A COGNITIVE-BEHAVIORAL TREATMENT APPROACH
FOR HETEROSEXUALLY ANXIOUS MALES

DISSERTATION

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By

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The present study examined the efficacy of a cognitive-behavioral therapy package and a highly credible attention-placebo in the treatment of male heterosocial anxiety. Previous research provided evidence that cognitive factors are important in the etiology and maintenance of heterosocial anxiety, and suggested that a cognitive-behavioral approach should be effective in the treatment of this problem. Despite such evidence, relatively few therapy outcome studies have been conducted using cognitive-behavioral procedures.

Subjects were 19 heterosocially anxious males, most of whom were university students. After an initial interview, subjects were administered a series of measures concerning dating frequency over the previous three weeks, ability to carry out everyday heterosocial interactions, avoidance and fear of evaluative situations, and frustration tolerance, a measure of situational demand characteristics. In addition, subjects participated in a 10-minute behavioral interaction with a female confederate. Subjects' heart rates were monitored during the interactions. Videotapes of these interactions were rated by trained female judges using
behavioral checklists of specific anxiety signs and specific heterosocial skills. Global skill and anxiety ratings of the men during these interactions were made by untrained females using 10-point anxiety and skill scales. Subjects also globally rated their own anxiety and skill during these interactions.

Subjects were then assigned to a cognitive-behavioral group ($n = 8$) or an attention-placebo group ($n = 11$). Two male doctoral students in clinical psychology served as co-therapists for both groups, and treatment for each group was conducted in three weekly 2-hour therapy sessions. For the cognitive-behavioral group, treatment followed a stress-inoculation approach, and focused on cue-controlled relaxation and self-statement modification. Treatment for the attention-placebo group consisted of two pseudotreatments: "subliminal desensitization" and "stimulus-controlled free association." Treatment-generated expectancy and credibility were assessed during each therapy session.

Posttreatment assessment was similar to that used at pretreatment. Three months after treatment termination, subjects were mailed copies of the questionnaires they received during pretreatment and posttreatment assessment, which they completed and returned to the experimenter.

Results confirmed the essential equivalence of expectancy and credibility ratings of the two treatment approaches. Experimenter demand effects, as judged from the frustration
tolerance test, were also shown to be equal for both groups. At posttreatment, discriminant function analysis suggested that the cognitive-behavioral treatment was slightly more effective than the attention-placebo treatment for anxiety measures taken during the behavioral interactions. Follow-up data for six subjects in each group indicated only limited between-group differences on the three follow-up measures; more improvement occurred during follow-up for the attention-placebo subjects on a questionnaire which assessed subjects' ability to carry out everyday heterosocial interactions. While between-group differences were limited, results at posttreatment showed that subjects in both groups generally benefitted from treatment. Significant positive changes were found for one group of heterosocial skills, in addition to significant positive changes measured by the self-report questionnaires.

The data suggested a similarity between the cognitive mechanisms affected by these two treatment techniques. However, measures which supported the marginal superiority of the cognitive-behavioral approach at posttreatment clustered in a way which indicated more specific short-term anxiety-reduction activity than that found for the placebo manipulation. Potential ways of enhancing the benefits of the cognitive-behavioral treatment package were discussed. Specifically, spacing rather than massing treatment sessions was suggested as a means of increasing long-term effectiveness.
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A COGNITIVE-BEHAVIORAL TREATMENT APPROACH
FOR HETEROSOCially ANXIOUS MALES

A number of investigators (Bath, 1961; Glass, Gottman, & Shmurak, 1976; Martinson & Zerface, 1970; Snyder, Hill, & Derksen, 1972) have documented the pervasiveness of heterosocial anxiety as a clinical problem among college-aged student. Martinson and Zerface (1970), for example, reported that most students using a university counseling center were more concerned with improving their interpersonal heterosocial skills than with receiving vocational help. In addition, previous research (Hood, 1975) suggested that establishing heterosocial relationships has become increasingly problematic for undergraduates over the past three decades. In a recent survey (Arkowitz, Hinton, Perl, & Himadi, 1978) involving 3,800 randomly selected undergraduates, 31% of the total sample rated themselves as at least "somewhat" anxious about dating. Fifty percent of the subjects expressed interest in participating in a program designed to help them increase their comfort and activity in dating.

The Arkowitz et al. survey also suggested that such anxiety is more prevalent among males than females. Thirty-seven percent of the men indicated that they were either "somewhat" or "very" anxious about dating compared to 25% of the women. Interest in participating in a dating program...
showed similar differences, with 56% of the men indicating interest as compared to 43% of the women. Such differences could have been anticipated in light of differential stereotypes and expectations between men and women. Traditionally, the male has been viewed as the initiator in interactions, while the female has been seen as having a more passive role. Thus, heterosocial anxiety may be a more debilitating problem for the male.

Previous research has confirmed the common sense notion that a failure to develop satisfactory social skills in childhood or adolescence leads to unhappiness as an adult (Havighurst, 1950). The attainment of adequate heterosocial skills seemed to be an especially important part of the individual's development. If continued beyond adolescence, heterosocial anxiety may have serious implications for the person's future well-being. The person who has difficulty with the early stages of heterosocial relationships may never progress to sharing a long-term relationship with someone of the opposite sex, and more "pathological" states in later life may result. Wolpe (1973), for example, has stated that these anxiety responses "sometimes lead to the channelling of innate drives into unadaptive paths. Fear evoked by heterosexual peers may deflect the person from normal sexual partnerships, to engage in deviations like homosexuality, pedophilia, or exhibitionism" (p. 81).

While problems arising from heterosocial anxiety are not restricted to college students (windowers and divorcees are
notable examples), the pervasiveness of the problem among this population is not surprising. There is a high "demand" from peers and society for persons in this age range to engage in heterosexual social activities. For some, such demand forces them into these situations, and their anxiety diminishes when they find that they can effectively handle the situation. For others, the pressure exacerbates the problem, and increasing anxiety makes it even more difficult to adequately deal with heterosocial interactions. Effective treatment is needed for this group and, as Arkowitz et al. (1978) has shown, these persons frequently express interest in such therapy.

Thus, it appears that heterosocial anxiety is a widespread problem among college-aged students, one which may be troublesome for both sexes (but especially for males), and one for which treatment may be requested. The fact that it is a clinical problem with the subject population most often studied in the psychotherapy literature (i.e., college students) has implications concerning the "analogue status" of research on the treatment of heterosocial difficulties (Arkowitz, 1977). Arkowitz suggested that on one level, the study of heterosocially anxious college students may serve as an analogue to generate tentative conclusions that might apply to other populations with this problem. On another level, the potential value of studying heterosocially anxious college students is that the study is clinically meaningful
in itself. Thus, the external validity (Kazdin, 1978) of these studies, that is, the extent to which the results can be generalized to the clinical situation, is likely to be higher than it is in many other therapy investigations using college students as subjects. Of course, the generalizability of these studies will also vary according to how well other relevant dimensions defining analogue status (e.g., therapists used, the manner of client recruitment) match those in the clinical situation.

Research on the Treatment of Heterosocial Anxiety

Treatment of heterosocial anxiety has only been investigated systematically since around 1970. The type of intervention studied has been guided largely by the individual researcher's adherance to a particular conceptual model of the problem. Three major conceptual models have been used to describe the heterosocially anxious male (Curran, 1977): (a) the skills deficit model, (b) the conditioned anxiety model, and (c) the cognitive model.

Skills Deficit Model. The skills deficit model views the anxiety experienced as secondary to an inadequate repertoire of the social skills necessary in heterosocial interactions. From this viewpoint, anxiety is elicited by the individual's inability to demonstrate the skills required in these interactions (Curran, 1977). Thus, the anxiety experienced is seen as a natural rather than "irrational" response to the negative interpersonal consequences of their
social behavior (Arkowitz, 1977). Hence, negative self-evaluations which arise before, during, or after heterosocial interactions are viewed as appropriate appraisals of their poor social performance (MacDonald, Lindquist, Kramer, McGrath, & Rhyne, 1975). Treatment has been characterized by the response acquisition approach (Bandura, 1969), where the individual has been taught the deficient social skills, or the response practice approach (Curran, 1977), where the person has practiced skills which were already in his repertoire.

Several investigations have been directed to assessing social skills which differentiate competent from noncompetent groups or pre- from posttreatment performance (e.g., Arkowitz, Lichtenstein, McGovern, & Hines, 1975; Borkovec, Stone, O'Brien, & Kaloupek, 1974; Fischetti, Curran, & Wessberg, 1977; Glasgow & Arkowitz, 1975; Twentyman & McFall, 1975). Generally, differences have been found between high and low heterosocially anxious subjects on global ratings of social skill, but not on the specific behavioral components of skill which have been rated (Arkowitz, 1977; Hersen & Bellack, 1977). One notable exception to this trend was the study by Fischetti, et al. (1977). In this study, subjects were asked to view a videotaped recording of a woman speaking and indicate at what points in the dialogue it would be best for them to respond to her. Fischetti et al. found differences between high and low anxious subjects in agreement over the timing of their responses during the taped presentation. These results
suggested that social skills which differentiate between heterosocially anxious and non-anxious males may be more subtle in nature than previously assumed. If this is so, one might anticipate having greater difficulty in training subjects on these subtle skills than in training them to emit specific behaviors.

Arkowitz (1977), however, has suggested that observer's ratings of global skill may, in fact, be reflecting another dimension, such as physical attractiveness. Male physical attractiveness has been found to significantly predict female attraction (Kupke, Hobbs, & Cheney, 1979), and differences in physical attractiveness ratings have been found between anxious and non-anxious subjects (Glasgow & Arkowitz, 1975; Lipton & Nelson, 1980). Arkowitz et al. (1978) have even discussed physical attractiveness as a fourth conceptual model of heterosocial anxiety. Also, it can be argued that physical attractiveness should be included within the broader definition of the skill construct, and may be modifiable to some degree by training. Here, such things as the individual's dress and grooming might become the focus of attention in treatment. Arkowitz et al. (1978) have suggested that such training might be a useful supplement to programs aimed at reducing excessive anxiety.

One additional heterosocial skill, personal attention responses toward the female, has recently been investigated. Kupke, Hobbs, and Cheney (1979) found that male personal
attention responses (e.g., "What did you do this week?") significantly predicted ratings of these males' interpersonal attractiveness. These ratings were made by female peers following unstructured dyadic interactions with the males. Personal attention was the only male conversational behavior which was found to be significantly related to female interpersonal attraction. Since a relatively "normal" sample of college men were used as subjects, the direct relevance of this behavior to heterosocially anxious males was not demonstrated. In a follow-up study, however, Kupke, Calhoun, & Nobbs (1979) demonstrated the potential clinical utility of this behavior. Subjects in their study who were trained to increase personal attention responses showed significantly higher ratings of interpersonal attraction than either no-treatment controls or subjects who were trained to increase "minimal encourages" responses toward females. Minimal encourages responses consisted of words or phrases which indicated that the male was listening to and following the female's conversation. Differences between the groups at posttesting were not apparent at pre-testing. Although the authors again failed to use a heterosocially anxious subject sample, the role of personal attention as a component of heterosocial skill merits further investigation.

While these studies suggest that conversational timing, physical attractiveness, and personal attention responses hold some promise for future skills training treatment
approaches, researchers are still faced with a general absence of empirically-established behavioral referents for heterosocial skill. This condition has caused McFall (1977) to characterize the implementation of social skill training programs for these males as premature. It is therefore somewhat surprising to find that most of the outcome studies in this area have been dominated by social skills training treatment programs. The majority of these studies have focused on the response acquisition approach to skills training (Bander, Steinke, Allen, & Mosher, 1975; Curran, 1975; Curran & Gilbert, 1975; Curran, Gilbert, & Little, 1976; Glass, Cottman, & Shmurak, 1976; Kramer, 1975; MacDonald, Lindquist, Kramer, McGrath, & Rhyne, 1975; McGovern, Arkowitz, & Gilmore, 1975; Melnick, 1973; Morgan, 1971; Rehm & Marston, 1968; Twentyman & McFall, 1975). Typically, training is performed by exposing subjects to some or all of the following elements: instructions, modeling, behavior rehearsal, coaching, self-observation, feedback, and homework assignments.

A number of other studies utilizing skills training have followed a response practice approach (Christensen & Arkowitz, 1974; Christensen, Arkowitz, & Anderson, 1975; Kramer, 1975; Martinson & Zerface, 1970; Royce & Arkowitz, 1973; Thomander, 1975). This approach assumes that the individuals have the skills required for adequate heterosocial interactions and need only to practice dating to learn how to appropriately apply these skills. Through practice encounters with the
opposite sex, it is assumed that concomitant decreases in anxiety will also result. In this way, practice dating may also be viewed as a form of in vivo desensitization (Arkowitz, 1977). Therefore, the theoretical basis for treatment overlaps somewhat with those studies based on a conditioned anxiety model. In fact, Arkowitz has classified these dating procedures as "anxiety reduction" approaches. Similarly, the response acquisition treatment which involves interactions with females during training may also be viewed as having a desensitization component.

**Conditioned Anxiety Model.** This model asserts that both heterosocial anxiety and the ensuing avoidance responses occur as the result of classically conditioned experiences in which heterosocial interactions are associated with aversive stimuli. While these conditioning episodes may or may not be dependent on the individual's behavioral repertoire, this model generally assumes that the person's anxiety responses are irrational in nature (i.e., phobic). Thus, the individual's social skills are assumed to be adequate, but inhibited by the anxiety he feels when in these situations. Treatment programs adhering to this model typically have focused on anxiety reduction through imaginal desensitization (Curran, 1975; Curran & Gilbert, 1975; Hokanson, 1972; Mitchell & Ore, 1974). However, as was stated earlier, treatment approaches employing response practice are also logically consistent with this model.
Cognitive Models. Cognitively oriented models of heterosocial anxiety emphasize the importance of cognitive events as mediators of the anxiety reactions and performance deficits seen in these individuals. As in the conditioned anxiety model, the individual's social skills are considered adequate and the anxiety experienced is thus an irrational and unnecessary response to the situation. Rather than resulting solely from classical conditioning experiences, the anxiety is thought to result from the cognitive events occurring within the individual before, during, or after the interaction. Thus, the individual may "perform" adequately but misappraise his past or present performance with negative self-evaluations. Faulty appraisal may be the result of unrealistically high criteria or the misperception of his performance. Performance deficits may result, however, through negative self-fulfilling expectations or through the cognitively mediated anxiety which inhibits adequate performance.

Cognitive-behavioral treatment programs have usually involved the identification of negative self-statements, modification of these negative self-statements into ones which are more positive, and self-reinforcement. Three existing studies on the treatment of heterosocial anxiety have employed cognitive-behavioral methods (Glass et al., 1976; Kramer, 1975; Rehm & Marston, 1968). While all three studies included groups which used these procedures in combination with other non-cognitive methods, only one of the studies
(Glass et al., 1976) specifically evaluated a cognitive-behavior modification program. The studies using this approach will be discussed in greater detail later in the paper.

None of the above models may be viewed as mutually exclusive. Each model views one aspect of the problem as primary and others as secondary—thus, the origin and maintenance of the problem may be due to several of these factors. However, within each model, the primary determinants of the anxiety that the individual experiences are quite different. In the skills deficit model, anxiety is a rational response to the individual's recognition of his limited skills. The other two models view the anxiety as irrational in nature and arising either from classically conditioned experiences (conditioned anxiety model) or cognitive mediators (cognitive model).

Empirical evidence from treatment outcome studies have provided each of these approaches with some degree of limited support. Often, however, the results from these investigations have been statistically significant but not socially meaningful in terms of the amount of change effected. Frequently changes have been found for posttreatment self-report measures, but not for social behaviors within or outside the laboratory, or even for laboratory tasks which were not specifically rehearsed during training (e.g., Glass et al., 1976). Only two of these studies have extended their assessment channels to include physiological measures of anxiety (Christensen et al., 1975;
Twentyman & McFall, 1975) and many studies have failed to include an attention-placebo group to control for the effects of expectancy of cure per se (e.g., Christensen & Arkowitz, 1974; Christensen et al., 1975; Curran & Gilbert, 1975; Curran et al., 1976; Glass et al., 1976; Hokanson, 1972; Kramer, 1975; Martinson & Zerface, 1970; McGovern et al., 1975; Mitchell & Orr, 1974; Twentyman & McFall, 1975). Only one study to date has attempted to assess the presumed expectancy equivalence of treatment and placebo control conditions (MacDonald et al., 1975), and in this study, the expectancy/credibility assessment of rationales was performed on a separate group of non-heterosocially anxious males. Kazdin and Wilcoxon (1976) have suggested that merely assuming that treatment and placebo groups do not differ in expectancy of cure may be a major confounding factor in most therapy outcome research. Clearly, rigorous control of such nonspecific factors is needed in future research.

In addition to these criticisms, Curran (1977) has cited several other weaknesses which have been characteristic of the research in this area. In many investigations, subject screening procedures (if any) have not been stringent enough to guarantee that subjects were truly anxious. In some studies, selection procedures seemed to have been overlooked altogether (Christensen & Arkowitz, 1974; Christensen et al., 1975; Glass et al., 1976). Such inadequate screening procedures have limited the potential generalizability of results
to clinical populations (i.e., heterosocially anxious males who request treatment). Curran has also criticized a number of studies for reporting no follow-up data (Christensen & Arkowitz, 1974; Curran 1975; Curran et al., 1976; Martinson & Zerface, 1970; McGovern et al., 1975; Melnick, 1973) and some studies for using only self-report outcome measures (Christensen & Arkowitz, 1974; Martinson & Zerface, 1970; McGovern et al., 1975). Multiple assessment procedures which sample a wide variety of facets of heterosocial anxiety and skill have generally been deemed more appropriate (Farrell, Mariotto, Conger, Curran, & Wallander, 1979).

Thus, methodological flaws within these studies have made it difficult to adequately assess the treatments employed, and future research should be aimed at utilizing designs which correct many of these flaws. In viewing past research, it is apparent that certain treatment approaches have received much attention while others have been relatively neglected. This imbalance in research effort does not appear to have been empirically justified. Thus, there seemed to be a need for future research to focus on these neglected areas. This need appeared strongest for research programs aimed at investigating the use of cognitive-behavioral procedures because of the extremely limited number of studies which had been conducted using this approach.
Evidence for Cognitive Factors

One of the trends that can be noted in the psychotherapy literature is an increasing interest in cognitive variables (Bandura, Adams, & Beyer, 1977; Mahoney, 1977). As was noted earlier, however, in the area of heterosocial anxiety, most studies concerning treatment have focused on skills training, a more behavioral approach. This emphasis on skills training approaches has continued despite only limited evidence supporting the notion that these persons have specific skills deficits. The improvement of subjects in studies using these programs may have been largely due to the desensitization component of in vivo practice—that is, anxiety reduction rather than social skill acquisition (Arkowitz, 1977). Similarly, Arkowitz has noted that findings supporting the efficacy of anxiety reduction and cognitive procedures do not provide solid evidence for each of these models. However, several studies have provided evidence that cognitive factors are important in the etiology and maintenance of heterosocial anxiety.

The heterosocially anxious male's inability to adequately appraise and evaluate his own skill has been noted in a number of studies. Clark and Arkowitz (1975) had low and high heterosocially anxious subjects judge their own and other's performance when interacting with a female confederate. While both groups were accurate in judging the performance of others in this situation, differences in judgements
concerning their own performance emerged. High-anxious subjects were generally found to overestimate their own performance, while low-anxious subjects tended to underestimate their performance. In a similar study, Curran, Wallander, and Fischetti (1977) asked heterosocially anxious subjects to view and evaluate videotapes of their own performance and the performance of bogus subjects (who had been trained to act competently or noncompetently) during the same dating interaction. The anxiety and skill levels of these subjects were previously assessed using self-report and behavioral ratings, respectively. All subject groups in their study accurately rated the bogus subjects' performance. However, high-anxious/high-skill subjects underestimated their own skill, while high-anxious/low skill subjects accurately assessed their poor performance. These results suggest that the heterosocially anxious may generate negative self-evaluations regardless of the adequacy of their performance. No matter how well they perform, they view themselves as having inadequate skills.

Goldfried and Sobocinski (1975) studied the relationship between irrational beliefs and emotional arousal. Irrational beliefs were found to be positively correlated with self-report measures of interpersonal anxiety. In their more extensive investigation of one specific irrational belief, the overriding importance of social approval, they found that subjects who ascribe to this belief (as compared to those
who did not) were more likely to become anxious and angry after imagining situations of possible social rejection.

Glass (1978) has recently reported an experiment investigating the role of cognitive responses in eliciting heterosocial anxiety. High and low-anxious males were asked to list the thoughts that went through their mind as they waited for an upcoming interaction with a female. High-anxious men were found to have generated more negative self-statements and evaluated themselves and the impending discussion more negatively, rated themselves as less active and less potent on semantic differential scales, and reported more state anxiety, as compared to low-anxious men. These results indicate that the type of self-statements in a particular situation are influenced by differences in heterosocial anxiety levels.

The rationale of treatment approaches employing self-statement modification with heterosocially anxious males has focused on the idea that negative self-statements may generate negative affect and decrease willingness to engage in heterosocial interactions. One study has directly assessed the effects of self-evaluative statements on heterosocial approach in shy and nonshy males (Mandel & Shrauger, 1978). This study involved deception, since subjects were told that they were participating in an "attitude induction" experiment. Subjects were asked to read self-enhancing (or self-critical) statements of a general nature (i.e., not specifically related
to heterosocial skills), concentrate on one of these, and then to concentrate on a number of really positive (or negative) aspects of themselves. Following this, they were sent to a waiting room where their interaction with a female confederate was monitored through a one-way mirror. Self-enhancement subjects had a shorter latency in initiating conversation, and spent more time conversing than did subjects in the self-critical condition. Similar differences were found between shy and nonshy subjects. Global ratings of interpersonal skill also discriminated between shy and nonshy subjects, and between the self-critical and self-enhancement groups. Unfortunately, the design of the study made it impossible to determine whether the differences reported between the self-critical and self-enhancement groups were due to the facilitation of the self-enhancement group, the inhibition of the self-critical group, or a combination of the two. An additional group of men who read "neutral" statements would have been needed to permit such analysis.

Taken as a whole, these investigations support the cognitive model of heterosocial anxiety. Differences have been reported between high and low-anxious males for cognitive evaluations of performance and other self-statements, and the induction of positive or negative self-statements appeared to promote differences in rated skill and performance. Perhaps it is only because of the relative newness of cognitive-behavior therapies that so few therapy outcome studies have
chosen to investigate cognitive approaches to the treatment of this problem.

At present, only three therapy outcome studies which included some form of cognitive treatment have been performed. In one of the earliest studies in the heterosocial anxiety literature (Rehm & Marston, 1968), anxious males received a program aimed at self-reinforcement combined with practice dating. Each subject made up a hierarchy of heterosocial situations which produced anxiety. Subjects then sought out these situations between sessions throughout the therapy period. During sessions, therapy focused on how the subjects might have changed their behavior to increase their self-evaluations. Thus, this treatment approach did not use specific cognitive-behavior modification procedures, and was more representative of the practice dating approach. Results indicated that the "self-reinforcement" group, when compared to nonspecific and nondirective group controls, showed decreases in self-reported anxiety, increases in number of words spoken on a performance task requiring subjects to respond to heterosocial situations presented on audiotape, and increases in the number of dates over baseline.

In a second study, Kramer (1975) similarly combined practice dating with a cognitive-behavior modification procedure. However, unlike the previous study, Kramer's cognitive restructuring procedures were consistent with the cognitive model. He employed a procedure aimed at changing irrational
beliefs and self-verbalizations relating to heterosocial interactions based on the approaches of Ellis (1962) and Meichenbaum (1973). Three treatment groups were used: practice dating with cognitive restructuring, practice dating alone, and behavioral rehearsal. Generally, results showed these groups to have experienced more improvement than a waiting list control group on all assessment measures. These included self-report, self-monitoring, and behavioral measures of anxiety and skill. The three treatment groups were not significantly different from one another, except on dating frequency. Here, only the practice dating group (which had no contact with a therapist) showed significant improvement. These results are somewhat puzzling since they suggest that cognitive restructuring may have inhibited performance on the measure of dating frequency. However, Curran and Gilbert (1975) have criticized this measure largely because of its susceptibility to influence by an atypical score (e.g., one of the subjects starts going steady). These results then, may reflect that inadequacy. Additionally, the study suffers from a lack of subject selection criteria and the absence of an attention-placebo control group. Further, the design does not permit evaluation of cognitive restructuring when used alone.

In the most recent therapy outcome study in this area, Glass et al. (1976) used a design which did allow for a direct evaluation of the cognitive modification procedures.
employed. Glass et al. randomly assigned subjects to a waiting list control group and one of five treatment groups: response acquisition, cognitive self-statement modification, a combined cognitive self-statement modification and response acquisition group, and two "enhanced" groups. The two enhanced groups employed either response acquisition or cognitive self-statement modification for longer periods, and were added to equate treatment length with the combined treatment groups. Training was conducted by undergraduates and used a semi-automated procedure involving the audiotaped presentation of social interactions between males and females. Depending on the group, these taped situations were followed by behavioral or cognitive modification coaching. Dependent measures consisted of phone call frequency and skillfulness in calling female confederates, and a dating behavior assessment test. The test assessed subjects' competence in responding to 24 heterosocial "problem situations." Eleven of these situations had been included in the subjects' training tapes. Results at posttreatment and at six month follow-up showed all treatment groups performing significantly better than the waiting list control group on the dating behavior test situations on which they had received training. The cognitive-behavior modification group, however, seemed to have experienced more generalization of treatment effects. At posttreatment, it was found that the response acquisition and combined groups were significantly superior to the
cognitive-behavior modification group on the trained role-play situations on the dating behavior test. However, only the cognitive-behavior modification groups demonstrated significant improvement on the untrained dating behavior test situations, and this improvement was maintained at follow-up. Further, the cognitive-behavior modification group's performance on the dating behavior test situations improved from posttreatment to follow-up. It was also found that the cognitive-behavior modification group made significantly more phone calls and made a significantly better impression when calling than did subjects in the other groups. Thus, the cognitive self-statement modification treatment showed better transfer of training both within and outside of the laboratory.

The support the Glass et al. study provided for cognitive self-statement modification must not be accepted without qualification, however. Selection of subjects was made without pretreatment screening, so that volunteers wishing to participate in the program were apparently accepted only on that basis. When Glass et al. attempted to validate the dating behavior assessment test, one of their major indices of treatment effect, no differences in adequacy ratings were found between experimental subjects and a group of heterosocially competent males. In addition, Glass et al. did not use an attention-placebo group in the study. On the positive side, the improvement reported in these groups may have
represented a conservative estimate of what might have been expected in the clinical use of the approaches they employed. Because the therapists used in this study were undergraduates, and treatment consisted solely of playing the training tapes to subjects during individual sessions, one might have expected only limited progress in such therapy. Greater interaction between therapists and subjects would have enhanced the benefits of these approaches, as would the use of more highly qualified therapists.

The present study was an attempt to assess more adequately the benefits of a cognitive-behavioral treatment package for heterosocially anxious males. Such research was warranted by previous studies implicating cognitive variables in heterosocial anxiety and the numerous shortcomings of existing studies designed to test the cognitive-behavioral approach with this problem. The present study represented a number of improvements over past studies of the cognitive-behavioral treatment of heterosocial anxiety. Specifically, it included: (a) the assessment of a cognitive-behavior therapy package which more closely paralleled cognitive approaches used in clinical practice (i.e., more highly qualified therapists using a more comprehensive cognitive-behavioral approach), (b) the comparison of this treatment method to an attention-placebo control group given a rationale for treatment pretested for equivalence on ratings of expectancy/credibility, (c) continued assessment of expectancy/credibility
during treatment, (d) the measurement of pre- to post-treatment changes across three assessment channels: physiological, behavioral, and self-report, and (e) the assessment of the relationship between physical attractiveness and global ratings of skill in heterosocial interactions.

The treatment used in the present study paralleled the stress inoculation training procedure originally developed by Meichenbaum and Cameron (1972) for use in the treatment of multiphobic clients. The treatment package focused on teaching the subjects a set of coping skills which they could use in stressful situations. Meichenbaum (1975, 1977) conceptualized anxiety in terms of Schachter's (1966) model of emotion. Here, the client's fear reactions were seen as involving two major elements: heightened physiological arousal, and anxiety producing thoughts and self-statements. Treatment was aimed at combating both of these elements by using a two-pronged approach. Therapy was directed toward helping the client by teaching him to physically relax and modify his self-statements so that they were more productive and less likely to engender anxiety. Relaxation given in this context was distinguishable from that given in traditional systematic desensitization, since it was taught as a coping strategy which the individual could actively use during stressful situations. Thus, this training typically has focused on cue-controlled relaxation (Paul, 1966; Bernstein & Borkovec, 1973) whereby cue words (e.g., "relax") were
associated with the individual's relaxed state. The individual's ability to cope with anxiety was further enhanced by teaching him adaptive ways of dealing with negative self-statements. The individual was thus taught to cope with the stressful situation by first instructing himself to relax and then modifying the negative self-statements which arose on these occasions. While such a treatment package had not been previously attempted with heterosocially anxious males, a critical review of similar procedures used with other anxiety targets concluded that past studies provided convergent support for their efficacy (Barrios & Shigetomi, 1979).

In some ways, the approach used in the present study seemed ideally suited for the treatment of heterosocial anxiety. With respect to current models of the problem, treatment focused on an anxiety component, which cut across all three models, and a self-statement component which was characteristic only of the cognitive model. Therefore, of the three factors hypothesized to contribute to the problems of the heterosocially anxious male ("physiologically-based" anxiety, cognitive mediators, deficient social skills), two were directly addressed in therapy. While the addition of skills training to the procedures might have potentially improved the power of the treatment package, the specific skills on which training should be given have largely eluded previous researchers. By focusing on factors which had been implicated in the past
research, the present approach promised to be an effective means of dealing with heterosocial anxiety.

Therefore, it was hypothesized that subjects receiving this training would show significantly greater decreases on anxiety measures than did those in the attention-placebo group. Significantly greater increases in dating frequency were also expected with subjects in the cognitive-behavioral group. Between-group differences on anxiety and dating measures were expected to be maintained at follow-up. Despite the absence of direct skills training, it was hypothesized that this group would also show greater improvement in heterosocial skill, resulting from a lessened inhibitory effect of anxiety on skill.

Two supplementary hypotheses were also investigated. Based on Arkowitz's (1977) suggestion that male physical attractiveness is reflected in global ratings of heterosocial skill, it was expected that physical attractiveness would be significantly correlated with such global ratings in the present study. Significant correlations were not expected between male physical attractiveness and ratings of specific heterosocial skills.

Method

Subjects

Subjects for the study were solicited from both the North Texas State University campus and from the greater Denton area through advertisements seeking single males who felt uncomfortable around persons of the opposite sex and who
desired to increase their comfort during dating or in their everyday interactions with women. On campus, handbills were distributed to the rooms of all males who resided in on-campus student housing. Handbills were also posted at various locations across campus. Additionally, notices in the campus newspaper and public service announcements over the campus radio station advertised the availability of the programs. Public service announcements over several area radio stations and notices in the Denton newspaper were used to solicit subjects from the community, as well.

Individual appointments were made with the experimenter for persons who responded to determine their suitability for the study. During these sessions, subjects completed a biographical inventory and were interviewed by the experimenter. The biographical inventory was used to obtain information about certain demographic characteristics of the subjects (e.g., age, race), the extent of their previous relationships with females (e.g., previous marriages, engagements, steady girlfriends, dating frequency), and whether or not they were currently receiving counseling or psychotherapy. A copy of the biographical inventory may be found in Appendix A. Subjects were then interviewed to assess their general psychological status, sexual orientation, and reasons for participating in the program. Guidelines for this structured interview may be found in Appendix B. General psychological status was assessed using a series of questions similar to that used with incoming clients to the Psychology Clinic at North Texas State
University. The purpose of this portion of the interview was to screen subjects who were receiving psychotropic medication, or who were psychotic, deeply depressed, suicidal, or so psychologically disturbed that heterosocial anxiety was clearly a secondary problem. The remaining portion of the interview elicited information from the subjects so that those who did not classify themselves as exclusively heterosexual or did not describe themselves as heterosocially anxious could be excluded from the study. None of the subjects who volunteered to participate in the present study met any of these exclusion criteria.

Subjects were given a general description of the procedures of the experiment and signed informed consent forms. A copy of this description and informed consent forms may be found in Appendix C. Subjects completed a Survey of Heterosexual Interactions (Twentyman & McFall, 1975) before being dismissed, and were later contacted by phone to make appointments for additional pretreatment assessment.

Twenty-two subjects initially volunteered to participate in the study. Two of these subjects subsequently decided not to participate prior to completing pretreatment assessment. The 20 remaining subjects were randomly assigned to one of the two treatment conditions. When one of the members of the cognitive-behavioral group had a change in work schedule on the day of the first session which made it impossible for him to attend the group's scheduled meetings, he was transferred to the attention-placebo group. Thus, at the
start of treatment, 9 subjects were in the cognitive-behavioral group and 11 were in the attention-placebo group. One member of the cognitive-behavioral group was forced to withdraw from the experiment after the second treatment session for reasons unrelated to the study, leaving a total of 8 subjects in this group. The age of the remaining subjects in the cognitive-behavioral group ranged from 19 to 29 years, with a mean age of 21.5 years. The age range of the attention-placebo group subjects was 20 to 42 years, with a mean age of 22.9 years. Both groups were composed of exclusively white subjects. Participants were predominantly students at the university, with only two nonstudents, one in each group.

Dating characteristics of these men were extremely variable. Some reported having had only one or two dates in their life, while others dated relatively frequently, despite feeling anxious around women. With respect to dating frequency over the previous two months, the mean number of dates for subjects in the cognitive-behavioral group was 3.50, with a range of 0 to 8 dates during this period. Attention-placebo subjects reported 0 to 18 dates during this two-month period, with a mean of 3.45 dates. Over the three weeks prior to the initial evaluation, number of dates for the cognitive-behavioral subjects ranged from 0 to 4, with a mean of 1.37. For attention-placebo subjects, the range was 0 to 9, with a mean of 1.55 dates.
Characteristics of the subjects with respect to two paper-and-pencil questionnaires indicated that the average male in the present study scored below the average reported means of the original normative groups for these measures. On the Survey of Heterosexual Interactions, Twentyman and McFall (1975) reported a mean of 88.21 and a standard deviation of 18.45 for their normative sample. In the present study, the mean score on this measure was 70.00 (SD = 20.23) for the cognitive-behavioral group and 70.82 (SD = 21.66) for the attention-placebo group. With the Fear of Negative Evaluation Scale (Watson & Friend, 1969), the reported mean with their normative sample was 15.47 (SD = 8.62). Mean scores for subjects in the current study were found to be 18.25 (SD = 7.63) for the cognitive-behavioral subjects and 15.73 (SD = 5.31) for the attention-placebo subjects.

Overall, this information regarding subjects characteristics suggested that not all males in the sample were severely debilitated by the anxiety they experienced with women. While these men varied in the amount of heterosocial anxiety they experienced prior to treatment, all sought to participate in these treatment programs without any compensation (e.g., course credit) other than to obtain relief from the anxiety they were experiencing at that time. In this sense, the present investigation could have best been described as "clinical" rather than "analogue" in nature.
Pretreatment Assessment

Pretreatment assessment was completed in two additional sessions beyond the initial interview session. During the first of these sessions, subjects paid a $10 deposit and completed the remaining paper-and-pencil questionnaires of the pretreatment assessment battery. Each subject's $10 deposit was completely refundable if he attended all training and assessment sessions, and completed the follow-up questionnaires. During the second session, subjects participated in a 10-minute videotaped conversation with a female confederate.

The self-report questionnaires included in the pretreatment assessment battery were: the Survey of Heterosexual Interactions (Twentyman & McFall, 1975), the Fear of Negative Evaluation Scale (Watson & Friend, 1969), and a "frustration tolerance test and frustration thermometer" (McReynolds, Barnes, Brooks & Rehagen, 1973). Copies of the pretreatment assessment battery may be found in Appendix D.

The Survey of Heterosexual Interactions (Twentyman & McFall, 1975) assessed the subject's ability to initiate and carry out interactions with women in various social situations. The instrument was used as an index of the subject's general heterosocial anxiety. Items were scored from one (unable to interact as suggested by the item) to seven (able to carry out the interaction in every case). An indication of the Survey of Heterosexual Interactions' construct validity was obtained from Twentyman and McFall (1975). In their study,
the measure was useful in discriminating subjects into two
groups which later proved to be significantly different on
measures of self-reported anxiety, pulse rate and "peak
arousal" in social behavior situations, avoidance of social
behavior situations, behavioral ratings of social interactions,
and in self-report diary records of their interactions with
women. All differences were in the expected direction.

The Fear of Negative Evaluation Scale (Watson & Friend,
1969) measured subjects' apprehension about others' evaluations,
distress over their negative evaluations, avoidance of eval-
uative situations, and the expectation that others would
evaluate them negatively. The scale served as the major
index of cognitive changes among subjects. Watson and Friend
reported a KR-20 reliability statistic of .94 for the 30-item
ture-false scale, while the test-retest correlation of the
scale was found to be .78. Results from their experimental
study lent some validity evidence to the scale--those high in
fear of negative evaluation tended to become nervous in eval-
uative situations and worked hard to avoid disapproval or
gain approval. Significant correlations were found with
Taylor's (1953) Manifest Anxiety Scale (r = .47).

The frustration tolerance test and the frustration
thermometer (McReynolds et al., 1973) were devices which were
included to help assess the subjects' susceptibility to
nonspecific effects of treatment, especially experimenter
demand. Subjects were first given a frustration tolerance test where they were asked to cross out all of the twos and sixes on a page of random numbers. The test was introduced as one that induced frustration, an emotion the subject was told was closely related to fear and anxiety. The rationale continued by explaining that changes in anxiety and frustration are correlated, and this was given as the reason for including the test in the battery. Upon completing the frustration tolerance test, the subject was asked to rate his "felt frustration" on a 10-point frustration thermometer. Thus, the measure involved no more than crossing out numbers and subsequently rating the frustration experienced during the task, but was presented to the subjects as an anxiety-relevant instrument. By leading subjects to believe that this measure was related to the target problem, when in reality it was not, changes observed on the measure from pretreatment to posttreatment served as an estimate of experimenter demand effects. Potentially, unobtrusive (bogus) measures of therapy outcome such as this one have advantages over self-report measures because the transparency of the assessment procedure is less of a problem (Kazdin & Wilcoxon, 1976). Therefore, it was hoped that this measure would complement a 5-item expectancy/credibility assessment measure which was given to the subjects during each treatment session to tap nonspecific factors in therapy.
After these questionnaires were completed, individual appointments were made with the subjects to participate in a 10-minute in vivo conversation with a female prior to the onset of treatment sessions. Procedures followed during the conversation and in the training of the female confederates were similar to those used by Arkowitz, Lichtenstein, McGovern, and Hines (1975). Subjects had previously been informed that the conversation would be videotaped and that their partner was an experimental confederate. While a more naturalistic assessment of heterosocial skill and anxiety might have been achieved if the subjects had been unaware that they were being monitored, it would have been difficult to repeat similar procedures after treatment without arousing suspicion in the subjects. Further, surreptitious monitoring would have prohibited the use of heart rate and self-report measures during the interactions, both of which were integral parts of the assessment procedure.

In an attempt to simulate natural interactions outside the laboratory, each subject was instructed to act as if he were in an actual conversation with a female that he was meeting for the first time and was interested in getting to know further. He was instructed to talk to her as he normally would in such a situation, but was told not to ask the confederate any questions about the experiment. If the subject did not initiate a conversation during the first minute, the female confederate was instructed to provide a conversational prompt.
The two female confederates who conversed with the subjects were selected on the basis of their similarity in terms of physical attractiveness and age (both were 21 years old). Actual physical attractiveness ratings of the confederates, as judged by the subjects, were analyzed and have been reported in the results section. Both confederates were given prior training designed to standardize their responses as much as possible. Training was conducted in two 1-hour sessions with the experimenter and bogus subjects. Confederates were taught to restrict the duration of their responses to a minimum (5 seconds or less) and to let the burden of the conversation fall on the subject. They were told to avoid initiating any topic with the subject unless a silence in the conversation exceeding 10 seconds occurred. They were instructed to be moderately positive toward all subjects (soft-spoken, non-aggressive, smiling frequently, encouraging). A copy of the written instructions given to the confederates prior to training has been included in Appendix E.

An attempt was made to schedule the in vivo assessment so that half of the subjects in each group would converse with the first confederate (confederate A) in pretreatment and the second confederate (confederate B) at posttreatment. Under this plan, the other half of the subjects would thus converse with confederate B at pretreatment and confederate A at posttreatment. However, participation of one of the confederates during pretreatment was curtailed by illness in her family. This resulted in a disproportionate number of subjects seen
by each confederate at both pretreatment and posttreatment. However, the proportion of subjects seeing each confederate was relatively equal for both groups. Three of eight cognitive-behavioral subjects and four of eleven attention-placebo subjects saw confederate A during the first interaction. These subjects thus met with confederate B during the posttreatment interaction. The remaining subjects met with confederate B during the pretreatment interaction, and met with confederate A during the posttreatment interaction.

Heart rate during the 10-minute in vivo conversation with the female confederate was also recorded. Curran (1977) emphasized that low correlations across measurement modes necessitate the use of physiological measures in addition to the more typical self-report and behavioral measures of outcome. Heart rate was chosen because it has been noted to be strongly associated with fear (Lang, Rice, & Sternbach, 1972), and it may be measured relatively unobtrusively.

A portable Lafayette Heart Rate Monitor was used to monitor heart rate from a finger on the subject's nonpreferred hand. Prior to meeting the confederate, the subject was told that his heart rate would be monitored for the next few minutes. He was asked to relax during this time, and the experimenter left the room to monitor the subject's heart rate from an adjoining room. After a 3-minute period to allow heart rate to stabilize, the first three consecutive readings that were the same were recorded. This figure served
as the subject's baseline heart rate. After baseline was recorded for the subject, the experimenter introduced the confederate to the subject and again left the room. Heart rate was monitored continuously during the conversation with the female confederate and was recorded at 30-second intervals.

Accurate recording was facilitated through the use of a split-screen image inserting device used in conjunction with the videotape recording equipment. In videotaping, one camera was focused on the subject and another was focused on the heart rate display on the heart rate monitor. In this way, heart rate readings were "inserted" in one corner of the image projected on the monitor. When these tapes were replayed during rating, these readings were masked so they could not be seen by the raters.

Immediately after the conversation, subjects completed three 10-point scales. Here, subjects indicated the amount of anxiety they experienced during the interaction (anxiety thermometer), how skilled they felt their performance was during the interaction (skill thermometer), and how physically attractive they judged the confederate with whom they conversed. The endpoints of the anxiety and skill thermometers represented extreme or no anxiety, and very poor or very good skills, respectively. The endpoints of the confederate attractiveness scale were "very attractive" and "very unattractive."

In order to verify that physiological arousal during the interaction was due to anxiety (rather than to sexual
arousal, elation, or some other emotion), subjects were asked indirectly to specify the source of this arousal. The experimenter proceeded through a series of four questions (moving from general to specific questions) until the nature of these attributes could be determined. The following series of questions was used: (a) "I noticed that your pulse rate increased during the interaction. Why do you think that happened?" (b) "Did you experience any emotions during the interactions?" (c) "How did you feel during the interaction?" (d) "Do you think your pulse rate increased because of anxiety, sexual arousal, or a feeling of elation and happiness?" Typically, only the first question was necessary to obtain this information. However, with a few of the subjects, the additional questions were required. All subjects specified anxiety as the main source of their arousal during the interactions.

Subjects were then photographed so that physical attractiveness could be assessed. Attractiveness was objectively measured using a procedure described by Paschall (1975) whereby subject attractiveness was judged by making comparisons with 45 "standard" photographs of males of varying degrees of attractiveness. Each subject's photograph was compared individually with each photograph in the standard set by 10 undergraduate female raters and a judgment of more or less attractive was made. Raters were not informed of the purposes of the study. By this method, a numerical measure
of attractiveness was determined by summing the number of photographs on which the subject was judged more attractive. Judgements were thus made through a series of quantifiable comparisons which resulted in a concrete rating of physical attractiveness that was independent of the subject's hetero-social skill. Through this measure, the hypothesized relationship between physical attractiveness and global ratings of skill (Arkowitz, 1977) could be determined in later analysis.

Treatment

Treatment in both the cognitive-behavioral and attention-placebo groups was conducted by two male therapists. Both therapists were doctoral level students in clinical psychology. Therapists were given therapy training manuals describing the general therapy procedure and step-by-step instructions concerning the procedures to be followed in each session. Copies of these training manuals are included in Appendices F, G, and H. Additional training of the therapists by the experimenter consisted of two one-hour training-and-practice sessions prior to the start of treatment. Treatment for both groups was conducted in three weekly two-hour therapy sessions.

Cognitive-Behavioral Group. Treatment in this group generally followed the stress-inoculation approach described by Meichenbaum (1975, 1977) with the exception of the "application training" phase which has often been included in the
approach. Generally, this application training phase has been conducted in the latter phases of therapy in one of two ways. In one, the subject has practiced the coping skills he has learned in an anxiety-producing situation other than that focused upon in therapy. The use of this type of training would have represented a rather inefficient use of time in a condensed short-term treatment plan such as the one used in the present study. A second way of conducting the application phase has been to allow the subject to practice his newly acquired skills in the phobic situation itself. Here, the researcher has been faced with the potential confounding effects of modeling (if the training has been done within the group) and desensitization during practice encounters with females. For these reasons, the application training phase was excluded in the treatment of subjects in this study.

Specifically, the group members were taught a set of coping skills which they could use to help them ward off anxiety during heterosocial interactions by relaxing and modifying negative self-statements which arise during such situations. Subjects were taught to relax during these situations by training them in cue-controlled relaxation exercises (Bernstein & Borkovec, 1973; Paul, 1966) during each treatment session. Cue-controlled relaxation training was followed in each session by self-statement modification training through the use of audiotaped training (Glass et al., 1976) and group discussion.
In the first session, the therapists introduced themselves to group members and provided the subjects with a typed copy of a description of the procedures and rationale for treatment. A copy of this description may be found in Appendix I. Subjects were then given an expectancy/credibility assessment measure (Borkovec & Nau, 1972), which they completed before treatment actually began. Here, subjects rated their treatment's rationale and procedures on five 7-point credibility and expectancy-for-improvement scales (see Appendix J). Therefore, scores on the measure could range from 5 (least credible) to 35 (most credible).

Treatment in the first session began with cue-controlled relaxation training. Ostensibly, cue-controlled relaxation has been used to teach the client to actively control his anxiety by conditioning relaxation responses to easily self-produced signals (e.g., the words "relax" or "calm") and by teaching the client to produce these signals covertly whenever he has discriminated the onset of anxiety.

Training in cue-controlled relaxation followed the procedures outlined by Bernstein and Borkovec (1973). Training consisted of a two-stage procedure in which subjects were given deep muscle relaxation exercises followed by repeated pairings of an imaginal word ("relax") with the relaxed muscular state. In the first session, the full 16-muscle procedure recommended by Bernstein and Borkovec (1973) was used to assist subjects in achieving a relaxed state.
Cue-association training was initiated 30 seconds after the relaxation training without a break in the procedure. This was accomplished by having the group focus their attention on breathing while covertly repeating the cue-word with each exhalation. For the first five exhalations, one of the therapists audibly repeated the cue-word along with the subject's covert verbalizations. Subjects then continued alone for 15 additional cue-relaxation pairings. Clients next attended to feelings of relaxation during a 60-second pause which was followed by an identical series of 20 cue-relaxation pairings.

After a brief break, subjects were introduced to the idea of self-statements and the rationale for self-statement modification. Here, subjects were asked to recall the pretreatment assessment interaction (and other past interactions with females) and identify negative self-statements before, during, and after these interactions. The irrational, self-defeating, and self-fulfilling nature of these self-statements were stressed, and group discussion then focused on more appropriate and positive self-statements they might make during these situations.

During the last part of the first session, subjects listened to a cassette training tape in self-statement modification. This tape was made using the transcripts of tapes used in a previous study on dating skills (Glass et al., 1976). The tape consisted of 13 training segments. Each
segment of the tape involved: (a) a typical problem situation, (b) examples of negative self-talk, (c) correction of negative self-talk with examples of positive self-talk, and (d) examples of self-talk reinforcement designed to reinforce the positive self-talk that precedes it. Problem situations and coping self-statements used on the tape were obtained by Glass and her colleagues through pilot studies with college undergraduates. In the Glass et al. (1976) study, the tapes were used in a semi-automated procedure in which college undergraduates played the tapes individually to subjects. In the present study, these recordings were modified to facilitate their use in a group setting.

Tapes were recorded with pauses between each step of each of the 13 training segments. In this way the tape could be stopped at any step to elicit group discussion of their own self-statements or of those presented on tape. During the first session, only two problem situations were presented.

Before being dismissed, group members were given the following homework assignments: (a) practicing relaxation training nightly, and (b) monitoring their thoughts when they were interacting with females (or in other anxiety-provoking situations) and recording these thoughts later in the day. Subjects were asked to bring these lists to the following session.

Session two again began with cue-controlled relaxation training. During this session relaxation training followed
the 7-muscle sequency (Bernstein & Borkovec, 1973) rather than the 16-muscle procedure used in the first session. Cue-association training after deep muscle relaxation proceeded using the procedures followed in the first session.

After cue-controlled relaxation training, the group discussed homework assignments, beginning with a discussion of the relaxation training and problems they might have encountered in practicing. Discussion then proceeded to the second homework assignment where subjects were asked to monitor their self-statements throughout the week. Here, the group focused on the negative self-statements reported and considered positive self-statements which might be used to correct them. The coping model for dealing with anxiety was then presented to the subjects. Subjects were told how to use the cue-controlled relaxation procedures to prepare for anxiety-provoking interactions with females. They were told that once in the anxiety provoking situations, they should tell themselves to "relax", substitute positive self-statements for negative ones, and reinforce themselves covertly for making the positive self-statements. The model was designed to first reduce the arousal component of anxiety through cue-controlled relaxation and then reduce the effects of the cognitive components of anxiety through self-statement modification.

After a short break, therapists again reviewed the coping model and exemplified the use of the model by playing
the first two segments of the training tapes. Further dis-
cussion of the model followed, with therapists stressing the
importance of practicing each step within it (during sessions).
The remainder of the tape was then played with therapists
stopping the tape at designated points to allow group members
to contribute their own examples. Therapists attempted to
encourage all members to contribute here. Homework was
assigned before ending the session with the expectancy/cred-
ibility assessment measure. Homework again included nightly
relaxation practice and the monitoring and recording of self-
statements throughout the week.

The third and final session again began with cue-controlled
relaxation training. In this final session, training
followed an abbreviated form of the previous sessions by
using the 4-muscle sequence (Bernstein & Borkovec, 1973).
Cue association training after relaxation proceeded in a
similar manner to that followed in the two prior sessions.

The group then discussed the past week's homework
assignments and exchanged suggestions for dealing with prob-
lems they may have encountered (e.g., in relaxation exercises).
Training in self-statement modification continued with the
audiotape according to the procedure used in the second
session. Forty-five minutes prior to the end of the session,
audiotape training was stopped and the group discussed and
practiced the use of the coping model with specific problem
situations with which the subjects had difficulty.
Here, the group focused on idiosyncratic problem situations for the individual subjects which may not have been discussed previously. Solutions for handling these situations were suggested, within the confines of the coping model. For example, if an individual in the group had difficulty determining corrective positive self-statements in a certain situation, he could obtain input concerning various positive self-statements which might be appropriate for that situation. Thus, situations in which the subjects had particular difficulty applying the model were discussed, and examples of how it could be applied were given.

Before the subjects left, they completed the expectancy/credibility assessment measure and signed-up for the post-treatment in vivo assessment procedure for the following week. Subjects were asked to come to the Psychology Clinic prior to the day of their scheduled appointments and retake the paper-and-pencil measures they received in the screening session.

Attention-Placebo Group. Members in this group received a treatment approach designed to minimize therapeutic effects while equating for the effects of nonspecific factors in the cognitive-behavioral group. Treatment contact time was equivalent with that for the cognitive-behavioral group.

A description of the procedure and rationale for this treatment was given to the group at the beginning of the first treatment session. A copy of this description may be found
Treatment was described as being a combination of two new and effective procedures, "subliminal desensitization" and "stimulus-controlled free association." The rationale for the subliminal desensitization procedure was similar to that for traditional systematic desensitization, with one exception—anxiety-provoking images were to be presented subliminally instead of consciously to the subjects. Subjects were told that they would be presented with these subliminal images while relaxing as they watched a movie. The second procedure, stimulus-controlled free association, was described as a variant of traditional Freudian free association. Subjects were told that in order to make the traditional procedure more efficient, they would be presented with photographic slides relating to their problem. In this way, the rationale continued, the content of their free associations would be controlled to some extent and focused on the problem area. The subjects were told that by doing this, irrelevant free associations were reduced and treatment progressed more rapidly.

In pilot testing, it was determined that this procedure and rationale were equivalent in credibility to that used in the cognitive-behavioral group. In this testing, undergraduates read either the attention-placebo description (n = 64) or the cognitive-behavioral description (n = 66), and completed an expectancy/credibility assessment measure similar to the one used in the present study. Scores on the
instrument ranged from 0 (least credible) to 50 (most credible). The mean credibility rating of the attention-placebo description was found to be 31.88, while a 33.06 credibility rating was found for the cognitive-behavioral description. Differences between these means were nonsignificant ($F = 1.14; df = 1,128; p = .29$).

During the first session, therapists introduced themselves to the group members and provided the subjects with a typed copy of this description of therapy. Subjects were then given the expectancy/credibility assessment measure which they completed before treatment began. Then subjects were introduced to the subliminal desensitization procedure, rationale, and instructions. Subjects were given an abbreviated form of the relaxation training used in the cognitive-behavioral group. Training consisted of relaxation using the 4-muscle sequence. Subjects then viewed a 30-minute film. The content of the films varied from session to session, but no films included pictures of females. At 30-second intervals throughout the film, one therapist tachistoscopically projected unexposed slides on the screen. Subjects were told that for experimental purposes they would not be allowed to see the content of the slides, but that slides depicted scenes judged to be highly anxiety-arousing in a previous study with a group of men who experienced anxiety when interacting with women. After 15 minutes, the film was stopped and subjects once again were told to relax. The
remaining 15 minutes of the film were shown in the same manner as was the first.

After a five-minute break, the group was introduced to the stimulus-controlled free association procedures and note pads were distributed to the subjects. Subjects then viewed "mildly anxiety-provoking slides" of females, and of males and females in social interactions. Here the therapist presented each slide for one-minute, and the subject was asked to focus his attention on the content of the slide and free associate. At the end of the one-minute slide presentation, the therapist turned off the slide projector and allowed the client to record his free associations on his note pad. The projector remained off for an additional minute while the client wrote down any particular insights he may have had while free associating. During the first session, 12 slides were presented in this fashion.

Following stimulus-controlled free association, the subjects discussed their free associations in group. The therapists functioned merely to stimulate group discussion and did not provide interpretation or insight into the subjects' free associations. Thus, any insight or interpretations emerged only from the subject himself, or from contributions by other group members. Therapists told the subjects that insight into their problems must be an experiential process, and that true insight must arise from within themselves and could not be taught in a didactic manner by a therapist. They
were told that the purpose of the group discussion was to enhance their own insight by exposing them to others developing insight into a similar problem as theirs.

Before being dismissed, subjects were given the following homework assignments: (a) practicing relaxation training nightly, and (b) a nightly free association procedure surrounding any interactions with females they may have had during the day. They were asked to write down the content of these free associations and bring them to the next session for group discussion.

The second and third sessions proceeded similarly to the first with the following exceptions: (a) less time was spent in the subliminal desensitization procedure to correspond to similar reductions in time spent in cue-controlled relaxation in the cognitive-behavioral group, (b) more time was spent in the stimulus-controlled free association and group discussion procedure to correspond with similar increases in time spent in self-statement modification training in the cognitive-behavioral group, and (c) the expectancy/credibility assessment measure was administered at the end of the second and third sessions (as in the experimental group), rather than near the beginning of the session.

The attention-placebo group was designed to parallel treatment in the cognitive-behavioral group in several respects: (a) therapists used, (b) total time spent in therapy, (c) the use of "media" (e.g., audiotapes or movies) in roughly
similar proportions for both groups, (d) homework assignments, and (e) emphasis on similar components of the problem which were treated by both approaches. The rationale behind each approach thus focused on two components of heterosocial anxiety which were to be changed during treatment. The first was an arousal component which was treated through the use of cue-controlled relaxation in the cognitive-behavioral group and through the use of "subliminal desensitization" in the attention-placebo group. The second was a cognitive component that was to be treated by self-statement modification and group discussion in the cognitive-behavioral group, and by stimulus-controlled free association and group discussion in the attention-placebo group.

**Posttreatment Assessment**

All subjects again completed the battery of tests given during pretreatment assessment (including dating frequency for the past three weeks) and participated in a 10-minute in vivo conversation with a female confederate. As noted earlier, this confederate was different from the one the subject met in pretreatment, but she followed the same rules and procedures used by the pretreatment confederate. Videotaping and heart rate monitoring were performed using the same procedures as in pretreatment assessment, and subjects again assessed their anxiety and skill when interacting with the confederate using the 10-point thermometers. Subjects
also rated the confederates on the 10-point physical attractiveness scale.

Subjects who completed this posttreatment assessment then received half of their initial deposit. They were asked to provide a mailing address where they could be reached three months later so that they could be mailed the follow-up assessment measures. In addition, subjects were told that if they felt they had not benefited as fully as they would have liked from the treatment they received, they could participate in additional treatment following the procedure which appeared the most effective of the two studied. One subject in the attention-placebo group requested such treatment, which was provided by the experimenter in three individualized cognitive-behavioral treatment sessions.

Follow-up

Three months after treatment termination, subjects were mailed copies of the questionnaires they completed during pretreatment and posttreatment assessment. Subjects were also asked whether or not they received any additional formal treatment for their problem. All subjects were asked to return their questionnaire packets by mail (postage paid) to the experimenter. Upon receipt of these questionnaires, these subjects were mailed the remaining half of their deposit.

Rating of Videotapes

Videotapes of the subjects' conversations were rated with respect to both specific and general indices of anxiety and
skill. Specific anxiety indices were taken from Paul's (1966) Timed Behavioral Checklist for performance anxiety. Since the checklist was designed for use with speech anxious subjects, all items included in the list were not appropriate for the present study. Inappropriate items were excluded from the list (e.g., paces, sways) as were items which had dubious value in a videotaped rating procedure (e.g., face pale, face flushed). Nine items were retained: extraneous arm and hand movement (swings, scratches, toys), hand tremors, face muscles tense (drawn, tics, grimaces), moistens lips, swallows, clears throat, breathes heavily, voice quivers, and speech blocks or stammers. Two additional items were included: extraneous foot and leg movement (wiggling, shaking, kicking) and the use of "ah." This last item was included because it has been found to increase with progressively increasing stress in a social interaction situation (Borkovec, Fleishmann, & Caputo, 1973). A copy of the modified Timed Behavioral Checklist used in the present study may be found in Appendix L.

Two female undergraduates used the Timed Behavioral Checklist to rate the videotapes of the subjects' pretreatment and posttreatment interactions. Using this checklist, the raters recorded the presence or absence of each behavior in 30-second intervals during replays of the videotapes. Both raters were naive to the purpose of the experiment and classification of subjects.
Raters were given written and verbal instructions on the use of the checklist and participated in practice rating sessions prior to rating the subjects' interactions. Copies of the written instructions may be found in Appendix M. During practice sessions, the raters viewed two videotapes where they observed the interactions of bogus subjects with the confederates. Raters were given feedback as to how well their ratings corresponded with "expert" ratings and problem areas were discussed. Raters continued to view these tapes until they became adept at using the checklist. A third videotape was used to test the subjects' ability to use the measure by comparing their ratings with expert ratings of the interaction. The rater was judged competent and training was terminated when a "90% correct" criterion was reached (i.e., interobserver agreement between the rater and the expert reached 90% or greater). If the rater was unable to reach this criterion initially, she reviewed the training tapes and re-rated the test tape until she was able to do so. Aside from passing or failing, no feedback on the test tape was ever given to a rater until she reached competency.

Tapes of the subjects' interactions were presented in random order to the raters. True independence of rating judgements was guaranteed by utilizing separate rating sessions for each rater. Interobserver agreement (agreements divided by agreements plus disagreements) calculated for the Timed Behavioral Checklist ranged from 79.54% to 94.54% with a mean of 88.22% and a median of 87.73%.
Ratings of specific skill indices during the interaction were made using the Barlow, Able, Blanchard, Bristow, and Young (1977) Heterosocial Skills Behavior Checklist for Males. The Heterosocial Skills Behavior Checklist was an 11-item checklist with items falling into one of three categories: voice, form of conversation, and affect. A copy of the checklist is included in Appendix N. In the voice category, ratings included loudness, pitch, and inappropriate dramatic effect of the subject's speech. Form of conversation involved the following: initiating conversation, following-up on female vocalizations, ensuring continued flow of conversation, and verbalizing interest in the female's activities or appearance. Affect items included appropriate facial expression, eye contact, and appropriate/inappropriate laughter. Barlow et al. (1977) found that these behaviors significantly discriminated adequate from inadequate males. However, their inadequate group consisted of sexual deviates undergoing psychiatric evaluation. Criteria for judging inadequacy in this group included desire to interact heterosexually, but showing "very low frequency" of interaction and reports of failures in these interactions. Despite this limitation, the Heterosocial Skills Behavior Checklist seemed to be the most appropriate and adequately researched behavioral skills checklist for use with heterosocially anxious males. As with the Timed Behavioral Checklist ratings were made in 30-second blocks for each category.
Two additional experimentally naive undergraduate females rated the subjects' interactions with the confederates using the Heterosocial Skills Behavioral Checklist. Training in the use of this checklist was similar to that given the raters who used the Timed Behavioral Checklist. Written instructions given to confederates may be found in Appendix 0. Again, a "90% correct" criterion was used to qualify the raters' competence at using the checklist before actual rating of the subjects' videotapes was started. Once qualified, raters proceeded to rate the videotapes using the same general method used by the Timed Behavioral Checklist raters. Interobserver agreement calculated after these ratings were completed were high for all three subcategories of the checklist. For the voice category, interobserver agreement ranged from 81.25% to 100.00%, with a mean of 97.96% and a median of 98.75%. On the form of conversation category, these figures ranged from 85.00% to 100.00%, with a mean of 93.94% and a median of 93.75%. For the affect category, the range was 80.00% to 100.00%, with a mean of 92.84% and a median of 93.33%.

Additionally, global ratings of anxiety and skill were obtained from four separate raters who viewed the conversations in their entirety. Ratings were made on the same 10-point anxiety and skill thermometers given subjects after their interactions with confederates. These raters were given no training in the hope that these ratings would more
accurately reflect more naturalistic skill and anxiety ratings similar to those received in the outside world.

Data Analysis

Nonspecific treatment factors. Group comparisons of treatment credibility were made using one-way analyses of variance on scores collected at each of the three therapy sessions. Group means on the credibility assessment device were thus compared in three separate analyses.

Changes which were measured on the frustration thermometer between assessment points were compared, between-groups, using one-way analyses of variance. Since the device was a bogus measure of therapy outcome, it was hoped that these analyses would tap any between-group differences in experimenter demand effects of treatment. In addition, repeated measures analyses of variance were used on this measure to allow inference to be made on the functional interaction of demand effects with time.

Analysis of major dependent measures. Analyses of the major pre- and posttreatment dependent measures used in the present study were conducted using both multivariate and univariate statistical procedures. Three multivariate procedures were used. First, Hotelling's $T^2$ (Winer, 1971) was used to determine if significant amounts of change in these measures were produced from pretreatment to posttreatment across all subjects, irrespective of group membership. Next, a multivariate analysis of variance was used as an overall
test of significant between-group effects on these change scores taken together as a set. A multivariate discriminant function analysis was also performed which evaluated the ability of all possible linear combinations of these measures to discriminate between the cognitive-behavioral and attention-placebo groups.

Between-group comparisons of pretreatment to posttreatment change scores on each individual measure were next compared using univariate analyses of variance. The use of change scores in these analyses effectively ruled out potential spurious effects due to between-group differences which might have existed at pretreatment assessment. Analyses of variance of change scores were chosen over analysis of covariance procedures because the linear association of premeasures with postmeasures was not appreciable (Glass & Stanley, 1970). While these analyses allowed for thorough between-group comparisons, additional procedures were used to allow for the overall effectiveness of treatment (irrespective of group membership) on each measure to be determined. For this purpose, each measure was then subjected to a univariate analysis of variance for two factor experiments (groups X assessment trials) with repeated measures on the second factor (Winer, 1971).

Follow-up analysis. Because of subject attrition during follow-up, sample size prohibited the use of multivariate procedures with follow-up data. Follow-up measures were
therefore subjected to only univariate analyses, which were conducted in two steps. First, difference scores were calculated between pretreatment and follow-up assessment points and between posttreatment and follow-up assessment. These two sets of change scores were then submitted to one-way analyses of variance to investigate between-group effects across the follow-up period. In the second step, analyses of variance for two factor experiments (groups X assessment trials) with repeated measures on the second factor were used to further investigate group and trials effects. Newman-Keuls tests were used to interpret the nature of significant differences which were found.

Supplementary analyses. Pearson's product-moment correlation coefficients were used in several supplementary analyses to determine: (a) the hypothesized relationship between the subjects' physical attractiveness and ratings of heterosocial skill, (b) the relationship between confederate attractiveness and ratings of the subjects' skill and anxiety when interacting with the confederate, (c) the relationship between major dependent measures at pretreatment, and (d) the relationship between pre- to posttreatment change scores on the major dependent measures. Finally, two univariate one-way analyses of variance were used to investigate confederate physical attractiveness. The first analyzed attractiveness differences between the two confederates used in the study, and the second compared pre- and posttreatment attractiveness ratings.
Results

Nonspecific Treatment Factors

Examination of the internal consistency of the expectancy/credibility assessment device was performed through the computation of coefficient alpha (Nunnally, 1967) and inter-item correlations for subjects' scores at the first treatment session. A coefficient alpha of .84 was obtained for the 5-item measure. Inter-item correlations are reported in Table 1 (see Appendix P). Except for the second item, all items intercorrelated significantly ($p < .01$) with each other, and with total score on the measure. Item 2, desire to switch to a group using another approach if given the opportunity, correlated significantly ($p < .01$) with item 5 and total score. Item 5 represents how successful the subject felt the approach used in his group would be if used to treat another problem. Item 2 was retained in the calculation of coefficient alpha because of its positive correlation with all other items and its significant correlation with total score.

Means, standard deviations, and the results of the analyses of variance for the three credibility assessments using this measure are shown in Table 2. Results showed that subjects in the cognitive-behavioral group rated their treatments as slightly higher at each assessment point than did subjects in the attention-placebo group. Differences
in treatment credibility at each point were nonsignificant and did not approach significance until the third session.

Table 2
Comparison of Treatment Credibility

<table>
<thead>
<tr>
<th></th>
<th>Cognitive-Behavioral</th>
<th>Attention-Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Session 1</td>
<td>26.75</td>
<td>3.84</td>
</tr>
<tr>
<td>Session 2</td>
<td>30.00</td>
<td>2.77</td>
</tr>
<tr>
<td>Session 3</td>
<td>30.43</td>
<td>2.51</td>
</tr>
</tbody>
</table>

On the frustration thermometer, a one-way analysis of variance was used to compare the groups on mean change scores calculated from pre- to posttreatment. Pretreatment-to-follow-up and posttreatment-to-follow-up change scores were analyzed in similar fashion for 12 of the 13 subjects who returned their follow-up questionnaires. One subjects' scores were excluded for these last two analyses because of his participation in additional therapy after completing posttreatment assessment, thus leaving a total of six subjects in each group. Means, standard deviations, and resulting F's for all three analyses are presented in Table 3. None of these analyses produced significant differences between the groups.
Table 3
Means, Standard Deviations, and Analyses of Variance for Frustration Thermometer Change Scores

<table>
<thead>
<tr>
<th></th>
<th>Cognitive-Behavioral</th>
<th>Attention-Placebo</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Pre to Post</td>
<td>0.37</td>
<td>3.58</td>
</tr>
<tr>
<td>Pre to Follow-up</td>
<td>-0.33</td>
<td>2.58</td>
</tr>
<tr>
<td>Post to Follow-up</td>
<td>0.50</td>
<td>1.76</td>
</tr>
</tbody>
</table>

A repeated measures analysis of variance (Groups X Assessment Trials), performed on pre- and posttreatment frustration thermometer scores for all subjects, failed to show significant main effects for groups, $F(1,17) = 0.00, p = .96$, or for trials, $F(1,17) = 0.21, p = .65$. The interaction effect was also nonsignificant, $F(1,17) = 1.01, p = .33$. For follow-up subjects, a repeated measures analysis of variance using the same facets was performed, but also incorporated scores at follow-up. This 2 X 3 analysis resulted in a nonsignificant main effect for groups, $F(1,10) = 0.01, p = .93$, and trials, $F(2,20) = 1.28, p = .30$. The analysis also failed to show a significant interaction effect, $F(2,20) = 0.18, p = .83$.

Analysis of Major Dependent Measures

Both multivariate and univariate statistical procedures were conducted on the major pre- and posttreatment dependent measures used in this study. These measures included two
self-report questionnaires (the Survey of Heterosexual Interactions and the Fear of Negative Evaluation Scale), dating frequency over the previous three weeks, and various ratings of heterosocial anxiety and skill during the videotaped interactions with confederates. Ratings of these interactions with confederates included: subjects' self-reported anxiety, subjects' self-reported skill, observers' global ratings of anxiety, observers' global ratings of skill, trained judges' ratings of anxiety with the Timed Behavioral Checklist, trained judges' ratings of skill with the Heterosocial Skills Behavior Checklist (including voice, form of conversation, and affect categories), and average heart rate change from pre-interaction baseline.

The first multivariate procedure, Hotelling's $T^2$, showed a significant overall pre- to posttreatment effect for all subjects combined; Hotellings $T^2 = 171.10; F(12,8) = 6.00$, $p = .008$. A multivariate discriminant function analysis showed a linear combination of four of the twelve pre- to posttreatment change measures significantly discriminated between the cognitive-behavioral and attention-placebo groups, $F(4,14) = 3.27$, $p < .05$. Classification functions and mean change scores for these four variables are listed in Table 4 in Appendix Q. Three of the variables are anxiety measures obtained during the subjects' interactions with confederates: self-reported anxiety ratings, global anxiety ratings, and Timed Behavioral Checklist total scores. The
additional variable, global skill ratings, is a measure of heterosocial skill during these interactions. Change scores on the three anxiety measures favored the cognitive-behavioral group, while change scores on global skill favored the attention-placebo group. For all linear combinations of five or more variables, none significantly discriminated between the two groups. Thus, a multivariate analysis of variance performed on all 12 variables failed to show significant between-group differences. In addition, there were no significant differences found between groups on any of the variables when considered separately in univariate analyses. Mean change scores, standard deviations, and resultant univariate F's for all of these measures are presented in Table 5 in Appendix R. When necessary, scores have been transformed so that all positive scores in the table reflect pre- to posttreatment improvement, and all negative scores indicate that subjects regressed on those measures.

Pretreatment and posttreatment scores on these 12 measures were next subjected to analyses of variance for two-factor experiments (groups X assessment trials) with repeated measures on the second factor. Means and standard deviations for both groups on each of the dependent measures are shown in Table 6 in Appendix S.

The results of the 12 repeated measures analyses of variance are summarized in Table 7 in Appendix T. Resulting F's showed a significant main effect for trials on three of
the measures. On the Fear of Negative Evaluation scale, this effect was significant beyond the .05 level. Main effects for trials were statistically significant beyond the .01 level for the Survey of Heterosexual Interactions and the form of conversation category of the Heterosocial Skills Behavior Checklist. No other significant group, trials, or interaction effects resulted from these analyses.

Follow-up Analysis

Pretreatment, posttreatment, and follow-up means and standard deviations on the three follow-up measures specifically related to heterosocial anxiety and skill are presented in Table 8. Six subjects in each group are represented by the data which appears in the table.

Change scores between pretreatment and follow-up assessment and between posttreatment and follow-up, were calculated to facilitate between-group comparisons. Results from these two sets of one-way analyses of variance are reported in Table 9. Table 9 shows that a significant difference between groups ($p < .05$) was found only for posttreatment-to-follow-up change scores on the Survey of Heterosexual Interactions. This difference favored the attention-placebo group over the cognitive-behavioral group, who actually regressed on this measure.

Repeated measures analyses (groups X assessment trials) of pretreatment, posttreatment, and follow-up scores for these measures were then performed. The results of these 2 X 3
Table 8

Pretreatment, Posttreatment, and Follow-up Means and Standard Deviations for Subjects Responding to Follow-up Questionnaires

<table>
<thead>
<tr>
<th>Measure</th>
<th>Treatment Group</th>
<th>Pretreatment</th>
<th>Posttreatment</th>
<th>Follow-up</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
</tr>
<tr>
<td>Survey of Heterosexual</td>
<td>Cognitive-Behavioral</td>
<td>73.00</td>
<td>18.80</td>
<td>98.50</td>
</tr>
<tr>
<td>Interactions</td>
<td>Attention-Placebo</td>
<td>71.33</td>
<td>20.27</td>
<td>94.33</td>
</tr>
<tr>
<td>Fear of Negative Evaluation</td>
<td>Cognitive-Behavioral</td>
<td>14.83</td>
<td>5.04</td>
<td>12.83</td>
</tr>
<tr>
<td></td>
<td>Attention-Placebo</td>
<td>14.33</td>
<td>5.01</td>
<td>12.67</td>
</tr>
<tr>
<td>Dating Frequency</td>
<td>Cognitive-Behavioral</td>
<td>1.17</td>
<td>0.98</td>
<td>2.00</td>
</tr>
<tr>
<td></td>
<td>Attention-Placebo</td>
<td>2.33</td>
<td>3.61</td>
<td>2.50</td>
</tr>
<tr>
<td>Frustration Thermometer</td>
<td>Cognitive-Behavioral</td>
<td>4.33</td>
<td>2.66</td>
<td>5.17</td>
</tr>
<tr>
<td></td>
<td>Attention-Placebo</td>
<td>4.50</td>
<td>2.07</td>
<td>5.67</td>
</tr>
</tbody>
</table>
Table 9
Between-Group Comparisons of Change Scores for Follow-up Subjects

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pretreatment to Follow-up $F_{(1,10)}$</th>
<th>Posttreatment to Follow-up $F_{(1,10)}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Survey of Heterosexual Interactions</td>
<td>2.75 .13</td>
<td>5.39 .04</td>
</tr>
<tr>
<td>Fear of Negative Evaluation Scale</td>
<td>0.38 .54</td>
<td>0.48 .50</td>
</tr>
<tr>
<td>Dating Frequency</td>
<td>0.58 .47</td>
<td>1.46 .25</td>
</tr>
</tbody>
</table>

analyses are presented in Table 10. Main effects due to trials reached the .01 level of significance for the Survey of Heterosexual Interactions and the .05 level for the Fear of Negative Evaluation Scale. No other significant effects were found in these analyses.

To investigate the significant trials effects revealed in the analyses, Newman-Keuls tests were performed on the combined group means at the three assessment points. For the Survey of Heterosexual Interactions, tests between all possible pairs of means indicated that both posttreatment and follow-up means were statistically different from the pretreatment mean ($p < .01$). The difference between posttreatment and follow-up means, however, was not statistically significant.
Table 10

Summary of Repeated Measures Analyses of Variance for Follow-up Measures

<table>
<thead>
<tr>
<th>Source</th>
<th>Groups</th>
<th></th>
<th>Trials</th>
<th></th>
<th>Interactions</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>F</td>
<td>p</td>
<td>F</td>
<td>p</td>
<td>F</td>
<td>p</td>
</tr>
<tr>
<td>Survey of Heterosocial Interactions</td>
<td>0.07</td>
<td>0.80</td>
<td>25.17</td>
<td>0.00</td>
<td>2.59</td>
<td>0.10</td>
</tr>
<tr>
<td>Fear of Negative Evaluation</td>
<td>0.20</td>
<td>0.66</td>
<td>3.44</td>
<td>0.05</td>
<td>0.26</td>
<td>0.78</td>
</tr>
<tr>
<td>Dating Frequency</td>
<td>0.57</td>
<td>0.47</td>
<td>0.41</td>
<td>0.67</td>
<td>0.89</td>
<td>0.42</td>
</tr>
</tbody>
</table>

at either the .01 or .05 level. For the Fear of Negative Evaluation Scale, Newman-Keuls tests showed that only the pretreatment and follow-up means were significantly different (p < .05).

Supplementary Analyses

Correlations between the subjects' physical attractiveness and global ratings of social skill were found to be .51 for pretreatment assessment and .53 for posttreatment. Both correlation coefficients were significant beyond the .05 level. In addition, correlation coefficients were calculated between subject attractiveness and the specific skill measures used during the interaction. These coefficients are reported in Table 11. Scores on the affect category of the Heterosocial Skills Behavior Checklist were significantly related to subject attractiveness (p < .01) for both the pretreatment and
Table 11
Inter correlations of Subjects' Physical Attractiveness and Heterosocial Skill Ratings

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pretreatment</th>
<th>Posttreatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Reported Skill</td>
<td>-.17</td>
<td>.14</td>
</tr>
<tr>
<td>Global Skill Ratings</td>
<td>.51*</td>
<td>.53*</td>
</tr>
<tr>
<td>Heterosocial Skills Behavior Checklist-Voice</td>
<td>.11</td>
<td>.11</td>
</tr>
<tr>
<td>Heterosocial Skills Behavior Checklist</td>
<td>.12</td>
<td>.30</td>
</tr>
<tr>
<td>Form of Conversation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heterosocial Skills Behavior Checklist</td>
<td>.58**</td>
<td>.58**</td>
</tr>
<tr>
<td>Affect</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note:  *p < .05  
**p < .01

posttreatment interactions. The remainder of these coefficients were nonsignificant.

Correlation coefficients were also calculated between subjects' ratings of confederate attractiveness and subjects' ratings of the anxiety they experienced during their interactions with the confederates. These correlations were .08 for the pretreatment interactions, and .54 for those at posttreatment. Only the latter coefficient was significant (p < .05). Additional correlations between confederate attractiveness and anxiety and skill ratings during the
interaction are reported in Table 12. None of these correlations reached significance at the .05 level.

Table 12

Intercorrelations of Subjects' Ratings of Confederate Attractiveness with Anxiety and Skill Ratings

<table>
<thead>
<tr>
<th>Measure</th>
<th>Pretreatment</th>
<th>Posttreatment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Self-Reported Anxiety</td>
<td>.08</td>
<td>.54*</td>
</tr>
<tr>
<td>Self-Reported Skill</td>
<td>-.38</td>
<td>-.06</td>
</tr>
<tr>
<td>Global Anxiety Ratings</td>
<td>-.03</td>
<td>.40</td>
</tr>
<tr>
<td>Global Skill Ratings</td>
<td>.15</td>
<td>-.18</td>
</tr>
<tr>
<td>Timed Behavior Checklist</td>
<td>-.10</td>
<td>.06</td>
</tr>
<tr>
<td>Heterosocial Skills Behavior Checklist-Voice</td>
<td>.11</td>
<td>.25</td>
</tr>
<tr>
<td>Heterosocial Skills Behavior Checklist-Form of Conversation</td>
<td>-.35</td>
<td>.01</td>
</tr>
<tr>
<td>Heterosocial Skills Behavior Checklist-Affect</td>
<td>.07</td>
<td>-.23</td>
</tr>
<tr>
<td>Heart Rate Change</td>
<td>-.15</td>
<td>-.07</td>
</tr>
</tbody>
</table>

Note: *p < .05

Correlation coefficients between the major dependent measures at pretreatment are reported in Table 13 in Appendix U. Absolute values of these correlations ranged from .01 to .87, with a mean of .23. Five of these coefficients were
significant at the .05 level. Of these, only two were significant at the .01 level. Based on the assumption of an inverse relationship between anxiety and skill, it was possible to designate the direction of the correlations (positive or negative) as being expected or unexpected. Table 14 in Appendix V presents such a categorization of these correlations as being in the expected or unexpected direction. Correlation coefficients calculated between the pretreatment-to-posttreatment change scores on the major dependent measures are reported in Table 15 in Appendix W. Absolute values of these correlations ranged from .00 to .84, with a mean of .22. One coefficient was significant at the .01 level, while four others reached the .05 level of significance.

Finally, two one-way analyses of variance were used to investigate differences between subjects' ratings of the physical attractiveness of the confederates seen during the videotaped interactions. Subjects' ratings of confederate attractiveness showed only small differences between the two confederates. Mean attractiveness scores of 7.84 (SD = 1.56) were found for the first confederate, while mean ratings for the second confederate were 7.58 (SD = 1.26). An analysis of variance indicated that these differences did not approach significance, (F(1,36) = 0.31, p > .25). Similarly, only small differences were found in pretreatment (M = 7.53, SD = 1.61) and posttreatment (M = 7.89, SD = 1.29) confederate
attractiveness ratings. Again, differences did not approach significance, $F(1,18) = 0.64$, $p = .43$.

Discussion

The major purpose of this study was to examine the efficacy of a cognitive-behavioral therapy package and a highly credible attention-placebo in the treatment of male hetero-social anxiety. Of foremost importance to the present study, then, are the subjects' initial ratings on the credibility assessment device which was composed of five questions to assess belief in the treatment procedures and expectancy for improvement (Borkovec & Nau, 1972). Analysis of this measure's internal consistency via inter-item correlations, item-total correlations, and coefficient alpha, suggests relatively high homogeneity among items.

The small and nonsignificant difference between the group means on this device at the first assessment point attests to the essential equivalence of the groups on initial expectancy and credibility ratings. It is unlikely, therefore, that the results of the present study can be attributed to differences in the subjects' initial expectations for improvement or their initial belief in the treatment procedures.

Further, it appears that treatment-generated expectancy and credibility remained high throughout the final treatment sessions for both groups. Differences between the groups on this factor never reached significance, but did become larger
as treatment progressed. As Kazdin and Wilcoxon (1976) have noted, between-group differences in credibility after the first session may reflect between-group differences in specific treatment effects. That is, credibility judgements may be partially attributable to actual changes in behavior effected by treatment. Thus, it is not surprising that differences in treatment credibility tend to favor the cognitive-behavioral group during the final sessions.

In an attempt to further analyze nonspecific factors in this study, a bogus measure of treatment effect on hetero-social anxiety was inserted in pretreatment, posttreatment, and follow-up batteries. The purpose of this measure, the frustration thermometer (McReynolds, et al., 1973), was to tap experimenter demand effects. Results for the frustration thermometer suggest that differential experimenter demand effects were negligible between groups and across assessment trials.

While these analyses suggest overall equivalence of nonspecific factors between the groups, an ideal attention-placebo treatment should also be "therapeutically inert." In the present study, the attention-placebo group's therapeu tic inertness may be questioned because of the inclusion of relaxation training and group discussion as part of the treatment package. However, the potential therapeutic benefits were minimized as much as possible, while keeping other similarities between the groups intact (e.g., therapist
contact time, homework assignments). For example, relaxation training in the attention-placebo group was abbreviated to such an extent in all sessions that it is unlikely to have been beneficial to subjects. Further, subjects were not given specific instructions on how to use the relaxation training in a theoretically meaningful way as they are in other therapies in which relaxation is involved. The only instructions given to subjects about how to use this technique were in conjunction with the bogus "subliminal desensitization" treatment. Theoretically, this portion of treatment should have been therapeutically inert even if subjects were deeply relaxed while viewing the "anxiety-provoking, subliminally-presented" slides. Desensitization theory would predict beneficial effects only if relaxation and true anxiety-provoking stimuli were paired. In reality, there was nothing on these slides, and films used were selected because they had all male casts.

The use of group discussion in the attention-placebo group may also be questioned on the same grounds. However, the involvement of the therapists with regard to interpretation and insight was minimized so that the benefits of this part of treatment should have been no more than that achievable by simply talking with friends or relatives. To be considered a powerful treatment approach, it seems important that a therapy should be able to show greater effectiveness than support which might be readily available
in the natural environment (i.e., outside of therapy). Thus, any observed differences favoring the cognitive-behavioral group over the attention-placebo group may be viewed as a conservative estimate of its effectiveness over nonspecific factors alone.

The results of the present study indicate that the cognitive-behavioral treatment was slightly more effective than the attention-placebo treatment. Of the four measures shown to significantly discriminate between the groups, three were anxiety measures which favored the cognitive-behavioral group. As a group, the cognitive-behavioral subjects improved on self-reported anxiety, global anxiety ratings, and specific anxiety signs during their interactions with confederates. Attention-placebo subjects, however, showed higher anxiety on these measures at posttreatment than they had at pretreatment. The cognitive-behavioral group's superiority on anxiety measures during the interaction is not a surprising finding since their training was aimed specifically at helping them to cope better with anxiety during such situations. The fourth variable included in the significant discriminant function, global skill ratings during the interaction, was useful in differentiating group membership on the basis of the attention-placebo group's regressing less on this measure. While it seems curious that both groups would regress in global skill, it should be noted that neither group was aimed primarily at increasing heterosocial
skills. Differences between groups on these and other dependent measures were small and nonsignificant in individual univariate analyses. Thus, the hypothesis that the cognitive-behavioral group would show more improvement on anxiety measures than the attention-placebo group received partial support. Hypotheses predicting that the cognitive-behavioral group would show greater improvement in heterosocial skill and dating frequency were not supported.

While differences between groups at posttreatment were limited, subjects generally appeared to have benefited from receiving treatment. Multivariate analysis revealed a significant overall pre- to posttreatment effect across measures. Analysis of the individual measures showed a significant pre- to posttreatment trials effect for two self-report measures, the Survey of Heterosexual Interactions and the Fear of Negative Evaluation Scale. A significant trials effect was also shown on the subjects' total scores on the form of conversation category of the Heterosocial Skills Behavior Checklist. This category reflects the subjects' conversational skills with the confederates during the interactions, and included ability to initiate conversation with the female, follow-up her vocalizations, maintain the "flow" of conversation, and express interest in the female. Interestingly, Kupke, Hobbes, and Cheney (1979) found that expressing interest (labelled "personal attention" in their study) was the only conversational behavior which was found
to be significantly related to female interpersonal attraction.

The significant effects on the two questionnaires is predictable from previous research in the area, since self-report instruments are typically sensitive measures of treatment effects. Self-report measures, however, are also the ones which are most easily influenced by nonspecific factors in treatment. Differences in behavioral measures, which are less affected by these factors, have been less reliably produced in past studies, particularly with respect to specific heterosocial skills. In comparison to the findings on self-report measures, the results obtained on the form of conversation category of the Heterosocial Skills Behavior Checklist are rather surprising given the focus of the treatment used. Since neither of the treatment groups employed specific skills training during the sessions, but focused on anxiety reduction alone, one would expect to have found changes occurring primarily on specific anxiety signs rather than on specific skills. Changes on the Heterosocial Skills Behavior Checklist would be expected to occur only indirectly, that is, as a result of the lessened inhibitory effect of anxiety on skill. In fact, the trials factor was nonsignificant for the Timed Behavioral Checklist, which assessed specific anxiety signs, but was significant for the form of conversation category of the Heterosocial Skills Behavior Checklist. This finding suggests that a dichotimization of heterosocial skill and anxiety constructs may be
inappropriate—overlap between the two may be larger than previously surmised. Nevertheless, this result implies the existence of a performance deficit as opposed to a skills deficit in heterosocially anxious males. Since subjects did show improvement on this set of conversational skills without specific skills training, these skills can be assumed to have been in the subjects' behavioral repertoire prior to treatment. The improved performance of these skills from the pretreatment to posttreatment interactions with confederates would appear to have been facilitated by the subjects' self-examination or heightened awareness of their own behavior which would naturally accompany membership in a therapeutic group. An alternate interpretation is that the greater skill shown by subjects in the posttreatment interaction is attributable to a decrease in anxiety not measured by the behavioral ratings of anxiety used in this study.

Neither form of treatment induced comprehensive benefits across all assessment channels, a finding which, unfortunately, is consistent with most therapy outcome studies in the area. For example, dating frequency showed nonsignificant increases from pre- to posttreatment in the present study. Curran (1977) acknowledges, though, that past data with regard to increases in dating frequency have been very inconsistent. Frequently, however, past studies have shown subject improvement on global measures of anxiety and/or skill (Curran, 1977), a finding which was not replicated in the
present study. It should be noted that past studies have typically provided raters with general guidelines in making their judgments of global anxiety and skill during role-played interactions with confederates (e.g., Curran & Gilbert, 1975; Curran et al., 1976; MacDonald et al., 1975). In the present study, in an attempt to make these ratings more naturalistic and clinically meaningful, global skill and anxiety raters were not given any such training. Perhaps differences between past and present findings on these ratings reflect such measurement differences.

The small differences between the cognitive-behavioral and attention-placebo groups in the current study suggests the possibility that both forms of treatment may work on similar underlying mechanisms in effecting change. Such a conclusion does not imply that cognitive-behavior therapy is ineffective for this problem. Rather, it suggests that cognitive-behavior therapy may be working on a set of cognitive mediators similar to those that produce change in highly credible placebo treatments. Similarities between the theoretical mechanisms underlying cognitive-behavioral and placebo treatments are apparent upon inspection of the respective procedures. Both forms of treatment clearly focus extensively on expectancy and attitude manipulation. The major difference appears to be the extent to which the client is aware of the manipulation and the extent to which he is affiliated with the therapist in performing these manipulations.
In placebo treatments, the client is deceived into believing that he is being helped by treatment procedures that are in fact thought to be without "active ingredients." Cognitive-behavioral treatments, however, include the client in these manipulations by making the client aware that attitudes and expectancies are the source of his problems. The present results suggest that either approach may produce largely the same effects. However, the possibility that two different, but almost equally effective, mechanisms may be operating in the two treatments cannot be ruled out. In fact, it seems that variables that were shown to discriminate between the groups were largely the anxiety measures used in the behavioral interaction (which should be less susceptible to demand effects of treatment). Perhaps the most parsimonious explanation of the pre- to posttreatment findings is that, while both treatments showed evidence of powerful effects which might be best termed "nonspecific," the cognitive-behavioral treatment seemed to exert an additional effect on several anxiety measures which was detectable only through a sensitive multivariate statistical procedure.

With respect to follow-up data, results showed a significant main effect for trials for the Survey of Heterosexual Interactions and the Fear of Negative Evaluation Scale. Both posttreatment and follow-up means were significantly different from the pretreatment mean for the Survey of Heterosexual Interactions, while on the pretreatment and
follow-up means were significantly different on the Fear of Negative Evaluation Scale. While the attention-placebo group continued to improve on both of these measures, continued improvement in the cognitive-behavioral subjects was seen only on the Fear of Negative Evaluation Scale. Further, the attention-placebo group showed significantly more improvement than the cognitive-behavioral group from posttreatment to follow-up on the Survey of Heterosexual Interactions. Thus, the hypothesis that greater maintenance of treatment effects would be exhibited by the cognitive-behavioral group was not supported.

While these results must be interpreted with caution because of the reduced sample size of follow-up subjects, they tend to contradict the results of the Glass et al. (1976) study. Their study showed cognitive self-statement modification to be especially effective when compared to the behavioral treatments in the study at follow-up. Although the Glass et al. study used similar self-statement modification training as the present study, the present study utilized this training as part of a coping skills package rather than as the sole form of treatment. Thus, the cognitive treatment used in their study consisted of only one of the two components of cognitive-behavioral treatment found in this study. In light of the Glass et al. findings, and findings with other anxiety targets showing cognitive treatment alone to be superior to combined cognitive-and-relaxation therapy
(Kaplan, McCordick, & Twitchell, 1979), a component analysis of the approach used in the present study would seem especially important for future research.

One may speculate that the differences in long-term effectiveness between the two groups in this study may have resulted from somewhat different efficacy or performance expectations between the groups for the months following treatment termination. Such expectations for continued improvement might reflect the extent to which the subjects construed themselves as active participants versus passive recipients of treatment effect. The cognitive-behavioral treatment package placed subjects in an active role. Anxiety and stress management techniques were taught to the subjects and practiced to some extent in therapy sessions, but improvement was based upon practicing and using the techniques outside of therapy. The placebo treatment used in the present study placed the subjects in a more passive role. According to the rationale given these subjects, they simply needed to experience the treatment for change to take place. Unlike the cognitive-behavioral group, further improvement may have been perceived as not being contingent upon the continued practice of anxiety reduction techniques, practice which may have diminished over the three-month period.

If the above analysis of follow-up findings is correct, it would suggest that more attention should be paid to practicing the cognitive-behavioral techniques during therapy
than was provided in the present study. In comparison to other outcome studies in this area, six hours of therapy does not appear to be unusually small, especially with a treatment which is designed to be short-term. Glass et al. (1976), for example, used only four hours of treatment in her study. Rather than amount of time spent in therapy, per se, what may be more important is the issue of massed versus spaced treatment sessions. The present study conducted all sessions over a three-week period. Massing treatment sessions into a short treatment period may not provide subjects with adequate time to practice these techniques on their own between sessions so that the techniques become natural responses to their anxiety around females. Spacing treatment sessions over a longer period might allow the full long-term benefits of the approach to be realized.

As hypothesized, intercorrelations of the subjects' physical attractiveness (as judged by their rated photographs) and heterosocial skill give support to the notion that global skills ratings reflect subject attractiveness as well as heterosocial skill (Arkowitz et al., 1978). Correlations between physical attractiveness were positive, relatively large, and statistically significant. These findings indicate that helping the individual modify his attractiveness through dressing and grooming more appropriately might be a useful supplement to programs designed to treat heterosocially anxious males.
Significant correlations were also found between subject attractiveness and pretreatment and posttreatment ratings of the affect category of the Heterosocial Skills Behavior Checklist. This finding contradicts the hypothesis that physical attractiveness and specific skills would not be significantly correlated. The affect category includes appropriateness of facial expression, eye contact, and laughter of the subject during his interactions with the confederate. The large correlation suggests that the female raters using this checklist may have been somewhat less critical of these behaviors in more attractive subjects than in less attractive subjects, since these physical attractiveness ratings were made on the basis of the subjects' photographs alone. If such a bias is present in females when using an objective rating scale, it is likely to be more apparent in their everyday subjective judgements of male heterosocial skills. Physically unattractive males would appear to require greater heterosocial skills to be judged as socially skillful as their more attractive counterparts. Moreover, skillful males who are highly attractive may be reinforced more for their behaviors than are similarly-skilled unattractive males.

Intercorrelations of the subjects' ratings of confederate attractiveness and ratings of skill and anxiety during the interactions were generally low and nonsignificant with one exception. Only confederate attractiveness and self-reported
skill during the posttreatment interaction correlated significantly. Significance here may be largely artifactual, since a similar correlation at pretreatment was extremely low.

Intercorrelations of pretreatment scores, while generally in the expected direction, were usually only small to moderate in magnitude. Intercorrelations of pre- to posttreatment change scores similarly resulted in only small to moderate correlations. Generally, these findings suggest high variability between instruments from different measurement sources and methods. Low correlations between instruments have been reported in past studies, as well (Arkowitz et al., 1975; Bander et al., 1975; Borkovec et al., 1974; Martinez-Diaz & Edelstein, 1980; Twentyman & McFall, 1975). Thus, there seem to be several different aspects to heterosocial anxiety and skill constructs. Lumping all of these facets together under a single "anxiety" or "skill" rubric may be erroneous. However, there do appear to be two notable relationships between measures which emerged from this analysis. First, the significant correlation between the subjects' own ratings of anxiety during interactions with those of untrained female raters suggests that it is not extremely difficult for females to perceive global anxiety responses in men. Further, the large relationship between untrained females' global ratings of anxiety and skill indicate that females typically do not distinguish between these two
characteristics. High anxious males are usually viewed as less skilled, and vice-versa. Therefore, in order to appear more skillful, males may only need to appear less anxious.

Methodologically, several aspects of the present study warrant additional comment. One deficiency in the experimental design is the absence of a no-treatment control group. Although a no-treatment group was incorporated in the original design of the study, the group had to be dropped because of an insufficiently large number of subjects to fill three groups. Without such a group, one must assume that extra-therapeutic events concomitant with the simple passage of time had no effect on subjects, and that any benefits noted are attributable to treatment effects rather than to pre- or posttreatment practice or to outside factors. While practice effects would seem negligible with respect to paper-and-pencil and dating frequency measures, they are potentially more critical with measures collected during the subjects' interactions with confederates. Although not guaranteeing that these effects were eliminated, the use of different confederates at pretesting and posttesting with each subject helped ensure that each interaction was at least a partially novel experience. Further, several measures based on these interactions generally separated the cognitive-behavioral group from the attention-placebo group, a finding for which practice effects would be irrelevant.
Because a different confederate was used in each of the two interactions, the confederates were pretrained to standardize their responses as much as possible. But, aside from physical attractiveness ratings made by the subjects, no checks were made to determine confederate equivalence. However, confederates were found to be equally attractive, and pre- and posttest ratings of confederate attractiveness were also equivalent.

Material obtained from the subjects' interactions with confederates may have been limited because these interactions did not require subjects to achieve a high level of skill to be rated as conversing adequately. While role-played interactions such as these generally elicit a much higher level of skill than do naturalistic interactions (Wessberg, Mariotto, Conger, Farrell, and Conger, 1979), confederates in the present study were trained to be supportive and non-threatening. Since subjects used in the present study did not, as a group, appear extremely heterosocially anxious, more information may have been obtained by increasing the difficulty level of these interactions. Also, inspection of the results from the Heterosocial Skills Behavior Checklist, which was used to rate specific skills during these interactions, suggests that only one of the three subcategories (form of conversation) was sensitive to subtle differences in the higher-level skills exhibited by subjects in this study. Unfortunately, the definition of important heterosocial
skills remains a persistent problem in this area. In this regard, the form of conversation category of the checklist appears to be a promising behavioral assessment tool for future studies.

The present study has a number of other implications for future research on heterosocial anxiety. The need for rigorous assessment of and control for nonspecific treatment factors is strongly indicated. Studies which manipulate demand and counter-demand characteristics would be especially helpful in investigating these effects. Also, future studies of global skills should take into account the significant relationship between skill and physical attractiveness revealed in the correlation analysis. This might be accomplished by using procedures which would allow the influence of physical attractiveness per se to be removed from global skills ratings.

In conclusion, the present experiment tested the effectiveness of a cognitive-behavioral technique with male heterosocial anxiety by comparing it with a highly credible attention-placebo control group which ostensibly worked on similar components of the problem. Studied under such stringent conditions, the cognitive-behavioral subjects did not exceptionally outperform the attention-placebo controls. While at the end of treatment, the cognitive-behavioral group was slightly more effective than the attention-placebo group, follow-up data on the reduced sample tended to favor
the attention-placebo group. Most significant among the posttreatment results were findings that these treatments produced positive changes in several heterosocial skill behaviors in addition to positive changes in self-report measures. These findings indicate that cognitive mechanisms deserve to be considered both in the maintenance of this problem and in attempts to correct it. The data suggest that manipulation of these cognitive mechanisms, either through "active" cognitive-behavioral techniques or through well-conceived placebo manipulations, may be beneficial to these males. However, the cognitive-behavioral treatment seemed to exert an effect at posttreatment beyond that produced by the placebo treatment on several measures of anxiety during behavioral interactions with females—a finding suggestive of more specific activity in short-term anxiety reduction. Future research needs to explore ways to enhance these benefits, perhaps by allocating more extensive periods of time for subjects to practice newly acquired coping skills.
Appendix A
Biographical Inventory

Name:
Age:
Address:

Phone (Please indicate when are the best times to reach you):
Home:
Other:

Are you presently enrolled in NTSU?

Please answer the following as honestly as possible (All information is strictly confidential).

How many dates* in the past 2 months?

How many dates* in the past 3 weeks?

Have you ever been married?

Are you presently engaged?

Are you presently going-steady?

Are you presently receiving counseling or psychotherapy?

(*date = prearranged social meeting between opposite-sexed members)

Please circle all times at which you could be available for appointments:

Monday: 9-10, 10-11, 11-12, 12-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-9
Tuesday: 9-10, 10-11, 11-12, 12-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-9
Wednesday: 9-10, 10-11, 11-12, 12-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-9
Thursday: 9-10, 10-11, 11-12, 12-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-9
Friday: 9-10, 10-11, 11-12, 12-1, 1-2, 2-3, 3-4, 4-5, 5-6, 6-7, 7-9
Appendix B

Structured Interview Guidelines

1. Introduce yourself to the subject and state that, prior to signing up for the experiment, you would like to ask him several questions about himself and his reasons for participating in the experiment.

2. Begin by asking each subject his reasons for wanting to participate in the study. For example, "The first thing I'd like to ask you concerns the reasons why you're interested in participating in the present study. What prompted you to come in?"

3. Question the subject about the extent to which he experienced the following life concerns and problems. Obtain more detail about any of these problems that the subject states he has experienced recently or to a significant degree.

<table>
<thead>
<tr>
<th></th>
<th>Within the Last Week</th>
<th>Within the Last Week</th>
<th>Infrequently or Never</th>
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<tbody>
<tr>
<td>Difficulty Sleeping</td>
<td>_____</td>
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<td>_____</td>
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<tr>
<td>Loss of Appetite</td>
<td>_____</td>
<td>_____</td>
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<tr>
<td>Poor Physical Condition</td>
<td>_____</td>
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<tr>
<td>Anxious and Tense</td>
<td>_____</td>
<td>_____</td>
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<tr>
<td>Unreasonable Fears</td>
<td>_____</td>
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<tr>
<td>Disturbing Thoughts</td>
<td>_____</td>
<td>_____</td>
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<tr>
<td>Unable to Sit Still</td>
<td>_____</td>
<td>_____</td>
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<tr>
<td>Sad and Blue</td>
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Appendix B—Continued

<table>
<thead>
<tr>
<th>Within the Last Week</th>
<th>Within the Last Week</th>
<th>Infrequently or Never</th>
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<tbody>
<tr>
<td>Feel Like Killing Myself</td>
<td>____</td>
<td>____</td>
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<tr>
<td>People Don't Understand Me</td>
<td>____</td>
<td>____</td>
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<tr>
<td>Family Problems</td>
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<tr>
<td>Poor Social Life</td>
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<tr>
<td>Quick to Anger</td>
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<td>____</td>
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<tr>
<td>Physical Violence</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>In Trouble With The Law</td>
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<td>____</td>
</tr>
<tr>
<td>Drinking More Than Usual</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>Strange or Puzzling Things Happening to Me</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>Difficulty With Memory</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>Seeing Visions</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>Hearing Things That Others Can't Hear</td>
<td>____</td>
<td>____</td>
</tr>
<tr>
<td>Can't Get Things Done</td>
<td>____</td>
<td>____</td>
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</table>

4. Finally, structure the remainder of the interview around the following questions:

"Are you experiencing any other significant problems or life concerns that we have not already discussed?"

"Have you ever received psychotherapy or counseling?"

"Are you presently taking any medication?"

"Have you ever taken psychotropic medication?"

"Do you classify yourself as exclusively heterosexual?"
Appendix C
Description of Procedures and Informed Consent

Although not all of you will be selected to participate in the present program, we ask all of you to read the following description of procedures and to sign the attached "informed consent" form if you desire to participate. If you are under 18 years of age, your parents will have to give their consent for you to participate.

The programs you will be participating in are part of a research project being conducted at the present time. If you participate you will be assigned to one of three different groups. Each group will follow somewhat different procedures. Although each program may be of potential benefit to you, some may be shown to be more effective than others.

If you participate, you will be asked to do the following: (a) complete a set of paper-and-pencil questionnaires, (b) come in for a brief videotaped interaction with a female and have your picture taken, (c) attend three 2-hour sessions, each held in small groups once weekly for three consecutive weeks, (d) again complete a set of paper-and-pencil questionnaires, and (e) come in for another brief videotaped interaction with a female. We anticipate that these procedures will have been completed by the first week of May. All of the above activities will take place on campus at North Texas State University. Groups will be conducted by advanced doctoral level graduate students in clinical or counseling psychology, and will be
supervised by Joseph W. Critelli, Ph.D. and Lawrence J. Schneider, Ph.D. of the Department of Psychology.

After you have completed these activities, if any of you feel you have not benefitted as fully as you would have liked, you will be given the option of receiving additional help through group sessions following the procedure that appears the most effective or through individual counseling. This additional help will be provided without cost, should you desire it. Finally, in approximately 4 months we will mail you another set of questionnaires to fill out and return to us, postage paid.

You will be asked to provide use with a $10 deposit fee as an indication of your interest in continuing in the program until its completion. However, each of you has the option of withdrawing from the study at any time. Should you decide to withdraw once we have begun, your deposit will be contributed to the United Fund. If you continue to participate in the study, $5 of your deposit will be returned to you upon completion of the postassessment interaction. The remaining $5 of your deposit will be refunded upon our receipt of the completed questionnaires which we will mail to you in approximately 4 months.

Thank you for your interest. We hope you will be able to participate. If you have any questions, please ask them at this time.
Informed Consent

Name of Subject: ________________________________

1. I hereby give consent to Drs. Critelli and Schneider to perform or supervise the following investigational procedure or treatment:

   testing (questionnaires), videotaping interactions with female confederates, collecting refundable deposit, photograph, and training sessions

2. I have (seen, heard) a clear explanation and understand the nature and purpose of the procedure or treatment; possible appropriate alternative procedures that would be advantageous to me (him, her); and the attendant discomforts or risks involved and the possibility of complications which might arise. I have (seen, heard) a clear explanation and understand the benefits to be expected. I understand that the procedures or treatment to be performed is investigational and that I may withdraw my consent for my (his, her) status. With my understanding of this, having received this information and satisfactory answers to the questions I have asked, I voluntarily consent to the procedure or treatment designated in Paragraph 1 above.

   Date

   Signed: ____________________________  Signed: ____________________________
   
   Witness  Subject

   or

   Signed: ____________________________  Signed: ____________________________
   
   Person Responsible

   Relationship

Instructions to persons authorized to sign:

If the subject is not competent, the person responsible shall be the legal appointed guardian or legally authorized representative.

If the subject is a minor under 18 years of age, the person responsible is the mother or father or legally appointed guardian.

If the subject is unable to write his name, the following is legally acceptable: John H. (His X Mark) Doe and two (2) witnesses.
Appendix D

Pretreatment Assessment Battery

Survey of Heterosexual Interactions

Instructions. Please circle the appropriate number in the following situations. Try to respond as if you were actually in that situation.

1. You want to call a girl up for a date. This is the first time you are calling her up, as you only know her slightly. When you get ready to make the call, your roommate comes into the room, sits down on his bed, and begins reading a magazine. In this situation you would:

<table>
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<tr>
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<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>be unable to call</td>
<td>be able to call</td>
<td>be able to call</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>in every case</td>
<td>in some cases</td>
<td>in every case</td>
<td></td>
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</table>

2. You are at a dance. You see a very attractive girl whom you do not know. She is standing alone and you would like to dance with her. You would:

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<tbody>
<tr>
<td></td>
<td>be unable to ask her</td>
<td>be able to ask her</td>
<td>be able to ask her</td>
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<tr>
<td></td>
<td>in every case</td>
<td>in some cases</td>
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3. You are at a party and you see two girls talking. You do not know these girls but you would like to know one of them better. In this situation you would:

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<tr>
<td></td>
<td>be unable to initiate a conversation</td>
<td>be able to initiate a conversation</td>
<td>be able to initiate a conversation</td>
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<td></td>
<td>in some cases</td>
<td>in every case</td>
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</table>

4. You are at a bar where there is also dancing. You see a couple of girls sitting in a booth. One, whom you do not know, is talking with a fellow who is standing by the booth. These two go over to dance leaving the other girls sitting alone. You have seen this girl around, but do not really know her. You would like to go over and talk to her (but you wouldn't like to dance). In this situation you would:

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<td></td>
<td>be unable to go over and talk to her</td>
<td>be able to go over and talk to her</td>
<td>be able to go over and talk to her</td>
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<td>in some cases</td>
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</table>
5. On a work break at your job you see a girl who also works there and is about your age. You would like to talk to her, but you do not know her. You would

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<tbody>
<tr>
<td>be unable to talk to her in every case</td>
<td>be able to talk to her in some cases</td>
<td>be able to talk to her in every case</td>
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6. You are on a crowded bus a girl you know only slightly is sitting in front of you. You would like to talk to her but you notice that the fellow sitting next to her is watching you. You would

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<tbody>
<tr>
<td>be unable to talk to her in every case</td>
<td>be able to talk to her in some cases</td>
<td>be able to talk to her in every case</td>
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</table>

7. You are at a dance. You see an attractive girl whom you do not know, standing in a group of four girls. You would like to dance. In this situation you would

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<th>7</th>
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<tbody>
<tr>
<td>be unable to ask in every case</td>
<td>be able to ask in some cases</td>
<td>be able to ask in every case</td>
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8. You are at a drugstore counter eating lunch. A girl whom you do not know sits down beside you. You would like to talk to her. After her meal comes she asks you to pass the sugar. In this situation you would pass the sugar,

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</tr>
</thead>
<tbody>
<tr>
<td>but be unable to initiate a conversation with her</td>
<td>and in some cases be able to initiate a conversation</td>
<td>and be able to initiate a conversation</td>
<td></td>
<td></td>
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9. A friend of yours is going out with his girlfriend this weekend. He wants you to come along and gives you the name and phone number of a girl he says would be a good date. You are not doing anything this weekend. In this situation you would

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<tbody>
<tr>
<td>be unable to call in every case</td>
<td>be able to call in some cases</td>
<td>be able to call in every case</td>
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</table>
10. You are at a library. You decide to take a break, and as you walk down the hall you see a girl whom you know only casually. She is sitting at a table and appears to be studying. You decide that you would like to ask her to get a coke with you. In this situation you would

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<th>7</th>
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<tbody>
<tr>
<td>be unable to ask her in every case</td>
<td>be able to ask her in some cases</td>
<td>be able to ask her in every case</td>
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</table>

11. You want to call a girl up for a date. You find this girl attractive but you do not know her. You would

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<tbody>
<tr>
<td>be unable to call in every case</td>
<td>be able to call in some cases</td>
<td>be able to call in every case</td>
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12. You are taking a class at a university. After one of your classes you see a girl whom you know. You would like to talk to her, however, she is walking with a couple of other girls you do not know. You would

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<th>7</th>
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</thead>
<tbody>
<tr>
<td>be unable to talk to her in every case</td>
<td>be able to talk to her in some cases</td>
<td>be able to talk to her in every case</td>
<td></td>
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13. You have been working on a committee for the past year. There is a banquet at which you are assigned a particular seat. On one side of you there is a girl you do not know, on the other is a guy you do not know. In this situation you would

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</tr>
</thead>
<tbody>
<tr>
<td>be unable to initiate a conversation with the girl and talk only with the guy</td>
<td>be able to initiate a conversation with the girl in some cases but talk mostly to the guy</td>
<td>be able to initiate a conversation in every case and be able to talk equally as freely with the girl as with the guy</td>
<td></td>
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</tbody>
</table>

14. You are in the lobby of a large apartment complex waiting for a friend. As you are waiting for him to come down, a girl whom you know well walks by with another girl whom you have never seen before. The girl you know says hello and begins to talk to you. Suddenly she remembers that she left something in her room. Just before she leaves you she tells the other girl's name. In this situation you would
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<tbody>
<tr>
<td>15.</td>
<td>find it very difficult to initiate and continue a conversation with the other girl</td>
<td></td>
<td></td>
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<tr>
<td></td>
<td>find it only slightly difficult</td>
<td></td>
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<tr>
<td></td>
<td>find it easy to initiate and continue a conversation</td>
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</table>

15. You are at a party at a friend's apartment. You see a girl who has come alone. You don't know her, but you would like to talk to her. In this situation you

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</thead>
<tbody>
<tr>
<td>1</td>
<td>be unable to go over and talk to her</td>
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<td></td>
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</tr>
<tr>
<td>2</td>
<td>be able to go over and talk to her in some cases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>be able to go over and talk to her in every case</td>
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</table>

16. You are walking to your mailbox in the large apartment building where you live. When you get there you notice that two girls are putting their names on the mailbox of the vacant apartment beneath yours. In this situation you would

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</thead>
<tbody>
<tr>
<td>1</td>
<td>be unable to go over and initiate a conversation</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2</td>
<td>be able to go over and initiate a conversation in some cases</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>3</td>
<td>be able to go over and initiate a conversation in every case</td>
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17. You are at a record store and see a girl that you once were introduced to. That was several months ago and now you have forgotten her name. You would like to talk to her. In this situation you would

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<tbody>
<tr>
<td>1</td>
<td>be unable to start a conversation with her in every case</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>be able to start a conversation with her in some cases</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>be able to start a conversation with her in every case</td>
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18. You are at the student union or local cafeteria where friends your age eat lunch. You have gotten your meal and are now looking for a place to sit down. Unfortunately, there are no empty tables. At one table, however, there is a girl sitting alone. In this situation you would

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<tbody>
<tr>
<td>1</td>
<td>wait until another place was empty and then sit down</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>2</td>
<td>ask the girl if you could sit at the table but not say anything more to her</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>ask the girl if you could sit at the table and then initiate a conversation</td>
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</tbody>
</table>
19. A couple of weeks ago you had a first-date with a girl you now see walking on the street towards you. For some reason you haven't seen each other since then. You would like to talk to her but aren't sure of what she thinks of you. In this situation you would

walk by without saying anything

walk up to her and say something in some cases

walk up to her and say something in every case

20. Generally, in most social situations involving girls whom I do not know, I would

be unable to initiate a conversation

be able to initiate a conversation in some cases

be able to initiate a conversation in every case
Fear of Negative Evaluation Scale

Instructions. Please place the letter "T" (true) in front of the items that apply to you and the letter "F" (false) in front of those that do not. Please make your letters distinct.

____ 1. I rarely worry about seeming foolish to others. (false)

____ 2. I worry about what people will think of me even when I know it doesn't make any difference. (true)

____ 3. I become tense and jittery if I know someone is sizing me up. (true)

____ 4. I am unconcerned even if I know people are forming an unfavorable impression of me. (false)

____ 5. I feel very upset when I commit some social error. (true)

____ 6. The opinions that important people have of me cause me little concern. (false)

____ 7. I am often afraid that I may look ridiculous or make a fool of myself. (true)

____ 8. I react very little when other people disapprove of me. (false)

____ 9. I am frequently afraid of other people noticing my shortcomings. (true)

____ 10. The disapproval of others would have little effect on me. (false)

____ 11. If someone is evaluating me I tend to expect the worst. (true)

____ 12. I rarely worry about what kind of impression I am making on someone. (false)

____ 13. I am afraid that others will not approve of me. (true)

____ 14. I am afraid that people will find fault with me. (true)

____ 15. Other people's opinions of me do not bother me. (false)
Appendix D--Continued

16. I am not necessarily upset if I do not please someone. (false)

17. When I am talking to someone, I worry about what they may be thinking about me. (true)

18. I feel that you can't help making social errors sometimes so why worry about it. (false)

19. I am usually worried about what kind of impression I make. (true)

20. I worry a lot about what my superiors think of me. (true)

21. If I know someone is judging me, it has little effect on me. (false)

22. I worry that others will think I am not worthwhile. (true)

23. I worry very little about what others may think of me. (false)

24. Sometimes I think I am too concerned with what other people think of me. (true)

25. I often worry that I will say or do the wrong things. (true)

26. I am often indifferent to the opinions others have of me. (false)

27. I am usually confident that others will have a favorable impression of me. (false)

28. I often worry that people who are important to me won't think very much of me. (true)

29. I brood about the opinions my friends have about me. (true)

30. I become tense and jittery if I know I am being judged by my superiors. (true)

Note. Scoreable responses have been coded parenthetically after each item.
Frustration Tolerance Test

Instructions. Previous research has shown that the amount of frustration one experiences during frustrating tasks is closely related to how much anxiety and discomfort one experiences during certain situations (for example, during dating or other interactions with women). Further, changes in anxiety and discomfort during these situations tend to be accompanied by associated (correlated) changes in frustration levels during frustrating tasks. Accordingly, we would like to measure your frustration tolerance with this test. As you know, crossing out numbers can be a very tedious and frustrating experience. We will use this experience to determine your current level of frustration tolerance. You are to cross out all the 2s and 6s on this page of random numbers. Later you will indicate your level of felt frustration or agitation on a frustration scale.

Note. These instructions were followed by a full page of random numbers.

Frustration Thermometer

Instructions. Please indicate the amount of frustration or agitation you felt while taking the Frustration Tolerance Test. Place a heavy mark on the scale at the point which corresponds to how you felt when taking the test.

1 2 3 4 5 6 7 8 9 10
no frustration extremely frustrated
Appendix E

Instructions for Experimental Confederates

Each of you will converse with several male subjects who are participating in the study. Interactions with each subject will last for 10 minutes and will be videotaped. To give you a relatively standard technique of behavior and initial topics of conversation, a short set of guidelines is presented which you will be expected to learn and follow. You will be given some live practice before any subject is seen. All subjects have been told that you are working with the experimenter, but they have been instructed to act as if this were a "real" social situation in which they have just met you and are interested in getting to know you further.

Subjects will report to the Interpersonal Lab on the second floor of Terrill Hall. You will report to the room adjacent to this one (Room 232). Please be prompt. The person who is operating the videotaping equipment will meet the subject in the hall, usher him into the Interpersonal Lab, help him get seated, and attach a pulse rate monitor to his finger. After monitoring his pulse rate for a few minutes, the videotape operator will take you next door and introduce you to the subject.

During the interaction you should be moderately positive toward the subject, but let the burden of the conversation fall on him. After you have been introduced and are seated,
you should wait to see if he initiates the conversation. If after 20 seconds he does not, you should (1) ask if the subject is a student at North Texas State University and see if he continues to talk. If he does not, wait 10 seconds and ask him (2) what his major is/what he does for a living (whichever is appropriate). Again wait and see if he picks up the dialogue here. It is likely that he will respond by asking about your major. If he does not, (3) tell him what your major is. If he fails to respond after you make this statement, ask him (4) how he came to choose his major/line of work. You should look at the subject when you ask the questions and continue to look at him when he responds.

After this fourth "standard" question, try to react toward the subject like you would the first time you meet an average guy at school. However, keep in mind the following restrictions: (1) do not allow the duration of your responses to exceed 10 seconds, and (2) avoid initiating any topic with the subject unless a silence occurs in the conversation which exceeds 10 seconds.

Again, you should be pleasant and moderately positive toward the subjects (soft-spoken, non-aggressive, smiling frequently, encouraging) but not flirtatious. If the subject is responsive, allow the conversation to go where he leads it. Just try to be yourself and respond the way you normally would (as long as this adheres to the two "10-second rules" above).
All of the subjects have been told not to ask you any questions about the experiment. Therefore, should they ask, simply tell them that you are not allowed to talk about the experiment during the conversation. Similarly, you should not ask the subject any questions about the experiment. Also, when conversing with the subjects, you will no doubt notice the pulse rate monitor attached to his finger. Do not ask the subjects about the instrument and do not gaze at the apparatus during the interaction.
Appendix D

Introduction to Therapist Manuals

You have been provided with a manual for each of the two groups you will be running. Both groups will meet one night each for 3 consecutive weeks. Each session will last for 2 hours and will begin promptly at 7 p.m.

Each group will be composed of men who experience heterosocial anxiety. The exact nature of this problem is likely to vary among the members of the group. Some may be dating relatively frequently, but experience discomfort during dating and in other interactions with women. With others, the problem may be more severe--thus, these persons may avoid any interactions with women. The group members may also vary with respect to other characteristics: age, educational background, and previous relationships with women. Some of the men may have previously dated steadily and some may have even been married before--however, all of the men have stated that they presently experience some anxiety when dealing with women or in dating.

The heterogeneity of each group may also be apparent in the social skills they show with women. Direct training of social skills will not be performed with either group. Rather, the focus of treatment will be on the anxiety experienced by these men.

The two groups will be conducted using different approaches to the problem of heterosocial anxiety, so the procedures
allowed in each group will differ accordingly. In one, a
cognitive behavioral approach will be used which has been
based largely on the stress-inoculation procedures described
by Meichenbaum. In the other, a combination of subliminal
desensitization and stimulus-controlled free association will
be used. A copy of the rationale for these procedures and
the way they will be implemented in the group sessions have
been attached to each therapist manual. These treatment
descriptions will be read by group members during the first
session. Make sure that you read and are familiar with these
before you meet with the experimenter for training and prac-
tice sessions. Later, before you actually conduct the
sessions, please read the manuals carefully and be very familiar
with the procedures and rationale for each approach—the
groups will most likely have questions.

The goals of this research require that you follow the
outlined procedures as closely as possible. This does not
mean that the procedures are to be carried out as a cold,
mechanical operation; instead, you should be warm, interested,
and helpful, as you would be in any helping relationship.
While past work with similar procedures has found both
approaches to be helpful, it is realized that each of you may
have your own biases about which approach is the most pref-
erable for problems of this sort and expectations about
which will be the most successful. However, as you are no
doubt aware, it is important that you do not allow these
biases to affect the way you "come across" in the groups.
Appendix F—Continued

You will note from the rationales that the expectancies concerning each treatment's effectiveness will be positive, and this positive expectancy should be represented in the therapist's manner, approach to treatment, and response to questions. Thus, you should appear equally interested in both approaches and confident that it will be of benefit to the group using it.

A set of detailed instructions have been included for each group to serve as a guidelines to the step-by-step procedures to be followed in each session. They should be followed quite closely, but of course some flexibility is permitted and is probably necessary to make the procedures work most effectively. Indeed, some flexibility has been written in to some of the steps in both approaches. Do not read obviously to the subjects from the manuals (except when it has been noted to read the instructions verbatim), but you may hold the manual in your hand as a reminder during the sessions.

A Note on Answering Subject's Questions

As stated above, it is likely that some subjects will have questions about the rationales and procedures used. The answers to these questions should be consistent with the model being employed for that group. Again, make sure that you are familiar with the treatment descriptions for each group so that you can do this easily.
Appendix G

Therapist Manual for the Cognitive-Behavioral Group

Part 1: Overview

Treatment in this group will generally follow the stress-inoculation approach described by Meichenbaum. The rationale for this approach and an overview of the treatment used has been attached to this manual. Specifically, the group members will be taught a set of coping skills which they can use to help them ward-off anxiety during heterosocial interactions by relaxing and modifying negative self-statements which arise during these situations. Subjects will be taught to relax during these situations by training them in cue-controlled relaxation exercises during each treatment session. Cue-controlled relaxation training will be followed in each session by self-statement modification training through the use of audiotaped training and group discussion.

That, in a nutshell, is the approach to be used in the cognitive-behavioral group. You will note that there is not an "application training" phase in the procedures—i.e., the men are not told to go out and practice the approach with females. If the subjects do go out and practice with females on their own, that is allowable; but we will not specifically tell them to do so. However, two homework assignments will be made which the subjects will be expected to carry out between sessions: (a) monitoring their self-statements when
around women and (b) practicing the cue-controlled relaxation procedures nightly.

Cue-controlled relaxation. Cue-controlled relaxation (CCR) is used to teach the men to actively control their anxiety by conditioning relaxation responses to easily self-produced signals (such as the words "relax" or "calm") and by teaching the men to produce these signals covertly whenever they discriminate the onset of anxiety. CCR differs from the relaxation procedures used in conjunction with traditional systematic desensitization and the subliminal desensitization used in the present study since it is viewed as an active coping skill to be used in anxiety-provoking situations.

Training consists of a two-stage procedure in which subjects are given deep muscle relaxation exercises followed by repeated pairings of an imaginal word (e.g., "relax") with the relaxed muscular state. The deep muscle relaxation technique involves tensing and relaxing various muscle groups according to the instructions you will read. These verbatim instructions are found in Part 2 of the manual. Unfortunately, subjects will not have the benefit of using reclining chairs for this procedure. You must, however, encourage the subjects to position themselves so that no part of the body requires the use of muscles for support. Here, you may suggest that the subjects "slump" in their chairs or on the sofa so that their legs are extended, and their head rests on the back of
their chair. Better still, suggest that subjects lie on the floor during this portion of the sessions. Subjects will be asked to close their eyes to minimize external stimulation. The room should be quiet and you should turn-off the overhead light (leaving just the reading lamp on) when you start relaxation.

In the first session, the full 16-muscle procedure will be used to assist subjects in achieving a relaxed state. Cue-association training will be initiated 30 seconds after the relaxation training without a break in the procedure. This will be accomplished by having the group focus attention on breathing while covertly repeating the cue-word with each exhalation. For the first five exhalations, the therapist will audibly repeat the cue-word along with the subjects' covert verbalizations. Subjects will then continue alone for 15 additional cue-relaxation pairings during a 60-second pause which will be followed by an identical series of 20 cue-relaxation pairings.

During the second session, relaxation training will follow the 7-muscle sequence rather than the 16-muscle procedure used in the first session. During the third session, relaxation training will follow the 4-muscle sequence. In the second and third session, cue-association training following deep muscle relaxation will proceed using the procedures followed in the first.
Note that if some subjects develop muscle cramps or spasms from prolonged tension of muscles, simply have them shorten the tension interval a few seconds, and instruct them not to tense their muscles quite so hard.

Self-statement modification. The rationale for this part of the sessions is based upon Meichenbaum's idea that both maladaptive and adaptive responses are mediated by sets of statements that the subject says to himself. The subject's maladaptive anxiety may thus be brought about by negative self-statements. The second portion of each session will be devoted to identifying and modifying such negative self-statements the subjects are making during their interactions with women. Prior to the first session, all subjects will have participated in a 10-minute interaction with a female. This interaction will serve as a "springboard" with which you can introduce the idea of self-statements and assist the group in identifying their negative self-statements. In the first session, subjects will be asked to recall this interaction (and other past interactions with females) and identify negative self-statements before, during, and after these interactions. The irrational, self-defeating, and self-fulfilling nature of these self-statements will be stressed, and group discussion will then be focused on more appropriate and positive self-statements they might make during these situations.

During the last part of the first session, subjects will listen to a cassette training tape in self-statement
modification. This tape will consist of 13 training segments. Each segment of the tape involves: (a) a typical problem situation, (b) examples of negative self-talk, (c) correction of negative self-talk with examples of positive self-talk, and (c) examples of self-talk reinforcement which are designed to reinforce the positive self-talk that precedes it. Tapes have been recorded with pauses between each step of each of the 13 training segments. In this way the tape can be stopped at any step to elicit group discussion of their own self-statements or of those presented on tape. You should review this tape (or transcripts of the tape) extensively before the group sessions.

During the first session, only one or two problem situations will be presented, as time permits. During the second and third sessions, the tape will be used more extensively to aid the subjects in the identification and modification of their own negative self-statements during heterosocial interactions. Also, during the second and third sessions, the discussion of the group's second homework assignment (monitoring their negative self-statements when around women) will be used to further facilitate this discussion.

The coping model for dealing with anxiety will be presented to the subjects during the second session. Subjects will be told how to use the cue-controlled relaxation procedures to prepare for anxiety-provoking interactions with females. They will be told that once in the anxiety-provoking situations, they should tell themselves to "relax,"
substitute positive self-statements for negative ones, and reinforce themselves covertly for making the positive self-statements.

During the last part of the third session, the group will discuss and practice the use of the coping model with specific problem situations with which the subjects have difficulty. Here, the group will focus on idiosyncratic problem situations for the individual subjects which may not have been discussed previously. Solutions for handling these situations will be examined, within the confines of the coping model. For example, an individual in the group may have difficulty determining corrective positive self-statements in a certain situation with a certain girl. During this part of treatment, he may obtain input concerning various positive self-statements which may be appropriate for that situation. Thus, situations in which the subjects have particular difficulty applying the model will be discussed, and examples of how it may be applied will be given.

Part 2: Detailed Instructions

Session 1. Step-by-step instructions for the first session are enumerated below. You should follow these procedures in the order that they have been listed.

1. Introduce yourselves to group members (your name and status--doctoral student in clinical psychology) and have them introduce themselves to one another.

2. Pass out copies of the treatment description and have subjects complete the questionnaire:
(One of you should hand out the descriptions while the other gives the following instructions)

"Before we get started, let us pass out a description of what we will be doing during our sessions and the rationale for it. Please read this description at this time. When you are finished reading the description, we will answer any questions you may have. Attached to the back of the description is a brief questionnaire we would like you to complete after you have finished reading it. Please put your name on the questionnaire at this time. Please wait until you have finished reading the description and until we have had the chance to answer any questions before you complete the questionnaire."

(After the subjects have read the descriptions, answer any questions they may have and then have them complete the questionnaire. You should be familiar with the section on answering questions found in the introduction to the therapist manuals. Initially, then, you should attempt to answer questions simply by restating the material in the descriptions they have read. For example, we will be using a two-fold approach in which we work on both an arousal component and a cognitive component, the focus is on helping subjects deal with what they are experiencing now as opposed to historical causes, etc.)

(Collect descriptions and questionnaires.)

3. Introduce CCR and train subjects in CCR:

"Now that you have some idea of what we're going to be doing and why, we would like to begin the training in cue-controlled relaxation. One advantage of learning to relax is that our muscles can't be both tense and relaxed at the same time. Therefore, this relaxation procedure will allow you to learn to cope with the anxiety you may feel when interacting with women. Through this training, you will learn to bring this arousal down to manageable levels."
First we'll dim the lights and go through a procedure where we will first tense and then relax the various muscle groups in your body. To do this you will need to get into a very comfortable position in your chair or lie on the floor. After we've gone through the deep-muscle relaxation procedures, we will teach you to associate a cue word with your relaxation. We will ask you to take a deep breath, and as you slowly exhale, you will silently tell yourself to relax. With practice, you will eventually be able to relax away a large part of any anxiety you are experiencing simply by telling yourself to 'relax.'"

(At this point, one of the therapists should demonstrate exhaling while telling oneself to relax.)

"Now each of you find a comfortable position."

(Encourage subjects to get into a comfortable position in their chairs or sofa, or they may lie on the floor. After the subjects are in position, tell them to do the following. Do not tell them to relax until you have done this.)

"I would like each of you to now assess the amount of anxiety or tension you are experiencing right now on a 10-point scale, where 1 represents being completely relaxed and 10 represents the greatest amount of anxiety and tension you have ever experienced. You do not have to tell us what number you have assigned, just assign the number and remember what it is. Okay, has everyone done that?"

(Proceed with the CCR training.)

(After CCR training, again have the subjects assess their anxiety level on a 10-point scale. Inquire as to how many points they were able to reduce their anxiety levels with the relaxation training. Tell them that with practice, they will get better at it and will be able to achieve their relaxed state much more quickly.)
4. Give subjects a 5-minute break.

5. Introduce the group to self-statements and the rationale for self-statement modification:

"Recall the program description you read earlier in the session. Remember how it described anxiety reactions as being made up of two components: an arousal component and a cognitive or thinking component. We began our work on reducing the arousal component with the cue-controlled relaxation procedures before the break. Now we would like to introduce you to how we will work on this thinking component. Before doing this, we would like for each of you to think back to when you came in for the 10-minute interaction with the girl. Try to recall some of the things you were thinking—the things you were saying to yourself before the interaction, during the time you were with the girl, and after you completed the interaction with the girl. Do that now. (Pause.) You may find it helpful to sit back, close your eyes, and try to re-experience the thoughts, feelings, and things you were saying to yourself at that time. Just picture the scene in your head as if you were running a movie in your mind and get into those thoughts."

(Pause for a moment and let the subjects reflect on these thoughts. Then say:)

"Now we would like you to share these feelings and thoughts with the other members of the group. What were some of your thoughts when you were in that situation?"

You will need to be very supportive here and reinforce the subjects for volunteering this information (e.g., "Okay, good, . . ."), even if the thoughts they are sharing do not fall into the typical negative self-statement category. Remember, what we are doing here is teaching the subjects to identify negative self-statements—we do not necessarily expect them to be able to identify these things right off the bat. It is hard to anticipate just exactly what types
of thoughts the group will share here. The important thing at this point is encouraging them to share.

After the subjects have shared these thoughts, you may proceed in a variety of different ways:

a. If some of the subjects have identified thoughts that may be classified as negative self-statements, you might proceed by saying something like:

"All of these things you have mentioned are pretty typical of some of the thoughts you might experience when dealing with a female. However, some kinds of thoughts seem to be more directly related to the anxiety we might experience in these situations than do others. A number of you mentioned the kind of thoughts I'm talking about. For example, . . . (identify some of the negative self-statements that were volunteered by the group). Let's talk about these sort of thoughts some more."

b. If none of the subjects have identified thoughts that may be classified as negative self-statements you might say:

"All of these things you have mentioned are pretty typical of some of the thoughts we might experience when dealing with a female. However, there are other kinds of things that we say to ourselves during these situations that are more directly related to the anxiety we might experience in these situations. Let's talk about these kinds of thoughts."

c. If some of the subjects have identified positive or coping self-statements, you will want to point these statements out to the group.

"Some of you mentioned some thoughts that were actually pretty positive and adaptive. For example, . . . (identify the positive self-statements volunteered by the group). One of our goals in these sessions is to get you to make more of these type of
self-statements, to think more of these kinds of thoughts, and less about negative thoughts. Let's talk about this idea some more . . .

(Regardless of the results of the above exercise, the idea is to use the results to act as a springboard to further explain the idea of self-statements and their relationship with anxiety.)

"One of the purposes of our meetings will be to explore and share our feelings and thoughts as we have just been doing. We will develop our ability to notice our thinking processes and to become aware of our self-statements (the things we say to ourselves). As we go on, I think you'll come to see the important role our thinking plays in influencing the anxiety we experience in many situations and how it influences our behavior in these situations.

One of the things we will be doing is to learn to identify our negative self-statements that generally occur when we are in situations that make us anxious. They may start before we even enter the situation. For example, we may do a lot of catastrophizing by saying things to ourselves like: 'What if I mess up, I know it will be horrible,' 'I just don't have what it takes to deal with girls,' 'What if I say the wrong thing, I'll turn her off before she even gets a chance to know me.' They may occur once we are in the situation itself. For example, 'Oh God, why did I say that?,' 'I can tell she doesn't like me, she thinks I'm a real Bozo!' They may occur after we are out of the situation. For example, after a date we may tell ourselves, 'Well you really screwed that up, she'll never talk to you again, let alone go out on another date with you,' or 'You really talked about stupid things, she must have thought you were a real bore--maybe you really are a bore.'

The funny thing is that, if we could step back and objectively analyze these self-statements, we'd see that many of them are inaccurate and inappropriate. They often cause us a lot of worry and make us even more tense and anxious. Therefore, these negative self-statements are self-defeating. We defeat ourselves and often spoil our chances of behaving as we would like by making them. In addition to being self-defeating, they are self-fulfilling as well. If we allow ourselves to think that we will fail, we increase our chances of doing just that.
When we can recognize that we are making these negative self-statements, this will be a step forward in changing. Recognizing our negative self-statements will act as a cue for us to produce different thoughts—to challenge these negative self-statements we are making with more positive self-statements, and more accurate evaluations of our behavior."

Ask for and answer any questions the subjects may have. Have the subjects think back to the discussion you had earlier in the session (where they recalled the interaction with the confederate and other interactions with girls), and see if they can now recall any other negative self-statements they were making in these situations. Again, reinforce the members for sharing their thoughts here, but specifically try to get them to identify negative self-statements. Then ask them to identify positive self-statements they could have made in these instances. Keep group discussion focused on this task until you feel they understand the concepts of negative and positive self-statements. You may have to use more examples if they have difficulty in doing this.

6. Introduce the cassette training tape and play one or two segments of the tape.

"As we said before, what generally happens in situations where we are anxious is that we have made a lot of negative self-statements rather than positive ones. In other words, it's not the situation itself that makes us anxious, but the things we tell ourselves during the situation. A lot of these irrational ideas and thoughts, the phrases and sentences we tell ourselves, have become habitual. We often don't question them, and they influence our emotions and our behavior. But we can become aware of these habitual thinking styles and change them. Let's listen to an example of how we might do this."
Play the first segment of the training tape. Stop the tape after the situation has been presented to the subjects and ask them to think of what they might be saying to themselves in this situation. Then play the remainder of the first segment of the tape.

"Notice how this person on the tape started out making negative self-statements, but then corrected these with more positive and appropriate self-statements. Also, notice how at the end this person rewarded himself for making these positive self-statements. We'll continue to practice with these tapes so that each of you can get better at doing this same sort of thing in situations where you find yourself becoming anxious. You will become better and better at controlling the anxiety-provoking thoughts you may be experiencing in these situations, and consequently better at controlling your anxiety."

If time permits, play the second segment of the tape in the same manner.

7. Assign homework and dismiss the group:

"OK, there are just a couple of final reminders, but they are important. In order to facilitate what we are doing here, I want you all to practice the relaxation technique at least once a day. You can do this when you are alone. If you practice the technique at night in bed before you go to sleep, make sure you have finished the exercises before you go to sleep. Try to relax all of the muscle groups we relaxed earlier, but pay special attention to those groups that you find are typically the most tense. And don't forget the breathing exercises. Practicing these relaxation exercises is very important as it will enable you to relax at a deeper level and at a more rapid rate.

We would also like you to monitor your thoughts when you are interacting with females and in other anxiety-provoking situations and record these thoughts later in the day in a notebook. Bring these lists with you next time we meet.

Also, please try to arrive on time for every session. I really cannot emphasize this point enough. All of the participants, including us, are putting a lot of
time and energy into this project, and it would be unfortunate for one person to spoil it. Because the program is carried out in groups, it is essential for every member of the group to be here for every session, as it will be impossible to cover old material just to allow one person to catch up from a missed session. Also, if you miss a session, it will not be possible to refund your deposit completely. That's all for tonight, see you next Thursday at 7:00 p.m."

Session 2. For the second session, adhere to the following procedures in the order listed.

1. Summarize procedure and rationale:

"Since much of what was said last time was probably new for you, first of all tonight I'll remind you briefly of the procedures we are using and the reasons we are using them. During the first part of tonight's session, we'll again do some cue-controlled relaxation training. Just like last time, we'll first go through some procedures designed to teach you to relax deeply. Remember, we can't be tense and relaxed at the same time. So by learning to relax, you'll learn to cope with situations which tend to make you anxious and tense. You'll learn to bring this arousal down to manageable levels. With practice, as you've been doing this past week, you'll learn to be able to relax away a large part of any anxiety you're experiencing simply by telling yourself to 'relax' and letting yourself do so.

Remember, though, that anxiety reactions are made up of a thinking component in addition to the arousal component we'll be working on with the cue-controlled relaxation training. The second part of tonight's session will be focused on this thinking component, on the self-talk or self-statements we make to ourselves when we're in these situations. When these self-statements are negative, they tend to produce anxiety. In other words, they are self-defeating and self-fulfilling. We'll again discuss ways to challenge these negative self-statements and replace them with ones that are more positive—ones that will help us to cope with these feelings, ones that are more accurate evaluations of our behavior. Are there any questions before we begin?"
2. Dim the lights and proceed with CCR training using the 7-muscle procedure:

"Okay, let's go through the cue-controlled relaxation exercises. These will be similar to those we used last time, except we'll tense some of the muscle groups together to help you become deeply relaxed more quickly. So listen closely. Now, each of you find a comfortable position."

(Encourage subjects to get into a comfortable position in their chairs or sofa; or they may lie on the floor. Then proceed with CCR training using the 7-muscle group procedure.)

3. Discuss last week's homework assignment of practicing relaxation training and any problems they might have encountered in practicing.

(Depending on the time available, you may start the next step before the break or wait until after the break to begin.)

4. Discuss last week's second homework assignment where subjects were asked to monitor their thoughts throughout the week:

(Focus the discussion on the negative self-statements reported and consider positive self-statements which may be used to correct them. Reinforce the group members who are already making the corrective self-statements.)

5. Give the subjects a 5-minute break.

6. Present the coping model for dealing with anxiety to the subjects: (Answer questions as they arise during the explanation.)
"We'll listen to some more of the tapes like we played last time in a minute, but first I want to explain in some detail the strategy or coping technique we want you to learn to apply when you're in situations where you are anxious with women. You see, the techniques we're practicing here, the cue-controlled relaxation and the self-statement modification training, really tie together in a nice package that you can use before, during, and after these situations. For example, before you are in the situation and you find yourself becoming anxious, you can relax away a large part of this arousal by telling yourself to relax and letting yourself do so. For instance, if you are driving over to a girl's house to pick her up for a date and you notice yourself becoming anxious and tense, really concentrate on relaxing away those feelings. We don't expect you to be able to relax as deeply as you do when you practice relaxing here or on your own, but you can bring that anxiety down to manageable levels with the technique. At the same time, you should be listening to your self-statements about what you are expecting during the date, about how you'll do on the date. If you hear any negative self-statements, that's your cue—challenge them. There's bound to be more adaptive ways you can think about the situation, more positive self-talk you can be making. And when you've done this, you should reward yourself for doing so. For example, 'Yeah, this really is a better way to think about it.'

You can do the same thing when you're in the situation itself and after its over. For instance, after a date you might find yourself saying, 'Boy I really blew that.' That's your cue—'Just relax, you didn't do so badly, you seemed friendly even at the end of the date.' When you step back and more objectively analyze the situation, you really will find that many of these negative things you tell yourself are not really accurate and they for sure are not adaptive for you. Remember it's the negative self-talk that is responsible for a lot of the anxiety and worry you may experience.

Let's go over the technique again. First, reduce the anxiety down by telling yourself to relax. Next, listen to your self-talk and when it's negative, challenge it with self-talk that's more positive. And finally, reward yourself for making positive self-talk and for having coped with the situation.
This really is a powerful tool, and the more you practice each part, the easier it will be for you to use it. With practice, it will become the natural thing to do in these situations."

(Make sure the subjects understand the model before proceeding.)

7. Play segments of the cassette training tape to stimulate further discussion and training in the use of the model:

(Exemplify the use of the model by playing one of the segments without stopping. Then play more of the taped segments, stopping at the designated points to facilitate their learning how to identify negative self-talk, how to produce more positive self-talk, and how they might reinforce themselves for making positive self-talk.)

8. Have subjects complete the questionnaire:

(Make sure subjects put their names on the questionnaire. Also, tell them to read each question and each scale carefully before they mark down their answers.)

9. Assign homework and dismiss the group:

a. Assign the two homework assignments.

   1. Nightly, they are to practice relaxation training using the procedures we used in tonight's session. Tell them to pay special attention to the muscle groups that they find are typically the most tense, and not to forget the breathing exercises.
2. Monitoring their self-talk when interacting with females and in other anxiety-provoking situations and recording these thoughts later in the day. Tell them to again bring their lists with them for next week's session.

b. Again, stress the importance of being on time and attending the sessions, and remind them that the next session is next Thursday at 7 p.m.

Session 3. Use the following procedures in the order that they have been listed.

1. Summarize procedure and rationale:

"The things we've been doing the past couple of weeks have been designed to teach you a strategy or coping technique that you can apply when you're in situations where you are anxious with women. We went over this strategy in some detail in our last session, but let me briefly summarize it again for you. Since this is our last session, make sure you ask questions about what I am telling you, if you have any. Essentially, the coping package is made up of three different parts. The first step involves reducing the anxiety you may be experiencing in these situations (or before or after these situations) by telling yourself to relax and letting yourself do so. At the same time, and this is the second step, you should be 'tuning in' to the self-statements you are making, and when they are negative, challenge them with self-statements that are more positive. The third step consists of rewarding yourself for making the positive self-statements and for having coped with the situation."

(Make sure that you answer any questions they may have and, if you feel they may not be completely following you, you may want to summarize the coping model again.)

A lot of what we'll be doing tonight will be similar to the things we've done in our first two sessions. We'll first give you some more training in cue-controlled relaxation exercises, and later will listen to some more of the tapes. We'll also discuss the homework assignments and near the end of the
session, will talk some more about the coping technique in general and how you can use it. Any questions?"

2. Dim the lights and proceed with CCR training using the 4-muscle procedure:

"Okay, let's go through the cue-controlled relaxation exercises. These will be similar to those we used last time, except we'll tense even more of the muscle groups together than we did then. So listen closely as we go through the procedure. Now, each of you find a comfortable position."

(Encourage subjects to get into a comfortable position in their chairs or sofa, or they may lie on the floor. Then proceed with CCR training using the 4-muscle group procedure.)

3. Discuss tonight's relaxation exercise and last week's homework assignment of practicing relaxation training:

(Here, you should inquire about how well the subjects were able to relax on their own before you started the formal tensing/relaxing exercises. Discuss any problems they may have encountered when doing this. Especially encourage the use of the deep breathing exercises to help them relax quickly, and model these techniques for them. Also, stress that they should be learning to tune in to feelings of tension in their bodies and focus on relaxing the muscle groups that typically are the most tense in anxiety-provoking situations. Also discuss last week's homework assignment of practicing relaxation training and urge them to continue practicing the techniques in the future.)

4. Discuss last week's second homework assignment where subjects were asked to monitor their self-statements when interacting with females:
Appendix G--Continued

(As in last week's session, focus the discussion on negative self-statements reported and consider positive self-statements which may be used to correct them. Reinforce the group members who are making the corrective self-statements.)

5. Give the subjects a 5-minute break.

6. Play segments of the cassette training tape to stimulate further discussion and training in the use of the model:

(The procedure here is similar to that for last session. Play the remaining segments of the tape which have not been covered previously. If time permits, you may go back to segments of the tape that have already been covered and discuss these further.)

7. Approximately 45 minutes before the end of the session, stop the audiotaped training and again discuss the coping model and how the subjects may use it:

(You may start off the discussion by asking the subjects to talk about situations in which they feel the coping model would be very appropriate to use. Then ask the subjects if they can think of any situations where it would be difficult to apply the coping skills--especially focusing on specific situations in their life where they would have difficulty applying it--e.g., in a certain situation or with a certain girl. It is especially important here to focus on negative self-statements which they have difficulty
combating. Through group discussion and your own suggestions, help the subjects to determine positive self-statements which are appropriate for these situations. Try to get all subjects to contribute here.)

8. Conclude the final session:

"That concludes all of the material we wanted to cover in our sessions. We would like to thank each of you for your time and energy in coming to these sessions. Karl Neumann will contact you shortly to make arrangements for you to complete some questionnaires and to have another taped conversation with a girl. I'm not sure that we'll be seeing you again, so we'd like to wish you all good luck. Before you leave, we'd like you to fill out this questionnaire."

9. Have subjects complete the questionnaire:

(Make sure subjects put their names on the questionnaire. Also, tell them to read each question and each scale carefully before they mark down their answers.)

Part 3: Cue-Controlled Relaxation Instructions

Session 1. Read the following procedure word for word in its entirety during the first session. The pace should be deliberate and even, with pauses at the dotted lines. During the tensing phases of the instructions, have the subjects tense their muscles for 5-10 seconds.

1. Right hand and lower arm:

"Settle back as comfortably as you can . . . Just let yourself relax to the best of your ability . . ."

"Now, clench your right hand into a fist, clench it as hard as you can. Build up the tension in your hand and forearm and study the tension . . . Now relax. Let the fingers of your hand become loose and notice the difference . . ."
"Once more, clench your right fist really tight . . . Hold it, and notice the tension and study it . . . Now relax. Again notice the change . . . Just let your fingers straighten out and relax these muscles . . ."

2. Left hand and lower arm:

"Now repeat with the left fist. Clench your left hand into a tight fist. Make the fist tighter and tighter and study the tension . . . Now relax . . ."

"Repeat that once more. Clench your left fist tight and tense . . . Now relax. Study the change that takes place as you relax these muscles."

3. Right upper arm:

"Now bend your right arm at the elbow, make your hand into a fist and tense your forearm and upper arm as tight as you can . . . Study the tension feelings . . . Now relax . . . straighten out your arm and let the tension go . . . Reduce the tension as much as you can and let these muscles become even more relaxed . . ."

"Once more bend your right arm at the elbow and tense these muscles again; hold the tension and observe it carefully . . . Now relax, straighten your arm and let all the tension go . . ."

"Again, tense these muscles, making your upper arm muscle into a tight ball . . . Study the tension . . . Now relax and note the change . . ."

"Concentrate on relaxing the muscles of both arms and hands even further . . . Look for any feelings of tension in your arms and relax it away . . . Just let your arms relax even more . . ."

5. Forehead:

"Next, tense the muscles of your forehead by lifting your eyebrows up as high as possible . . . Tense these muscles as tight as you can . . . Now relax. Let your eyebrows drop and let all the tension flow out of the muscles of your forehead . . ."

"Lift your eyebrows once more and tense these muscles . . . Higher . . . Tighter . . . Relax . . . Again reduce the tension and let the feeling of relaxation spread across your forehead."
6. Central section of face:

"Close your eyes tightly and make them into a squint. Squint your eyes as tightly as you can and wrinkle up your nose as you do . . . Study the feeling . . . Now relax and study the change . . . Keep your eyes closed, gently, comfortably, and notice the relaxation . . ."

"Again, squint your eyes and wrinkle up your nose . . . As tense as you can . . . Now relax . . . Study the change and relax even more . . ."

7. Lower face and jaw:

"Now, clench your jaws, bite your teeth together and pull back the corners of your mouth; study the tension throughout the jaws . . . Now relax. Let your lips part slightly . . . Notice the change and focus on the relaxation . . ."

"Clench your jaws again and pull back the corners of your mouth . . . Feel the tension . . . Relax . . . Part your lips slightly, and let the relaxation spread . . . Just relax . . ."

8. Neck:

"Now, attend to your neck muscles. Just let your head roll back and forth to the right and left a few times, and loosen up these muscles . . . Straighten your head now and bring it forward, and press your chin against your chest as tightly as you can. Hold the tension for a few moments . . . Now relax and let the tension go. Let your head return to a comfortable position and study the relaxation . . ."

"Again, bring your head forward and press it against your chest . . . Tighter . . . Tighter . . . Relax . . . Relax these muscles even more . . ."

"Now, focus your attention on all of the muscles in your face and in your neck. Assess any tension you may be feeling in these muscles and relax it away . . . Let the relaxation progress further and further in these muscles . . . Just let these muscles go and notice how they feel as compared to before . . ."

9. Shoulders, upper back, and chest:

"Next, tense the muscles of your shoulders and upper back area by raising your shoulders andshrugging them back and up. Tense them tightly, feel the tension . . . Now drop your shoulders and
relax . . . Let the relaxation spread deep into your shoulders, right into your back muscles . . . Let the relaxation spread as you become more and more relaxed . . ."

"Raise your shoulders back and up again into a tight shrug . . . Study the tension . . . Let your shoulders fall and as they do, relax . . . Release all the tension and concentrate on this feeling . . . Let it grow even deeper . . ."

"Now, breathe in deeply and fill your lungs as full as you can . . . Hold your breath . . . Feel the tension . . . Now part your lips slightly, silently tell yourself to relax, and exhale very slowly . . . Notice the increasing relaxation as you exhale. Let the feeling of relaxation spread as you breathe out . . . Now breathe normally and let yourself become even more relaxed . . ."

"Again, breathe in and fill your lungs completely . . . Hold your breath and study the sensation . . . Silently tell yourself to relax and exhale slowly . . . Just experience the sensation of deep relaxation spreading through your body . . . Think about relaxing more and more as you continue breathing . . . Merely let go, and enjoy the relaxation . . ."

10. Abdominal or stomach region:

"Now, let's pay attention to your abdominal muscles, your stomach area. Tighten your stomach muscles, make your abdomen hard. Notice the tension . . . And relax. Let your stomach muscles loosen and notice the contrast . . ."

"Once more, press and tighten your stomach muscles. Hold the tension and study it . . . And relax . . . Relax your stomach fully and let the tension dissolve as the relaxation grows deeper . . . Study this feeling and let it grow even deeper . . ."

11. Right upper leg:

"Flex your right thigh by pressing down your heel as hard as you can . . . Press hard . . . Relax and note the difference . . ."

"Straighten your knee and flex your thigh muscle again. Hold the tension . . . Now relax . . . Just allow the relaxation to spread through the muscles of your upper leg . . ."
12. Right calf:

"Now, bend your right foot toward your face so that you feel tension along your skin and in your calf. Bring your toes as you do this and notice the tension . . . Now relax . . ."

"Bend your right foot again so that you again feel tension in your calf and along your shin . . . Relax, and let the tension flow out . . . Just relax . . ."

13. Right foot:

"Tense the muscles of your right foot by pointing the toe of your foot down. Now turn your foot inward, and at the same time curl your toes. Don't tense these muscles very hard, just enough to feel tightness . . . Now relax . . . Focus on the feeling in your foot as it becomes more and more relaxed . . ."

"Tense your right foot again, just enough to feel the tightness. Hold it . . . And relax . . ."

14. Left upper leg:

"Now, press down on your left heel and flex your left thigh muscle very tightly . . . Build up the tension . . . Relax . . ."

"Again, press down on your heel and tense your thigh . . . Study the feeling . . . And relax . . . Concentrate on relaxing this muscle and let yourself experience the feeling as you do . . ."

15. Left calf:

"Point your left foot toward your face, bring up your toes, and tense the muscles of your left calf . . . Study the feeling . . . Relax and focus on the change . . ."

"Now repeat the procedure . . . Feel the tension in your calf and along your shin . . . Now relax and reduce the tension . . . Try to relax these muscles completely . . . Just relax . . ."

16. Left foot:

"Finally, tense your left foot. Point the toe of your foot down, turn it inward, and curl your toes. Not too tense; just enough to feel the tightness . . . and relax . . ."
"Again, repeat the procedure . . . Not too tight . . . Feel the tension . . . And relax . . ."

"Let the feeling of relaxation flow throughout the muscles of your legs . . . Reduce all the tension . . . From your thighs all the way down to your toes . . . Focus all of your attention on the feelings associated with relaxation flowing into these muscles . . ."

"Keep relaxing for a while . . . Let yourself relax further all over . . . Make sure that no tension has crept into any of the muscles we have relaxed . . . Reduce even the least bit of tension you might find as you assess the various muscle groups of your body . . . Your arms . . . Face . . . Neck . . . Shoulders, back and chest . . . Your stomach . . . And your legs . . . Just let your muscles go and notice how they feel now as compared to before . . . Notice how you can become even more relaxed by merely taking in a really deep breath and slowly exhaling. Silently tell yourself to relax as you do this . . . Relax . . . Just let yourself experience and enjoy this feeling . . ."

(After 30 seconds begin cue-controlled training)

"Now focus all of your attention on your own breathing and study it . . . With each breath you take, let yourself become even more relaxed. Each time you exhale, silently tell yourself to relax . . . Now inhale a moderately deep breath and as you exhale, tell yourself to relax . . . Inhale . . . now exhale and relax . . . Inhale . . . and relax . . . Inhale . . . Relax . . . Inhale . . . Relax . . ."

"Now let yourself breathe normally, but continue telling yourself to relax each time you exhale."

(Monitor the subjects as they are doing this and allow them to make 15 additional pairings in this way. Pause for a few moments and then bring the subjects out of the relaxed state.)

"You may gradually begin to come out of the relaxed state, but don't hurry. Take time to stretch and gradually recover. Make sure you are awake and aware, there is no hurry."
Session 2. Read the following procedure word for word in its entirety during the session. The pace should be deliberate and even, with pauses at the dotted lines. During the tensing phases of the instructions, have the subjects tense their muscles for 5-10 seconds.

1. Right arm and hand:

"Settle back as comfortably as you can . . . just let yourself relax to the best of your ability . . ."

"Now, hold your right arm out in front of you, with your elbow bent at about a 45 degree angle and make a fist. Tense your hand, lower arm, and bicep at the same time. Clench tighter, and build up the tension in your hand, and in your lower and upper arm. Study the tension . . . Now relax. Let your arm drop and straighten out. Let the fingers of your hand become loose and notice the difference . . ."

"Let’s tense these muscles again. Once more, clench your right hand into a fist really tightly, bend your arm at the elbow and build up the tension in your bicep and throughout your arm . . . Hold it, notice the tension and study it . . . Now relax. Again notice the change . . . Just let your arms and fingers straighten out and relax these muscles . . ."

2. Left arm and hand:

"Now, let’s repeat that with your left arm. Clench your hand tightly into a fist, bend your arm at the elbow and tense the muscles of your upper and lower arm. Make the muscles tighter and tighter and study the tension . . . Now relax. Straighten out your arm and let the tension go . . . Reduce the tension as much as you can and let these muscles become even more relaxed . . ."

"Once more, tense the muscles of your arm and hand. Hold the tension and observe it carefully . . . Now relax and let all the tension go . . ."

"Concentrate on relaxing the muscles of both arms and hands even further . . . Look for any feelings of tension in your arms and relax it away . . . Just let your arms relax even more . . ."
3. Facial muscles:

"Now we'd like you to focus your attention on the muscles of your face. Close your eyes tightly and make them into a squint, wrinkle up your nose as you do. Now bite down hard on your jaws and pull back the corners of your mouth. Build the tension up even more and hold it . . . Now relax. Let all the tension flow out of the muscles of your face and notice the difference . . ."

"Again, squint your eyes and wrinkle up your nose, clench your jaws and pull back the corners of your mouth . . . Feel the tension . . . Relax . . . Keep your eyes closed, gently, and comfortably, part your lips slightly and let the relaxation spread . . . Just relax . . ."

4. Neck:

"Now, attend to your neck muscles. Just let your head roll back and forth to the right and left a few times, and loosen up these muscles . . . Straighten your head now and bring it forward, and press your chin against your chest as tightly as you can. Hold the tension for a few moments . . . Now relax and let the tension go. Let your head return to a comfortable position and study the relaxation . . ."

"Again, bring your head forward and press it against your chest . . . Tighter . . . Tighter . . . Relax . . . Relax these muscles even more . . ."

"Now, focus your attention on all of the muscles in your face and in your neck. Assess any tension you may be feeling in these muscles and relax it away . . . Let the relaxation progress further and further in these muscles . . . Just let these muscles go and notice how they feel as compared to before. . ."

5. Chest, shoulders, back, and abdomen:

"Okay, now concentrate your attention on the muscles of your chest, shoulders, upper back, and stomach. Now let's tense these muscles. First, take a deep breath and hold it. As you do this, raise your shoulders back and up into a tight shrug, and finally make your stomach muscles hard. Hold the tension and feel it . . . Make it tighter . . . Now relax. Exhale slowly, tell yourself to relax, and let your shoulders fall . . . Release all the tension and concentrate on this feeling . . . Now breathe normally and let yourself become even more relaxed . . ."
"Once more, take a deep breath and completely fill your lungs, pull your shoulder blades up and back, and finally tense the muscles of your stomach . . .  Tighter . . .  Tighter . . .  Now part your lips slightly, silently tell yourself to relax, and exhale as you relax all these muscles . . .  Notice the increasing relaxation as you exhale . . .  Just experience the sensation of deep relaxation spreading through your body . . .  Think about relaxing more and more as you continue breathing . . .  Merely let go, and enjoy the relaxation . . . ."

6. Right thigh, calf, and foot:

"Now concentrate on your right leg and foot. Flex your right thigh by pressing down on your heel as hard as you can. Now keep your thigh tight, bend your knee slightly and tense your calf. Now curl your toes, turn your foot inward slightly and tense your foot along with the rest of your leg. Build the tension throughout your leg and foot. Study it . . .  Now relax. Just let all the tension go . . . ."

"Again, build up the tension in your right leg and foot. Your heel pressed down hard, knee bent slightly, your toes curled and turned inward so you can feel the tightness in your foot as well . . .  And relax . . .  Concentrate on relaxing your leg even more and let yourself experience the feeling as you do . . . ."

7. Left thigh, calf, and foot:

"Now tense your left leg in the same way. Push down hard on your heel, bend your knee slightly, curl your toes and turn your foot inward just a bit. Build the tension . . .  Feel it . . .  And relax . . .  Just relax and let the tension dissolve . . . ."

"Again, repeat the procedure. Concentrate on the tension as you build it up tighter . . .  Tighter . . .  Hold it . . .  Now relax and reduce the tension . . .  Try to relax your leg completely . . .  Just relax . . . ."

"Let the feeling of relaxation flow throughout the muscles of your legs . . .  Reduce all the tension . . .  From your thighs all the way down to your toes . . .  Focus all of your attention on the feelings associated with relaxation flowing into these muscles . . . ."

"Keep relaxing for a while . . .  Let yourself relax further all over . . .  Make sure that no tension has crept into any of the muscles we have relaxed . . .  Reduce even the least bit of tension you might find as you assess the various muscle groups of your body . . . ."
Your arms . . . Face . . . Neck . . . Shoulders, back and chest . . . Your stomach . . . And your legs . . . Just let your muscles go and notice how they feel now as compared to before . . . Notice how you can become even more relaxed by merely taking in a deep breath and slowly exhaling. Silently tell yourself to relax as you do this . . . Relax . . . Just let yourself experience and enjoy this feeling."

(After 30 seconds begin cue-association training.)

"Now focus all of your attention on your own breathing and study it . . . With each breath you take, let yourself become even more relaxed. Each time you exhale, silently tell yourself to relax . . . Now inhale a moderately deep breath and as you exhale, tell yourself to relax . . . Inhale . . . now exhale and relax . . . Inhale . . . and relax . . . Inhale . . . Relax . . . Inhale . . . Relax . . ."

"Now let yourself breathe normally, but continue telling yourself to relax each time you exhale."

(Monitor the subjects as they are doing this and allow them to make 15 additional pairings in this way. Pause for a few moments and then bring the subjects out of the relaxed state.)

"You may gradually begin to come out of the relaxed state, but don't hurry. Take time to stretch and gradually recover. Make sure you are awake and aware, there is no hurry."

Session 3. Read the following procedure word for word in its entirety during the session. The pace should be deliberate and even, with pauses at the dotted lines. During the tensing phases of the instructions, have the subjects tense their muscles for 5-10 seconds.

Preliminary relaxation training:

"Settle back as comfortably as you can. Before we go through the tensing and relaxing of the different muscle groups, we'll spend a few minutes letting you
relax on your own. Close your eyes and let yourself relax to the best of your ability. . . Focus on the various muscle groups in your body and reduce any tension you may feel, just relax it away. . . Now take a deep breath, tell yourself to relax and exhale slowly. . . Just focus on relaxing for the next couple of minutes, just let go and relax . . .

(Allow the subjects a few minutes to relax on their own, then start the 4-muscle sequence.)

1. Left and right arms, hands, and biceps:

"Now let's increase your relaxation by going through some tensing and relaxing exercises. First, concentrate on the muscles of your arms. Now clench both of your hands into tight fists, tensing your forearms as you do. Now bend your arms at the elbows and tense your biceps, too. Tense all the muscles of your arms as tightly as you can and study the tension . . . Now relax. Let your arms straighten out, and let the fingers of your hands become loose and notice the difference . . ."

"Let's tense these muscles again. Once more, clench your hands into fists really tightly, bend your arms at the elbows and build up the tension in your biceps and throughout both of your arms. . . Hold it, notice the tension and study it . . . Now relax. Again, notice the change . . . Just let your arms and fingers straighten out and relax these muscles . . ."

2. Face and neck:

"Now we'd like each of you to focus your attention on the muscles of your face and neck. First, let's tense up the muscles of the face. Close your eyes tightly and make them into a squint, wrinkle up your nose as you do. Now bite down hard on your jaws and pull back the corners of your mouth. Keep these muscles tight as you also tense your neck muscles by bringing your head up and pressing your chin against your chest. Hold the tension . . . Now relax. Let your head return to a comfortable position and study the relaxation . . ."

"Again, bring your head forward and press it against your chest. At the same time tense the muscles of your face: eyes squinted, nose wrinkled up, biting down on your jaws as you pull back the corners of your mouth. Tense them all tighter . . . Relax . . . Let the tension flow out, and let the feeling of relaxation
spread . . . Just let these muscles go, and notice how they feel as compared to before . . . Reduce any tension you might feel . . ."

3. Chest shoulders, back, and abdomen:

"Okay, now I'd like you to focus all of your attention on the muscles of your chest, shoulders, upper back, and stomach. Now let's tense these muscles. Take a deep breath and hold it. Now pull your shoulder blades back and together, while at the same time making your stomach hard. Hold the tension . . . Tighter . . . Now relax. Exhale slowly and release the tension from all these muscles . . . Relax these muscles completely and let the tension dissolve as the relaxation grows deeper . . ."

"Once more, take a deep breath and completely fill your lungs, pull your shoulder blades back and together, and finally tense the muscles of your stomach . . . Tighter . . . Tighter . . . Exhale and relax . . . Just let the tension go and study the change . . . Just let yourself go and enjoy the relaxation . . ."

4. Left and right upper leg, calf, and foot:

"Now focus on the muscles of your legs and feet. Flex your thighs by pressing down your heels as hard as you can. Now keep these tight as you tense your calves and feet by curling your toes and turning your feet inward slightly. Build the tension up throughout your legs and feet. Study it . . . Now relax . . . Just let your legs and feet become more and more relaxed . . .

"Tense these muscles again. Press down on your heels and tense your thighs. Curl your toes and turn your feet inward slightly. Tense the muscles of your legs and feet tighter . . . Tighter . . . Now relax . . . Let the tension leave and let the feeling of relaxation spread . . ."

"Keep relaxing for a while . . . Let yourself relax further all over . . . Make sure that no tension has crept into any of the muscles we have relaxed . . . Reduce even the least bit of tension you might find as you assess the various muscle groups of your body . . . Your arms . . . Face . . . Neck . . . Shoulders, back and chest . . . Your stomach . . . And your legs . . . Just let your muscles go and notice how they feel now as compared to before . . . Notice
how you can become even more relaxed by merely taking in a really deep breath and slowly exhaling. Silently tell yourself to relax as you do this . . . Relax . . . Just let yourself experience and enjoy this feeling."

(After 30 seconds begin cue-association training.)

"Now focus all of your attention on your own breathing and study it . . . With each breath you take, let yourself become even more relaxed. Each time you exhale, silently tell yourself to relax . . . Now inhale a moderately deep breath and as you exhale, tell yourself to relax . . . Inhale . . . now exhale and relax . . . Inhale . . . and relax . . . Inhale . . . Relax . . . Inhale . . . Relax . . ."

"Now let yourself breathe normally, but continue telling yourself to relax each time you exhale."

(Monitor the subjects as they are doing this and allow them to make 15 additional pairings in this way. Pause for a few moments and then bring the subjects out of the relaxed state.)

"You may gradually begin to come out of the relaxed state, but don't hurry. Take time to stretch and gradually recover. Make sure you are awake and aware, there is no hurry."
Appendix H

Therapist Manual for the
Attention-Placebo Group

Part 1: Overview

Treatment in this group will follow a combination of two procedures: (a) subliminal desensitization—a technique combining a systematic desensitization rationale with anxiety-provoking stimuli presented subliminally, and (b) stimulus-controlled free association—a technique which follows a Freudian free association rationale, but with the subjects' free associations "controlled" by fear relevant stimuli projected on a screen. The rationale for this approach and an overview of the treatment used has been attached to this manual.

Subliminal desensitization. During the first part of each session, subjects will be given deep muscle relaxation training following the 4-muscle sequence. After subjects have relaxed in this way, they will view a film for 30 minutes. At 30-second intervals throughout the film, the therapist will tachistoscopically present highly anxiety-arousing slides on the screen. After 15 minutes, the film will be stopped and subjects will once again be told to relax. The remaining 15 minutes of the film will be shown in the same manner as was the first.

During the first part of the second and third sessions, training will proceed similarly, except that less time will
be spent in the subliminal desensitization procedure to correspond to similar reductions in time spent in cue-controlled relaxation in the other group.

**Stimulus-controlled free association.** After a 5-minute break in each session, subjects will view mildly anxiety-provoking slides of females, and of males and females in social interactions. Here, the therapist will present each slide for 1 minute where the subject will be asked to focus his attention on the content of the slide and free associate. At the end of the 1-minute slide presentation, the therapist will turn off the slide projector and allow the subjects to record their free associations on note-pads. The projector will remain off for an additional minute while the client jots down any particular insights he may have had while free associating. Additional slides will be presented in this manner during each session.

Following stimulus-controlled free association, the subjects will discuss their free associations in group. The therapists will function merely to stimulate group discussion and not to provide interpretation or insight into the subjects' free associations. Thus, any insight or interpretations will come from the subject himself or from contributions by other group members.

Before being dismissed, subjects will be given the following homework assignments: (a) practicing relaxation training nightly, and (b) a nightly free association procedure surrounding any interactions with females they may have had.
Appendix H—Continued

during the day. They will be asked to write down the content of these free associations and bring them to the next session for group discussion.

The second and third sessions will proceed similarly to the first with the following exceptions: (a) less time will be spent in the subliminal desensitization procedure to correspond to similar reduction in time spent in cue-controlled relaxation in the other group, and (b) more time will be spent in the stimulus-controlled free association and group discussion procedure to correspond with similar increases in time spent in self-statement modification training in the other group.

Part 2: Detailed Instructions

Session 1. Step-by-step instructions for the first session are enumerated below. You should follow these procedures in the order that they have been listed.

1. Introduce yourselves to group members and have them introduce themselves to one another.

2. Pass out copies of the treatment description and have subjects complete the questionnaire:

(One of you should hand out the descriptions while the other gives the following instructions.)

"Before we get started, let us pass out a description of what we will be doing during our sessions and the rationale for it. Please read this description at this time. When you are finished reading the description, we will answer any questions you may have. Attached to the back of the description is a brief questionnaire we would like you to complete after you
have finished reading it. Please put your name on the questionnaire at this time. Please wait until you have finished reading the description and until we have had the chance to answer any questions before you complete the questionnaire."

(After the subjects have read the descriptions, answer any questions they may have and then have them complete the questionnaire. You should be familiar with the section on answering questions found in the introduction to the therapist manuals. Initially, then, you would attempt to answer questions simply by restating the material in the descriptions they have read. For example, we will be using a two-fold approach in which we work on both subconscious and conscious components, the focus is on an approach which causes little, if any, anxiety for the participants, etc.)

(Collect descriptions and questionnaires.)

3. Introduce the subliminal desensitization procedure:

"Now that you have some idea of what we're going to be doing and why, we would like to begin the training in subliminal desensitization.

Recall from what you have just read that we will first give you some training in deep muscle relaxation. The real advantage of relaxation is that the muscle systems in your body cannot be tense and relaxed at the same time. Because of this, we can combine the relaxation technique with the psychological principle of counterconditioning. What counterconditioning does is desensitize you to situations so that you no longer have problems with unrealistic fears, anxiety, or nervousness associated with those situations. The counterconditioning takes place when you are presented with situations which cause you to become anxious while you are relaxed.

Rather than having you consciously experience these situations, which would probably cause you some anxiety and discomfort, we will present these situations to you subliminally—or in other words, to your subconscious. After you have relaxed, we will show a
movie and all you need to do is watch the movie and remain relaxed while you are doing so. While you are watching the movie, we will subliminally present slides concerning dating and interacting with women. These slides will be of scenes judged to be highly anxiety-arousing in a previous study with a group of men who experienced anxiety when dealing with women. These slides will be presented throughout the movie with this tachistoscope (point to tachistoscope). The tachistoscope is capable of presenting images on the screen at speeds so fast that they are invisible to your conscious mind—but they will be perceived by your subconscious.

From time to time while you are watching the movie, some of you may notice a brief flick or something like that in the film, but let me emphasize that you do not have to experience this to benefit from the procedure. In fact, some research indicates that it is best if you do not notice any changes. Also, you should not consciously experience any anxiety while viewing the film. This should be a comfortable experience for you. If any of you do experience excessive anxiety, raise your hand and we will briefly relax you again. Are there any questions?" (Pause and answer any questions the subject may have. Keep your answers consistent with the rationale.)

4. Conduct relaxation exercises:

"Okay, let's go through the relaxation procedures and then we'll view the film. First we'll dim the lights and go through a procedure where we will first tense and then relax the various broad muscle groups in your body. To do this you will need to get into a very comfortable position in your chair. Each of you turn so that you are facing the screen and find a comfortable position in your chair."

Proceed with the 4-muscle sequence relaxation instructions.

"Now remain relaxed but open your eyes so you can view the film. All you need to do is relax and watch the film. Try to remain as relaxed as you can while you are watching. If you find yourself experiencing anxiety or tension, raise your hand and we will relax you again."
5. Show subject the movie:

Start the movie projector and show the film. Once the film has started, turn on the tachistoscope slide projector and advance to the first slide. After 30 seconds, present the slide three times in succession. Advance to the second slide. After 30 seconds, present the slide three times in succession. Proceed through the slide presentation in this manner.

After 15 minutes, stop the film and tell the subjects you want to make sure that they are still relaxed. Repeat the 4-muscle sequence relaxation procedure, but do not repeat each muscle group as you did earlier.

Restart the movie and continue showing it for 15 minutes. Continue tachistoscopic slide presentation during the movie.

6. Give the subjects a 5-minute break.

7. Introduce the stimulus-controlled free association procedure:

"During the second part of our session, we will do some stimulus-controlled free association. Remember, in the original free association procedure, the person would lie on a couch and simply say whatever came to mind. But this was usually very time consuming because it resulted in the person talking about a lot of material which was not really relevant to his problem. In the procedure we will follow here, we will help you to focus your free associations around the area that concerns you. We will present slides to you, and after each slide have you free associate. The slides have been selected because they relate to your area of concern—dating or interacting with women—but cause little anxiety. By looking at our free associations, and discussing them with the
members of the group, you should be able to develop some insight into your problem and be able to achieve greater control over the things that bring about the anxiety or discomfort you sometimes experience. Do you have any questions?" (Pause and answer subject's questions.)

"We will pass out some note-pads for you to record your free associations on after viewing each slide." (One of the therapists should pass out the note-pads while the other continues with the instructions.)

"We will now present the slides to you. When we present each slide, just focus on the content of the slide and free associate. Just concentrate on the slide and let your mind go. For example, you might find yourself thinking something like, 'Pretty girl ... I always seem to get anxious around really pretty girls ... ' and so on while the slide is being presented. We will give you some time after each slide to jot these things down so wait until we instruct you to do so. later, we'll discuss the results of this exercise in the group. Any questions?" (Pause to answer any questions they may have.)

8. Conduct the stimulus controlled free association procedures:

a. Have the group face the screen, turn out the lights and turn on the "standard" carousel projector.

b. Advance to the first slide and allow subjects to view it for 1 minute. When the slide is first presented, tell them:

"Okay, now just concentrate on the slide and let your mind go--just let yourself free associate as you concentrate, don't write anything down right now."

c. Turn the switch to the "fan" position so that the slide is no longer presented on the screen. Tell the subjects:
"Okay now, place the slide number on your notepad and jot down some of the things that crossed your mind as you were free associating. Don't worry if it doesn't seem to make sense, just write them down."

d. After 1 minute, allow the subjects an additional minute to try to develop some insight into their free associations. Tell them:

"Now think about your free associations and try to develop some insight and understanding into them. Just try to understand how and why these free associations came up. Go ahead, we'll be quiet while you do this."

e. After 1 minute, advance to the next slide and then turn the projector back on. Tell them:

"All right, here's the next slide. Do the same thing with this one as you did the last. Just free associate."

f. Proceed through the slides using this same three stage procedure (viewing slides and free associating, jotting down the free associations, and trying to understand them). Present 12 slides during this first session. Have the subjects number the free associations he jots down to correspond to each slide.

g. Tell the subjects that if any of the slides caused them to become excessively anxious, they should remember the slide and tell you about it after the session. Tell them that you will make sure that this slide will not be included in any future sessions, since the present approach is aimed at keeping the anxiety they consciously experience at a minimum.

9. Discuss free associations within the group:
"Now we'd like you to get together to discuss your free associations with each other."

Tell the subjects that insight into their problems must be an experiential process, and that true insight must arise from within themselves and cannot be taught in a didactic manner by a group leader. Tell them that the purpose of the group discussion is to enhance their own insight by exposing them to others developing insight into a similar concern as theirs. As a therapist, you should function merely to stimulate group discussion and not to provide interpretation or insight. Thus, any insight or interpretations will come from the subject himself or the contributions of other group members.

10. Assign homework and dismiss subjects:

Subjects will be given the following homework assignments: (a) practicing relaxation training nightly, and (b) a nightly free association procedure surrounding any interactions with females they may have had during the day. Ask them to write down the content of these free associations and bring them to the next session for group discussion. Before they leave, tell them:

"Please try to arrive on time for every session. I really cannot emphasize this point enough. All of the participants, including us are putting a lot of time and energy into this project, and it would be unfortunate for one person to spoil it. Because the program is carried out in groups, it is essential for every member of the group to be here for every session, as it will be impossible to cover old material just to allow one person to catch up from a missed session. Also if you miss a session, it will not be possible to refund your deposit completely. That's all for tonight, see you next Monday at 7:00 p.m."
Session 2. For the second session, adhere to the following procedures in the order listed.

1. Summarize procedure and rationale:

"Since much of what was said last time was probably new for you, first of all tonight I'll remind you briefly of the procedures we are using and the reasons we are using them. During the first part of tonight's session, we'll again go through the subliminal desensitization procedure. Just like last time, we'll first go through some procedures designed to help you relax deeply. After you are relaxed, we'll have you watch a movie. While you're watching the movie, we will subliminally present highly anxiety-arousing slides concerning dating and interacting with women. By presenting these images on the screen with the tachistoscope, they can be perceived by your subconscious but not by your conscious mind.

Through the psychological principle of counterconditioning, you should become desensitized to these situations, or, in other words, the procedure should decrease the unrealistic fears, anxiety, or nervousness associated with these situations. Remember, our bodies cannot be tense and relaxed at the same time, so by remaining relaxed while you view the movie, desensitization to these situations will occur in an almost automatic way. All you need to do is focus on remaining relaxed.

The second part of tonight's session will be focused on helping you to bring some of the subconscious causes of your anxiety to your conscious awareness. During this part of the session, we will do some stimulus-controlled free association. We will present slides to you, and after each slide have you free associate and let your mind and thoughts go. By looking at your free associations and discussing them with the members of the group, you should be able to develop some insight into your problem and be able to achieve greater control over the things that bring about the anxiety or discomfort you sometimes experience.

Are there any questions before we begin?"

2. Conduct relaxation exercises:

"Okay, let's go through the relaxation procedures and then we'll view the film. Let me again say that later when we watch the film, some of you may notice a brief flick or something like that during the film
and some of you may not. It really doesn't matter whether you see these flicks or not for the procedure to be of benefit to you. So don't focus your attention on looking for them, just try to remain relaxed. You probably won't consciously experience any anxiety during the film, but if you do, raise your hand and we'll briefly relax you again. Please don't hesitate to raise your hands if you do experience any anxiety or tension.

We'll dim the lights now and go through the exercises we used last time where we first tense and then relax the various broad muscle groups in your body. Each of you turn so that you are facing the screen and find a comfortable position in your chair.

Proceed with the 4-muscle sequence relaxation instructions used last session and then tell the subjects the following:

"Now remain relaxed but open your eyes so you can view the film. All you need to do is relax and watch the film. Try to remain as relaxed as you can while you are watching. If you find yourself experiencing anxiety or tension, raise your hand and we will relax you again."

3. Show subjects the movie:

Start the movie projector and show the film. Once the film has started, turn on the tachistoscope box and the tachistoscopic slide projector and advance to the first slide. Depress the cable release on the slide projector simultaneously with the clicks made by the tachistoscope box. After 30 seconds advance to the second slide. Continue to depress the cable release with each click made by the tachistoscope box. Proceed through the slide presentation in this manner.

After 10 minutes, stop the film and tell the subjects you want to make sure that they are still relaxed. Repeat the 4-muscle sequence relaxation procedure, but do not repeat each muscle group as you did earlier.
Restart the movie and continue showing it for 10 minutes. Continue tachistoscopic slide presentation during the movie.

4. Discuss last week's homework assignment of practicing relaxation training and any problems they might have encountered in practicing.

5. Give the subjects a 5-minute break.

6. Discuss last week's second homework assignment where subjects were asked to free associate nightly using any interactions they may have had with females during the day as a stimulus. (Your function is merely to stimulate group discussion and not to provide interpretation or insight.)

7. Introduce the stimulus-controlled free association procedure:

"Okay, now let's go through the stimulus controlled free association procedure. We'll do this in the same way that we did it last week. Remember each time we present a slide, concentrate on the slide and free associate--just let your mind and thoughts go. After each slide is presented, we'll give you some time to jot down your free associations on your note-pads." (One of the therapists should pass out the note-pads while the other continues with the instructions.) "Then we'll give you some time to try to develop some insight into your free associations and how it may relate to your feelings around women."

"Any questions?" (Pause to answer any question the subjects may have.) "Okay, let's start."

8. Conduct the stimulus controlled free association procedure: (Note that the procedure is similar to last week's except for the addition of an additional "insight" period at the end of the slide presentation--see step "g" below.)
a. Have the group face the screen, turn out the
lights and turn on the "standard" carousel projector.

b. Advance to the first slide and allow subjects
to view it for 1 minute. When the slide is first
presented, tell them:

"Okay, now just concentrate on the slide and let
your mind go--just let yourself free associate as
you concentrate, don't write down anything right
now."

c. Turn the switch to the "fan" position so that
the slide is no longer presented on the screen. Tell
the subjects:

"Okay now, place the number on your note-pad and
jot down some of the things that crossed your mind
as you were free associating. Don't worry if it
doesn't seem to make sense, just write them down.

d. After 1 minute, allow the subjects an additional
minute to try to develop some insight into their free
associations. Tell them:

"Now think about your free associations and try
to develop some insight and understanding into
them. Just try to understand how and why
these free associations came up. Go ahead, we'll
be quiet while you do this."

e. After 1 minute, advance to the next slide and
then turn the projector back on. Tell them:

"All right, here's the next slide. Do the
same thing with this one as you did the last.
Just free associate."

f. Proceed through the slides using this same
three stage procedure (viewing slides and free associating,
jotting down the free associations, and trying to
understand them). Present 10 slides during this session.
Have the subject number the free associations he jots down to correspond to each slide.

g. After this procedure has been performed for the last slide, tell the subjects:

"Now take a couple of minutes to think of any connections between the free associations you experienced with each slide."

Allow 2 minutes for this procedure. Have the subjects go back over the free associations they jotted down during the presentation of the slides to draw these connections.

h. Tell the subjects that if any of the slides caused them to become excessively anxious, they should remember the slide and tell you about it after the session. Tell them that you will make sure that this slide will not be included in any future sessions since the present approach is aimed at keeping the anxiety they consciously experience at a minimum.

9. Discuss free associations within the group: (Your role here is identical to that for last week.)

10. Have the subjects complete the questionnaire:

(Make sure subjects put their names on the questionnaire. Also, tell them to read each question and each scale carefully before they mark down their answers.)

11. Assign homework and dismiss the group:

a. Assign the two homework assignments.

1. Practicing relaxation training nightly.
2. Free associate nightly using as a stimulus any interactions they may have had with females during the day.

b. Again, stress the importance of being on time and attending the sessions and remind them that the next session is next Monday at 7 p.m.

Session 3. Use the following procedures in the order that they have been listed.

1. Summarize procedure and rationale:

"The things we've been doing the past couple of weeks have been designed to substantially reduce or eliminate the anxiety you may experience when dealing with women. In the past sessions, we've discussed the procedures we are using and why we are using them in some detail, but let me briefly summarize them again for you. Since this is our last session, make sure you ask questions about what I am telling you, if you have any." (Therapists should be very familiar with the rationale for this approach since subjects may have more questions than in previous sessions.) "Essentially, we are focusing on reducing anxiety through the use of two procedures: subliminal desensitization and stimulus-controlled free association. During the first part of tonight's session, we'll again go through the subliminal desensitization procedure. Just like our past sessions, we'll first go through some exercises designed to help you relax deeply. After you are relaxed we'll have you watch a movie and during the movie we'll subliminally present highly anxiety-arousing slides concerning dating and interacting with women.

Through the psychological principle of counter-conditioning, you should become desensitized to these situations--your anxiety and nervousness should decrease. All you need to do is focus on remaining relaxed during the movie and this will occur in an almost automatic way.

The second part of tonight's session will consist of the stimulus-controlled free association procedure which should help you bring some of the subconscious
causes of your anxiety to your conscious awareness. We'll present slides to you, and after each slide, have you free associate and let your mind and thoughts go. Any questions?"

2. Discuss last week's homework assignment of practicing relaxation training and any problems they might have encountered in practicing.

(The rationale for discussing this assignment before going through the procedures is to help alleviate any problems in relaxing for this their last session. Tell them you would like them to be even more relaxed in this final session than in the past two—since it is their last session and you want to make sure they benefit from it as much as possible.)

3. Conduct the relaxation exercises:

"Okay, let's first go through the relaxation exercises and then we'll view the film. Again, you probably won't consciously experience any anxiety during the film, but if you do, raise your hand and we'll briefly relax you again. Please don't hesitate to raise your hands if you do experience any anxiety or tension. We'll dim the lights now and go through the exercises where we first tense and then relax the various muscle groups in your body. Each of you turn so that you are facing the screen and find a comfortable position in your chair."

Proceed with the 4-muscle sequence relaxation instructions used in the previous sessions and then tell the subjects the following:

"Now remain relaxed but open your eyes so you can view the film. All you need to do is relax and watch the film. Try to remain as relaxed as you can while you are watching. If you find yourself experiencing anxiety or tension, raise your hand and we will relax you again."
4. Show subjects the movie:

Start the movie projector and show the film. Once the film has started, turn on the tachistoscope box and the tachistoscopic slide projector and advance to the first slide. Depress the cable release on the slide projector simultaneously with the clicks made by the tachistoscope box. After 30 seconds advance to the second slide. Continue to depress the cable release with each click made by the tachistoscope box. Proceed through the slide presentation in this manner.

After 10 minutes, stop the film and tell the subjects you want to make sure that they are still relaxed. Repeat the 4-muscle sequence relaxation procedure, but do not repeat each muscle group as you did earlier. Restart the movie and continue showing it for 10 minutes. Continue tachistoscopic slide presentation during the movie.

5. Discuss last week's second homework assignment where subjects were asked to free associate nightly using any interactions they may have had with females during the day as a stimulus. (Again, your function is merely to stimulate group discussion and not to provide interpretation or insight.)

6. Give the subjects a 5-minute break.

7. Introduce the stimulus-controlled free association procedure:

"Okay, now let's go through the stimulus-controlled free association procedure. Each time we present a slide, concentrate on the slide and free associate—just let your mind and thoughts go. After each slide is presented, jot down your free associations on your note-pads. Then we'll give you some time to try to
develop some insight into your free associations
and how it may relate to your feelings around
women.

Any questions?"

8. Conduct the stimulus-controlled free association
procedure: (As with last session, we again have an additional
"insight" period at the end of the slide presentation.)

a. Have the group face the screen, turn out the
lights and turn on the "standard" carousel projector.

b. Advance to the first slide and allow subjects
to view it for 1 minute. When the slide is first
presented, tell them:

"Okay, now just concentrate on the slide and let
your mind go—just let yourself free associate as
you concentrate, don't write down anything right
now."

c. Turn the switch to the "fan" position so
that the slide is no longer presented on the screen. Tell
the subjects:

"Now jot down some of the things that crossed your
mind as you were free associating. Don't worry
if it doesn't seem to make sense, just write
down whatever came to mind."

d. After 1 minute, allow the subjects an additional
minute to try to develop some insight into their free
associations. Tell them:

"Now think about your free associations and try
to develop some insight and understanding into
them. Just try to understand how and why these
free associations came up."

e. After 1 minute, advance to the next slide and
then turn the projector back on. Tell them:
"All right, here's the next slide. Do the same thing with this one. Just free associate."

f. Proceed through the slides using this same three stage procedure. Present 10 slides during this session. Have the subjects number the free associations he jots down to correspond to each slide.

g. After this procedure has been performed for the last slide, tell the subjects:

"Now take a couple of minutes to think of any connections between the free associations you experienced with each slide."

Allow 2 minutes for this procedure. Have the subjects go back over the free associations they jotted down during the presentation of the slides to draw these connections.

9. Discuss free associations within the group:

10. Conclude the final session:

"That concludes all of the things we wanted to cover in our sessions. We would like to thank each of you for your time and energy in coming to these sessions. Karl Neumann will contact you shortly to make arrangements for you to complete some questionnaires and to have another taped conversation with a girl. I'm not sure that we'll be seeing you again, so we'd like to wish you all good luck. Before you leave, we'd like you to fill out this questionnaire."

11. Have subjects complete the questionnaire:

(Make sure subjects put their names on the questionnaire. Also, tell them to read each question and each scale carefully before they mark down their answers.)

Part 3: Relaxation Instructions

Read the following procedure word for word in its entirety during each session. The pace should be deliberate
and even, with pauses at the dotted lines. During the tension phases of the instructions, have the subjects tense their muscles for 5-10 seconds.

Before you begin, make sure that all subjects have turned in their chairs so that they are facing the screen.

1. Muscle group 1—Left and right arms, hands, and biceps:

"Settle back as comfortably as you can . . . close your eyes and let yourself relax to the best of your ability . . ."

"Now we'd like you to concentrate on the muscles of your arms. Now clench both of your hands into tight fists, tensing your forearms as you do. Now bend your arms at the elbows and tense your biceps, too. Tense all the muscles of your arms as tightly as you can and study the tension . . . Now relax. Let your arms straighten out and let the fingers of your hands become loose and notice the difference . . ."

"Let's tense these muscles again. Once more clench your hands into fists really tightly, bend your arms at the elbows and build up the tension in your biceps and throughout both of your arms . . . Hold it, notice the tension and study it . . . Now relax. Again, notice the change . . . Just let your arms and fingers straighten out and relax these muscles . . ."

2. Muscle group 2—Face and neck:

"Now we'd like each of you to focus your attention on the muscles of your face and neck. First, let's tense up the muscles of the face. Close your eyes tightly and make them into a squint, wrinkle up your nose as you do. Now bite down hard on your jaws and pull back the corners of your mouth. Keep these muscles tight as you also tense your neck muscles by bringing your head up and pressing your chin against your chest. Hold the tension . . . Now relax. Let your head return to a comfortable position and study the relaxation . . ."

"Again, bring your head forward and press it against your chest. At the same time tense the muscles of your face: eyes squinted, nose wrinkled up, biting down on your jaws as you pull back the corners of your mouth. Tense them all tighter . . . Relax . . ."
Let the tension flow out and let the feeling of relaxation spread . . . Just let these muscles go and notice how they feel as compared to before . . . Reduce any tension you might feel . . . "

3. Muscle group 2—Chest, shoulders, back and abdomen:

"Okay, now I'd like you to focus all of your attention on the muscles of your chest, shoulders, neck, low back, and stomach. Now let's tense these muscles. Take a deep breath and hold it. Now pull your shoulder blades back and together, while at the same time making your stomach hard. Hold the tension . . . Tighter . . . Now relax. Exhale slowly and release the tension from all these muscles . . . Relax these muscles completely and let the tension dissolve as the relaxation grows deeper . . . "

"Once more, take a deep breath and completely fill your lungs, pull your shoulder blades back and together, and finally the tense muscles of your stomach . . . Tighter . . . Tighter . . . Exhale and relax . . . Just let the tension go and study the change . . . Just let yourself go and enjoy the relaxation."

4. Muscle group 4—Left and right upper leg, calf, and foot:

"Now focus on the muscles of your legs and feet. Flex your thighs by pressing down your heels as hard as you can. Now keep these tight as you tense your calves and feet by curling your toes and turning your feet inward slightly. Build the tension up throughout your legs and feet. Study it . . . Now relax . . . Just let your legs and feet become more and more relaxed . . . "

"Tense these muscles again. Press down on your heels and tense your thighs. Curl your toes and turn your feet inward slightly. Tense the muscles of your legs and feet tighter . . . Tighter . . . Now relax . . . Let the tension leave and let the feeling of relaxation spread . . . "

"Keep relaxing for a while . . . Let yourself relax further all over and enjoy this feeling . . . "

"Appendix H—Continued 162"
Appendix I

Cognitive-Behavioral Group Program Description

Anxiety and fear reactions are often conceptualized as involving two major elements: (1) high physiological arousal and (2) maladaptive thinking. The high physiological arousal seems to take many forms such as stomachs and necks becoming tense, pounding hearts, sweaty palms, heavy breathing, etc. Maladaptive thinking or self-statements (what we say to ourselves) also takes many forms. In situations that make us anxious our thinking or self-statements sometime seem to get in the way of what we have to do. Sometimes we think about catastrophes—we think about "messing up" and how awful it will be if we do. We sometimes worry a lot in these situations, and wonder whether or not we have done or said the right thing at the time. Many times when we do this, we find ourselves not paying attention to the things in the situation that are important. Often we downgrade ourselves for acting stupidly. In short, when we get anxious we tend to make negative self-statements, many of which are inaccurate or inappropriate.

In our program, we work on ways to control how you feel, on ways of controlling anxiety and tenseness. We do this by teaching you how to relax. Relaxation helps you to reduce this anxiety and tenseness, and frees you up so that you can think more clearly.
In addition to learning relaxation skills, we teach you how to control your thinking processes and attention. The control of our thinking, or what we say to ourselves, comes about by first becoming aware of when we are producing negative self-statements, catastrophizing, not paying attention to what is important, etc. Thus, a big part of our program involves teaching you to recognize when you are doing this. We teach you that recognizing these things will act as a cue for you to produce different thoughts and self-statements. In this way, we will teach you to produce task-oriented self-instructions and more adaptive thinking.

Specifically, the training involves teaching you several coping skills. The first coping skill is cue-controlled relaxation. We will first have you relax deeply through a series of muscle relaxation exercises. Then, by having you associate cue words with your relaxation, we will teach you to relax away your anxiety simply by silently telling yourself to "relax."

The second major coping skill is called self-statement modification. Here, we will teach you to identify your negative self-statements by having you discuss with the group leaders the things you are thinking to yourself when dealing with members of the opposite sex. The group then discusses more positive self-statements they could be making in these situations. We augment the discussion by playing cassette tapes describing problem situations, examples of negative
self-statements, examples of corrective positive self-statements, and examples of how you can reward yourself for making these positive self-statements. Through repeatedly practicing and discussing these things within the group, you will learn to: (1) relax yourself before you enter the problem situation, (2) identify the negative self-statements you make once you are in the situation, (3) again relax yourself and substitute positive self-statements for the negative ones, and (4) reward yourself for making the more positive, adaptive self-statements.

Thus, our training package employs a two-pronged attack on anxiety. On one level, through relaxation training, we help you begin to alter the levels of anxiety you may be accustomed to feeling when facing the problem situation. On the second level, we will help you to correct negative self-statements with more positive ones. The result of this two-pronged approach is a total training package which works to resolve both emotional and cognitive aspects of the problem.
Appendix J

Expectancy/Credibility Assessment Device

1. What do you feel is the likelihood of this approach being successful at helping you?

1 2 3 4 5 6 7
Not likely

2. If you had the choice of switching to a group following another approach, what would be your chances of switching to that group?

1 2 3 4 5 6 7
Definitely would not switch

3. If you had a friend with the same problem that you have, would you suggest that he join a group using this approach?

1 2 3 4 5 6 7
Definitely would not suggest

4. After hearing the rationale behind this approach, how logical do you feel this approach is?

1 2 3 4 5 6 7
Very logical

5. How successful do you feel this type of program would be with another type of problem; for example, strong anxiety about speaking before a group?

1 2 3 4 5 6 7
Completely unsuccessful
Appendix K

Attention-Placebo Group Program Description

The techniques of subliminal perception are in widespread use by the media, advertising and public relations agencies, and by the Federal government itself. Each of you has most likely been victimized or manipulated by the use of subliminal stimuli directed into his unconscious by the mass merchandisers of media. While some examples of how this has been done will be presented, I would like to refer those of you who are interested to several books by Wilson Bryan Key which discuss this topic more extensively. These books are widely available, if you wish to purchase them.

Probably one of the most famous examples of the way man's ability to perceive events subliminally has been used by advertisers is the subliminal presentation of advertising messages. The standard technique used is one where a tachistoscope flashes messages superimposed over motion pictures in theaters or upon film being transmitted through television. A tachistoscope is simply a film projector with a high-speed shutter which periodically flashes messages onto the screen for only a small fraction of a second. This time interval is too short for you to consciously see the message, yet you do see the message at the subconscious level. The thought of the message is thus planted in your subconscious mind where you may feel the urge to act on the subliminally perceived message.
In one study, during a six-week test of the machine in a theater, over 45,000 moviegoers received subliminally presented messages like, "Are you hungry? Eat popcorn." During that six-week period, the theater's popcorn sales increased by a dramatic 58%. Audience reactions to these subliminal messages have been exhaustively studied in other settings as well. Research has shown that a significant number of people in any audience will obey the commands given subliminally. It seems that audiences may be influenced relatively easily by such methods, but only as long as the messages or images planted in their subconscious minds do not command them to violate deeply held ethical or moral convictions. In this respect, subliminal perception seems to work in ways similar to hypnosis and suggestion.

As might be expected, the ethics of this type of advertising have been questioned. Congressman James Wright of Texas has even sponsored a Federal bill to forbid any device that was "designed to advertise a product or indoctrinate the public by means of making an impression on the subconscious mind."

A few years ago, psychologists became interested in the possible therapeutic uses of subliminal perception within the systematic-desensitization paradigm for treating anxiety. In the traditional systematic-desensitization procedure, the person lets himself relax and then he is asked to imagine himself in one of the situations which makes him anxious.
This relaxing-imagining sequence is repeated over and over again during treatment until the person eventually learns to become less and less anxious when imagining anxious situations. This has been shown to be a very effective way to reduce anxiety. The drawback of the systematic-desensitization procedure is that the person undergoing such treatment will usually become anxious or uncomfortable at various points during the treatment sessions. This occurs because the person must consciously imagine the scenes and, therefore, he must consciously experience anxiety as well.

In the procedure we will use, we avoid such discomfort. Generally, the people in these groups do not consciously experience any anxiety. This is because rather than having them imagine the scenes consciously, they are presented to them subliminally, or in other words, the scenes are presented to the subconscious rather than the conscious mind. This is done through the tachistoscopic presentation of anxiety provoking slides while the person is watching a movie.

Recently, however, psychologists have been using this subliminal-desensitization procedure in combination with another technique, which has significantly increased the power of the therapeutic package to reduce anxiety to manageable levels. The technique was actually developed many years ago by Sigmund Freud; he called it free association.

Some of you may be familiar with free association. What Freud did was to have his patients lie on a couch and say the
first thing that came to mind, taking care not to censor anything, no matter how silly or irrelevant it may have sounded. Freud did not require associations to make sense or tie together with what had been said before. The most important thing was for the patient to say simply what he was thinking. In this way, Freud found that eventually contents of the unconscious thoughts could be made conscious and the patient would gain insight into the nature and cause of his anxiety, and in this way bring about a cure.

The free association method is a valuable one because it encourages the person to be spontaneous and, by doing this, provides greater access to our subconscious mind where many of the sources of our daily difficulties lie. However, many people have questioned whether or not an analyst is needed to help the person gain such insight into their problems. In fact, we have found that one can obtain insight into one's problems without the use of an analyst. The second part of our program's package involves such a free association procedure, but it has been modified in a way that differs somewhat from the way it was used by Freud. These modifications have resulted in a free association technique which is far more effective than the traditional method that he used.

One of the drawbacks of Freud's free association approach was that it often resulted in the person talking about many things which were irrelevant to their problem. Often this may not be helpful, in that by talking about material which
does not directly relate to the problem, the person therefore wastes a lot of time in each session.

In our procedure, much of this irrelevant talk is eliminated because we help you to focus your free associations around your specific problem. We do this by presenting you with stimuli in the form of photographic slides which are directly or indirectly related to the problem. Because a person's free associations are partially controlled by these stimuli, it has been named stimulus-controlled free association.

Specifically, we will present slides to the group and have you focus your attention on the slides' content. These slides have been selected because they relate to your problem but cause little anxiety (and therefore little discomfort during the session). The slide presentation is stopped periodically and you will be allowed to record your free associations on a note pad. Following the slide presentation, the group will get together to discuss these free associations with one another, and to talk about any insight obtained into the problem during the stimulus-controlled free association.

Thus, our program employs a two-pronged attack on anxiety. On one level, images and ideas are presented to the subconscious mind that subtly begin to alter the levels of anxiety that the person is accustomed to feeling when facing the problem situation. On the second level, the free associations starting from images presented on the slide screen will
eventually remove the control over anxiety from the subconscious mind to the conscious mind. Once one knows more about the unique but subconscious causes of his anxiety, he can exercise control over these reactions. The result of this two-pronged approach is a total program which works to resolve both emotional and cognitive aspects of the problem.
Appendix L
Timed Behavioral Checklist

| Behavior Observed                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | Σ |
|--------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|---|
| 1. Extraneous Arm and hand movement (scratches, toys, etc.) | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 2. Hand tremors                                          | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 3. Face muscles tense (drawn, tics, grimaces)            | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 4. Moistens lips                                         | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 5. Swallows                                              | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 6. Clears throat                                         | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 7. Breathes heavily                                      | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 8. Voice quivers                                         | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| 9. Speech blocks or stammers                             | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - | - |
| Behavior Observed                                      | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | Σ  |
|-------------------------------------------------------|---|---|---|---|---|---|---|---|---|----|----|----|----|----|----|----|----|----|----|----|----|----|
| 10. Extraneous foot and leg movement (wiggling, shaking, kicking) |   |   |   |   |   |   |   |   |   | ----|----|----|----|----|----|----|----|----|----|----|----|----|
| 11. Use of "ah"                                        |   |   |   |   |   |   |   |   |   | ----|----|----|----|----|----|----|----|----|----|----|----|----|

ΣΣ ---
Appendix II
Timed Behavioral Checklist Guidelines

Each of you will be watching a number of videotapes of a male and female conversing with each other. The camera has been focused on the male in each of the 10-minute tapes, and you are asked to rate the male’s behavior during the interaction with the attached checklist. As you can see, the 10-minute rating period has been divided into 20 segments, each lasting 30 seconds. At the end of each 30-second interval you will hear a tone. At the sound of the tone, the videotape will be stopped and you will rate that segment by checking off any of the eleven behaviors that have occurred during the interval. This is not a frequency count—you do not have to count the number of times each of the behaviors occurred during the interval but only whether or not it occurred. If the male you are rating displays one of the behaviors listed, check the appropriate box. If he does not display that behavior at least one time, leave the box blank.

Below you will find a description of each of the behaviors on the checklist. It is essential that you follow these guidelines when making the ratings, so please study them carefully and ask questions if you are in doubt about any of the categories.
Behavior Descriptions

1. **Extraneous arm and hand movement.** Any voluntary movement of the arms or hands other than gestures accompanying speech. Examples include scratching, toying or playing with clothing or other objects (wrist watches, pens, the chair, etc.), wringing his hands, rubbing fingers together, tapping. The category does not include the crossing of arms unless he does so more than once during a given interval (e.g., if the subject crosses, uncrosses, then recrosses his arms during one 30-second interval it would be scored). However, if the subject shows extraneous hand movement while his arms are crossed, this would be scored.

2. **Hand tremors.** Involuntary shaking or trembling of hands.

3. **Face muscles tense.** Noticeable tightening of the facial muscles so that the face appears drawn. Sudden tensing of the facial muscles (e.g., grimaces or tics) is also included in this category.

4. **Moistens lips.** Licking the lips with the tongue or biting of the lips.

5. **Swallows.** Swallowing deeply or "gulping." You do not need to hear the swallow in order for it to be scoreable.

6. **Clears throat.** Any vocal sound designed to clear throat.

7. **Breathes heavily.** Rapid breathing, sighing, deeply inhaling or exhaling.
Appendix M—Continued

8. **Voice quivers.** Voice "breaks" or changes quickly in pitch.

9. **Speech blocks or stammers.** Involuntary pauses or blocks in speech, stammering, or stuttering. Also include repetition of words or parts of sentences when not done "for effect."

10. **Extraneous foot and leg movement.** Any excessive movement of the legs or feet. Wiggling, shaking, or kicking of the legs or feet are automatically scoreable. Shifting the position of the legs or feet is considered excessive (and thus scoreable) only if it occurs more than once during a given interval. A shift is defined as a movement from one set position to another.

11. **Use of "ah."** Use of "ah," "um," etc. to fill pauses in speech.
Appendix N

Heterosocial Skills Behavior Checklist

Rater ___________________________ I.D. ___________________________

Voice

Appropriate

___ __ ___ Loudness: Sufficiently loud to be clearly heard and without "breathy" overtones or a "whispery" quality.

___ __ ___ Pitch: Lower in pitch than female companion's voice.

___ __ ___ Inflection: Speech is relatively constant with few inflections. The inflections that do occur are more in the form of a change in volume than a change in pitch.

___ __ ___ No special dramatic effects.

Inappropriate

___ __ ___ Loudness: Cannot be clearly heard and/or a "breathy" quality or "whispery" overtones.

___ __ ___ Pitch: Higher in pitch than female companion's voice.

___ __ ___ Inflection: Speech is variable--inflections are frequent and are made primarily by change in pitch rather than change in volume, particularly quick changes in pitch should be noted.

___ __ ___ Excessive emphasis on words rendering a special dramatic effect.
### Form of Conversation

<table>
<thead>
<tr>
<th>Appropriate</th>
<th>Inappropriate</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Initiation:</strong> Male initiates conversation when female is not speaking and/or he introduces new topics that are discussed.</td>
<td><strong>Initiation:</strong> Male fails to initiate conversation and/or female introduces all new topics.</td>
</tr>
<tr>
<td><strong>Follow-up:</strong> Males respond at least once to female's vocalizations.</td>
<td><strong>Follow-up:</strong> Males fails to respond vocally to female's vocalizations.</td>
</tr>
<tr>
<td><strong>Flow:</strong> Male does not allow uncomfortably long pauses or silences during breaks in conversation (5 seconds or more).</td>
<td><strong>Flow:</strong> Male often is speechless and allows conversation to break off (pauses of 5 seconds or more).</td>
</tr>
<tr>
<td><strong>Interest:</strong> Male makes some comments(s) indicating interest in the female (includes compliments about appearance, dress, activities, performance at work or school, questions asking female about herself and/or open-ended statements whose purpose is to reflect conversation to the female to talk about herself).</td>
<td><strong>Interest:</strong> Male does not make any comment(s) indicating interest in the female (no compliments about appearance, dress, activities, performance at work or school, no questions asking female about herself, and/or open-ended statements whose purpose is to reflect conversation to the female to talk about herself).</td>
</tr>
<tr>
<td>Appropriate</td>
<td>Inappropriate</td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Facial: Male's facial expression in accord with situation and female's expression (e.g., topic of conversation--subject should have a smile on face, not a serious expression. Serious topic of conversation--subject's face should be composed and he should not laugh or smile).</td>
<td></td>
</tr>
<tr>
<td>Eye contact: Subject looks at or faces female when he or she is talking, for 10 seconds or more in the 30-second block.</td>
<td></td>
</tr>
<tr>
<td>Laughter: In a controlled manner with no giggling or high-pitched laughter.</td>
<td>Eye contact: Subject looks at female less than 10 seconds during the 30-second block.</td>
</tr>
<tr>
<td></td>
<td>Laughter: Giggles or laughs in high-pitched manner, staccato and uncontrolled.</td>
</tr>
</tbody>
</table>
Appendix O

Heterosocial Skills Behavior Checklist Rating Guidelines

Each of you will be watching a number of videotapes of a male and female conversing with each other. The camera has been focused on the male in each of the 10-minute tapes, and you are asked to rate the male's behavior during the interaction with the attached checklist. As you can see, the 10-minute rating period has been divided into 20 segments each lasting 30 seconds. At the end of each 30-second interval you will hear a tone. At the sound of the tone, the videotape will be stopped and you will rate that segment by judging the appropriateness/inappropriateness of the eleven behaviors listed on the checklist. If one appropriate behavior occurs within the 30-second block, the entire block is rated inappropriate. If no inappropriate behavior occurs within a block, the entire block is rated appropriate (even when no appropriate behaviors have been observed).

Below you will find some additional guidelines to aid you in discriminating appropriate from inappropriate responses. It is essential that you follow these guidelines when making the ratings, so please study them carefully and ask questions if you are in doubt about any of the categories.

Voice Category

Loudness

The main thing to note here is that for an appropriate response the individual must speak loudly enough to be clearly
heard and also without "breathy" or "whispery" qualities. To determine whether or not the male is speaking loudly enough, listen for indications of this in the female's responses. If she follows up his statements by saying "What?" or by asking him to repeat things, he is most likely not speaking loudly enough to be heard.

Pitch

As long as the pitch of the male's voice is lower than the female's, score as appropriate.

Inflection

Two of the main ways of using inflection in conversations are to change pitch or volume. Volume changes to denote special emphasis on certain words are considered appropriate in this category. Pitch changes, on the other hand, may be appropriate or inappropriate depending upon the manner in which they occur. Small pitch changes are appropriate—the individual's speech rises and falls gradually and sounds "natural." Quick changes in pitch are inappropriate—the individual's voice seems to "jump" to a higher scale and loses this constant characteristic. When making your judgements, focus on this characteristic rather than on the number of inflections.

Dramatic Effects

It is especially important to distinguish this category from inflection. In the inflection category, judgements of appropriate or inappropriate are made on the basis of how the
individual uses inflection, rather than on the basis of the
type of effect achieved by the inflection. In the present
category, any changes (not just inflection) in the character
of words or phrases are judged appropriate or inappropriate
depending upon whether or not they render a special dramatic
effect. If a word or phrase has a dramatic flair (regardless
of how such an effect is produced) it should be scored as
inappropriate.

Form of Conversation

Initiation

Judgements are made simply on the basis of whether or
not the male introduces a new topic when the opportunity
presents itself. If the male introduces a new topic (one
which is unrelated to the previous topic), score the block
as inappropriate, otherwise score the block as appropriate.

Follow-up

Any time the female speaks and gives the male an
opportunity to vocalize (she may have asked him a question
or she may simply pause), he should do so. If he does not
vocalize when given the opportunity (i.e., she speaks again
before he vocalizes) score the block as inappropriate. How-
ever, make sure the female gives him an adequate opportunity
to respond (at least 5 seconds) before you score the block
as appropriate.
Flow

Any break in the conversation of 5 seconds or more should be scored as inappropriate unless the male has asked the female a direct question and is waiting for the answer. Note that the same 30-second block may be scored inappropriate for "flow" but appropriate for "follow-up." For example, this situation would occur if the female makes a statement (or asks a question) to which the male responds 10 seconds later.

Interest

Appropriate ratings are given in this category only if the male makes some comment(s) indicating interest in the female. Include compliments, direct questions asking the female about herself, and/or open-ended statements which are made to get the female to talk about herself. With open-ended statements, the decision must be based on the male's purpose in making the statement (i.e., an appropriate rating is given if the male's purpose was to get the female to talk about herself). For example, the statement "It must be difficult for you to work such long hours during the school year" would be scored appropriate, since the male seems to be trying to get the female to talk more about herself and her feelings.
Affect

Facial

Decision is based solely on whether or not the male's facial expression is in accord with the context of the conversation.

Eye Contact

Male must look at female for at least 10 seconds during each 30-second block. To count toward this 10-second total, each eye contact period must last at least 5 seconds.

Laughter

Note that the appropriateness of the laughter is made on the basis of whether it is controlled or uncontrolled. Judgement does not depend on whether or not the laughter "fits" the situation or context of the conversation.
# Appendix P

## Table 1

Intercorrelations of Expectancy/Credibility Assessment Device for Session One

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<thead>
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<td>. .</td>
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<td>. .</td>
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<tr>
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<td>.68**</td>
<td>.67**</td>
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<td>.83**</td>
<td>.85**</td>
<td>.81**</td>
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**Note:** Content of the five items may be found in Appendix H.

**\( \text{**} < .01 **\( **
### Appendix Q

#### Table 4

**Classification Functions and Mean Change Scores for Variables Whose Linear Combination Significantly Discriminated Between Groups**

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<thead>
<tr>
<th>Variable</th>
<th>Classification Functions</th>
<th>Mean Change Score</th>
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<td>Attention-Placebo Group</td>
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**Note:** Classification function entries in the table represent the weights assigned to each variable in the discriminant function. Mean change score entries represent raw scores on these variables.
## Appendix R

### Table 5

One-Way Analyses of Variance: Pre-Post Change Scores

<table>
<thead>
<tr>
<th></th>
<th>Cognitive-Behavioral (n = 8)</th>
<th>Attention-Placebo (n = 11)</th>
<th>F (All Nonsignificant)</th>
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</thead>
<tbody>
<tr>
<td>Survey of Heterosexual Interactions</td>
<td>26.12 13.35</td>
<td>25.54 21.19</td>
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</tr>
<tr>
<td>Fear of Negative Evaluation Scale</td>
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<td>3.82 6.01</td>
<td>0.71</td>
</tr>
<tr>
<td>Dating Frequency</td>
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<td>0.45 2.16</td>
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<td>Self-Reported Anxiety</td>
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Appendix R--Continued

<table>
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<td>Heart Rate Change</td>
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Note: Multivariate $F(12,6) = 1.93$, nonsignificant.
### Appendix S

#### Table 6

Means and Standard Deviations of Pre- and Posttreatment Scores

<table>
<thead>
<tr>
<th></th>
<th>Cognitive-Behavioral Group Pretreatment</th>
<th>Posttreatment</th>
<th>Attention-Placebo Group Pretreatment</th>
<th>Posttreatment</th>
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<td>M</td>
<td>SD</td>
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Appendix S--Continued

<table>
<thead>
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<td>Posttreatment</td>
<td>Pretreatment</td>
<td>Posttreatment</td>
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<td></td>
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<td>SD</td>
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Appendix T

Table 7
Repeated Measures Analyses of Variance on Pre- and Posttreatment Scores

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<th>Source</th>
<th>Groups F</th>
<th>Groups p</th>
<th>Trials F</th>
<th>Trials p</th>
<th>Interaction F</th>
<th>Interaction p</th>
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<td>4.81</td>
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<tr>
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### Appendix U

#### Table 13

**Intercorrelations of Pretreatment Scores**

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<td>-0.26</td>
<td>0.51*</td>
<td>-0.17</td>
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<td>Global Skill</td>
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Note: *p < .05

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Appendix V

Table 14

Correspondence of Expected and Actual Directionality of Pretreatment Measure Intercorrelations

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**Note:**  
+ = Actual directionality corresponds with predicted directionality.  
- = Actual directionality does not correspond with predicted directionality.
### Appendix W

#### Table 15

Intercorrelation of Pretreatment to Posttreatment Change Scores

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