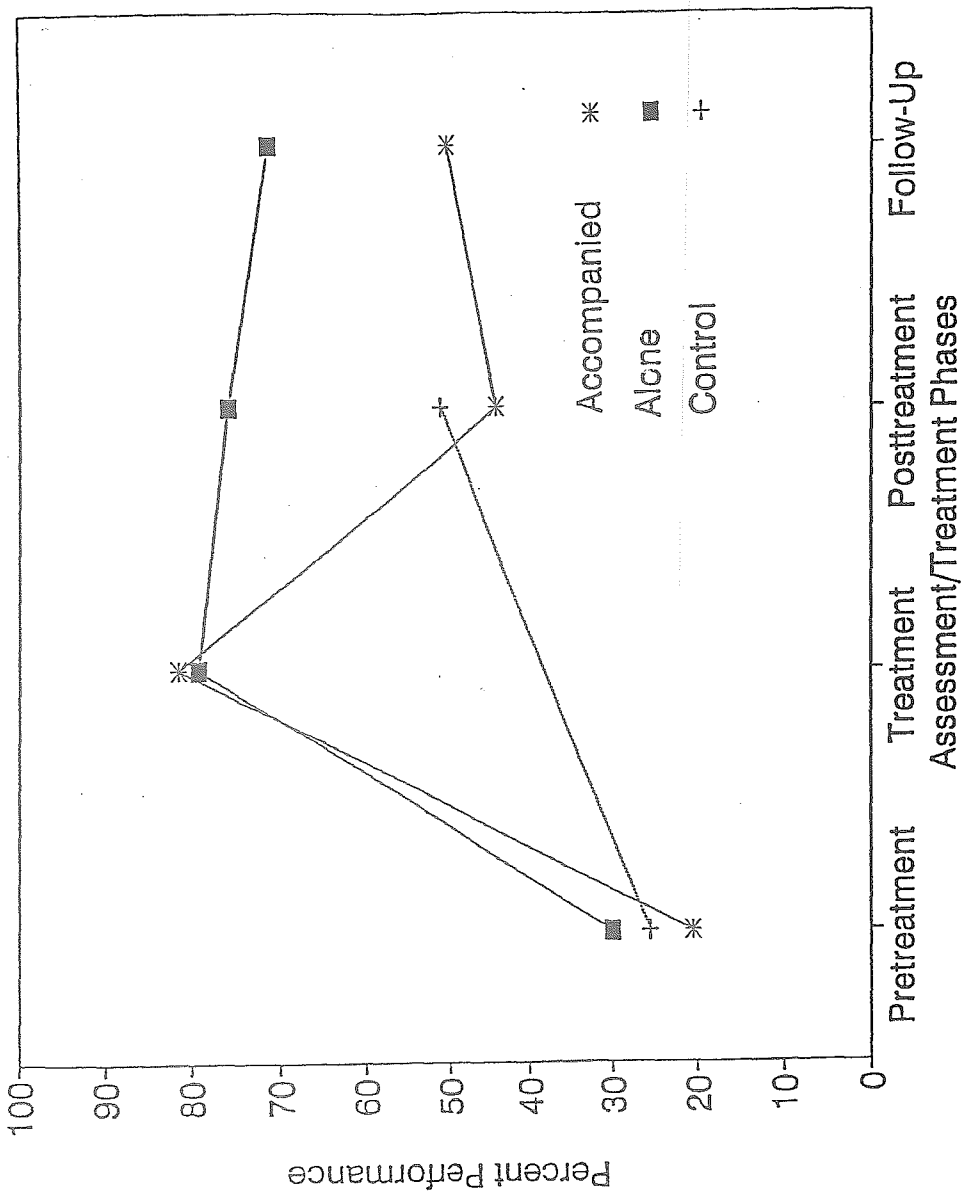


Figure 1. Pretreatment performance, treatment performance, posttreatment performance, and follow-up performance by group.

REFERENCES

- Agras, W.S., Leitenberg, H., & Barlow, D.H. (1968). Social reinforcement in the modification of agoraphobia. Archives of General Psychiatry, **19**, 423-527.
- Alden, L. (1986). Self-efficacy and causal attributions for social feedback. Journal of Research in Personality, **20**, 460-473.
- Alden, L. (1987). Attributional responses of anxious individuals to different patterns of social feedback: Nothing succeeds like improvement. Journal of Personality and Social Psychology, **52**, 100-106.
- American Psychiatric Association. (1986). Diagnostic and statistical manual of mental disorder (3rd ed., revised). Washington: Author.
- Anderson, C. (1983). Motivational and performance deficits in interpersonal settings: The effect of attributional style. Journal of Personality and Social Psychology, **45**, 1136-1147.
- Andrews, G.R. and DeBus, R.L. (1978). Persistence and the causal perception of failure: Modifying cognitive attributions. Journal of Educational Psychology, **70**, 154-166.
- Bandura, A. (1977). Self efficacy: Toward a unifying theory of behavioral change. Psychological Review, **84**, 191-215.

- Bandura, A. (1978). Reflections of self-efficacy. Advances in behavior research and therapy (Vol. 1, pp. 237-269). Oxford: Pergamon.
- ~~Bandura, A. (1986). Social foundations of thought and action. Englewood Cliffs, N.J.: Prentice Hall, Inc.~~
- Bandura, A., Adams, N.E., & Beyer, J. (1977). Cognitive processes mediating behavioral change. Journal of Personality and Social Psychology, 35, 125-139.
- Bandura, A., Reese, L., & Adams, N. (1982). Microanalysis of action and fear arousal as a function of differential levels of perceived self efficacy. Journal of Personality and Social Psychology, 43, 5-21.
- Barlow, D.H. (1988). Anxiety and its Disorders. New York: Guilford Press. 157-170.
- Bem, D.J. (1972). Self-perception theory. In L. Berkowitz (Ed.), Advances in experimental social psychology (Vol. 6, pp. 2-62). New York: Academic Press.
- Butler, G. (1989). Phobic disorders. In K. Hawton, P.M. Salkovskis, J. Kirk, and D.M. Clark (Eds.), Cognitive behaviour therapy for psychiatric problems: A practical guide. Oxford: Oxford University Press.
- Chambless, D.L. (1982). Characteristics of agoraphobics. In D.L. Chambless and A.J. Goldstein (Eds.), Agoraphobia: Multiple perspectives on theory and treatment. New York: Wiley.

- Chambless, D.L., Caputo, G.C., Jasin, S.E., Gracel, E., & Williams, C. (1985). The mobility inventory for agoraphobia. Behaviour Research and Therapy, 23, 35-44.
- Chambliss, C. and Murray, E. (1979). Cognitive procedures for smoking reduction: Symptom attribution vs. efficacy attribution. Cognitive Therapy and Research, 3, 91-95.
- Diener, C. and Dweck, C.S. (1978). An analysis of learned helplessness: Continuous changes in performance, strategy and achievement cognitions following failure. Journal of Personality and Social Psychology, 36, 451-461.
- Diener, C. and Dweck, C.S. (1980). An analysis of learned helplessness: II. The processing of success. Journal of Personality and Social Psychology, 39, 940-952.
- Dweck, C.S. (1975). The role of expectations and attributions in the alleviation of learned helplessness. Journal of Personality and Social Psychology, 31, 674-685.
- Dweck, C.S. and Reppucci, N.D. (1973). Learned helplessness and reinforcement responsibility in children. Journal of Personality and Social Psychology, 23, 109-116.
- Feather, N. (1969). Attribution of responsibility and valence of success and failure in relation to initial confidence and task performance. Journal of Personality and Social Psychology, 13, 129-144.

- Heider, F. (1958). The psychology of interpersonal relation.
New York: Wiley.
- Kelley, H. H. (1967). Attribution theory in social
psychology. In D. Levine (Ed.), Nebraska symposium on
motivation. Lincoln: University of Nebraska Press.
- Kelley, H.H. (1971). Attribution in social interaction. In
Jones, Kanouse, Kelley, Nisbett, Valins, and Weiner.
Attribution and Perceiving the Causes of Behavior.
Morristown: N.J.: General Learning Press.
- Kelley, H.H. and Michela, J.L. (1980). Attribution theory
and research. Annual Review of Psychology, 31, 457-
501.
- Kinney, P.J. (1992). [The role of attributions in self-
efficacy and behavioral changes following
performance-based treatment of phobia]. Unpublished
manuscript.
- Kinney, P.J. and Williams, S.L. (1988). Accuracy of fear
inventories and self-efficacy scales in predicting
agoraphobic behavior. Behaviour Research and Therapy,
26, 513-518.
- Marks, I.M. (1969). Fears and Phobias. New York: Academic
Press.
- Marks, I.M. (1978). Behavioural psychotherapy of adult
neurosis. In S.L. Garfield & A.E. Bergin (Eds.).
Handbook of psychotherapy and behavior change (pp. 493-
547). New York: Wiley.

- Mavissakalian, M. and Barlow, D.H. (1981). Phobia: An overview. In M. Mavissakalian and D.H. Barlow (Eds.), Phobia: Psychological and Pharmacological Treatment. New York: Guilford.
- McAuley, E. (1991). Efficacy, attributional, and affective responses to exercise participation. Journal of Sport & Exercise Psychology, 13, 382-393.
- McAuley, E., Duncan, T., & McElroy, M. (1989). Self-efficacy cognitions and causal attributions for children's motor performance: An exploratory investigation. The Journal of Genetic Psychology, 150, 65-73.
- McMahan, I. (1973). Relationships between causal attributions and expectancy of success. Journal of Personality and Social Psychology, 1, 108-114.
- O'Brien, G. (1981). Clinical treatment of specific phobias. In M. Mavissakalian and D.H. Barlow (Eds.), Phobia: Psychological and Pharmacological Treatment. New York: Guilford.
- Pasnau, R.O. and Bystriksy, A. (1990). A review of anxiety disorders. Bulletin of the Menninger Clinic, 54, 157-170.
- Paul, G. (1966). Insight vs. desensitization in psychotherapy. Stanford, CA: Stanford University Press.

- Seligman, M.E.P., Abramson, L., Semmel, A., & von Baeyer, C. (1979). Depressive attributional style. Journal of Abnormal Psychology, 88, 242-247.
- Schunk, D. (1983). Ability vs. effort attributional feedback: Differential effects on self-efficacy and achievement. Journal of Educational Psychology, 75, 848-856.
- Shaw, J.M., Dzewaltowski, D.A., & McElroy, M. (1992). Self-efficacy and causal attributions as mediators of perceptions of psychological momentum. Journal of Sport & Exercise Psychology, 14, 134-147.
- Spitzer, R.L. and Williams, J.B. (1986). Proposed revision of the DSM III classification of anxiety disorders based on research and clinical experience. In B.F. Weiner, B. (1983). Some methodological pitfalls in attributional research. Journal of Educational Psychology, 75, 530-543.
- Weiner, B. (1985). An attributional theory of achievement motivation and emotion. Psychological Review, 92, 548-573.
- Weiner, B. (1990). Searching for the root of applied attribution theory. In S. Graham & V. S. Folkes (Eds.), Attribution theory: Applications to achievement, mental health and interpersonal conflict. Hillsdale, N. J.: Erlbaum.

- Weiner, B., Frieze, I. Kukla, A. Reed, L., Rest, S., & Rosenbaum, R.M. (1971). The causes of success and failure. In Jones, Kanouse, Kelley, Nisbett, Valins, and Weiner. Attribution and Perceiving the Causes of Behavior. Morristown, N.J.: General Learning Press.
- Weiner, B., Nierenberg, R., & Goldstein, M. (1976). Social learning (locus of control) versus attributional (causal stability) interpretations of expectancy of success. Journal of Personality and Social Psychology, 44, 52-68.
- Williams, S.L. (1985). On the nature and measurement of agoraphobia. Progress in Behavior Modification, 19, 109- 143.
- Williams, S.L. (1987). On anxiety and phobia. Journal of Anxiety Disorders, 1, 161-180.
- Williams, S.L. (1990). Guided mastery treatment of agoraphobia: Beyond stimulus exposure. Progress in Behavior Modification, 26, 89-121.
- Williams, S.L., Andrews, B., Thornton, J., & McKenna, S. (1992). Self-efficacy scales for agoraphobia (SESA): Reliability, validity, and utility. Unpublished manuscript.

- Williams, S.L., Dooseman, G., & Kleifield, E. (1984).
Comparative effectiveness of guided mastery and
exposure treatments for intractable phobias.
Journal of Consulting and Clinical Psychology, 52, 505-
518.
- Williams, S.L., Kinney, P.J., & Falbo, J.J. (1989).
Generalization of therapeutic changes in agoraphobia:
The role of perceived self-efficacy. Journal of
Consulting and Clinical Psychology, 57, 436-442.
- Williams, S.L., Turner, S.M., & Peer, D.F. (1985). Guided
mastery and performance desensitization treatments for
severe acrophobia. Journal of Consulting and Clinical
Psychology, 2, 237-247.
- Williams, S.L. and Watson, N. (1985). Perceived danger and
perceived self-efficacy as cognitive determinants of
acrophobic behavior. Behavior Therapy, 16, 136-146.
- Williams, S. L. and Zane, G. (1989). Guided mastery and
stimulus exposure treatments for severe performance
anxiety in agoraphobics. Behaviour Research and
Therapy, 27, 237-245.
- Wolpe, J. (1958). Psychotherapy by reciprocal inhibition.
Stanford, CA: Stanford University Press.

Appendix A

Preliminary Telephone Screening Interview

INITIAL TELEPHONE CALL

1. IDENTIFY SELF (name)

2. GET SUBJECT ON PHONE

--If not at home, inquire about best time to call. Say you'll call again.

--If answerer asks why you are calling, say "returning (subject's) call"

3. PRELIMINARIES:

This is (name) calling from the Lehigh University Phobia Program. I'm returning your call. Is this a convenient time to talk?

Were you calling on your own behalf? [If no, say "I'll be glad to give you some information." Be sure to tell them that the person must contact us directly him/herself, and that we can't do anything until they do]

4. BRIEFLY DESCRIBE PROBLEM WE'RE TREATING, AND ASK SUBJECT TO DESCRIBE PROBLEM

Let me explain a little about our program. This program is designed to help people overcome certain kinds of phobias having to do with fears of being away from home, and especially fears of public situations such as driving, shopping, walking busy streets, and crowds. Do you have any of these kinds of fears?

5. IF SUBJECT AGORAPHOBIC OR QUASI-AGORAPHOBIC

It sounds like our program may possibly be suited to your situation. Let me tell you a little bit more about the program. Participants will come here to Lehigh University for a series of sessions. We will evaluate the phobias and provide treatment on an individual one-to-one basis. The treatment is designed to help people by teaching them how to cope with the actual situations they find troublesome, and at no time will you be required to do anything that you do not wish to do. There is no charge to participants for any aspect of the program.

There is no need for you to decide now, but does this program sound like it may be of interest to you?

OK, let me explain the next step. First, we need to send you a questionnaire that asks you about your fears. When we receive your completed questionnaire, we will call you to discuss the possibilities for your further participation. So I need to know your address and a few other things. (Fill out items at top of the Initial Contact form).

OK, we'll send you a questionnaire with a self-addressed stamped envelope, and when you have completed it and returned it to us, we will contact you. Thank you.

6. IF SUBJECT CLEARLY INAPPROPRIATE, READ EXCLUDE STATEMENT:

From your description of your problem it seems that our program is not appropriate for you. This program is designed to help only those who have agoraphobia, which is a phobia of being alone and of doing certain kinds of activities away from the home, such as driving, shopping, and walking on busy streets. Because you do not have any of these kinds of phobias, our program cannot be of help to you. However, if you would like to seek help elsewhere, perhaps I can refer you. Are you interested in that?

See Referral sheet posted on the wall by the phone.

HOW TO DEAL WITH VARIOUS QUESTIONS AND ISSUES

PERSONNEL AND QUALIFICATIONS

The program is directed by Professor Lloyd Williams, of the Lehigh University Department of Psychology. He is a Ph.D. Psychologist who specializes in the treatment of disabling phobias, and he has been treating phobias and conducting research on phobias for the past 13 years.

(If necessary - if subject asks about students on staff): Professor Williams directly supervises all of the staff members in carrying out their duties. Several Ph.D. students and advanced upperclassmen are involved in the program. They have been trained by Dr. Williams and work under his close supervision.

THE COST OF THE PROGRAM

The program is free of charge because our expenses are supported by a grant from Lehigh University.

TREATMENTS

The treatment methods we use are based on helping people learn to cope with and overcome their phobias in the actual situations they fear. At no time do we require participants to do anything that they do not wish to do. (The following only if necessary): If we determine that the program is appropriate for you, the treatment will be explained to you in greater detail before you decide whether you will take part in the program. Participation in the study is strictly on a voluntary basis, and you may withdraw at any time -- you will not be asked to commit yourself to anything.

TREATMENT EFFECTIVENESS

The treatment methods we use in this program are among the most effective psychological treatments for agoraphobia currently available. The purpose of the program is for us to learn how to make these already good treatments better. Of course, we cannot guarantee that any particular person will benefit from our program, but the majority of participants do clearly benefit. Even those who do not benefit find their participation to be worthwhile.

Alternative treatments are available, especially drug therapies, but we do not offer such treatments in this program.

HAS THE PROGRAM BEEN GOING ON FOR A LONG TIME?

The Lehigh University program began 7 years ago, and Professor Williams successfully established similar programs at Stanford University and at the University of Pittsburgh before coming to Lehigh in 1984.

SUBJECTS WHO CANNOT GET TO LEHIGH UNIV.

Even though you are unable to come here at this time, we would like you to complete the questionnaire. We may be able to work with you despite your restrictions, so it is to your advantage to complete the questionnaire. If the program seems appropriate for you, we will be in touch with you to see what we can arrange for your particular situation.

CONFIDENTIALITY

The information gathered from participants in this study will be kept strictly confidential. We will not discuss your case or reveal your identity to anyone outside of the staff of the program. Participation is on a completely voluntary basis, and participants are free to withdraw at any time without suffering disadvantage.

ANY OTHER PROBLEMS OR ISSUES

Obviously, should any questions, problems, or issues arise that you are not sure you can answer, be sure to have Lloyd Williams call the subject. Especially be sure to have me speak with potential subjects who are angry, very suspicious, etc., or who communicate to you that they are in a state of immediate crisis (e.g., suicidal). Also note that those who express acute crisis should be given the "hotline" numbers listed above, with the statement, "Let me give you the number of the county crisis intervention team in your area. They may be of help to you in this situation."

[Always alert L. W. to any subject who you have referred to a crisis team.]

rev 8/31/89

Appendix B

Subject's Background Information and Treatment History

LEHIGH UNIVERSITY PHOBIA PROGRAM, PRELIMINARY QUESTIONNAIRE

Please do your best to give complete and accurate answers to the following questions. All information in this questionnaire, as well as all other information gathered from participants during this study, will be kept strictly confidential.

Today's date _____ Marital status: _____
 Name _____ Birthdate _____ Sex _____
 Address _____ Telephones: Home _____
 _____ Work _____

1. Please give the approximate date your phobias began: _____
2. Please check one column next to each of the following aspects of your life to indicate how much it is affected or has been affected by your phobias:

	<u>not</u> <u>affected</u>	<u>moderately</u> <u>affected</u>	<u>very much</u> <u>affected</u>
Choice of education or career	_____	_____	_____
Ability to work outside of the home	_____	_____	_____
Choice of employment site or position	_____	_____	_____
Ability to travel	_____	_____	_____
Activities with friends or family	_____	_____	_____
Preferred recreational activities	_____	_____	_____
Ability to carry out household duties	_____	_____	_____

3. Please describe how and to what extent your phobias currently affect your life:

4. Approximately how many "panic attacks" have you experienced in your life? _____

How many of these were in the past year? _____

In the past month? _____

5. If you have experienced panic attacks, please describe in your own words what one of these attacks was like for you. Include the sensations you felt and any thoughts you were having during the panic itself:

6. Please list all medications you are taking and how often and why you are taking them:

7. Do you use alcohol to help you cope with your phobias? Yes _____ No _____
If yes, how often and under what circumstances do you use it?

8. Are you presently receiving professional help for your phobias? Yes _____ No _____

If yes, please describe:

9. In the past, have you sought professional help for your phobias from a physician, psychologist, psychiatrist, counselor, or other? Yes _____ No _____

If yes, please briefly describe the treatment:

If no, would you have sought treatment previously if you had known that an effective treatment method was available? Yes _____ No _____

10. Do you have any problems with your physical health? Yes _____ No _____

If yes, please describe:

11. Other than phobias, do you have any psychological problems that are of particular concern? Yes _____ No _____

If yes, please describe:

12. Please add any other information you feel is important for us to know:

Appendix C

Self-Efficacy Scales for Agoraphobia (SESA)

Name _____

Date _____

INSTRUCTIONS FOR COMPLETING THE FOLLOWING CONFIDENCE QUESTIONNAIRE

The following questionnaire asks about your confidence in your ability to do various activities. Each activity consists of several tasks. Indicate next to each task how confident you are that you could do that task if you were to try it right now. Assume that a trusted companion drove you to and from each activity away from home.

There are two columns to rate your confidence:

- Under the first column, "ALONE WITH FRIEND WAITING", rate your confidence assuming that the companion waits nearby while you attempt the tasks alone.

- Under the second column, "ACCOMPANIED BY FRIEND", rate your confidence assuming that the companion goes with you while you attempt the tasks.

Rate your confidence in both columns for all tasks by entering a number from the scale below.

<u>Confidence Scale</u>										
0	10	20	30	40	50	60	70	80	90	100
Can	very				moderately					certain
not	uncertain				certain					
do										

<u>Confidence Scale</u>										
0	10	20	30	40	50	60	70	80	90	100
Can	very				moderately					certain
not	uncertain				certain					
do										

CONFIDENCE (0-100)	
ALONE WITH FRIEND WAITING AT START	ACCOMPANIED BY FRIEND
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

1. Driving an automobile. How confident are you that you could

drive 10 blocks making turns in a quiet residential area, then return to start.

drive 10 blocks on a minor thoroughfare with traffic lights, then return to start (1 mile / 1.6 km).

drive 10 blocks on a major thoroughfare with traffic lights, then return to start (1 mile / 1.6 km).

drive 1 exit (2 miles) on a busy freeway (expressway) in the right hand lane, then return to start.

drive 5 exits (10 miles) on a busy freeway (expressway), changing lanes, then return to start.

CONFIDENCE (0-100)

ALONE WITH FRIEND WAITING OUTSIDE	ACCOMPANIED BY FRIEND
---	--------------------------

2. Heights. Imagine a tall residential building that has balconies on every floor with waist-high railings. How confident are you that you could

go to the 2nd floor above ground level and look over the railing straight down at the ground for 15 seconds.

_____	_____
-------	-------

go to the 3rd floor above ground level and look over the railing straight down at the ground for 15 seconds.

_____	_____
-------	-------

go to the 4th floor above ground level and look over the railing straight down at the ground for 15 seconds.

_____	_____
-------	-------

go to the 6th floor above ground level and look over the railing straight down at the ground for 15 seconds.

_____	_____
-------	-------

go to the 10th floor above ground level and look over the railing straight down at the ground for 15 seconds.

_____	_____
-------	-------

CONFIDENCE (0-100)

ALONE WITH FRIEND WAITING AT HOME	ACCOMPANIED BY FRIEND
---	--------------------------

3. Walking away from your home. How confident are you that you could

walk away from your home for a distance of 1 block.

_____	_____
-------	-------

walk away from your home for a distance of 3 blocks.

_____	_____
-------	-------

walk away from your home for a distance of 5 blocks.

_____	_____
-------	-------

walk away from your home for a distance of 7 blocks.

_____	_____
-------	-------

walk away from your home for a distance of 10 blocks (1 mi / 1.6 km).

_____	_____
-------	-------

4. Flying in a jet airplane. How confident are you that you could

enter an airport terminal, go to a passenger boarding area, stay there 15 minutes, and leave without flying.

sit in an airplane, taxi around the runway for 15 minutes and then return to the terminal and leave.

take a 20 minute flight.

take a 1 hour flight

take a 5 hour flight

CONFIDENCE (0-100)	
ALONE WITH FRIEND WAITING OUTSIDE THE TERMINAL	ACCOMPANIED BY FRIEND
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

5. Going distances from home. How confident are you that you could go the following distances from home if you were to drive there, and remain there for 1 hour before returning.

5 blocks

1 mile (1.6 km)

5 miles (8 km)

10 miles (16 km).

50 miles (80 km).

CONFIDENCE (0-100)	
ALONE WITH FRIEND WAITING AT HOME	ACCOMPANIED BY FRIEND
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

6. Driving across bridges. How confident are you that you could

drive across a short freeway overpass
(distance - 1 city block).

drive across a long freeway overpass
(distance - 3 city blocks).

drive across a bridge over a river
(distance - 1/2 mile / .8 km).

drive across a 1 mile (1.6 km) long
bridge close to the water.

drive across a 2 mile (3.2 km) long
bridge high over the water.

CONFIDENCE (0-100)	
ALONE WITH FRIEND WAITING AT BRIDGE	ACCOMPANIED BY FRIEND
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

7. Riding an elevator in a 10 story office building. How confident are you that you could

walk into the elevator, close the door
part way, then open it and walk out.

ride the elevator up 1 floor, and
return on it.

ride the elevator up 3 floors, and
return on it.

ride the elevator up 6 floors, and
return on it.

ride the elevator up 10 floors, and
return on it.

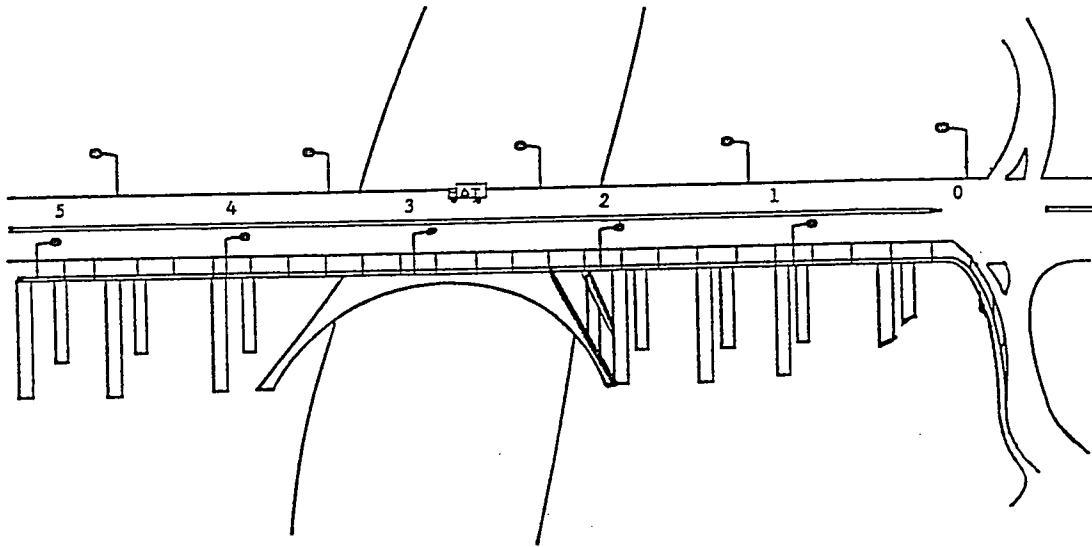
CONFIDENCE (0-100)	
ALONE WITH FRIEND WAITING IN LOBBY	ACCOMPANIED BY FRIEND
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

		CONFIDENCE (0-100)	
		ALONE WITH FRIEND WAITING AT BUS STOP	ACCOMPANIED BY FRIEND
8.	Sitting at the rear of a city bus. How confident are you that you could		
	ride 1 block in a fairly empty city bus.	_____	_____
	ride 1 block in a crowded city bus.	_____	_____
	ride 3 blocks in a crowded city bus.	_____	_____
	ride 10 blocks in a crowded city bus.	_____	_____
	ride 5 miles (8 km) in a crowded city bus.	_____	_____

		CONFIDENCE (0-100)	
		ALONE WITH FRIEND WAITING IN ANOTHER ROOM	ACCOMPANIED BY FRIEND
9.	Tolerating closed-in places. How confident are you that you could go into a small room, 5 ft x 5 ft, without lights or windows, close the door and then		
	sit for 15 seconds	_____	_____
	sit for 1 minute	_____	_____
	sit for 3 minutes.	_____	_____
	sit for 5 minutes.	_____	_____
	sit for 20 minutes	_____	_____

		CONFIDENCE (0-100)	
		ALONE WITH FRIEND OUTSIDE	ACCOMPANIED BY FRIEND
10.	Imagine a crowded movie theatre with 30 rows of seats and an aisle down the center. How confident are you that you could		
	sit in the back row on the aisle for 5 minutes	_____	_____
	sit in the 10th row from the rear of the theatre, 5 seats in from the aisle for 10 minutes	_____	_____
	sit halfway to the front of the theater, in the middle of the row, for 10 minutes.	_____	_____
	sit 10 rows from the front of the theater, in the middle of the row, for 20 minutes.	_____	_____
	sit 5 rows from the front of the theater, in the middle of the row, for an entire 1 1/2 hour film	_____	_____

11. Walking across a bridge. The drawing below shows a long bridge over a river.



The numbers above show various points along a bridge. How confident are you that you could walk to each point, then return to the start (point 0).

CONFIDENCE (0-100)	
ALONE WITH FRIEND WAITING AT THE START	ACCOMPANIED BY FRIEND

walk to point 1.	. . . . .	_____	_____
walk to point 2.	. . . . .	_____	_____
walk to point 3.	. . . . .	_____	_____
walk to point 4.	. . . . .	_____	_____
walk to point 5.	. . . . .	_____	_____

CONFIDENCE (0-100)

ALONE WITH FRIEND WAITING OUTSIDE STORE	ACCOMPANIED BY FRIEND
---	--------------------------

12. Shopping at a supermarket. How confident are you that you could

without a shopping cart, walk once all the way around the inside of the store, to all four corners, and then exit.

select 4 items from various parts of the store, and wait in line 2 minutes before checking out.

select 10 items from various parts of the store and wait in line 5 minutes before checking out.

order an item from the meat or deli counter employee, select 10 other items, and wait in line 10 minutes before checking out.

select 30 items from various parts of the store, including items from the meat or deli counter employee, and wait in line 15 minutes before checking out.

CONFIDENCE (0-100)

ALONE WITH FRIEND WAITING AT START	ACCOMPANIED BY FRIEND
--	--------------------------

13. Walking along a busy city street. How confident are you that you could

walk 1 block and return to the start.

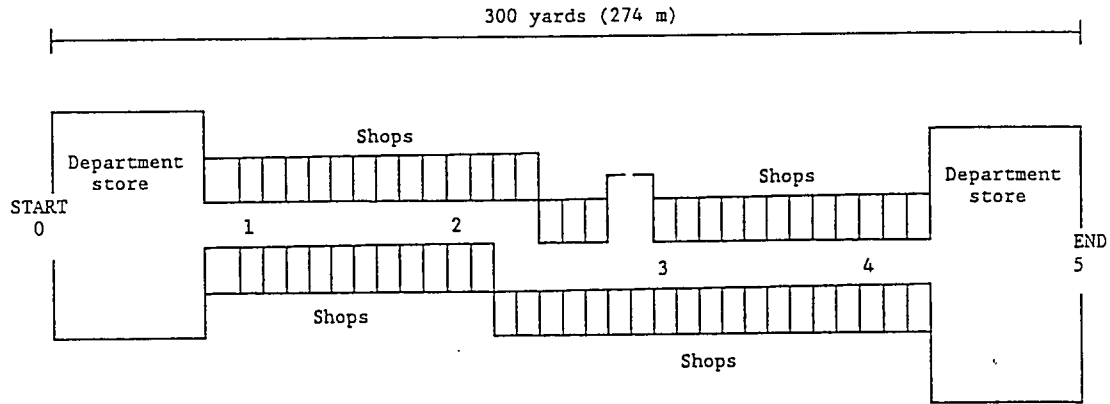
walk 3 blocks and return to the start.

walk 5 blocks and return to the start.

walk 7 blocks and return to the start.

walk 10 blocks and return to the start.

14. Walking through a large shopping mall. The drawing below is a floor plan for an indoor shopping mall, with a large department store at both ends. The mall, consisting of many shops, can be entered from either department store.



CONFIDENCE (0-100)	
ALONE WITH FRIEND WAITING AT START	ACCOMPANIED BY FRIEND

The numbers above show various points along the mall. How confident are you that you could walk from the start (point 0) to each point, then return to the start.

walk to point 1.	. . . . .	_____	_____
walk to point 2.	. . . . .	_____	_____
walk to point 3	. . . . .	_____	_____
walk to point 4	. . . . .	_____	_____
walk to point 5	. . . . .	_____	_____

		CONFIDENCE (0-100)	
		ALONE WITH FRIEND WAITING OUTSIDE	ACCOMPANIED BY FRIEND
15.	Being in a restaurant that has both a counter and tables, how confident are you that you could		
	stay for 1 minute.	_____	_____
	order a beverage, stay 10 minutes.	_____	_____
	order a meal while sitting at a table far from the exit then:		
	stay 10 minutes.	_____	_____
	stay 20 minutes.	_____	_____
	stay 40 minutes.	_____	_____

Appendix D

Sample of a Behavioral Assessment Test

PEDESTRIAN BRIDGE ASSESSMENT MANUAL -- First Assessment

Equipment: Bridge assessment packet, 2 clipboards and 2 pencils, red tape.
Location: New Street Bridge, North side, beginning of railing.

FIRST CONFIDENCE RATING:

Place the confidence form on the clipboard. Note the subject's name, the date, and circle 1a. Be sure the subject is following your explanation as you read the following.

First, I would like to find out what things you think you could do now and how confident you are that you could do them. (Give clipboard to subject, but hold onto the pencil). This form describes various tasks related to walking across bridges (point).

Let me explain exactly what the items refer to. (Place drawing of bridge on another clipboard and let subject hold it). This is a drawing of the bridge. We're here at the start of the bridge (point). Notice that in the drawing there are letters at various points along the bridge. Each of these letters corresponds to an item of the confidence form. So, for example, item 3, point C of the confidence form (point) refers to point C on the bridge drawing (point). Each of the points on the bridge is about ninety feet from the next one.

(Point to the post with the green marker and say:) Do you see the post with the green marker on top? This post marks the beginning of the bridge, for our purposes).

(Point to bridge stairs over the parking lot as you explain the following:) Do you see those stairs over there? Those stairs are shown on the bridge drawing here (point). As you can see from the drawing, the stairs are just a little way before point D. That's about one third of the route, this should give you some idea of how long the route is.

Rate how confident you are that you could walk to the point designated by each task and then return here to the start of the bridge. Rate your confidence by using a number from the 0 to 100 confidence scale. 0 means cannot do (point) and 100 means certain

(point) and the numbers in between (point) represent gradual degrees of certainty. Be sure to give your frank estimate of your ability to do these things if you were to try them right now. (Give subject pencil, and display diagram where subject can see it).

Do not watch the subject fill out the form. After the subject completes it return it to the envelope.

BEHAVIORAL TEST:

Put the anxiety rating form on a clipboard, write the subject's name, the date and circle 1. Read as follows:

Now I would like to see how far along the bridge you can walk by yourself. The procedure is simple. Just walk along the bridge as far as you can, and when you can go no farther, or if you reach the telephone pole off the left of the bridge, just past where the markings end (point to telephone pole on bridge drawing), just turn around and come back. That telephone pole marks the end of the bridge for our purposes.

(Locate post at the beginning of the bridge that has a green band around its top).

BE SURE that subject sees it as you explain the following: Can you see that post with the green top there on the bridge (point)?

The post with the green post marks the beginning of the route.

Every 12th post to follow this green starting post along the bridge is black at the top just like this one is green.

As you go across the bridge, I would like you to briefly pause to rate your anxiety as you reach each post with the black top. To make your anxiety ratings you will use this form (give subject the clipboard with the anxiety form). On the top of the form is the anxiety scale you used before (point). In the middle of the form are the places where you should make your anxiety ratings (point). Make your ratings in order from top to bottom (point).

Also, you will be taking this piece of red tape (point) with you, and when you're ready to come back, attach this piece of tape to the railing of the bridge to mark the spot where you turned back. If you

go all of the way across the bridge, just leave the tape on a post near the "Stop" on the other side. Is this clear? It is important that you walk continuously along the bridge except when you pause to rate your anxiety. If you stop, unless it is to rate your anxiety, just leave the red tape and return. One last reminder before you begin, make sure you are walking by yourself at all times. Is this clear?

Likely questions such as, "How anxious should I get before I stop?", or, "How hard do you want me to push myself?", should all be answered with the following comment: "It's up to you to decide if and when you will stop" (and if necessary:) "The only one who knows how much you can do is yourself. When you will stop is left completely to your own judgment."

Okay, you can begin now.

When subject returns, take clipboard from him or her and proceed as follows:

SECOND CONFIDENCE RATING:

Put the confidence form on the clipboard, note the subject's name, the date, circle lb, and hand it to the subject (without pencil). Display the drawing of the bridge where subject can refer to it. Read the following:

Now I would like you to fill out a confidence form to indicate how confident you are that you can walk to the point designated by each task and then return to the start of the bridge. Please fill this out as if you were to try these tasks right now.

Do not watch the subject complete the form.

RETRIEVING THE TAPE

Note from the anxiety rating form how far the subject went across the bridge. Then say to the subject:

Please wait here at the start while I go retrieve the tape.

When you find the tape, record on the behavioral assessment form the number of the post nearest to the tape. If it is exactly in between two posts, note the number of the post closer to the start of the bridge. (The numbers are marked on the top of the posts).

CONFIDENCE BRIDGES

This form describes various activities related to bridges. Write under the confidence columns how confident you are that you could do these tasks if you were to attempt them right now. Rate your degree of confidence for doing these tasks both when alone and when accompanied by entering a number from 0 to 100 using the scale below.

Confidence scale

0	10	20	30	40	50	60	70	80	90	100
cannot	quite				moderately					certain
do	uncertain				certain					

Confidence

	<u>Alone</u>	<u>Accompanied</u>
1. Walk to point A on the bridge	_____	_____
2. Walk to point B on the bridge	_____	_____
3. Walk to point C on the bridge	_____	_____
4. Walk to point D on the bridge	_____	_____
5. Walk to point E on the bridge	_____	_____
6. Walk to point F on the bridge	_____	_____
7. Walk to point G on the bridge	_____	_____
8. Walk to point H on the bridge	_____	_____
9. Walk to point I on the bridge	_____	_____
10. Walk to point J on the bridge	_____	_____
11. Walk to point K on the bridge	_____	_____
12. Walk to point L on the bridge	_____	_____

Name _____ Date _____ Assessor _____

1a 1b 2a 2b 3a 3b 4a 4b rev 2/28/90

BRIDGE BEHAVIORAL TEST AND ANXIETY RATINGS

	<u>DID IT</u>	<u>ANXIETY</u>
Walk to point A on the bridge (post 11)	_____	_____
Walk to point B on the bridge (post 23)	_____	_____
Walk to point C on the bridge (post 35)	_____	_____
Walk to point D on the bridge (post 47)	_____	_____
Walk to point E on the bridge (post 59)	_____	_____
Walk to point F on the bridge (post 71)	_____	_____
Walk to point G on the bridge (post 83)	_____	_____
Walk to point H on the bridge (post 95)	_____	_____
Walk to point I on the bridge (post 107)	_____	_____
Walk to point J on the bridge (post 119)	_____	_____
Walk to point K on the bridge (post 131)	_____	_____
Walk to point L on the bridge (post 141)	_____	_____

MARKER LOCATION, POST NUMBER: _____

Name _____ Date _____ Assessor _____

1 2 3 4 5

rev 4/05/89

ANXIETY RATING FORM, BRIDGE

Anxiety Scale

0	1	2	3	4	5	6	7	8	9	10
unafraid, not tense or anxious				afraid, somewhat tense and anxious			very afraid, tense and anxious			extremely afraid, very tense and anxious

Anxiety Rating

- a. _____
- b. _____
- c. _____
- d. _____
- e. _____
- f. _____
- g. _____
- h. _____
- i. _____
- j. _____
- k. _____
- l. _____

Name _____ Date _____ Assessor _____

1 2 3 4 5

rev 4/11/85

ANXIETY SCALE

- 10 -- Extremely afraid, very tense and anxious
- 9
- 8
- 7 -- Very afraid, tense and anxious
- 6
- 5
- 4 -- Somewhat afraid, tense and anxious
- 3
- 2
- 1
- 0 -- Unafraid, not tense or anxious

Appendix E
Performance Assessment Form

Performance Assessment Form

During the assessment, you were able to _____

During the very end of the treatment session, you were able to _____

Please state what you think is the main reason for the difference in your performance. Also, list any other reasons that you can think of. There are no right or wrong answers.

Main Reason:

Other Reasons:

Name: _____ Date: _____

Please circle one number for each item

A. Is the main reason for your increased performance of these activities due to an increase in your ability?

1	2	3	4	5	6	7
not at all because of increased ability						entirely because of increased ability

B. Is the main reason for your performance of these activities due to the therapist being with you?

1	2	3	4	5	6	7
not at all because the therapist was with me						entirely because the therapist was with me

C. Is the main reason for your performance of these activities because of some personal characteristic of yours? Or, is your performance because of something about other people, events, or circumstances?

1	2	3	4	5	6	7
entirely something about me						entirely something about other people, events, or circumstances

D. Is the main reason for your increased performance of these activities due to your increased effort?

1	2	3	4	5	6	7
not at all because of increased effort						entirely because of increased effort

E. Will the main reason for your increased performance continue to be present when you attempt to do these activities in the future?

1	2	3	4	5	6	7
will never again be present						will always be present

F. Do you have personal voluntary control over the main reason for your increased performance of these activities?

1	2	3	4	5	6	7
can control completely						cannot control at all

CURRICULUM VITAE

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END

OF

TITLE