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ABSTRACT

Recent research on the behavioral assessment and treatment of social anxiety and inhibition is reviewed. Subjects for the studies were college men and women selected on the basis of heterosexual anxiety and inhibition. The first part of the paper is concerned with assessment. The behavioral assessment procedures developed include: (1) direct sampling of heterosexual interaction behaviors; (2) self-monitoring of naturalistic heterosexual interactions; (3) peer-ratings; and (4) self-report measures of anxiety and skill. Data on the reliability and validity of these measures are reported. A discussion of behavioral and cognitive components of heterosexual anxiety is given. The treatment programs developed are based on the idea of behavioral practice in the natural environment. The basic program involves "practice dating" in which male and female subjects are matched for a series of practice dates with different partners and involves no therapist contact. The results from two studies involving variations of this basic procedure are presented, which suggest that this simple and economical treatment program is quite effective. The paper concludes with a general discussion of behavioral treatment strategies for interpersonal anxieties and inhibitions. (Author/DB)

Social Anxiety and Dating Inhibitions: Assessment & Treatment

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The present paper reviews recent research from our laboratory on the behavioral assessment and treatment of social anxiety and inhibition. Subjects for the studies are either college men or women selected on the basis of heterosexual anxiety and inhibition.

The first part of the paper was concerned with assessment. The behavioral assessment procedures developed included: a) direct sampling of heterosexual interaction behaviors; b) self-monitoring of naturalistic heterosexual interactions; c) peer-ratings; d) self-report measures of anxiety and skill. Data on the reliability and validity of these measures are reported as well as a discussion of behavioral and cognitive components of heterosexual anxiety.

The treatment programs which we developed are based on the idea of behavioral practice in the natural environment. The basic program involves "practice dating" in which male and female subjects are matched for a series of practice dates with different partners and involves no therapist contact. The results from two studies involving variations of this basic procedure are presented and suggest that this simple and economical treatment program is quite effective. The paper concludes with a general discussion of behavioral treatment strategies for interpersonal anxieties and inhibitions.

Abstract of paper presented at the American Psychological Association, Montreal, Canada, August, 1973.

COLLEGE DATING INHIBITIONS: ASSESSMENT AND TREATMENT[1]

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For the past several years I have been involved in research on social anxiety and college dating inhibitions. This research has taken two general directions. The first has been concerned with the development of behavioral assessment procedures along with an attempt to discover some of the mechanisms and processes which are associated with social inhibition. A second direction of this research has been the development and evaluation of behavioral treatment programs for social inhibition. In my presentation today, I will review some of our major findings in both these areas, and try to outline some of the issues and problems which we see as major ones for research and treatment.

We chose to focus on college dating inhibitions for two major reasons. First, we felt that this would provide us with a reasonably good analogue to the clinical population of socially anxious and inhibited clients. Using college students, we hoped to find components of social inhibition and treatment methods which could be extended to more complex and varied clinical populations of anxious and inhibited clients. But secondly, problems relating to college dating inhibitions often are frequent presenting complaints at college counseling centers and are, in themselves, significant and central life problems for many college students.

While the precise selection criteria have varied to some degree in the different studies, the general subject population has consisted of college

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1. Paper presented at the American Psychological Association, Montreal, Canada, August, 1973.

undergraduates who are anxious and inhibited in their heterosexual interactions. They are typically selected on the basis of anxiety in heterosexual situations and/or avoidance of such situations, manifested in low dating frequencies and desire to increase their dating frequency.

Assessment

The first study which we conducted (Arkowitz, Lichtenstein, McGovern, & Hines, 1973) was an empirical attempt to discover behavioral differences between inhibited and non-inhibited college men. This study was undertaken in order to try to define behavioral components of social skill in heterosexual interactions. Subjects for this study were 35 undergraduate men who were selected on the basis of a screening questionnaire. Subjects who met our criteria for either high or low social competence were invited to participate. The selection criteria involved dating frequency, comfort, and satisfaction. The high socially competent men reported dating frequencies of 12 or more dates in the past six months, four or more dates in the past month, and rated themeslves as comfortable in heterosexual situations and satisfied with their present dating behaviors. The low socially competent men reported dating frequencies of three or fewer in the past six months, one or less in the past month, rated themselves as uncomfortable in heterosexual interactions, and desired to increase their dating frequency. Subjects who were married, engaged, or going steady were excluded from the experiment.

In our search of the literature, we discovered that there were relatively few behavioral procedures and measures which we could use to assess social competence. As a result we adapted some that were available, and devised others to assess behavior in the heterosexual interaction. As a further check on our selection criteria, we used some additional self-report questionnaires relating to social anxiety (the Social Avoidance and Distress Scale

and the Fear of Negative Evaluation Scale, both developed by Watson and Friend, 1969; a modified form of the S-R Inventory of Anxiousness originally developed by Endler, Hunt, and Rosenstein, 1952) and a Peer Rating Inventory which we developed. The Peer Rating Inventory was sent to male and female peers of the subjects, who knew the subject reasonably well. The Peer Rating Inventory asked about the subject's dating comfort, skill, and frequency. The results of these comparisons, as well as those to follow, are presented in Table 1. Both the anxiety questionnaires and the Peer Rating Forms discriminated strongly between the groups, supporting our selection criteria. We used three social performance tasks to directly assess the subjects' behavior in heterosexual interactions. The first was a Taped Situation Test (TST) involving ten heterosexual situations enacted on audiotape and played to the subjects. At a specified point in each situation, the enactment would be terminated and a signal presented to the subject. At the signal, the subject responded as he would if he were actually in the situation. This procedure was originally used for assessment by Rehm and Marston (1968) for the assessment of social anxiety, and used by McFall and his colleagues for the behavioral assessment of assertiveness (e.g. McFall and Marston, 1970). We coded mean latency of response and mean number of words from this task. The remaining two assessment tasks involved live interactions with a female confederate. The first was a ten minute conversation, which was followed by a task in which the subject telephoned the girl to ask her for a date. A large number and variety of measures were derived from these two tasks and included measures of verbal productivity (male talk time, number of silences); content measures (topics, types of utterances, self-disclosure, verbal reinforcements), and non-verbal behaviors during the conversation (gazing, head nods, smiles).

Our results were somewhat surprising to us. We had anticipated finding considerable differences between the two groups on most of the behavioral measures, and expected to find a skill deficit in the low socially competent men. While we did find behavioral differences between the groups, they all reflected timing or sheer quantity of verbal output (e.g. TST latency and number of words, male talk time and silences on the conversational task). None of the many comparisons between groups for the content measures nor the non-verbal stylistic measures were significant. Further, the measures of verbal output correlated with independent indices of social competence derived from self- and peer-report measures. However, no such relationships emerged for either the content measures nor for the non-verbal measures.

These results suggested two major points to us. First, it appeared to us that we did not find a skill deficits in the socially inhibited men to the extent that we had expected. While it is possible that other procedures and other measures might point more strongly to such a skill learning deficit, our own results did not suggest such a complex and specific skill deficit, but instead that the major skill factor concerns low output of relevant social behaviors -- verbal productivity and dating. However, if we accept the conclusion that both subject groups have learned appropriate social skills, but that the major difference is in terms of the frequency of emission of these behaviors in appropriate situations, we are still left with the question of why one group is anxious and inhibited while the other is reasonably comfortable and socially active.

The above results, and our clinical contacts with socially inhibited clients suggested to us that these clients are often reasonably socially skilled, but evaluate their social competence negatively and inaccurately, and are subsequently anxious and avoid social situations. Our next experiment

attempted to look at the role of self-evaluative processes in social anxiety (Valentine and Arkowitz, 1973). The subjects were 12 high and 12 low socially anxious college men, selected on the basis of the Social Avoidance and Distress Scale devised by Watson and Friend (1968). All subjects interacted in a social conversation for ten minutes with a female confederate. After the interaction, the subjects listened to their own audiotapes, as well as the tapes of others. After listening to each tape, the subjects were asked to rate the social skill and social anxiety of the male, and favorability of female response to the male. In addition, trained judges also listened to the tapes and evaluated each subject using the same rating scales. The results I will be presenting from this study concern comparisons between groups on the judges' ratings on each dimension, and comparisons between groups on discrepancy scores. The discrepancy score which we used derived from the subject's rating minus the judges' rating of the particular dimension. Considering the judges' ratings as reasonably unbiased estimates of the subjects performance, a positive discrepancy score indicates that the subject overestimated the particular dimension and a negative discrepancy score indicates that the subject underestimated that dimension.

Tables 2 and 3 present comparisons between the groups on judges' ratings and self-ratings respectively. Table 4 presents the mean discrepancy scores for each group in each of the categories. Two-way analyses of variance were conducted on the discrepancy scores for each rating dimension separately. For the social skill ratings, we found that the judges did not perceive any differences between the two groups, rating them as equally skilled. However, when we compared the skill discrepancy scores for each group, we found that the high socially anxious subjects underestimated their skill, while the low socially anxious subjects overestimated their social skill. These findings

supported our predictions concerning the overly negative self-evaluations of the high socially anxious men. However, while we had expected the low socially anxious subjects to be reasonably accurate, they were in fact overly positive in their self-evaluations of their social skill. Thus, while the judges did not perceive any skill differences between the two groups, the subjects self-evaluations of skill were quite different, consistent with the more negative and critical set of the high socially anxious. For the anxiety dimension, the judges did rate the high socially anxious group as more anxious than the low socially anxious group. The discrepancy score analysis for anxiety approached significance ($p<.10$) and suggested that the high anxious subjects tended to overestimate their anxiety compared to the low anxious subjects, with the latter group being reasonably accurate in their self-evaluations. Finally, for the female response rating, the judges did not perceive any differences in the females' responses to the two groups. The discrepancy score analysis for this dimension was not significant, but was in the direction of the high socially anxious subjects underestimating the favorability of the female' responses compared to the low anxious subjects who were, once again, reasonably accurate. Further, the differences were specific to self-evaluations and did not appear in comparing the groups on their evaluations of others. These results suggest the potential importance of self-evaluative processes as possible mediators of social anxiety and inhibition.

Related to our study of patterns of self-evaluation, we are in the process of analyzing the results of another study on cognitive components of social anxiety and inhibition (Miller and Arkowitz, 1973). Our clinical observations suggested that high socially anxious men tend to attribute failure in social situations more internally (i.e. to themselves -- their behaviors and abilities) and success more externally (i.e. to the situation

or other people in the interaction). This pattern of attribution is one that could serve to maintain the social anxiety of these individuals (e.g. Valins and Nisbett, 1971). By contrast, it appeared to us that low socially anxious individuals had a different pattern of attribution, involving the greater external attribution of failure and greater internal attribution of success. This pattern of attribution would be associated with minimal anxiety. While the results relating to this formulation are complex, with many analyses still underway, there is one finding which is relevant. This relates to differential attributions of success. In one part of this experiment, high and low socially anxious subjects received a successful interaction with a female who was quite positive toward them. We found that, in some conditions, high socially anxious subjects attributed this success more externally (to the girl and the situation) than did the low anxious subjects, who attributed their success more internally.

Thus, we started our research on assessment looking for social skill differences between our groups. While we still feel that further research of this kind is necessary, and that in many cases there may indeed be an important factor of social skill deficiency, our research has taken us to the point of emphasizing more and more the role of cognitive-evaluative processes as an important component of social anxiety and inhibition.

Treatment

There are a number of promising behavioral treatment strategies for the treatment of heterosexual anxieties and inhibitions. It has been only very recently that studies have begun to appear evaluating some of these treatment alternatives. These include behavioral rehearsal (McGovern, Arkowitz, and Gilmore, 1973; Melnick, 1973), modeling (Melnick, 1973), desensitization (Curran, 1973), graded tasks with self-reinforcement (Rehm and Marston, 1968), as well as more complex skill training programs incorporating a variety of training procedures (Curran, 1973, Melnick, 1973). However, each of these

involves a need for either individual or group meetings with a therapist, and raise concerns about the generalization of treatment effects from the treatment situation to naturalistic situations in the clients' lives.

The treatment procedure which we have been exploring involves no direct therapist contact whatsoever, and takes place in the client's natural environment. This research has been in collaboration with Andrew Christensen and Judy Anderson. We have been exploring the utility of practice dating as treatment for heterosexual anxieties and inhibitions. While we have recently completed several studies which vary the basic procedure, I will first describe the treatment procedure in its basic form. This procedure consists of a series of six practice dates, each occurring at weekly intervals and each with a different partner. The subjects are both male and female volunteers for a program to increase dating comfort and skill. All are undergraduates between the ages of 18-25. The entire procedure consists of a brief orientation meeting with the subjects to explain the details of the program, and a 12 day assessment period before and after the series of practice dates. The only intervening procedure or relevant contact between the assessment periods consists of the six practice dates. At the initial orientation meeting, subjects are told that the major purpose of these dates is for practice in dating situations, and not to provide them with any ideal or precise match. All subjects know that their dating partners are also volunteers for the program to increase dating comfort and skill. After the assessment period, subjects are sent the name and telephone number of a different partner each week. Their only instruction is that a meeting with the partner should occur that week. No further details or instructions are given to them regarding where to go, how long the meeting should be, what to talk about, etc. All details, including who makes the initial telephone

call to arrange the date, are left entirely to the subjects. Each week, the identical procedure is repeated with a different partner.[2]

This procedure bears some obvious similarities to a computer dating service. However, there are two related differences from such services. First, the goal of this program is stated to the subjects as dating practice rather than to help them find an ideal mate through some detailed matching of partner characteristics. Related to this point, the matches are almost entirely random, except for a few subject-specified constraints in some instances. By contrast, the computer dating services typically attempt some detailed matching of partner characteristics to increase compatibility and the likelihood of developing an enduring relationship. In our procedure, no attempts are made to match subjects with partners especially well-suited to them, except in a recent study where matching constituted the main experimental manipulation. The matching procedure is typically random with the exception that subjects are given the opportunity to place some constraints on age, height, race, and distance from campus. We try to work within any such subject-specified constraints when the subjects indicate any strong preferences.

In our assessment for these studies, we have employed self-report and behavioral measures of anxiety and skill, as well as self-monitoring measures. For the self-monitoring of heterosexual interactions, we devised a Social Activity Diary which the subjects carried with them, and in which they recorded their daily date and non-date heterosexual interactions during the assessment periods. A date was defined as a pre-arranged social meeting

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2. This procedure is similar to one employed by Martinson and Zerface (1970). However, there are two procedural differences. The females in their study were unselected volunteers and male subjects were instructed to discuss dating concerns openly with the females during the interactions in a semi-therapeutic manner.

with a member of the opposite sex. A non-date interaction was defined as an unarranged social meeting with someone of the opposite sex, and which was more than a greeting. From the diary, we derived frequency measures for both these categories, as well as range. Range refers to the number of different people with whom the subject dated or interacted during the assessment period.

The first study (Christensen and Arkowitz, 1973) was a pilot investigation employing a single group of 14 males and 14 females who received the practice date program with the additional component of partner-generated feedback after each date. In this program, the dating partners filled out a date feedback form after each date which asked for specific positive and negative feedback to their partners concerning appearance and behaviors. The major results of this study are presented in Table 5. We analyzed separately the data for a sub-group of subjects who constituted a low frequency dating (LFD) group, which more closely approximated a clinical population. There were significant decreases on the anxiety scales. But more centrally, there were significant increases in dating frequency and range from pre- to post-treatment. In addition, there were increases in the frequency of non-date interactions which approached significance ($p<.10$) It should be noted that the increases in dating frequency do not include the six practice dates, but reflect post-treatment dating frequencies. Further, the program was equally effective for both men and women. From the Social Activity Diaries, we were able to analyze the percentage of post-treatment heterosexual interactions which occurred with previously matched partners vs. with new partners. We found that in the post-treatment assessment period, 65% of the dates and 89% of the non-date heterosexual interactions were between persons who had <u>not</u> met through the program. This is an interesting finding and suggests that the changes which occurred during the practice dates generalized to the subjects'

heterosexual interactions with others in their natural environment who were not specifically in the program. This suggests that the practice dating procedure does involve an active behavior change process beyond simply introducing the subjects to available partners.

We have recently completed analyses for two controlled outcome studies of the practice dating procedure. In the first (Christensen, Arkowitz, and Anderson, 1973) we compared practice dating with feedback against practice dating without feedback against a waiting list control group. In this study, both practice dating procedures were effective compared to the control group, but were not different from one another on most of the measures. At post-treatment assessment, the two practice dating groups had more dates and non-date interaction with a greater range of partners than did the control group. However, the comparisons on these measures only approached significance ($p<.10$ for each). Only a few of the behavioral measures showed any differences between the practice dating groups and the controls. In addition, a large percentage of the post treatment dates (94%) and non-dates (96%) were with previously unmatched individuals. We have collected follow-up data from our subjects for the quarter following the treatment. Our data indicates that the treatment subjects continued dating at a higher frequency than they had prior to treatment.

I will present the outlines of a further study on practice dating which we have recently completed to indicate the directions which we are taking in this research. In this experiment (Arkowitz, Christensen, and Anderson, 1973) we were interested in exploring the role of partner characteristics in the practice date procedure. There were three main groups in the experiment--two of which received practice dating with feedback. The third was a waiting

list control group. In one practice dating group, socially inhibited men were matched with socially inhibited women for their practice dates. In the second practice dating group, socially inhibited men were matched with socially active and comfortable women. The subjects were not aware of any matching criteria for their practice dates. There is some basis for believing that both of these procedures might be effective, although for somewhat different reasons in each case. However, we do not as yet have the final data analyses completed for this experiment.

While the results of the practice dating procedure seem quite promising thus far, further research is necessary to evaluate its effectiveness, range of applicability to different populations, and the behavior change mechanisms which might be operating. The practice date procedure incorporates several principles and procedures which may mediate its apparent effectiveness. First, practice can be viewed as a kind of in vivo desensitization to reduce dating anxiety and involving repeated exposure to a complex and moderately anxiety-arousing dating situations. In addition, the knowledge that the partner is also a volunteer for the program and that the date is structured as practice may help alleviate subjects' anxiety concerning their performance and fears of rejection. Skill training is also possible in the rehearsal of dating behaviors in the criterion situations, along with opportunities for either direct or indirect partner feedback. In addition, the role of self-perceptions and peer-perceptions may facilitate the acquisition of more appropriate self-evaluations on the part of our subjects. In terms of self-perceptions, the practice date procedure may facilitate the acquisition of more accurate self-evaluations through repeated exposures without undue failures. Further, due to the series of practice dates, it is possible that peers of the subjects may begin to label the subjects as socially competent and comfortable instead of inhibited and socially anxious. Such relabeling can affect how the peers respond to

the subject as well as the subjects' self-evaluations and behaviors. These and other explanations of the procedure are possible. However, before we seek to discover mechanisms, we plan to further evaluate the effectiveness of the procedure with college dating problems, and extend the paradigm to another important area of social anxiety and inhibition--the area of same-sex friendships. The paradigm can readily be extended to a treatment procedure involving the matching of same sex subjects for practice in forming and maintaining friendships. This is one of the directions which we plan to take in our research in the near future.

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TABLE 1

Summary of comparisons between high socially competent (HSC) and low socially competent (LSC) subjects on questionnaire and behavioral measures

Measure	Mean HSC	Number HSC	Mean LSC	Number LSC	t	df	P	Reliability
Self-report inventories								
SAD	4.25	20	14.94	15	6.08	17	<.001	-
FNE	7.85	20	18.74	15	5.28	29	<.001	-
SRIA	18.40	20	23.36	15	3.90	25	<.001	-
Peer rating inventory								
Dating frequency	3.56	18	2.45	12	3.96	20	<.001	-
True-False scale	12.48	18	8.04	13	3.66	14	<.001	-
Social skill rating	81.20	18	55.40	13	3.40	16	<.001	-
Taped situation test								
Mean latency (seconds)	1.96	20	3.16	15	2.61	19	<.01	-
Mean number of words	19.95	20	11.76	15	2.72	35	<.01	-
In vivo conversation								
Social skill rating	2.29	14	1.73	14	2.70	26	<.01	.68
Male talk time (seconds)	367.95	20	300.13	15	1.59	30	<.10	-
Number of silences	.20	20	1.53	15	2.59	15	<.01	-
Number of verbal reinforcements	4.14	14	6.43	14	1.07	26	ns	.74
Number of head nods	11.50	20	15.93	15	1.41	29	ns	.82
Number of smiles	19.10	20	26.46	15	1.67	23	ns	.91
Gazing time (seconds)	304.34	20	262.93	15	1.10	31	ns	.92
Telephone conversation								
Male talk time (seconds)	58.11	18	40.23	13	1.66	28	<.10	-
Length of conversation (seconds)	82.88	18	62.69	13	1.33	30	<.10	-

(From Arkowitz, Lichtenstein, McGovern, and Hines, 1973)

Table 2

Comparisons Between Groups On Judges' Ratings of Performance

	Mn HSA	Mn LSA	t
Social Skill	5.69	5.90	.74
Social Anxiety	4.31	3.06	3.37***
Female response	6.21	5.85	1.30
Talk Time	2.27	2.27	<1

***p < .001

(From Valentine & Arkowitz, 1973)

Table 3

Comparisons Between Groups On Self-ratings of Performance

	Mn HSA	Mn LSA	t
Social Skill	5.00	6.67	3.60***
Social Anxiety	5.71	3.52	3.60***
Female Response	5.73	5.85	.22
Talk Time	3.03	3.21	.72

*** p < .001

(From Valentine & Arkowitz, 1973)

Table 4

Comparisons Between Groups for Mean Discrepancy Scores For Subjects' Ratings of Self, Low Anxious Others, and High Anxious Others

		Rate Self	Rate Low Anxious Others	Rate High Anxious Others
Social Skill	HSA	-.75	-.84	.29
	LSA	.77	-1.07	.42
Social Anxiety	HSA	1.40	.24	-.96
	LSA	.46	.60	-.62
Female Response	HSA	-.48	.40	-.77
	LSA	-.02	.07	-.89

(From Valentine and Arkowitz, 1973)

Table 5

Matched Sample t Tests on Pre Post Data

Variable	Total Subjects				Low Frequency Dating Subjects			
	Pre Mean	Post Mean	df	t	Pre Mean	Post Mean	df	t
Social Avoidance and Distress scale	9.6	7.6	27	-2.82***	11.9	9.8	13	-1.84**
Fear of Negative Evaluation scale	16.5	15.1	27	-1.14	19.7	18.3	13	-0.90
S-R Inventory of Anxiousness	2.3	2 1	27	-2.22**	2.6	2.2	13	-3.42***
Frequency of non date interactions (per day)	2.9	3.4	27	1.51*	2.4	2.7	13	1.40*
Range of non date interaction (per day)	1.9	2.1	27	0.96	1.5	1.6	13	0.54
Frequency of dates (over 12 day assessment period)	2.5	3.4	27	1.47*	1.4	3.5	13	2.79***
Range of dates (over 12 day assessment period)	1.5	2.0	27	1.89**	1.9	2.1	13	3.31***
Self-perceived anxiety during dates (larger scores = less anxiety)	4.5	5.7	16	3.33***	4.2	5.6	5	1.73*
Self-perceived skill during dates (larger scores = greater skill)	4.8	5.5	16	2.32**	4.0	5.3	5	2.20**

* $p < .1$, one tailed

** $p < .05$, one tailed

*** $p < .01$, one tailed

(From Christensen and Arkowitz, 1973)