THE EFFICACY OF COVERT MODELING/ COVERT REHEARSAL IN THE TREATMENT OF SOCIAL ANXIETY

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THE EFFICACY OF COVERT MODELING / COVERT REHEARSAL IN THE TREATMENT OF SOCIAL ANXIETY

BY

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A Thesis submitted in partial fulfillment
of the requirements for the degree of
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ABSTRACT

Five subjects referred to the Memorial Psychology clinic were treated for social anxiety using a covert modeling / covert rehearsal package tailored to their individual problems. A multiple-baseline-across-tasks design was used to investigate treatment effectiveness. Self-report questionnaires were also given to subjects at initial assessment, at post-intervention, and at a follow-up period. Four of the subjects estimated their self-efficacy for the completion of the tasks before, during, and after intervention. Two of the subjects were also assessed using a behavioral role-play test. Results indicate that for subjects one, two, and three subjective ratings of social discomfort decreased only when treatment was initiated for a particular task. Data from subjects four and five partially support the hypothesis. Dramatic improvements were seen in the self-report questionnaires after intervention for subjects one, two, and four. These improvements were maintained at follow-up. Self-efficacy measures indicated that subjects also increased their confidence levels from pre to post-intervention. Results from the role-play test show increases in global ratings of social competency from pre to post-intervention. Overall results, clinical implications, and future research directions are discussed.

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The purpose of the present study was to test the efficacy of covert modeling / covert rehearsal in the treatment of individuals with problems of unassertiveness or social anxiety. A detailed review of the literature will show the need for a study which takes into account subject idiosyncrasies and uses subjects referred for therapy instead of analogue subjects.

Since 1966 when Wolpe and Lazarus published their classic book, "Behavior Therapy Techniques," there has been an explosion in the area of assertiveness training. No longer, however, does the behavior therapist necessarily link anxiety to non-assertive behavior nor limit him or herself to the more specific term "assertion training". Instead, the more encompassing term "social skills training" is used (Bellack and Morrison, 1982). Social skills training is indicated when a client's major problem is of a social, interpersonal nature. No longer do problems in sticking up for one's rights or refusing unreasonable requests set the boundaries for social skills training (Bellack and Morrison, 1982). Training now includes treatments aimed at increasing minimal dating behavior, decreasing aggression and unassertiveness, and helping such populations as alcoholics, schizophrenics, and people with depression (Bellack and Morrison, 1982).

Generally it has been a rather enduring struggle to define precisely just what assertive behavior entails. Operationally defining all the behavioral components has been difficult and may well be impossible since what is "assertive" differs from situation to situation and from culture to culture. However, Rimm and Masters (1979), contend most writers would likely agree on three basic statements:

> 1) Assertive behavior is interpersonal behavior involving the honest and relatively straightforward expression of thoughts and feelings.
> 2) Assertive behavior is socially appropriate.
> 3) When a person is behaving assertively, the feelings and welfare of others are taken into account.
>
> p.63

There is literature documenting evidence that clients with problems in social skills can best benefit from the behavioral approach that Bellack and Morrison (1982) call the "response acquisition approach". This approach typically includes instructions, role playing, feedback, and social reinforcement used progressively to shape clients to master their particular social/interpersonal problem (McFall and Lillesand, 1971; McFall and Marston, 1970; McFall and Twentyman, 1973). Some of these studies used effective modeling procedures (Hersen, Kazdin, Bellack and Turner, 1979; Kazdin, 1974; McFall and Lillesand, 1971; and Young, Rimm and Kennedy, 1973). These behavioral techniques are performance based (i.e.,

during the sessions the client typically rehearses a problem situation until sufficient mastery is accomplished, or views a model(s) who appropriately and assertively performs the interaction). In the clinic the model could very well be the therapist. These training sequences are gone over in a molar fashion and successively approximate the desired behavior. The therapist may give feedback to the client about the performance of specific components of social skills. With this feedback, specific behavioral actions are coached (i.e., eye contact, voice loudness, compliance, requests for new behavior, smiles, and overall assertiveness). Typically these short interactions, or role-play interactions as they are sometimes called, contain certain essential phases: the context, set up as realistically as possible and the assertive or appropriate response which may be a reply to a particular prompt or initiating a response. As an option one or both of these next phases may be included: a positive social consequence to the assertive or appropriate response, or an antagonistic response followed by a second assertive or appropriate response and then ending with the positive social consequence. These positive consequences range from compliance with a request, to compliments, to a change in behavior. Essentially the consequences are tailored to the situation (i.e., what the subject would naturally like to occur).

Modeling procedures are useful but have their limitations: they are difficult to simulate with the therapist orchestrating much of the procedure; practice is usually confined to the clinic and takes place mainly within the session and there is the question of similarity between practise in the clinic and what occurs in the clients natural environment. Additionally, with severely dysfunctional clients, in-vivo role-playing may be too anxiety producing (McFall and Lillesand, 1971). Covert modeling / rehearsal is relatively free of the limitations discussed above. Covert modeling and covert rehearsal are cognitive procedures which can be assessed and are limited only by the client's imagination. The procedure is portable (i.e., the client can carry the skill with him or her, it is more cost-effective in that more situations can be covered during one session since preparation is minimal, and it has a built in desensitization-like component in that clients are relaxed when imagining the scenario. This method has received much coverage in the literature and to date at least twelve controlled group-studies have assessed its effectiveness. Unfortunately all but one study (Hersen, Kazdin, Bellack, and Turner, 1979) used analogue populations (i.e., college students or community volunteers). To get a perspective of the efficacy of covert modeling and covert rehearsal a detailed review of these studies is presented.

STUDIES OF COVERT ASSERTION TRAINING.

The first assertion study in the literature which included a covert modeling group in the design was by McFall and Lillesand (1971). Their design included two treatment conditions: an overt modeling group who rehearsed aloud and then heard a recording of their practice responses, a covert group who imagined responding and then reflected upon their responses, and an assessment - placebo control group. The training sequence was as follows:

(a) the narrator described the situation;
(b) S responded overtly or covertly;
(c) S heard the responses of one male and one female assertive model;
(d) the narrator coached S regarding what makes a good assertive response in the situation;
(e) S either heard his response replayed or reflected on it;
(f) the situation was repeated again and
(g) S responded overtly or covertly again.
(McFall and Lillesand, 1971, p.315)

The subjects consisted of 33 males and females selected from 400 students, using three screening criteria: first they rated themselves as having a problem saying no to unreasonable requests". This rating was obtained from the Conflict Resolution Inventory (CRI) (McFall and Lillesand, 1971). The second criterion was a willingness to participate in the clinic. The third criterion, also obtained from the CRI, was that the subjects had to respond more non-assertively than

assertively to the 35 refusal items. In other words their non-assertive scores had to be higher than their assertive scores. Procedurally, the subjects responded to nine situations, seven from the CRI, one novel, and one generalized situation. All subjects also received a rationale for the treatment. In the second session five more refusal items from the CRI were used to train both overt and covert groups. Then the nine items of the assessment plus one more refusal item with an antagonist were given to all subjects. This antagonist item was called the Extended Interaction Test. The CRI was then again administered. A telephone call follow-up occurred three to five days later. During this call a female confederate made an attempt to get the student to volunteer for three hours work. The callers' responses were programmed and each call continued until the subject complied or until he or she refused five times.

The results of the study indicated that all groups reported a decrease in the subjective magnitude of the problem (i.e., there was a decrease in subjects' global evaluation of the problem). Note, however, that the control group was led to believe that assessment was a form of therapy. Both experimental groups improved more than controls on the CRI refusal scores (i.e., an increase in assertive scores and a decrease in non-assertive scores) and did better on the trained situations than

controls. Transfer of training occurred to untrained items, especially for the covert modeling group. The covert modeling group also tended to display greater overall changes. On the behavioral role-play situations again the treatment groups did better than controls and the covert group improved significantly more than the other treatment groups. Three of the role-play situations were untrained and results indicate overt and covert groups showed transfer of training to these situations. (McFall and Lillesand, 1971). All covert subjects and all except one overt subject earned the maximum score on the extended interaction test with antagonist at post-testing. Analyses of the telephone call at follow-up, with judges rating subjects on refusal, showed 44% of controls refused, 60% of the overt subjects refused, and 70% of the covert subjects refused. These differences are not, however, significant. Differences in time to refusal following the callers request were also found to be not different from chance across groups. Because the findings with the telephone manipulation were not supportive of the hypothesis, the authors reevaluated some of their data. They found that during assessment a very similar situation to the telephone call had not changed from pretest to posttest. If at posttest subjects will not refuse in a particular interaction, it is logical that they will not at follow-up. If a situation similar to the one that subjects had improved on had been used, the follow-up data

may have been more positive.

McFall and Lillesand (1971) point out that their overt procedure included having the subjects hear their responses whereas the covert procedure did not. Thus, they hypothesize that the overt procedure may have had an inhibiting effect on learning and may have maintained some avoidance behavior already present in these subjects who avoid refusing in public. The covert procedure is less threatening. In conclusion the authors stated that:

> ...covert rehearsal is at least as effective in refusal training as overt rehearsal, if not more so. The covert procedure resulted in the largest absolute magnitude of improvement, although its superiority over the overt procedure did not always achieve statistical significance.
> (McFall and Lillesand, 1971, p.322)

Kazdin (1974), investigated the effects of model reinforcement on the efficacy of covert modeling. Kazdin's design employed four groups. The first group imagined an assertive model in many situations; the second group was the same except they imagined a positive social consequence after the assertive response. There were two control groups, one imagined assertion relevant scenes which provided the impetus and context for an assertive response but no model responding assertively. The other control group simply received repeated assessments. There were 45 subjects selected from those responding to advertisements who met the screening criteria to enter the

program. Assessment included these self-report measures: the Conflict Resolution Inventory (McFall and Lillesand, 1971); the Action Situation Inventory (Friedman, 1971); the Wolpe - Lazarus Assertive Training Scale (WLAS) (Wolpe and Lazarus, 1966); and the Willoughby Scale (Wolpe, 1969). A behavioral role-play test was also used as was a phone call follow-up, adapted from McFall and Marston 1970, two weeks after treatment. A second follow-up consisted of re-administering the CRI and the WLAS at three months. Subjects in the experimental groups were trained on five scenes during the first session and 10 scenes during each of the next three sessions. The phases were as follows: for the no reinforcement group, the scene context was imagined, then a model was imagined responding assertively to the context. The reinforcement group received exactly the same conditions plus an additional phase. After imagining the assertive response, the reinforcement group also imagined a model receiving favourable consequences. The control group imagined only the scene context. Kazdin also measured imagery compliance (i.e., did the subjects imagine the phases they were supposed to), scene anxiousness, and scene clarity.

The results indicated that the imagery manipulation was successful; compliance ranged from 90% to 100% by session four. On all the measures employed in the experiment overall treatment effectiveness was evident.

Both modeling groups were more improved than controls on the self-report scales (CRI and WLAS) and on the behavioral role-play test (ratings of overall assertiveness). Some of the items on the role-play test were untrained and again modeling groups were more improved than controls, showing generalization of training. Specific components of behavior that were rated as improved were: response time, response duration, and speech disfluencies. Various behavioral components of assertiveness were also rated by judges during telephone calls made at follow-up. The only group difference was that controls asked fewer questions than all other groups. The addition of reinforcement seemed to enhance treatment effectiveness. The modeling plus reinforcement group showed greater improvement than all other groups on the Willoughby self-report scale. On the role-play test, the same group was more improved than controls on ratings of overall assertiveness. A three month follow-up was included. The CRI and the WLAS were mailed to subjects for their reply. The model reinforcement group was more improved relative to controls on both of the tests.

Kazdin (1975) reported an investigation which assessed imagery used in covert modeling. He also provided evidence for the efficacy of covert modeling. This study was the first report of imagery assessment during treatment. Fifty-four subjects from the community

were selected (screened using CRI criteria) and assigned to one of five conditions: (a) imagining a single model during the covert modeling procedure; (b) imagining a single model plus favourable consequences; (c) imagining multiple models; (d) imagining multiple models plus favourable consequences; and (e) imagining only the scene context. This last condition served as an inert treatment control. Treatment lasted for two weeks and consisted of four sessions using standard scenes for all groups.

Results indicated overall treatment effectiveness of covert modeling. Within group improvements were evident for all modeling groups. All covert modeling groups showed consistent improvement on both the CRI and the WLAS whereas the control group did not. Similarly, on the behavioral role-play test each treatment group was judged as more assertive than controls. The experiment also investigated whether the number of models imagined or whether imagining favorable consequences after giving an assertive response would enhance the therapeutic effectiveness of covert modeling. Both of these factors did appear to be efficacious but on different outcome measures. Groups who imagined a number of models were more improved on the CRI, whereas those subjects who imagined models receiving favourable consequences after behaving assertively were more improved on the WLAS. On the behavioral role-play test only the group that imagined

both multiple models and models receiving favourable consequences after assertive responses were judged more assertive and having less response latency then all other groups. Subjects were also assessed on novel role-play items. Again the multiple model plus reinforcement group evidenced greater assertiveness than model alone or reinforcement alone groups while these groups were rated as more assertive than controls.

A four month follow-up somewhat consolidated the positive findings of treatment effectiveness. The CRI results showed an effect for reinforcement; groups that imagined models receiving favourable consequences were more assertive than controls. All five groups reported improvement on refusal scores of the CRI and on the WLAS. Finally Kazdin (1975) found that the imagery manipulation was effective; i.e., subjects imagined only the phases they were supposed to. To summarize: covert modeling was found effective and the factors investigated did enhance treatment on certain measures.

Kazdin (1976a) investigated imagery during covert modeling in treating unassertive behavior. This paper also evaluated whether verbalizing ongoing imagery would enhance covert modeling efficacy. Thirty-nine, screened subjects selected from community volunteers were randomly assigned to one of four groups: (a) covert modeling alone, (b) covert modeling plus verbalization, (c) scene

context only plus verbalization, and (d) a delayed treatment control group. Treatment consisted of four 40 minute sessions over a two week period.

Within group findings indicated that on both self-report and on behavioral role-play test measures the two covert modeling groups showed significant improvement relative to the control and context control groups on ratings of overall assertiveness. On the behavioral role-play test the covert modeling group also displayed less response latency and longer response duration than other control groups. Finally subjects were also assessed on novel role-play items. The results indicate that for these novel items the covert modeling plus verbalization group were rated as more assertive than controls. Between group results for self-report measures show that CRI refusal scores were significantly higher for the covert modeling plus verbal narration (verbalization) than for the other two treatment groups.

A four month follow-up using the WLAS and the CRI found that only the WLAS scores showed any change; again the covert modeling plus verbalization group was significantly more assertive at follow-up. Thus the study did not fully support the contention that verbalization enhanced or hindered treatment outcome but replicated the finding that covert modeling was an effective treatment. A few outcome measures did show support for verbalization

enhancement of treatment.

Bandura (1969) stated that live modeling embodies the notion that the subject symbolically codes (via certain cognitive processes) the behavior she or he observes. This coding is most effective in retaining modeled information if it consists of the essentials of what occurs during the modeled sequence (Rosenthal and Bandura, 1978). This idea led Kazdin (1979a) to hypothesize that summary coding would enhance covert modeling's effectiveness. For the purpose of this study "summary coding" was defined as giving a summary of what was imagined, especially detailing the context and the assertive response. Fifty-six subjects solicited by advertisements and who met screening criteria for low assertiveness were randomly assigned to one of four groups. The first group imagined similar models in each treatment scene twice and after these they generated their own verbal summaries of each scene. A second group was run exactly the same except they generated no summaries. Two control groups were also included: one group imagined only the "scene context that provided the impetus for an assertive response". The other group imagined the scene context only and in addition generated a verbal summary code. Adherence to treatment was also assessed as were expectations of improvement.

Results indicated that covert modeling was generally more effective than no therapy. Both covert modeling groups were significantly more improved on the CRI, WLAS, and Willoughby scales than the control group which was told to imagine only the scene context. Results also indicated that the two control groups did display some improvement but not nearly of the magnitude of the treatment groups. On the behavioral role-play test covert modeling groups had shorter latencies to respond and engaged in longer responses than those groups who did not imagine an assertive model. This effect generalized to untrained novel items. Summary coding did enhance therapy. Between groups analysis revealed that the summary coding group was more improved on CRI scores then the no summary group. On the behavioral role-play test generalization items, subjects who engaged in summary coding were rated as more assertive than the subjects who did not summarize their scenes. At a six month follow-up a modeling effect was still evident for both the CRI and WLAS. The modeling plus summary coding group was more assertive than all other groups on the CRI and more assertive than the scene context only group on the WLAS and the CRI. Other analyses indicated that treatment expectations were the same for all groups. All groups were found to have complied with imagery instructions (89.3 to 100% compliance).

In 1976 Rosenthal and Reese published the first study to use individually tailored hierarchies when treating subjects using a covert modeling procedure. Previous to this studies had used standardized scenes which were the same for all treatment groups. The subjects were 36 female college students. There were three groups: one received overt modeling with a standard hierarchy, the second received covert modeling treatment with a standard hierarchy, and the third group were treated with covert modeling with scenes which were tailored to individual subjects. The tailored scenes were created by presenting the subjects the nine scenes from the standard hierarchy and then asking them to provide a personal experience which was most similar to each scene.

The results from both self-report questionnaires (WLAS and the Interpersonal Behavior Test) and from a behavioral measure (subjects were asked to approach a stranger and ask them to complete an attitude survey) indicated that all three treatments were effective but none was differentially more effective. Thus self-tailored hierarchies were no more effective than standard hierarchies. However, the tailored hierarchies in this study were created from a pool of only nine social situations. It is probable that these did not cover all possible, personally relevant problems that the subjects had. The hierarchies were generated "on the spot" and the

problems defined were not problems originally defined by the subjects. It is probable that the hierarchies were not completely individual or relevant.

Kazdin (1976b) investigated the effects of multiple models and model reinforcement on assertive behavior. The study also employed the covert modeling paradigm and treatment effectiveness was again evidenced. Of all who responded to the advertisement for treatment, 52 met the screening criteria and served as subjects. The design included four treatment groups. The first group imagined a single model of the same sex who was reinforced over four sessions. The sequences were similar to that found in earlier literature: a scene context was imagined, an assertive response, and positive consequences. The second group imagined single models exactly as group one except there was no positive consequence imagined after the assertive response. A third group imagined different models who were reinforced over the four sessions as with group one. The last treatment group simply imagined several models, and like group two, they did not imagine positive consequences. A fifth group, a non-assertive model control group, simply imagined the scene context. Kazdin also included post-session questionnaires after each session to measure imagery compliance. Subjects rated image clarity, level of anxiety while visualizing scenes, and amount of material imagined, as in the Kazdin

1974 study.

Results indicated that the imagery manipulation was effective. By the last session, all subjects imagined the appropriate consequences, or lack of them, and the right model attributes. All modeling groups improved relative to the context-only control group on pre-post comparisons using the CRI, the WLAS, and the Willoughby Scale. All covert modeling groups were rated as more assertive than controls on behavioral role-play test items. On items of the behavioral role-play test that were novel, the covert modeling groups were more improved than controls. The number of models imagined (many versus one) and model reinforcement did enhance treatment on some of the outcome measures. In addition there was a significant interaction effect, i.e., the group that imagined many models receiving favourable consequences for their actions were more improved then all other subjects on CRI, WLAS, and Willoughby Scale scores. Essentially then, covert modeling was again found to be effective. The two components investigated in the study did improve treatment (i.e., multiple models and model reinforcement).

Follow-up data at four months, using the WLAS, indicated that the multiple-model-plus-reinforcement group did better than the single-model-no-reinforcement group. On the CRI all experimental groups did better than controls. Within-group changes on both the WLAS and the

CRI indicated that all treatment groups were improved relative to controls. It is interesting to note, as Kazdin pointed out, that model reinforcement had more impact on behavioral measures whereas multiple models had more impact on self-report.

A very interesting study was published in 1977 by Nietzel, Martorano, and Melnick. The study included 31 males and females who had been screened for two criteria from the CRI. The design employed four conditions: the first group imagined a similar model replying assertively and being reinforced (CM); the second group, a reply training group, was exactly the same except that after the first assertive response an antagonistic or non-complying response was given. This was then followed by a second assertive response and finally the positive consequences were imagined(CMR)). Two control groups were also included: group three simply received pre and post-tests, while the fourth group imagined only the scene context. Compliance with imagery instructions was also assessed.

Results indicated that covert modeling was effective and that reply training enhanced therapy. The CMR group was rated as more assertive than all others on the self-report scales and on a behavioral role- play test using both trained and untrained items. The scores of the experimental groups and the placebo group were greater than the no treatment group at posttest on the Rathus and

CRI assertion scales. Results from the role-play test show that these same groups were rated as more improved at posttest on response duration (longer), response latency (shorter), and on overall assertiveness. Ten trained items from the role-play test, five novel items, the Extended Interaction Test (McFall and Lillesand, 1971), and a phone call given at four months were administered as measures of generalization and maintenance of treatment effects. Again all treatment groups and the placebo group were rated as more improved on the novel items. In addition, on the behavioral role-play test and on the self-report scales the CMR group was more improved than all other groups. Finally, randomly selected control subjects, who were administered the same phone call as the experimental subject at the four month follow-up period, were rated as more assertive than the non-treatment group but were equivalent to the experimental groups. This indicates that the experimental subjects are now as assertive as people not seeking treatment for this problem.

The effects of the reply training group are striking, especially on the EIT which, as the authors note, is similar to what occurs in real social situations. The improvements in the placebo group may have been due to the fact that more than half of these subjects imagined assertive responses when they were supposed to only

picture the scene context. In essence they were training themselves in covert modeling procedures.

Zielinski and Williams (1979) used a crossover design to compare covert modeling with overt behavioral rehearsal. Twenty-four subjects were recruited from the community for free assertiveness training. Since each subject served as his or her own control, there were only two experimental groups needed. There were eight sessions in total: four for covert modeling and four for overt rehearsal. Subjects, when imagining, used four different models over the four sessions - one per session. The subjects in the covert modeling condition imagined the scene context, an assertive response, and favourable consequences resulting from the response. The second group, the behavioral rehearsal group, were shaped, coached, and given feedback while rehearsing assertive responses. If it was necessary, a subject would also see a model perform assertively. Self-report measures included the RAS and the WLAS. The behavioral assertiveness test (BAT-R) (Eisler, Hersen, Miller, and Blanchard, 1975) was used for assessment purposes and also as a training vehicle for treatment. There were 2 in-vivo ratings: (a) adequacy of response and (b) smiles and looking occurrences. Subjects also rated themselves on adequacy of response. There were an additional seven ratings collected from tape recordings of the

interactions: latency of response, duration of reply, ratio of speech disturbances (number of pauses, stutters, and expletives per scene, divided by scene duration), compliance, request for new behavior, praise/appreciation, and overall assertiveness. The program ran for two days, with a day prior for assessment purposes.

Results were positive except for the RAS where a significant decrease in assertiveness was found from day one to day two. The authors suggest that this may have been due to the fact that the RAS is a scaled questionnaire and changes could be due to a more educated self-evaluation of assertive behavior. On the Behavioral Assertiveness Test, results were obtained for both trained and untrained items and for in-vivo and taped measures. Overall improvements for both treatment groups were evident. For example on in-vivo measures with trained items there was increased looking and greater overall assertiveness, while on untrained items there was additionally an effect on increased smiles as well as the effects that were just discussed for trained items. On taped measures (those that were recorded), pertaining to trained items, both treatment groups were rated as displaying more praise, less compliance, and increased overall assertiveness. On untrained items there were different measures which were significant: more requests, longer duration, shorter latency, and again greater

overall assertiveness. Thus, the authors contend, there was evidence of good generalization (Zielinski and Williams, 1979). There was only one measure where experimental groups differed: the covert modeling group responded with longer latency on trained items than the overt group. It is interesting to note that, as previously found in earlier studies, covert modeling was just as efficacious as overt modeling. Indeed the covert group did not all comply with imagining positive consequences (only 23% did), yet was still effective. Zielinski and Williams (1979) suggest in their discussion that the two procedures may be complementary, while approaching the problem in different ways:

> Rehearsal provides an active and focused learning experience, while covert modeling provides a passive albeit effortful learning. Both procedures incorporate an exposure or desensitization factor.
> (p.861)

Kazdin (1979b) investigated the effects of imagery elaboration in covert modeling with non-assertive subjects. The sample included 48 subjects from the local community who met the criteria for inclusion. A validation sample was also included who were given the assessment battery. The validation sample was used by Kazdin to test whether treatment effects were clinically significant. If previously unassertive subjects report after therapy that they are no different from subjects who

feel they have no difficulty being assertive (the validation sample) then treatment can be said to be clinically valid. Treatment stimuli consisted of 35 scenes practiced over four sessions. There were four treatment conditions. The covert modeling alone group imagined a model who was of similar age and of the same sex as themselves. Each treatment scene was presented twice (Kazdin, 1979b). The second group was the same as the first group except that during the second scene subjects elaborated and improvised what they were imagining. In this manipulation subjects were instructed to change the scene in any way as long as the model engaged in assertion. Practice sessions were given with feedback on how to introduce variations in the scene context, in the assertive response, and in the persons involved. The third group imagined only the scene context but also elaborated these scenes. The fourth and final group covertly imagined the scenes and elaborated on them; however the scenes they imagined were ones constructed by the first group. This group will be referred to as the "yoked elaboration" group (CME) (Kazdin, 1979b). Kazdin also assessed adherence to treatment conditions and expectations for therapeutic improvement.

Treatment outcome was assessed via self-report scales, a behavioral role-play test, and self-efficacy measures. The results indicate again that covert modeling

is an effective treatment. On self-report tests (CRI and WLAS) both covert modeling groups scored as being more assertive at posttest than the scene context control group. On the behavioral role-play test (both trained and novel items) the covert modeling groups were rated as more improved on overall assertiveness and on latency to respond, evidence for generalization of training. Self-efficacy measures for both level and strength were included. The level of self-efficacy for both CME and covert modeling alone groups were improved relative to controls. The elaboration of imagined scenes did enhance treatment effects. On the CRI the covert modeling plus elaboration group was more assertive at posttreatment than all other groups. On the behavioral role-play test (both for trained and novel situations) the CME group were rated as more assertive than the covert modeling alone group who in turn were more assertive than the controls. The estimates of the strength of self-efficacy similarly increased for only the CME group which was significantly greater than controls. Multiple comparisons of scores on the CRI revealed that all covert modeling groups were at the level seen in the social validation sample. On overall assertiveness and on latency to respond the covert modeling groups were rated as even more improved than the validation sample whereas the controls were still not rated as high as the validation level. Kazdin (1979b) included a six-month follow-up to assess maintenance of

treatment effects. On the CRI the CME subjects were still more improved than the covert modeling alone condition which in turn was more improved than the control condition. On the WLAS the CME was more improved than the control group only. Thus results indicate that covert modeling is effective and that improvising and elaborating the scenes enhances the efficacy of the treatment.

Kazdin (1980) investigated the effect of scene elaboration on the effectiveness of covert and overt rehearsal in training assertiveness. There were 61 screened subjects solicited by advertisements who participated in the study. Three self-report measures were used: the CRI, WLAS, and a questionnaire which assessed self-efficacy. A behavioral role-play test (ten situations at pre-test, the same ten plus a new ten at post-test) were also used to assess treatment outcome. Training stimuli consisted of five situations in the first session and ten situations in each of three further sessions. All situations were enacted or imagined twice, depending on the condition. There were five groups in the design. The covert modeling alone group subjects imagined a model of same sex and similar age over the sessions. Subjects in the covert group all gave a running commentary of what they were imagining. This was used to ensure adherence to imagery manipulation. The second group, covert modeling plus elaboration (CME), was the same as

group one except subjects were asked to "elaborate and improvise the scene the second time it was to be imagined" (Kazdin, 1980, p.194). Subjects here were given feedback and practice in elaborating the scenes. The third group, the role-rehearsal group, acted out the situation with the therapist. The fourth group was analogous to group three except they enacted the second scene with more elaboration. A fifth group was a waiting-list (delayed-treatment) control group. In addition to the subject's narrating scenes, questionnaires were also given to all treatment subjects to assess adherence to treatment. Two other questionnaires asked subjects about expectancies for improvement and treatment acceptability.

Results support covert modeling's effectiveness and that it was equivalent to overt rehearsal. All treatment groups improved significantly more on self-report questionnaires (pre-post) than the control group but did not differ from each other. On the behavioral role-play test it was found that both treatment groups were rated as more assertive, and displayed shorter latencies than the no treatment control group. All treatment groups increased their level and strength of self-efficacy in pre-post comparisons. Between group comparisons investigated overt - covert differences as well as elaboration - no elaboration differences. There was one measure on which the covert modeling group was more

improved than the overt modeling group (CME group displayed longer response durations) and one measure where the overt group was more improved (the CRI). As in the last paper by Kazdin (1979b), elaboration again improved therapy efficacy. This was shown on a self-report measure, the WLAS, and on three role-play measures, specifically overall assertiveness, response duration, and response latency. The elaboration effect also transferred to novel role-play items. At a six month follow-up covert and overt groups were equally effective on the CRI and elaboration now had a significant effect on the WLAS. Another important point is that the treatment effects were clinically significant in that it brought experimental subjects "up to the level of assertive behavior of subjects who considered themselves to be adept in social situations requiring assertive behavior" (Kazdin, 1980, p. 199).

Kazdin (1982a) compared covert and overt rehearsal used separately with combined use. Sixty-six people were screened and participated in the study. Self-report measures included the CRI, the WLAS, and a scale to measure self-efficacy. A behavioral role-play test was also used. On the role-play test overall assertiveness, latency to respond, and response duration were rated and scored. Treatment stimuli were determined as in Kazdin (1974). There were four groups: (a) covert modeling (two

scenes per session in which the subject imagined the situation while narrating it), (b) overt rehearsal (the two scenes were enacted), (c) a group that combined the two, i.e., the subjects imagined the first scene and then enacted the second scene, and (d) a waiting-list control group.

Results attest to the power of covert modeling. On global self-ratings and on ratings of self-efficacy, all groups improved relative to the no treatment controls. On the behavioral role-play test treatment groups were rated as more assertive than controls. Combining covert and overt modeling did enhance treatment effects. Self ratings of improvement were greater for the combination group than for the covert modeling alone group. The combination group was rated as more assertive than all other groups. On novel situations the combined group was again rated more assertive than other groups. Treatment also brought clients up to the level of assertiveness found in a social validation sample who had received the assessment battery. An eight month follow-up included the CRI and the WLAS. The results were maintained from post-treatment and again the combined group was more improved than the seperate groups who were more improved than controls.

Kazdin (1982b) also investigated the effect that homework has on the efficacy of covert modeling in treating non-assertive behavior. Seventy-nine screened community volunteers served as subjects. A validation sample was also included each of whom were given the assessment battery. Thirty-five situations that served as treatment stimuli were spread over four sessions. There were five treatment groups: (a) covert modeling in which subjects imagined a model similar to themselves for two scenes in a session while narrating these scenes as they imagined them; (b) covert combined with overt modeling (CO), in which the first scene was imagined and the second was enacted; (c) a covert modeling plus homework group (CH); (d) a group like (b) which engaged in homework (COH); and (e) a waiting-list control group. Adherence to treatment and expectancies for improvement were also assessed. Homework consisted of having the subject identify three personally relevant situations in which they could respond assertively. The subjects were instructed to practice these three situations three or more times each between sessions.

Treatment outcome was assessed via self-report, global self-ratings, and a behavioral role-play test. Covert modeling was found to be effective compared to no treatment. On the CRI and the WLAS all treatment groups were more assertive at posttest than the controls. All

groups improved on the global self-ratings from pre to posttest. All treatment groups were more assertive and had shorter latencies to respond than the control group on behavioral role-play tests (both trained and untrained items). Overt rehearsal enhanced treatment effects on two self-report scales (CRI and WLAS). Homework also improved therapy, as shown by improved scores on the same two scales. The effect of homework transferred to novel role-play situations, specifically the homework group was judged as more assertive. More importantly, however, an interaction effect was evident for some measures. The COH group was more improved than all other groups on the WLAS and on the behavioral role-play test (overall assertiveness and shorter latencies). All treatment groups except the covert modeling group were equal to or greater than the social validation sample on the assessment scales at posttest. The COH group were at least one standard deviation above this validation sample. An eight month follow-up using the CRI and the WLAS showed that the groups who engaged in overt modeling or homework were still more assertive than other groups. To summarize: covert modeling was found effective, the addition of overt modeling and especially homework enhanced treatment efficacy. Homework groups were consistently superior on outcome measures (Kazdin, 1982b).

The last study to be reviewed used psychiatric patients instead of college or community volunteers as subjects. Hersen, Kazdin, Bellack, and Turner (1979) investigated the effects of rehearsal in enhancing covert or overt modeling's effectiveness. Fifty psychiatric patients were selected to serve as subjects, providing they met the criterion of a score of 19 or less on the WLAS. There were ten subjects in each of five conditions: (a) test-retest (no-treatment), (b) live modeling plus rehearsal (subjects watched a model and then practiced the scenes), (c) live modeling without rehearsal, (d) covert modeling with rehearsal (subjects imagined the scene and then practiced), and (e) a covert modeling without rehearsal condition. Four training scenes and four generalization scenes were used from the Behavioral Assertiveness Test- Revised (BAT-R) (Eisler, Miller, and Blanchard, 1975). These training scenes were administered six times each over a one week period. Rehearsal groups were administered four extra trials in which they practiced the scenes. The first and last set of training scenes were videotaped and rated on the following: eye contact, response duration and latency, smiles, intonation, compliance, requests, physical gestures, and overall assertiveness (Hersen et al., 1979).

The results of the experiment confirm that covert modeling plus rehearsal and live modeling plus rehearsal were effective treatments. One or both of these groups were rated as more improved than the control group on the following measures: number of requests, intonation, and overall assertiveness. Covert modeling and overt modeling alone were also effective but rehearsal did enhance therapy. At posttest the covert modeling plus rehearsal group did better than all other groups on behavioral ratings of eye contact on both trained and generalization scenes. The covert modeling plus rehearsal group also displayed more gestures than the test-retest, live modeling, and live modeling plus rehearsal groups. All treatment groups evidenced longer responses, less compliance, and greater overall assertiveness than the test-retest group on generalization scenes. All of the previous studies used analogue populations (i.e., community volunteers or college students) as their subjects; yet we see here covert modeling was efficacious with "patients whose level of impairment, cognitive skills, and education are considerably different from college students" (Hersen et al., 1979, p.376).

SUMMARY AND CONCLUSIONS.

The previous review contains ample evidence for the efficacy of covert modeling and covert rehearsal in the treatment of unassertive behavior. Consistently, groups who were exposed to the treatment did better than well matched control groups. The evidence suggests that for the treatment to be minimally effective, subjects had to imagine a person they knew, or themselves, in a particular context, acting assertively. Some researchers compared covert modeling with overt modeling, some added various extra components to the basic regime discussed above to see if it would enhance treatment effectiveness, and some did both. In sum covert modeling or rehearsal has been found to be as effective as overt modeling on most outcome measures. Of the studies that investigated various parameters and components to see if these would enhance treatment the following conclusions were supported: imagining many models was more effective than imagining a single model; imagining that the model received favourable consequences after the assertive response was more efficacious than if no such consequences were imagined; giving a verbal summary of the scene resulted in greater treatment gains then not giving a summary; imagining an antagonist situation succeeding an assertive response so that one had to persist in being assertive was found to enhance therapeutic effectiveness; and finally, one study

found combining covert modeling with overt modeling did improve treatment more than covert modeling alone. Given the findings discussed above one should combine the components investigated in the studies to create a maximally effective package.

From the forgoing review one can also conclude that there are still more unanswered questions concerning the efficacy of covert modeling and covert rehearsal in treating actual clients with social anxiety or unassertive behaviors. Kazdin, among others, have investigated the effect of adding specific components to the covert modeling regime in an effort to better map out what maximizes treatment. All of the studies reviewed used a between groups design, comparing various treatment groups with matched controls. In these studies all groups received standardized treatment stimuli. For example, all subjects were exposed to the same training scenes regardless of what their specific personal problem was. There was the study by Rosenthal and Reese (1976) which did use tailored hierarchies but the problems inherent in their study have already been mentioned in the review. Finally, all except for one of the studies (Hersen et al., 1979), used analogue populations as subjects (college students or community volunteers who met certain criteria). This introduces the long standing argument of whether or not analogue populations are equivalent to

clients referred for therapy. Another important point is the one of standardized treatment stimuli across subjects. This is needed of course in the between groups design for control, however it does diminish the individuality of therapy. Practicing clinicians usually fit their treatments to the individual client. Treatment goals, behavioral targets, and hierarchies or the like are conjointly constructed by the therapist and client so that therapy is made unique and personally relevant.

The present study attempted to address at least the two issues of subject selection and of individualizing therapy. To address this problem the present investigation used subjects who fit specific criteria, who feel their problem centers on social anxiety, and who were referred by psychiatrists.

The deficiency in the studies reviewed is that all use the same treatment stimuli for all subjects across experimental groups. In other words, subjects were not treated with individualized therapy. For instance, in many of the studies subjects were trained on the same scenes taken from the standardized BAT and BAT-R (Eisler, Miller, and Hersen, 1973 and Eisler et al., 1975). The present study attempted to duplicate more closely what actually happens between a client and therapist (i.e., individually tailored treatment). It was hoped that the study would show covert modeling / rehearsal to be

effective in changing behavior in real-life situations. The two main hypotheses tested were: (a) that covert modeling / covert rehearsal is an effective treatment; because only after training does subjective discomfort decrease, and (b) that subjects show changes on self-report and self-efficacy measures which are in improved directions over the course of treatment.

METHOD

Subjects.

The subjects for the study were referred by psychiatrists living in the St. John's area. These subjects were selected to meet the following criteria:

1) Major problem in the social anxiety / social skills area.
2) 18 years of age or over.
3) Not diagnosed as suffering from depression, organic brain syndrome, or psychosis.
4) Not prescribed any new psychoactive drugs during the course of the study. If the person was currently taking such drugs they had to have been taking them for four weeks.
5) Willing to participate in the study. Presented as separate contract and consent forms (see appendix A and B).
6) Able to delineate up to three behaviorally specific problems (henceforth called "tasks") which occurred at a frequency of not less then three times a week.

Design.

The project employed a single-subject multiple - baseline design staggered across the three tasks that were delineated in assessment (see Herson and Barlow, 1976, and Stravynski, 1984). With this design the three problems were treated sequentially. The first stage of the design was a baseline phase in which pretreatment monitoring occurred. After the baseline, treatment began on the first task. When significant positive changes were seen

in subjective discomfort, treatment was initiated for the next task. These changes were determined using Tryon's "C" statistic (1982). This statistic can be applied on as few as eight data points and it can determine whether or not the baseline has stabilized and whether or not there were significant shifts in the data relative to the baseline. The multiple-baseline design was used for one main reason: having the length of baseline increase for successive tasks permitted the ascertainment that effects were due to covert modeling and not due to some extraneous variable.

Treatment outcome measures.

Self monitoring measures. The main outcome measures were obtained from daily diaries that subjects completed throughout the course of treatment. Subjects were given explicit instructions on how to fill out these diaries (appendix C). The information extracted from the daily diaries included: which, if any of the three targeted situations occurred; what happened, where and with whom; how the subject responded, thought and felt; and finally the experienced level of discomfort on a 100 point scale. From this information data such as frequency of encountering a situation and level of discomfort can be deduced. These data served as both process and outcome measures.

Self-report scales: Three self-report scales were included as initial assessment and as treatment outcome measures. These three pencil and paper scales each measure a different aspect of interpersonal behavior.

The Wolpe-Lazarus Assertiveness Scale (WLAS) (Wolpe and Lazarus, 1966) asks whether or not one would behave assertively in 30 situations for which an assertive response is appropriate. The WLAS has been used in several studies of covert modeling; therefore it was used in the present investigation as an outcome measure to permit comparison with other studies. The WLAS was initially designed as a clinical tool to screen potential clients for assertiveness training. However, Hersen, Bellack, Turner, Williams, Harper, and Watts (1979) reported that the WLAS was internally consistent and had acceptable split-half (KR 20 r=.784) and test-retest (one week r=.653) reliability. Eisler et al. (1973), found that the WLAS did differentiate subjects whose behavior was judged as being high or low in assertiveness.

The Social Avoidance and Distress Scale has 28 true/false items which assess social anxiety, distress, and avoidance. It is a more general test of social functioning than the WLAS. This test has been found to have sufficient homogeneity (r between two sub-scales = .75, KR-20 r= .94), reliability (test-retest of one month r= .68), and good construct validity (Watson and Friend,

1969). Specifically, people who scored high on the Social Avoidance and Distress Scale tended to avoid social interaction, to work alone, to report they talked less and to be more worried and less confident about social relationships (Watson and Friend, 1969). Arkowitz (1981) states that the SADS does not appear to be useful for diagnostic information but the total score "seems useful as a general index of social anxiety and avoidance" (p.309).

The Social Performance Survey Schedule (the SPSS) was initially devised to provide researchers and clinicians with a more comprehensive analysis of a variety of specific social behaviors (Lowe and Cautela, 1978). The SPSS includes 100 descriptions of social behaviors. The frequency of each of these behaviors can be rated by the subject or a third party. Scoring is via a five-point Likert-type scale ranging from "not at all" to "very much". Lowe and Cautela (1978) also reported a test-retest (four weeks) reliability of .87 with very good internal consistency (Coefficient alpha = .93). A recent study by Miller and Funabiki (1983) which assessed the predictive validity of the SPSS has shown that the scale reliably differentiated high socially competent college students from low socially competent college students. The SPSS assesses specific social behaviors and thus has greater behavioral specificity than most other

questionnaires of interpersonal functioning (Arkowitz, 1981). Furthermore Arkowitz goes on to suggest that the SPSS would be useful in treatment planning, whereas the SADS would be more useful as a screening and outcome measure. Because of these points made by Arkowitz (1981), it was decided to include the SPSS and the SADS rather than either one alone.

These three measures, the WLAS, the SADS, and the SPSS, were used as pre - post outcome measures and at follow-up. They were given at initial assessment, at the end of treatment, and finally at follow-up.

One of the criteria for inclusion was that the subjects were not diagnosed as suffering from depression. It was therefore decided to administer the Beck Depression Inventory to all subjects at the time of assessment, at the end of treatment, and at follow-up. It was given at the assessment stage to help in the decision of whether or not to include the subject in the project. The Beck was also given at post-intervention and at follow-up to investigate changes in self reported depression occurring over treatment.

Bandura (1982) has stated that self-efficacy, or self confidence that one can perform a particular task, is the best predictor of behavioral change. Self-efficacy ratings were included therefore as an additional outcome

measure. Subjects made self-efficacy ratings on each of the tasks. The tasks were arranged on cards and subjects were asked whether or not they could complete each task and if they could, what was their level of confidence that they could (0 to 100 % confident). These ratings were made on all of the tasks at the end of the assessment session, at the end of the baseline period, at the beginning of each treatment session, and at the end of treatment.

Simulated Social Interaction Test. In addition to self-report measures, subjects were also directly observed during eight interactions which were staged at the clinic using a confederate. These eight interactions were videotaped at the end of the assessment and repeated again at the end of the last treatment session. Before the interactions occurred the therapist stated that: "In order to help in assessing your problem I would like to have some examples of you interacting with other people. Presently I have two (or possibly 'one') person(s) professionally associated with the psychology clinic (given title of person(s) involved) to come and be confederates during eight short interactions. These interactions will be viewed by two professional psychologists who will be shown tapes of other people including yourself. I just want you to respond in the way you would if the situation were real". The subject then

read and signed the consent form for the videotaping (see appendix B). The subject and confederate(s) completed the interactions under the direction of the therapist. These interactions were taken from the Simulated Social Interaction Test (SSIT) (Curran, 1982). This test is a standardized behavior assessment procedure. Trained judges, using a procedure adapted from Curran (1982), rated subjects on each of the eight interactions from the SSIT. Ratings were made by these judges on one global measure, that of "social competency".

Goal Attainment Scaling Procedure (GAS). When the three tasks that were targeted for treatment were specified each was written on a card with three levels: the usual behavior in the situation (i.e. failure); the minimal effective response; and the desired optimum level that was to be aimed for. These levels were decided upon by the therapist and the subject. At the end of treatment subjects were shown their three levels and were asked to indicate at which level they felt they were behaving. This procedure was adapted from Hammen, Jacobs, Mayol, and Cochran (1980)

Procedure.

A treatment manual of specific procedures which occurred during the first practice session and all subsequent treatment sessions has been written (appendix

c).

Each subject was interviewed by the experimenter at least twice. During initial assessment a behavioral formulation of the problem was initiated . If the subject met the inclusion criteria, an attempt was made to specify the subject's problem area(s) (i.e., did the major problem(s) center on the social anxiety / non-assertiveness domain and were there any other serious problems outside of interpersonal dysfunction). During the end of the initial assessment sessions the Beck Depression Inventory, the WLAS, the SADS, and the SPSS were given. Questions asked during these interviews centered on the interpersonal domain where the subject had trouble. Information was gathered concerning what, in specific, were the personally relevant and important problems that the subject was having. What were the antecedents and consequences that provoked and maintained the behaviors? When, where, and with whom did each problem occur? Also the subject was questioned about whether or not there was discomfort present during, before, or after the occurrence of the situation and, if so, was the discomfort of a somatic or ideational nature (i.e., upsetting or irrational thoughts versus sweating, fast heartbeat, etc.).

At the end of assessment the subject was then given an explanation of how to complete the daily diaries and a rationale and outline of the treatment program with the contract/consent forms to read and sign (appendix A and B). A definition of assertive behavior was then given to the subjects (Rimm and Masters, 1979, p.69). The next step required the subject and the therapist to select up to four models that would be used during the treatment. The models were selected who could best meet the following criteria: (a) similar age, and the same sex as the subject, and (b) someone who the subject felt could confidently complete the three problem situations. When the subject was sure he or she understood all that was required, a practice scene was completed which was unrelated to the subject's problems. The subject practiced imagining the neutral scene so that he or she could become more accustomed to the treatment procedure that would be used throughout the study. The subject and the therapist first [illegible]ded upon an assertive response for that particular situati[illegible] The subject was then asked to imagine one of the models previously selected during this practice session completing a situation which required an assertive response but which was not a problem for that particular individual. The subject was also given feedback during practice to enhance the imagined scenes. This practice was repeated until the subject was imagining all of the important aspects of the scene. For a more

detailed account see the treatment manual. The subject was again reminded of the importance of the diary and to complete it as was earlier instructed. Finally the subject gave self-efficacy ratings on all three tasks and engaged in the SSIT.

The subject returned approximately one week and the diary was collected and briefly reviewed to ensure completion and to discuss the specifics of each situation (i.e., frequency of occurrence, were there any changes, what happened, etc.). The scenes were then reviewed to help make the covert treatment as practical and as realistic to the subject as possible. Once reviewed, treatment began using only the first task as the imagined scene. Which was to be the first task was decided using these criteria: (a) the task that had best stabilized over baseline and had at least eight data points, (b) the task that was deemed as not too difficult, and (c) the task that the subject wanted to work on first. First the therapist and the subject decided upon an appropriate assertive response for that particular situation. The imagined scene had three phases: (a) the context of the situation (finger raised when clear); (b) an assertive response (finger raised when completed); and (c) a positive consequence (again finger raised when clear). The subject then orally summarized each scene. These summaries were tape-recorded to permit a check that all

the important phases that were supposed to be imagined were imagined. After each scene presentation the subject rated its vividness on the scale taken from Sheehan's (1967) Questionnaire Upon Mental Imagery. The scene was imagined up to five times. On the first trial one of up to four models, previously selected, was imagined (i.e., different people were imagined for each of the scenes). Note that some subjects could supply fewer than four models. If this was the case then some models were imagined more than once. On the last scene, the fifth, the person imagined himself-or herself instead of the model. The scenes were then repeated another one to five times except on these presentations an antagonistic response was included in each scene after the first assertive response. Then a second assertive response was imagined, and a positive consequence to this response. Otherwise the second set of trials was the same as the first set. This makes up to ten scene presentations in total during each session. All subjects received from two to ten scenes per session. Differences in the number of scenes occurred because of time constraints. Any other problems pertaining to treatment were then discussed. Finally the subject was asked to keep monitoring as during baseline and if confronted with the problem situation he or she was instructed to rehearse the scene in the imagination as in therapy prior to entering the situation. The subject was further instructed to behave in the

situation as he or she had in the imagined rehearsal.

Approximately one week later the subject returned, the diary was re-assessed and self-efficacy ratings were completed. If obvious gains had not been met a discussion took place concerning the problem(s) (i.e., were the scenes appropriate, were they rehearsing the scene prior to the occurrence of a situation, were they consistently imagining all of the important phases, etc.). Covert treatment was again repeated for task one as in the first period of treatment (unless scene modifications were deemed necessary to potentiate change, as discussed above). If statistically significant gains were met (as discussed in the design section), then covert modeling / rehearsal was implemented for the next task. Subjects returned in the following week, and the diary was again re-assessed and efficacy statements were made on all tasks. If adequate gains were met, then covert modeling / rehearsal was now implemented for the second task. If statistically significant gains were still not met, appropriate modifications were again made and the first task was treated for a third time. When subjects returned on the next week the diary was again assessed. If significant gains were still not evident, the subject was re-referred. These procedures were repeated for the other two tasks. Thus all three problems were given three treatment sessions to show appropriate change.

Once task three was successfully treated, therapy was terminated. At this time subjects rated the level at which they thought they were presently behaving for all three tasks. These levels refer to the Goal Attainment Scaling procedure (GAS) discussed in the measures section. Subjects were given (or subsequently mailed) the WLAS, the SADS, the BDI, and the SPSS to complete. Another set of these four tests was given to subjects to complete and return one month after treatment had ended.

RESULTS

In many of the single case experimental designs presented in the literature the data are subjected to a visual analysis only. Kazdin (1976c) gives arguments both for and against the use of statistics in single case research. He argues that statistics may be used if there is intra - subject variability, possibly caused by lack of experimental control (i.e., when the subject records data in the natural environment, as was the case in the present study). Tryon (1982) has argued that more confidence can be placed in the data when one has a statistical procedure that can complement and aid visual analysis. Using as few as eight data points, the "C" statistic, reported by Tryon (1982), can evaluate whether a set of data are stationary, with no significant increasing or decreasing trend, or whether it is not stationary, indicating a trend. The C statistic can easily be applied to the single case design. Data are collected until there is a stable baseline (no trend), an intervention is then applied and when enough data are collected it can be appended to the baseline data. The resultant aggregate of data is re-analyzed to see if a trend has emerged.

The C statistic was completed on each task for each subject provided that there were at least eight data points. Baseline data were collected until a final

segment of at least 8 data points in length on one task was found to be stable (the C statistic was non-significant).

Five individual cases are discussed. Each case is a replication of the same experimental design although some are more complete than others due to one or more of the following reasons: subject's non-compliance with data collection, irregular attendance, or opting to terminate early in the treatment period because the subject felt enough gains had been met. Some subjects did not complete the SSIT because of scheduling problems. Three of the five cases are complete with at least two tasks sequentially treated; two of the five have three tasks completed. These differences occurred because some subjects felt recovered on all three tasks when just one had been actually treated. Each case will be reviewed separately.

Subject One.

This subject was a 24 year old, single female. She was seen for 17 sessions in all. Her initial complaint was that she found it difficult to be assertive and felt she would be excessively compliant in certain situations. She also reported difficulty talking to people at parties and would not usually attend them alone. Her goals were initially to have more self-confidence in meeting people

and to be less nervous in certain social situations. She also wanted to be more independent in making decisions and more comfortable expressing her feelings and opinions. At the end of assessment we decided to work on the following three problems (tasks): (a) Task 1; starting conversations with strangers and new acquaintances, (b) Task 2; expressing feelings and opinions to others, and (c) Task 3; standing up for her rights and making reasonable requests. Table 1 shows the pre-intervention, post-intervention, and follow-up data on the self-report questionnaires for the subjects. One can see that Subject One displayed appreciable change toward recovered levels at post-intervention. Specifically, her scores on the SPSS increased from 207 at pre-intervention to 251 at post-intervention. This represents a move from almost three standard deviations below the mean ($z = -3.2$) to one and one-half standard deviations ($z = -1.65$) below the mean score obtained by the female sample reported by Lowe and Cautela (1978). Her score on SADS decreased from 24 to 8 at post-intervention. This represents a substantial decrease in social avoidance and distress from two standard deviations above the mean ($z = 1.9$) on this test to a score close to the mean ($z = 0$). Pre - post measures on the WLAS also revealed a dramatic increase in the assertiveness score from 5 ($z = -1.9$) to 19 ($z = .7$), an increase of 2 1/2 standard deviations.

TABLE 1

Pretreatment, posttreatment, and follow-up scores on self-report measures

SUBJECT	SPSS			SADS			WLAS			BDI		
	PRE	POST	F-U	PRE	POST	F-U	PRE	POST	F-U	PRE	POST	F-U
1	207	251	265	24	8	8	5	20	19	19	1	0
z score	-3.2	-1.6	na	1.9	0	na	-1.9	0	na		na	
2	217	298	310	28	5	2	4	27	30	30	1	0
z score	-1.8	.6	na	2	-.7	na	-2.1	1.9	na		na	
3	214	222	na	24	24	na		na		21	31	na
z score	-1.9	-1.7	na	1.6	1.6	na						
4	280	372	335	25	0	0	5	28	19	16	0	0
z score	0	2.9	na	1.7	-1.4	na	-1.9	2.1	na		na	
5	249	na		16	na		7	na		21	na	

na = not available or not applicable

Note: z scores presented represent how many standard deviations the individual score is from the mean of reported samples.

Eisler et al. (1973) found that the average WLAS score of subjects rated as "highly assertive" was 18.7, whereas those rated as "low assertive" scored 13.5. Additionally the BDI score fell from 19 to 1 at post-intervention. The effects seen at post-intervention were maintained at a one month follow-up.

Self-efficacy measures were also obtained during almost all sessions. For all three delineated tasks the subject felt able to do the tasks throughout therapy, however the confidence levels, which were very low at the assessment phase, dramatically increased over the course of treatment. The mean confidence level for the three tasks at baseline was 21.6%; at mid treatment it was 47.6%; and at the end of treatment it was 76.6%. Finally, using the Goal Attainment Scaling procedure (GAS) the subject felt at the end of treatment she had reached her "goal state" for two of the three tasks. For the third task she felt she was at the "minimally acceptable level tending toward the goal level".

This subject was assessed on the eight role-play situations from the SSIT (Curran, 1982) at the end of assessment and at the end of intervention. Two clinical psychologists served as judges for these behavioral tests. The videotapes were played in random order so that the judges could not tell the time of assessment. Both judges rated subjects One and Two on a global measure of social

competency by means of a scale on which 0 indicated low social competency and 10 indicated high social competency. Agreement (correlation coefficient) between the two judges was .72 (Pearson r) for the thirty-two ratings of social competency. For subject one, the mean social competency score at initial assessment was 5.0; at post-intervention it increased to 7.7 on the ten point scale.

The tasks were sequentially treated. The baseline in task one (see Figure 1) has a mean of 43.1 (s.d. = 31.6) for peak subjective discomfort (henceforth called SUDS) and is relatively stationary ($Z = 1.48$, n.s.). When intervention on this task was completed the mean SUDS had decreased (mean = 26.05, s.d. = 19.9) and a significant downward trend was now evident ($Z = 2.7, p < .01$). The longer baseline in task two did not show an appreciable trend for the last 9 of 12 data points ($Z = .027$, n.s.) with a mean of 46.67 (s.d. = 14.49) on the SUDS. After intervention on task two a clearly significant downward trend appears ($Z = 4.22$, $p < .01$) with an overall treatment mean for the SUDS of 23.25 (s.d. = 13.). The longest baseline (4 months) was in task three. Analysis of all data points show no significant trend ($Z = 0$, n.s.) with a mean of 46.8 (s.d. = 22.5) for the SUDS. However, when post-intervention data are included a significant downward trend appears ($Z = 1.65$, $p < .05$) with a mean SUDS of 15 (s.d. = 5.48). Thus for subject One

improvement occurred when and only when treatment was directed at a problem.

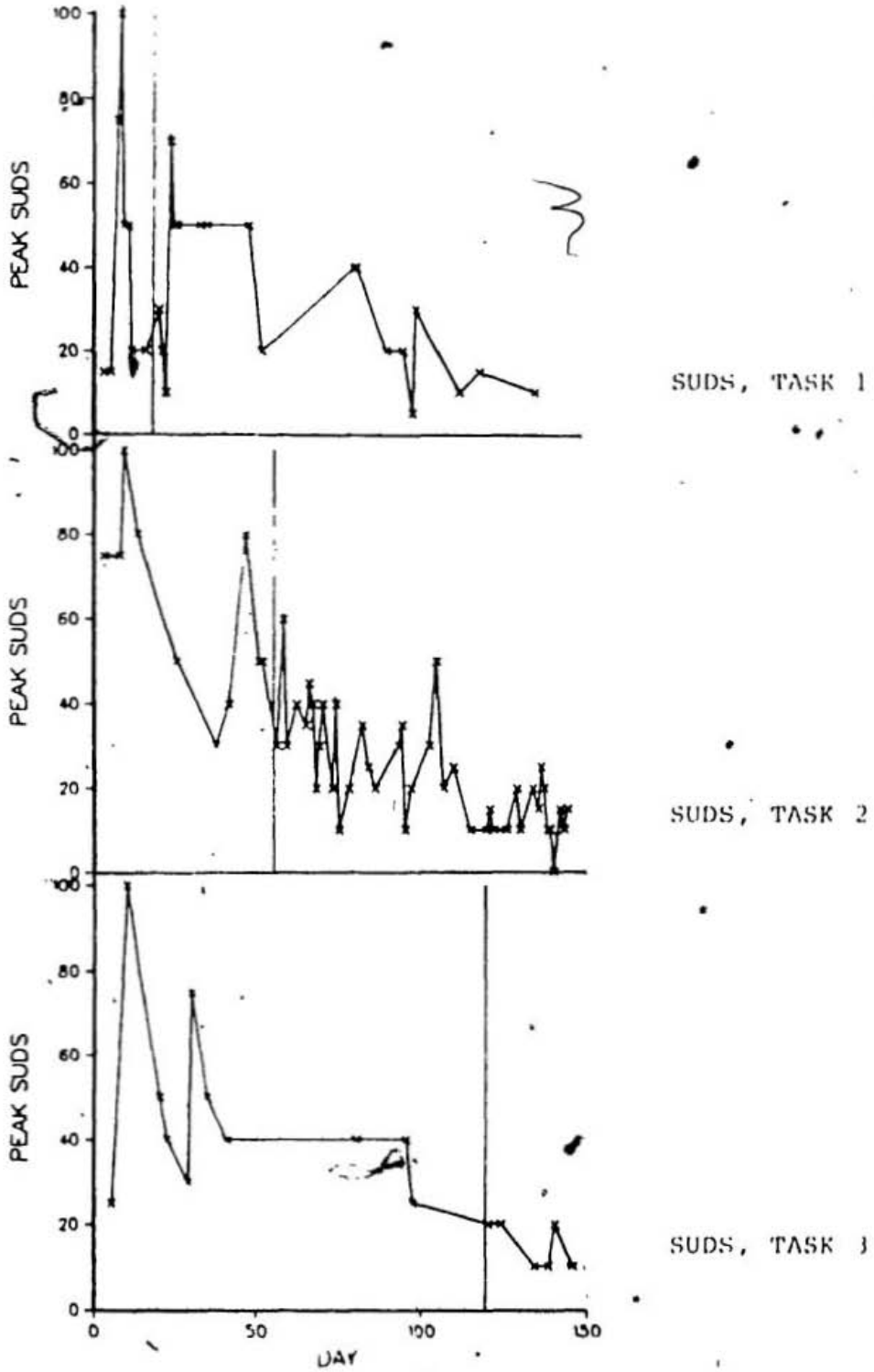

Figure 1. Peak subjective units of distress experienced by subject one on tasks one, two, and three.

Subject Two:

This subject was a 22 year old, single male who was seen for 16 sessions. He reported always having had difficulty meeting new people, even since childhood. He had just ended a long relationship which had become emotionally unsatisfying. His initial BDI score indicated a moderate level of depression. He felt that because he was now more independent he wanted to socialize more but found it very uncomfortable. The three tasks we delineated were: (a) Task 1; engaging in conversations with new acquaintances and with relatives he was not close to, while remaining calm, (b) Task 2; comfortably initiating conversations with strangers in public places, and (c) Task 3; starting conversations with close friends. During the course of the [illegible] there was an increase in depression (BDI = 40) and time was taken to treat this problem. Depression subsequently decreased and was at minimal levels at post-intervention and at the one month follow-up (BDI = 1 and 0 respectively).

All self-report measures show improvements from pre-intervention to post-intervention (see Table 1). Specifically, SPSS scores increased from 217 to 298. This represents an increase in self rated social performance from two standard deviations (z = -1.87) below the mean reported college sample to almost one standard deviation (z = .62) above the mean. On the SADS, the subject at

pre-intervention hit the ceiling of 28 indicating high avoidance and distress. At post-intervention his score was 5 ($z = -.77$) and at follow-up it was 2 ($z = -1.14$). These scores are approximately one standard deviation below the mean of the reported sample (Watson and Friend, 1969) and indicates little avoidance or distress in typical social situations. On the WLAS the assertiveness score rose from 4 ($z = -2.1$) at pre-intervention to 27 ($z = 1.96$) after intervention. This represents a large shift of four standard deviations toward increased assertiveness.

Self-efficacy data are also available for this subject. At baseline the subject felt 70% confident that he could complete task one and 35% confident he could complete task two. However he felt that he could not complete task three. At the end of intervention he felt he could complete all three tasks. The post-intervention confidence levels for the three tasks were 90%, 80%, and 85%, respectively. This subject was also assessed on the SSIT before and after intervention. He obtained a rating of 4.1 on social competency at initial assessment, this increased to 7.4 at post-intervention.

Three tasks were sequentially treated. The first baseline in task one has no appreciable trend ($Z = 1.45$, n.s.), mean SUDS was 78.8 (s.d. = 19.49) for this baseline phase. Treatment data reveals significant

downward trend ($Z = 6.25$, $p < .01$), mean SUDS was 18.40 (s.d. = 16.8). The last 11 of 12 data points in the baseline of task two has no significant trend and neither does the baseline in task three ($Z = 1.23$ and 1.58, n.s., mean SUDS of 50 and 37.33 respectively, s.d. = 22.2 and 20.6, respectively) (see Figure 2). Inclusion of post-intervention data shows a downward trend for the SUDS on both tasks two and three: for task two, $Z = 2.47$ ($p < .01$) and the mean SUDS was 14 (s.d. = 10.8); for task three, $Z = 3.67$ ($p < .01$) with a mean SUDS of 8.5 (s.d. = 5.8) after intervention.

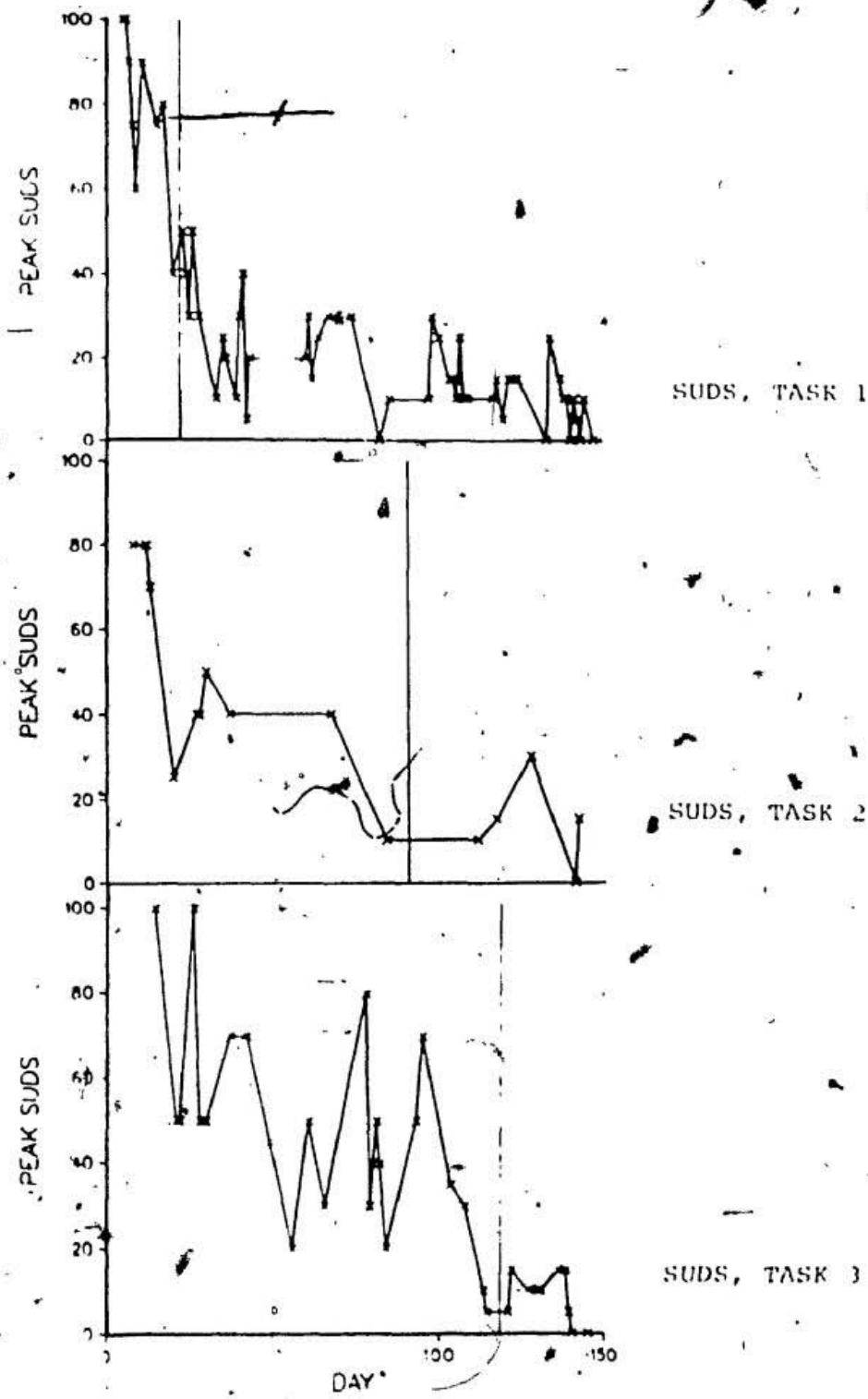

Figure 2. Peak subjective units of distress experienced by subject two on tasks one, two, and three.

Subject Three.

This client was a 24 year old single male. He was seen for 10 sessions. He initially reported having difficulty getting emotionally close to people and difficulty expressing his feelings and opinions. He reported being critical of himself when interacting and felt he was the center of attention in crowds or in class. These situations made him very nervous. He felt he would like to be more spontaneous, assertive, and relaxed when interacting socially. We planned to intervene in three problem situations but only the first two were actually treated since the third rarely occurred. The three were: (a) Task 1; starting conversations with classmates in the cafe, (b) Task 2; remaining calm in class, and (c) Task 3; starting conversations with co-workers. The pre-intervention / post-intervention comparisons of the self-report questionnaires are shown in Table One. These comparisons indicate a small improvement in the SPSS score but a concurrent increase in the BDI score, indicating more depression. However, both self-efficacy measures and the subjective discomfort measures show improvement. The self-efficacy measures at baseline assessment indicate that the subject felt able to complete tasks one and three but was only 10% confident. For task two the subject felt that he could not complete the task comfortably. At post-intervention the subject now felt able to do all

tasks. The respective confidence levels for each task at post-intervention were: 50%, 70%, and 60%.

Two tasks were treated (see Figure 3). Baseline measures on task one indicated no trend ($Z = .075$, n.s.) with a mean SUDS of 82.2 (s.d. = 13.8). Following intervention a significant trend appeared with SUDS decreasing toward recovered levels ($Z = 4.36$, $p < .01$) with a mean SUDS at this phase of 37.3 (s.d. = 7.98). On the second task, the baseline was actually rising with an overall mean SUDS of 65.8 (s.d. = 37.52). There were too few data points here to calculate a Z value. Following initiation of treatment the mean SUDS level dropped ($Z = 2.84$, $p < .01$, mean = 30, s.d. = 0). Thus the increasing baseline has changed to a significant downward trend only after intervention. This represents a considerable change in the amount of subjective distress experienced. Using the GAS procedure, at post-intervention the subject reported that he had not only reached the "minimally acceptable level" for all three tasks but that he was progressing toward the goal level for each task.

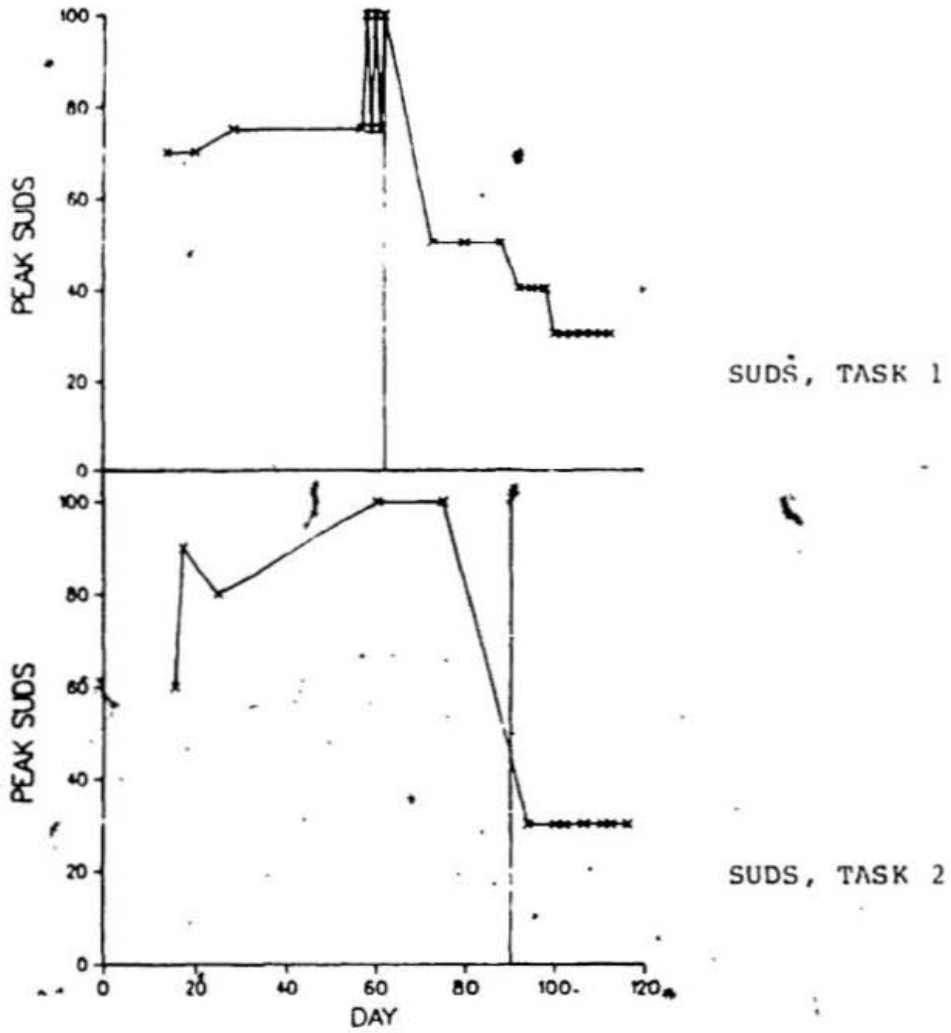

Figure 3. Peak subjective units of distress experienced by subject three on tasks one and two.

Subject Four.

This subject was a 29 year old male, recently divorced. He was seen for eight sessions. Initially he reported having difficulty in arguments with his ex-wife, difficulty in being assertive in demanding reasonable service, and difficulty in meeting and dating females. He reported that being turned down by women was very upsetting and that he avoided attempting to get a date for long periods of time. The three tasks that we delineated at the end of assessment were: (a) Task 1; starting conversations with females and asking them for dates, (b) Task 2; being assertive with employees and his ex-wife, and (c) Task 3; being assertive in situations in which he would like to request adequate service or complain.

The self-report questionnaires show a dramatic change toward recovered levels at post-intervention (see Table 1). The pre-intervention score on the SPSS was 280 (z = 0) the post-intervention score was 372 (z = 2.9). This represents an increase in self rated social performance of almost three standard deviations on this questionnaire (from being at reported mean to two S.D.'s above the mean). On the SADS this subject's pre-intervention score was 25 (z = 1.7), the post-intervention score 0 (z = -1.4). This represents a decrease in social avoidance and distress of more than three standard deviations. On the WLAS, pre-intervention scores increased from 5 (z = -1.9)

to 19 ($z = 2.1$). This represents a change of four standard deviations toward increased assertiveness. There was a decrease on the BDI from 16 (mild) to 0 (none) at post-intervention. Self-report data at four months follow-up indicate maintenance of treatment effects seen at post-intervention.

Referring to Figure 4, one can see that for the baseline on task one the mean SUDS was 61.25 (s.d. = 18,43) whereas the post-intervention mean was 31.25 (s.d. = 34.24). The mean SUDS has dropped with treatment. However, if one analyzes the overall eight data points for the presence of a trend, none was evident ($Z = 0$, n.s.). If one concurrently looks at task two which was not treated, the individual SUDS actually increased a little but the overall mean remains close to the level of the SUDS seen during task one's baseline (mean = 60.6, s.d. = 15.7). Task three similarly remains high except for the final datum indicating a decrease in SUDS level. Mean overall SUDS was 66.67 (s.d. = 32.5). Thus, there is some evidence of improvement dependent upon intervention but it is not as clear as the first three subjects.

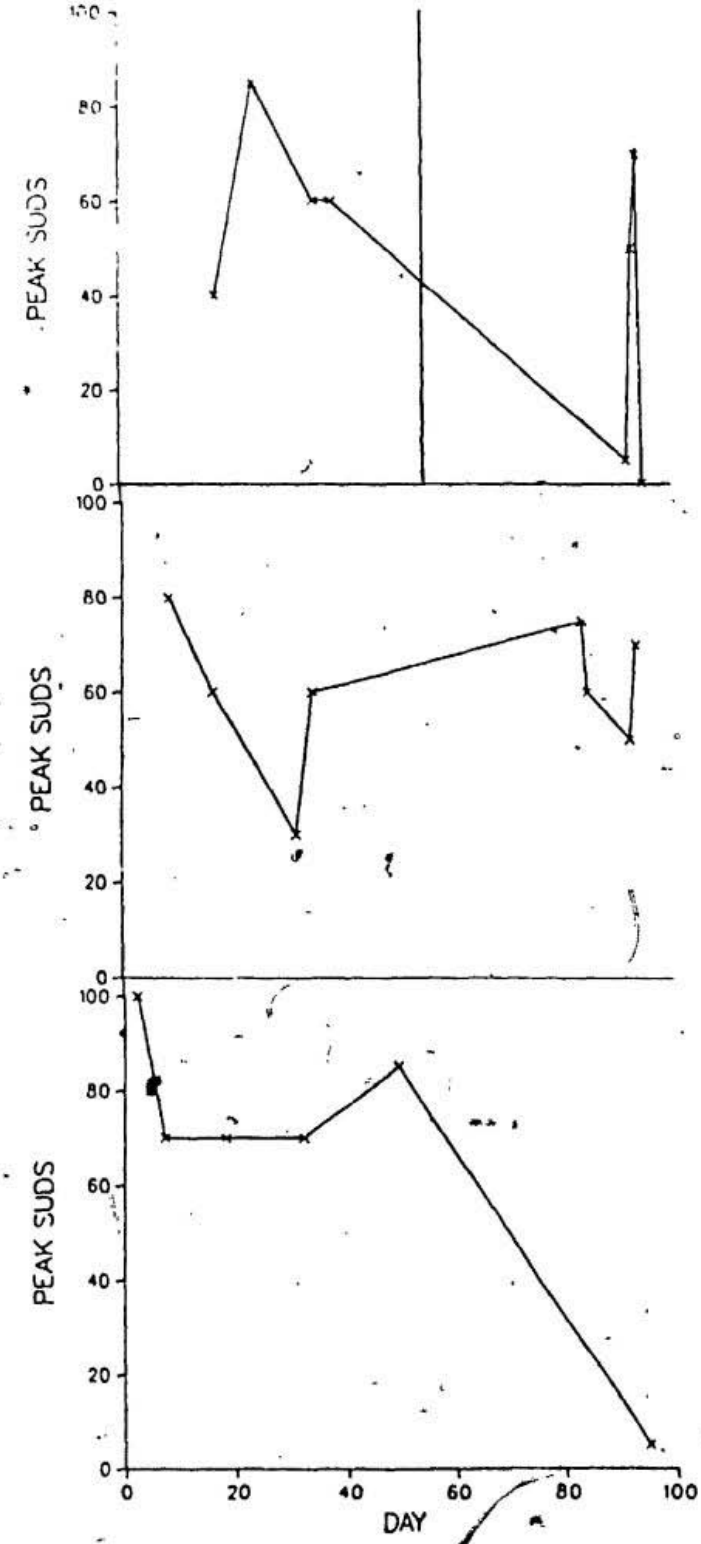

Figure 4. Peak subjective units of distress experienced by subject four on tasks one, two and three.

Subject Five

This subject was a 22 year old, single male who was seen for 18 sessions. He initially presented two problems: excessive nervousness in job interviews and when speaking in public. However, these two problem situations rarely occurred so that upon further assessment we decided to focus on three frequently occurring problematic situations: (a) Task 1; starting conversations with females and asking them for dates, (b) Task 2; expressing disagreement in conversations, and (c) Task 3; expressing his feelings and opinions in conversations. Post-intervention data on self-report questionnaires are not available but subjective anecdotal reports and self-efficacy measures show general improvement at post-intervention. Specifically, with self-efficacy, at pre-intervention the subject felt he could not comfortably and adequately complete all three tasks. The last efficacy measures taken, after intervention, indicated that the subject now felt 80% confident that he could comfortably complete all three tasks. Additional anecdotal reports indicated improvement at post-intervention. The subject had successfully completed an interview and was presently employed in a position which required he frequently speak to many people. He was no longer finding these situations as distressing as previously. Specific improvements in

the three delineated tasks can also be seen. Only task one was actually treated in this case since the subject felt adequate gains had been met on all three and terminated treatment. The baseline in task one was slightly increasing ($Z = 1.76$, $p<.05$) with a mean SUDS level of 42.5 (s.d. = 23.75) as seen in figure 5. With the inclusion of the treatment data there is a significant decreasing trend and a reduction in the mean SUDS ($Z = 2.64$, $p < .01$; mean = 23.42, s.d. = 19.63). Tasks two and three, which were being recorded at the same time, also showed significant downward trends and reduced SUDS means ($Z = 1.72$ and 2.43, $p <.01$; and mean SUDS of 22.67 and 11.25, s.d. = 22.67 and 6.4 respectively) (see Figure 5).

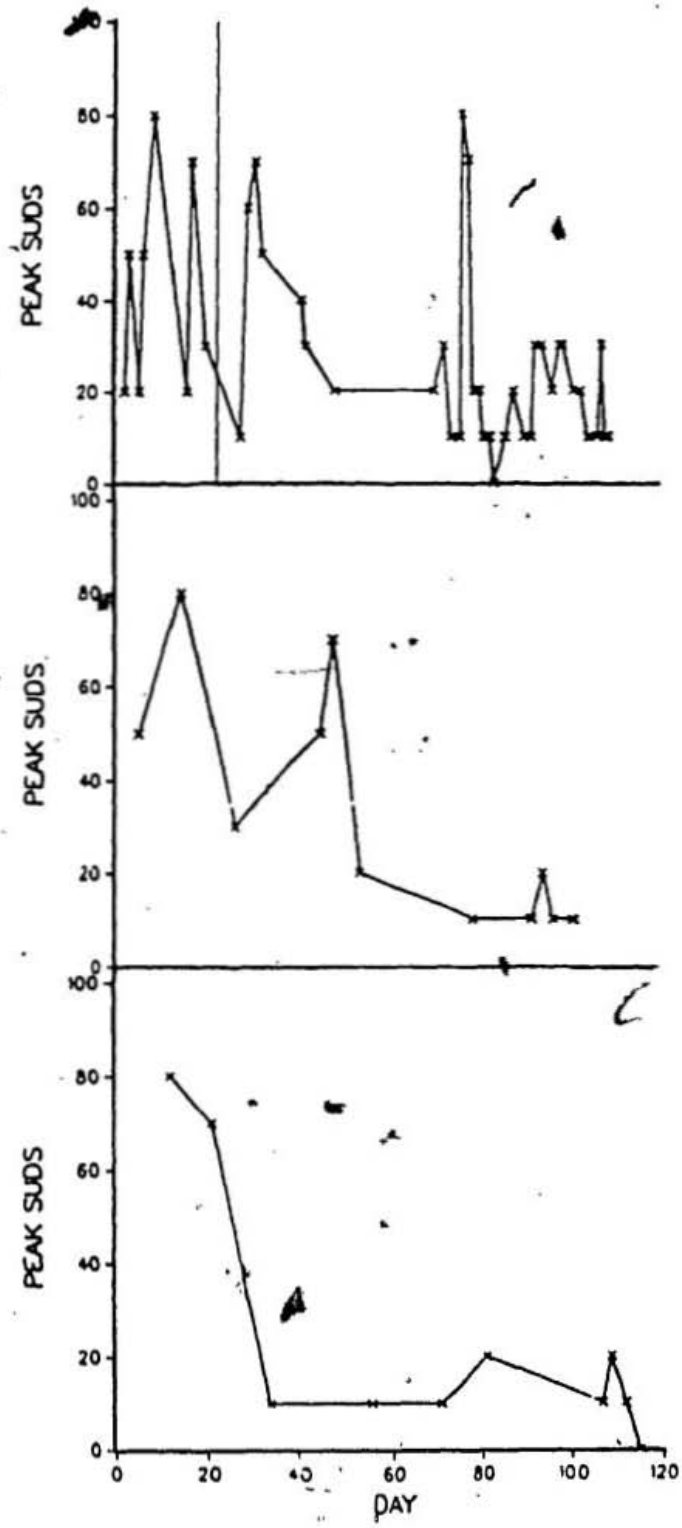

Figure 5. Peak subjective units of distress experienced by subject five on tasks one, two, and three.

DISCUSSION

Overall Results.

The main experimental question, whether improvement is contingent upon intervention, can be answered. Improvement in situational peak anxiety always and only occurred following treatment for three of the five subjects. For three subjects (one, two and three) significant post-intervention change occurred for all problems treated. Thus for these three subjects who were treated on eight seperate problems the data clearly support the hypothesis that improvement is contingent upon intervention by imaginal modeling or rehearsal.

While the data from the remaining two subjects (four and five) do not support the hypothesis as clearly as the first three, they do not contradict it. For subject four only the first problem was treated but this and the third problem showed subsequent improvement. The average SUDS level on the treated task was reduced by 50%, which was not statistically significant, but was clinically significant as evidenced by anecdotal reports of much improved functioning (e.g., increased frequency of entering the problem situations) and improvements on the self-report measures. Three tasks were defined with subject five but only the first was actually treated.

There was a statistically significant decrease in the situational peak anxiety on first task, however, the peak SUDS on other two tasks concurrently decreased a significant amount. Subject five frequently labeled a particular situation "A and B" or "B and C". Thus, by hindsight, it seems that the three tasks delineated with subject five were too closely linked (and similar) resulting in generalization. This, in effect, changed the multipe baseline design into a simple A - B design for this particular subject. An A - B design is not very convincing support for the hypothesis by itself but it is entirely consistant with it. With the other subjects the the multiple baseline design was effective and leads one to conclude that changes occurred due to the treatment and not due to some extraneous variable.

General overall improvement was shown by pre - post differences in the self-report questionnaire scores for subjects one, two, and four. Subject three did not improve on these questionnaires and subject five's data are unavailable but anecdotal reports from this subject indicate that he felt much improved and reported able to easily engage in previously difficult behavior. Improvements seen on the self-report measures from pre to post-intervention were frequently of a significant amount as can be seen by reference to Table 1. The average improvement for subjects one, two, and four was 2.7 (range

1.5 to 4) standard deviations. This amount of improvement was maintained at follow-up. For subjects one and two some scores at follow-up were improved relative to the post-intervention period. Scores on the SPSS and the WLAS, given to subject four at a four month follow-up indicated a slight decline, while the SADS score was maintained at this period. Final follow-up scores on the WLAS and the SPSS for subject four are still, however, greatly improved relative to pretreatment levels. The exception to improvement on the self-report measures was subject three. One possible reason for this lack of improvement is that although this subjects self-efficacy rose from an average of 0 to 60% on his three tasks, a 60% confidence level is moderate and was lower than the other three subjects assessed. Thus although behavioral and affective changes were seen there was less gain in positive self-evaluation and hence less improvement in self-report scores.

Changes in perceived self-efficacy were also evident. Subjects one, two, three, and five, whose self-efficacy was measured, felt they could complete their once problematic tasks at the post-intervention period. The degree of confidence that they could complete the tasks also significantly increased. On a scale where 0 indicated no confidence and 100 indicated complete confidence, all subjects who were assessed at pretreatment

had an average confidence level of 15 (range 0 to 35). At post-intervention the average had increased to 75 (range 60 to 85).

One can also see (from the figures) that for subjects one, two, and three the rate of engaging in six problem situations increased after intervention (i.e., the ratio of recorded occurrences to length of phase decreased from pre to post-intervention for these six problems). Specifically, for subject one the rate of task two increased from an average of once every six days to once every three days. For subject one the rate of task three increased from one in eleven to one in four days. For subject two the rate of task one was one in three days at pre-intervention. After intervention the rate increased to two in five days. On task three for this subject the rate increased from one in six to one in three days. Finally, for subject three, the rate on tasks one and two also increased from one in seven and one in eighteen days to one in five and one in four days respectively. Thus there were behavioral as well as affective changes seen from intervention.

Clinical Implications.

What are the practical, clinical advantages of using covert modeling / covert rehearsal? A few aspects of the practicality of the procedure have been discussed in the

literature. McFall and Lillesand (1971, p.313) make the point that covert modeling allows the subject to "simulate problem situations and practice new modes of behavior without concern for the immediate, real-life consequences of his experimental behavior". Covert modeling / rehearsal procedures are less threatening since the subject can practise in a minimally critical setting. Subjects using the procedure are less likely to feel that they are being evaluated since they do not have to "act" in the presence of the therapist. McFall and Lillesand (1971) also contend that covert modeling is easy to arrange and manipulate. Indeed, subjects can imagine and elaborate in great detail the problem scenes; whereas with overt modeling or rehearsal the setting is contrived and may be less "realistic" than the subject's own covert representation. Additionally, covert modeling / rehearsal can be used to manipulate not just overt behavior but also negative or irrational cognitions which may occur in the problem situation.

Another practical advantage is that clients can use covert modeling to plan the entire sequence of events that may occur in a given situation. This planning can include the imagining of more objective and positive cognitions when anticipating the event; the imagining of oneself being relaxed and confident in the future situation, being appropriately assertive; and finally imagining feeling

good about one's accomplishments in the situation. One of the problems with teaching clients to use more positive self-statements is that opportunities are needed to practice using these new cognitive techniques. Clients using covert modeling / rehearsal can imagine particular problem scenes as many times as needed. This rehearsal of the scene could also serve to better consolidate the important information in memory. Retrieval from memory might then be easier. A related clinical observation was that completion of homework (filling out the diaries and attempting to complete the tasks between sessions) was positively related to therapeutic success. Those subjects with exhaustive diaries and frequent exposures improved the most.

Future Research Directions

Almost all of the research literature showing the superiority of participant modeling over other modeling variations (like covert modeling) is in the area of fear reduction, e.g., extinguishing avoidance responses (Hersen et al. 1979); however, social skills problems may include not only avoidance behavior but also skill deficits. Thus, the earlier finding that overt modeling was superior may not be applicable to the more complex problem of unassertiveness or social anxiety. A few studies have compared overt modeling and covert modeling with unassertive samples (Rosenthal and Reese, 1976; Zielinski

and williams, 1979; Hersen et al., 1979; Kazdin, 1980a, 1982a). However two problems were evident from these investigations. The studies did not use a clinical population and the covert modeling treatment used was not a maximally effective package (Kazdin, 1982). More studies utilizing the optimal variation of each treatment are needed to confirm if one is more effective or for which populations each is more effective. For example do individual differences in imagery ability affect how effective the treatment would be. Clients who are good at imagining scenes or whose negative images and thoughts are a major factor in maintaining their social anxiety may benefit more from covert modeling / rehearsal. On the other hand clients who are not good at imagining or who have specific skill dysfunction might benefit more from overt modeling and rehearsal which includes feedback from the therapist on molecular components of social skill.

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APPENDIX A

THERAPY CONTRACT

I _____

promise to provide you _____

with the covert modeling treatment as we have discussed to help you with the three problems we have selected. The treatment has been found effective with college and clinical populations. The purpose of this study is to see how well an individually tailored program will work.

I _____

promise to keep the regularly scheduled appointments, to complete the homework assignments, and to keep the records as requested.

_____ _____

THERAPIST CLIENT

_____

Date

APPENDIX B

CONSENT FORM

I UNDERSTAND THAT DURING THE COURSE OF THE THERAPY THAT I WILL BE VIDEOTAPED ON TWO OCCASIONS, ONCE BEFORE TREATMENT BEGINS AND AGAIN WHEN TREATMENT ENDS. EACH OCCASION WILL INVOLVE EIGHT SHORT INTERACTIONS. I UNDERSTAND THAT THE VIDEOTAPES ARE TO BE USED FOR RESEARCH PURPOSES AND TO HELP ASSESS THE EFFECTIVENESS OF MY TREATMENT. THESE VIDEOTAPES ARE CONFIDENTIAL IN THAT THEY WILL ONLY BE VIEWED BY PROFESSIONALS WHO ARE DIRECTLY INVOLVED WITH YOUR TREATMENT OR IN THE RESEARCH PROJECT AT THE MEMORIAL UNIVERSITY PSYCHOLOGY CLINIC. AT THE CONCLUSION OF THE STUDY THESE VIDEOTAPES WILL GE ERASED. I GIVE MY CONSENT TO USE THESE VIDEOTAPINGS FOR THE ABOVE PURPOSES.

_____ _____

THERAPIST CLIENT

_____

DATE

Appendix C

TREATMENT MANUAL

Note: Capitals indicate therapists script.

This manual includes specific procedures each subject will undergo after assessment has been completed. Initially the subject is given an explanation of how to complete the diary and then a rationale and an outline of the treatment program. BETWEEN THE TIME WHEN I NEXT SEE YOU, AND THROUGHOUT THERAPY, I WANT YOU TO COMPLETE A DIARY WHERE YOU WILL RECORD CERTAIN THINGS DEALING WITH THE THREE PROBLEMS. AS YOU CAN SEE HERE IS A SHEET WHICH HAS FOUR HEADINGS. THE FIRST HEADING SIMPLY ASKS THE DAY AND DATE, THERE IS A SEPERATE SHEET FOR EACH DAY SO SOME SHEETS MAY BE LEFT EMPTY. THE FIRST COLUMN ASKS WHICH OF THE TASKS HAVE OCCURRED AND THE SECOND ASKS ABOUT CERTAIN SPECIFICS OF EACH OCCURRENCE: WHERE, WITH WHOM, WHAT HAPPENED, AND HOW DID YOU RESPOND, THINK, AND FEEL? IN THE FOURTH COLUMN YOU WOULD RATE YOUR LEVEL OF DISCOMFORT THAT YOU FELT WHILE IN THE SITUATION ON A SCALE FROM 0 TO 100 WHERE 0 IS NO DISCOMFORT AND 100 IS UNBEARABLE DISCOMFORT. IT IS VERY IMPORTANT THAT YOU KNOW WHAT I MEAN HERE SO WE SHOULD PRACTICE USING THIS TYPE OF SCALE. IMAGINE, IF YOU WILL BEING AT COMPLETE REST, VERY RELAXED, AS RELAXED AS YOU EVER WERE. CAN YOU TELL ME WHEN THIS WAS? O.K., WE'LL CALL THIS A ZERO ON THE SCALE. NOW IMAGINE THE MOST UNCOMFORTABLE, STRESSFUL SITUATION YOU

HAVE EVER EXPERIENCED, CAN YOU TELL ME WHEN THIS WAS? O.K., THIS WOULD RATE AS A 100 ON THE SCALE. LASTLY, HOW DO YOU FEEL RIGHT HERE NOW? VERY WELL! SO CAN YOU SEE WHERE DIFFERENT EXPERIENCES MIGHT RATE AT DIFFERENT POINTS ON THIS SCALE? After any questions were answered the therapist continued.

YOU SHOULD FILL OUT THE DIARY AS SOON AS IS PRACTICALLY POSSIBLE AFTER THE OCCURRENCE OF A SITUATION. WHAT TIME DO YOU THINK IT WOULD BE BEST FOR YOU? IT IS VERY IMPORTANT FOR ME TO KNOW HOW YOU ARE DOING BETWEEN SESSIONS AND WHAT EXACTLY IS GOING ON AS EACH SITUATION OCCURS SO PLEASE MAKE SURE TO KEEP UP WITH THE DIARY AND REMEMBER TO RETURN IT WHEN YOU COME FOR YOUR NEXT APPOINTMENT. PRACTICING AND GRADUALLY EXPOSING YOURSELF TO THE PROBLEM SITUATIONS IS THE BEST METHOD OF OVERCOMING THE PROBLEMS. PRACTICING THE SITUATIONS IS BEST COMPLETED FIRST IN THE CLINIC WITH THE THERAPIST WHERE YOU CAN GET FEEDBACK AND COACHING TO HELP ENHANCE YOUR RESPONSES AND THEN LATER BY DOING HOMEWORK EXERCISES SO THAT YOU CAN HAVE AN OPPORTUNITY TO PRACTIVE SUCCESSFULLY COMPLETING THE TASKS IN REAL LIFE.

IT HAS BEEN FOUND, HOWEVER, THAT WE CAN COMPLETE A VERY SIMILAR PROCEDURE ENTIRELY BY IMAGINING THE SITUATION. IN OTHER WORDS THE PRACTICING DOES NOT HAVE TO BE STAGED WITH OTHER PEOPLE, IT CAN BE DONE IN THE IMAGINATION. DURING THE TREATMENT YOU WILL REPEATEDLY

IMAGINE A PERSON YOU KNOW, OR YOURSELF, IN A PROBLEM SITUATION BEING ASSERTIVE TO THE EXTENT THAT YOU FEEL YOU WANT TO BE. STUDIES HAVE SHOWN THAT THIS PROCEDURE IS IN MANY CASES AS GOOD AS, IF NOT BETTER THAN, STAGING IT WITH OTHER PEOPLE. I WILL EXPLAIN MORE OF THE PROCEDURE WHEN WE ACTUALLY START TREATMENT. DO YOU HAVE ANY QUESTIONS SO FAR?

After any questions are answered the therapist continues: HERE IS A DEFINITION OF ASSERTIVE BEHAVIOR.

(1) ASSERTIVE BEHAVIOR IS INTERPERSONAL BEHAVIOR INVOLVING THE HONEST AND RELATIVELY STRAIGHTFORWARD EXPRESSION OF THOUGHTS AND FEELINGS.

(2) ASSERTIVE BEHAVIOR IS SOCIALLY APPROPRIATE.

(3) WHEN A PERSON IS BEHAVING ASSERTIVELY, THE FEELINGS AND WELFARE OF OTHERS ARE TAKEN INTO ACCOUNT.

HERE ARE SOME EXAMPLES TO ILLUSTRATE WHAT I MEAN.

(1)REQUEST FOR NEW BEHAVIOR: THERE IS SOMEONE CONSTANTLY TALKING IN FRONT OF YOU AT A MOVIE, YOU SAY...
AGGRESSIVE: WILL YOU TWO IGNORANT PEOPLE SHUT-UP; I'M TRYING TO WATCH THE MOVIE!!
PASSIVE: NOTHING AND JUST GET FRUSTRATED.
ASSERTIVE: EXCUSE ME, COULD YOU KEEP IT DOWN A LITTLE PLEASE I CAN'T HEAR THE MOVIE AND I WOULD LIKE TO.

(2)COMPLIMENT: A FRIEND COMMENTS ON HOW GOOD YOU LOOK IN A PARTICULAR OUTFIT. YOU SAY...
NON-ASSERTIVE: OH THIS OLD THING, I DON'T THINK IT'S THAT NICE, YOU LOOK BETTER.
PASSIVE: YOU JUST FEEL EMBARRASSED AND FEEL FLUSTERED.
ASSERTIVE: WHY THANK YOU, THAT MAKES ME FEEL GOOD!

(3)REFUSING AN UNREASONABLE REQUEST: SOMEONE AT WORK ASKS YOU COULD YOU GIVE THEM A RIDE HOME AND THEY LIVE AT THE OTHER SIDE OF THE CITY. YOU DON'T REALLY WANT TO AND YOU ARE ALREADY LATE OF SUPPER. YOU SAY...
AGGRESSIVE: ARE YOU CRAZY, FIND YOUR OWN WAY HOME!!

PASSIVE: WELL, I GUESS I COULD I HOPE IT WON'T TAKE TOO LONG.
ASSERTIVE: I'M SORRY BUT I DO HAVE TO GO HOME FOR SUPPER AND IT'S REALLY OUT OF MY WAY. I COULD LEND YOU SOME BUS MONEY.

SO YOU CAN SEE HERE THAT THE ASSERTIVE RESPONSE WAS SPECIFIC, GOAL DIRECTED, FRIENDLY BUT FIRM, AND HONEST, YET DID NOT ATTACK THE OTHER PERSON. DO YOU HAVE ANY QUESTIONS ABOUT ANYTHING SO FAR?

After any questions are answered the therapist continues:

AS I HAVE EXPLAINED WE WILL BE PRACTICING ASSERTIVE RESPONSES IN IMAGINATION. WE WILL COMPLETE TEN SCENES DURING EACH SESSION. I WILL WANT YOU TO IMAGINE IN THOSE SCENES SOMEONE YOU KNOW WELL, OR YOURSELF, ACTING ASSERTIVELY IN THE SCENES. THE PEOPLE YOU CHOOSE SHOULD BE SOMEONE OF SIMILAR AGE AS YOURSELF, OF THE SAME SEX, AND THEY SHOULD BE SOMEONE WHO YOU FEEL WOULD BE ABLE TO CONFIDENTLY COMPLETE THE THREE PROBLEM SITUATIONS WE HAVE DESCRIBED ON THE CARDS. CAN YOU THINK OF SOME PEOPLE WHO WOULD MEET THESE REQUIREMENTS? After the therapist and the subject collectively decide upon four people who are appropriate the therapist continues: DURING THIS SESSION I WOULD LIKE TO PRACTICE A SCENE USING A SITUATION THAT IS NOT A PROBLEM FOR YOU. The therapist then selects some situation which requires an assertive response but which is not a problem for that particular individual. Let us assume for example that the situation is refusing unreasonable requests. The therapist would continue with

the following script:

SO THE SITUATION IS THAT SOMEONE ASKS THE MODEL PERSON FOR A LOAN OF TWENTY DOLLARS. WHICH ONE OF THE FOUR PEOPLE WILL WE USE? When decided upon: SO THE MODEL PERSON IS IN THE SITUATION AT WORK AND SOMEONE ASKS THEM FOR THE MONEY. THE PERSON NEEDS THE MONEY AND THE OTHER PERSON ASKING IS ONLY AN ACQUAINTANCE. WHAT WOULD BE AN ASSERTIVE RESPONSE IN THAT SITUATION? After the therapist and the subject decide upon an appropriately assertive response the therapist continues. THIS IS THE RESPONSE I WANT YOU TO IMAGINE IN THE SITUATION. NOW RELAX IN THE CHAIR AND IMAGINE THE SCENE AND WHERE IT OCCURS. IMAGINE THE PERSON COMING UP TO THE MODEL AND ASKING THEM FOR THE MONEY. RAISE YOUR FINGER WHEN YOU HAVE IMAGINED THIS. (when completed) GOOD, NOW IMAGINE THE MODEL REPLYING WITH THE RESPONSE WE DECIDED UPON. IMAGINE HOW THE MODEL IS FEELING AS THEY SAY THIS. IMAGINE THE EXPRESSIONS OF THE PEOPLE INVOLVED IN THE SCENE. RAISE YOUR FINGER WHEN YOU HAVE THIS CLEARLY IN YOUR MINDS EYE. (When completed) GOOD, SO NOW I WANT YOU TO IMAGINE THE OTHER PERSON SMILING AND SAYING "O.K., I GUESS YOU DO NEED IT. MAYBE I'LL TAKE THE BUS ANYWAY." RAISE YOUR FINGER WHEN YOU HAVE CLEARLY IMAGINED THIS. When the subject raises his finger the therapist again continues. NOW I WANT YOU TO GIVE ME A SUMMARY OF THE SCENE YOU HAVE JUST IMAGINED. PLEASE TRY NOT TO LEAVE OUT ANY IMPORTANT PARTS. (When completed) I

WOULD LIKE TO KNOW HOW IMAGINING THE SCENE WAS, WERE THERE ANY PARTS THAT WERE HARD TO IMAGINE? During this discussion if the subject has not imagined any of the three important phases (the scene context, the assertive response(s) of the interaction, and the positive social consequences) the therapist tells the subject that it is important to imagine all of the parts, to imagine the feelings that existed in the interaction, and to imagine how the people looked and behaved. Then the therapist asks the subject: COULD YOU ALSO RATE THE SCENE ON THIS SCALE FOR ME PLEASE. The therapist hands the subject the scale taken from the Questionnaire Upon Mental Imagery (Sheehan, 1967). The scene is then practiced again, if necessary, with specific instructions to include any important aspects that were left out of the summary. The subject and therapist keep practicing the scene until all of the important details are vividly and clearly imagined (feelings, people's expressions, the context of the scene (i.e., where and when), the assertive response(s), and the positive consequences (i.e., what the subject wants to happen does happen). This practice scenario would vary from subject to subject but it is patterned after the above. The therapist continues.

THIS IS VERY SIMILAR TO WHAT WE WILL BE DOING DURING ACTUAL TREATMENT SESSIONS EXCEPT THE SITUATIONS WILL BE ONE OF THE THREE PROBLEMS WE HAVE DECIDED TO TARGET FOR

TREATMENT. Finally the therapist asks if there were any other questions and concludes the session by asking the subject to give self - efficacy ratings on all three tasks. I WOULD LIKE YOU TO TELL ME WHETHER OR NOT YOU FEEL YOU COULD DO EACH OF THE TASKS AND HOW CONFIDENT ARE YOU ABOUT IT. HERE IS A SHEET WITH THE THREE PROBLEMS, JUST CHECK "CAN" OR "CAN'T" AND IF YOU FEEL YOU CAN RATE YOUR CONFIDENCE ON A SCALE OF OF 0% TO 100% WHERE 0% IS NOT CONFIDENT AT ALL AND 100% IS MOST CONFIDENT.

Approximately one week later the subject returns for the next appointment. If the baseline is sufficient treatment begins on the first task (see procedure section). The subject first gives self - efficacy ratings on all tasks. Once these ratings are completed the therapist begins the treatment procedure. 'FOR EACH TASK THERE WERE THREE LEVELS WITH THE THIRD LEVEL BEING THE GOAL. THIS IS THE LEVEL WE WILL AIM FOR. FIRST WE WILL CHOOSE ONE OF THE THREE TASKS AND WE WILL COMPLETE THE PROCEDURE AS IN THE PREVIOUS SESSION(S). The task is then decided. FIRST, FOR THIS PROBLEM, CAN YOU THINK OF AN ASSERTIVE RESPONSE YOU WOULD LIKE TO MAKE? Once the appropriately assertive response is decided upon conjointly by the therapist and the subject the therapist continues. NOW WE'LL CHOOSE A PERSON (ONE THE FOUR) AND I WANT YOU TO RELAX AND IMAGINE HIM OR HER IN THE SCENE WE HAVE PICKED. CAN YOU VISUALIZE WHERE IT IS AND WHEN IT

OCCURS? RAISE YOUR FINGER WHEN YOU CAN SEE THIS CLEARLY IN YOUR MIND'S EYE. When completed the therapist continues. IMAGINE THE PROBLEM SITUATION HAPPENING TO THAT PERSON, WHERE IT TAKES PLACE, WHO'S THERE, WHAT'S HAPPENING, AND HOW HE OR SHE FEELS. RAISE YOUR FINGER WHEN YOU CAN VISUALIZE THIS CLEARLY. NOW IMAGINE THE MODEL PERSON ACTING ASSERTIVELY LIKE WE HAVE DECIDED. IMAGINE THE MODEL BEING CONFIDENT AND HAVING POSITIVE FEELINGS WHILE ACTING ASSERTIVELY. IMAGINE THEM LOOKING AND FEELING CALM AS THEY EXPRESS THEIR RESPONSE. RAISE YOUR FINGER WHEN YOU CAN IMAGINE THIS. NOW IMAGINE THE SCENE COMPLETING THE WAY YOU WANTED TO. IN OTHER WORDS THE OTHER PERSON RESPONDS THE WAY YOU WANT THEM TO. AGAIN RAISE YOUR FINGER WHEN YOU HAVE CLEARLY SEEN THIS IN YOUR MINDS EYE. When completed the therapist continues: NOW COULD YOU SUMMARIZE THE SCENE FOR ME PLEASE, TRY NOT TO LEAVE OUT ANY IMPORTANT PARTS THAT YOU IMAGINED. If any of the three important phases are not imagined the therapist reminds the subject that all phases are important. If any other parts are left out (i.e., the feelings of the people in the scene or the expressions involved) the therapist reminds the subject to try imagining these on subsequent scenes. The therapist then continues: LASTLY COULD YOU RATE THE SCENE FOR ME USING THE VIVIDNESS SCALE AS IN THE PRACTICE SESSION. The procedure is repeated up to three times using the remaining models one at a time. On the fifth, or last

presentation the subject imagines himself or herself in the scene. Once this fifth or last presentation is completed the therapist continues and starts the second set of scenes. NOW WE WILL IMAGINE THE SCENES AGAIN EXCEPT THIS TIME, AFTER THE MODEL OR YOURSELF RESPONDS ASSERTIVELY, WE WILL ADD AN EXTRA PHASE. IN THIS EXTRA PART I WANT YOU TO IMAGINE THAT THE AFTER THE FIRST ASSERTIVE RESPONSE THE OTHER PERSON DOES NOT RESPOND THE WAY YOU HAD HOPED (or THAT THE SITUATION DID NOT TURN OUT AS FAVOURABLE AS YOU WOULD HAVE LIKED) AND THEREFORE ANOTHER ASSERTIVE RESPONSE HAS TO BE MADE.. SO COULD YOU IMAGINE THE SCENE AS BEFORE USING THE FIRST MODEL. (The finger is to be raised after each phase is clearly imagined). IMAGINE THE SITUATION IS OCCURRING. AS BEFORE IMAGINE THE FEELINGS INVOLVED AND THE EXPRESSIONS OF THE PEOPLE IN THE SCENE. NOW IMAGINE THE MODEL GIVING AN ASSERTIVE RESPONSE. NOW IMAGINE THAT THE PERSON DOESN'T CHANGE (OR THE EVENT WAS NOT FAVOURABLE) AND ANOTHER RESPONSE, LIKE THE FIRST, HAS TO BE GIVEN. IMAGINE THAT THE MODEL PERSON (or "YOURSELF" if relevant) KEEPS CONFIDENT AND RELAXED AND PERSISTS IN BEING ASSERTIVE. IMAGINE THE POSITIVE FEELINGS AND THEIR EXPRESSION. FINALLY IMAGINE THAT THE SECOND RESPONSE RESULTS IN THE PERSON OR SITUATION CHANGING THE WAY YOU WANTED TO. NOW COULD YOU SUMMARIZE THE SCENE AS IN THE PREVIOUS SET OF SCENES AND WHEN YOU'VE COMPLETED THIS PLEASE RATE HOW VIVID YOU FEEL IT WAS ON THIS SCALE. The therapist hands

the subject the vividness of imagery scale after the summary has been given. Again the procedure is repeated up to three times using the remaining models while on the fifth or last presentation the subject imagines him or herself in the scene. At the end of the session the subject is given instructions for homework. BETWEEN THE SESSIONS I WOULD LIKE YOU TO ATTEMPT THE PROCEDURE WE HAVE PRACTICED IN THE CLINIC IF YOU ARE CONFRONTED WITH THE PROBLEM SITUATION. IMAGINE YOURSELF SUCCESSFULLY BEING ASSERTIVE JUST PRIOR TO THE SITUATION IF POSSIBLE AND FURTHERMORE ACTUALLY ATTEMPT TO BEHAVE IN THE SITUATION AS YOU IMAGINED BEHAVING IN PRACTICE. PLEASE MAKE SURE TO KEEP RECORDING IN YOUR DIARY SHEETS AS BEFORE.

The subject returns approximately one week later and the diary is reviewed (i.e., is the diary correctly completed and are there any new aspects of the problem situation) and self-efficacy ratings are completed. If there is little change the subject and the therapist discuss the problems using these questions: ARE THE PROBLEMS STILL RECURRING, ARE THE SCENES APPROPRIATE, ARE YOU REHEARSING THE SCENE PRIOR TO ATTEMPTING IT IN REAL LIFE, ARE YOU TRYING TO BEHAVE IN THE SCENES AS YOU IMAGINED YOURSELF BEHAVING, AND ARE YOU IMAGINING ALL OF THE IMPORTANT PHASES OF THE SCENES? At the end of this discussion covert modeling / rehearsal is again repeated for one of the tasks (see procedure section).