A PARADOXICAL TREATMENT TECHNIQUE VERSUS A BEHAVIORAL APPROACH IN TREATMENT OF PROCRASTINATION OF STUDYING

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The present study investigated the relative efficacy of paradoxical, behavioral, and reflection-support treatments among college students who complained about procrastination of studying. Although there is much literature describing successful use of paradoxical treatment, there has been little substantive research. Paradoxical techniques offer more complex theoretical explanations than behavioral therapy even though in practice the procedure of each are often quite similar.

Subjects were selected by their response to an ad in the school newspaper that offered free treatment for students who had problems with procrastination. Further screening of participants was done through clinical interviews. Thirty-three subjects were selected for treatment of procrastination, with three clients randomly assigned to each of 11 advanced psychology graduate students who served as therapists. Each therapist provided all three types of treatment, one type of treatment to each of their three assigned clients.

During the treatment phase of this investigation, all clients were required to keep records of their studying.

Therapists met with clients one hour per session for eight weekly sessions. At each weekly meeting, all clients set goals in the form of specific study periods for the coming week.

Contrary to expectations, the paradoxical and the behavioral treatments were no more effective than the reflection-support group and in none of the treatment conditions did subjects show improvement over the course of treatment. Improvement was defined subjectively as less intense symptomatology and behaviorally as increased hours of study time, greater adherence to study goals in terms of planned periods of study, and higher percentage of goal attainment in hours, whether study occurred during planned or undesignated periods of study. Suggestions were made as to the need for different procedures for defining procrastination and assessing subjects and the need to emphasize subject compliance with instructions.

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Although learning theory (Rimm & Masters, 1974; Adams, 1972) and communication theory (Haley, 1963; Watzlawick, Beavin, & Jackson, 1967; Watzlawick, Weakland, & Fisch, 1974) yield therapy techniques practiced out of quite different rationales, often these therapy approaches share a number of common elements in their methodologies. Indeed, except for differences in labeling of procedures, they often appear identical. In reviewing various specific case studies, it is difficult to find a divergence of methodology that would contradict the expectations or predictions arising from alternative theories. The interest of the present study is in divergent methods of treatment that would test the efficacy of alternative approaches.

In particular, the focus of this paper is upon paradoxical techniques as described by communications theorists (Haley, 1963, 1973, 1976; Watzlawick, Beavin, & Jackson, 1967; Watzlawick, Weakland, & Fisch, 1974). Because of the similarities to Frankl's (1962) technique of paradoxical intention, as well as shared commonalities with certain behavioral techniques, these also are to be discussed.

The use of paradoxical intention was first reported in the literature by Frankl in 1939. He defined paradoxical

intention "as a process by which the patient is encouraged to do, or wish to happen, the very things he fears (the former applying to the phobic patient, the latter to the obsessive-compulsive" (1975, p. 277). Frankl has used paradoxical intention with both imaginal and in vivo phobic stimuli. As suggested above, he used this technique primarily with phobic and obsessive-compulsive patients. The most essential feature of paradoxical intention is the instruction to patients that they are not to fight their fears, indeed they are typically encouraged to exaggerate them. For example, Frankl (1975) in working with a woman with severe claustrophobia of 15 years duration told her ". . .to try to suffocate or die right on the spot and try to exaggerate her physical symptoms (p. 229)." Unfortunately, the effective ingredients in the application of paradoxical intention are clouded by Frankl's use of techniques from other theoretical systems in conjunction with the former. For example, in the case cited above, he also instructed the patient in the following way:

> She was then taught a brief modified form of Jacobson's progressive relaxation. She was told to practice it and to apply it in the phobic situations to remain calm, but it was stressed that she should not try too hard to relax or fight the tension. While under relaxation, desensitization was begun (p. 229).

Frankl is usually considered to be an existential psychiatrist. For him, paradoxical intention is only a

technique which makes sense within the broader context of the supporting theoretical framework, which is known as logotherapy. Logotherapy has three basic underlying assumptions: a) freedom of will, b) will to meaning, and c) meaning of life. It is the first of these that is probably the most central to the practice of paradoxical intention. Freedom of will emphasizes the idea that man is always free to take a stand toward his limiting conditions, whether they be biological, physiological, or sociological in nature. Thus, he has the capacity of self-detachment, a quality Frankl asserts is not shared by non-humans. This capacity for self-detachment is essential to the success of logotherapy, and is emphasized in the technique of paradoxical intention. A sense of humor is extremely important in this approach as a way of putting distance between oneself and one's symptoms.

One of the basic tenets of logotherapy is that the more one aims at something, the more one misses it (Frankl, 1962). This fits well with what logotherapists view as the essential problem in phobias; the patient is aiming at relaxation in the face of the phobic stimulus, thus he is unable to relax. It follows from this tenet that if one were to aim at tension or attempt to exaggerate symptoms, one would be unable to do so. This is often the case and is ostensibly a major factor in the success of paradoxical intention. However, in behavioral intervention with negative practice which asks the patient to

increase the frequency or some other parameter of the symptomatic response, the patient may increase the rate and appear to acquire voluntary control of the behavior (e.g., stuttering).

Although similar to paradoxical intention and often not distinguished as a separate technique within the psychotherapy literature, paradoxical techniques as practiced by family therapists are different in their application, and especially in their theoretical rationale. Because many different groups from differing theoretical schools have begun to employ these techniques, the discussion here will be limited to that group known as "systems theorists."

Essentially, the primary difference between systems theorists and Frankl is their emphasis upon interpersonal relationships versus the intrapsychic meaning of symptoms. Haley (1963) suggests that symptoms have a functional meaning in that they enable the patient to control others in various ways. For example, the housewife who is afraid to leave the home often succeeds in forcing her husband to stay home with her to allay her anxiety. Haley describes psychotherapy as a two person game in which there is a struggle between patient and therapist for who is to be in control. When the psychotherapist asks a patient to continue a symptom or even to exaggerate it, the therapist has gained control of the relationship. By asking the patient to continue with a symptom, he has effectively placed the

patient in a therapeutic double bind (Watzlawick, Beavin, & Jackson, 1967). In other words, the therapist wins, whatever the patient's behavior. If the patient cooperates and is able to actually make his symptoms worse, then this is endorsed by the therapist as it represents cooperation on the part of the patient. This serves the additional function of giving a different meaning to the symptom, and serves to reduce the distressing effect it often has on the patient.

Watzlawick, Beavin, and Jackson (1967) discuss the essential elements of the double bind, a concept central to the understanding of the therapeutic paradox. There are three components to a double bind:

> 1) Two or more persons are involved in an intense relationship that has a high degree of physical and/or psychological survival value for one, several, or all of them; 2) In such a context, a message is given which is so structured that a) it asserts something, b) it asserts something about its own assertion, and c) these two assertions are mutually exclusive; 3) Finally, the recipient of the message is prevented from stepping outside the frame set by this message, either by meta-communicating (commenting) about it or by withdrawing (p. 212).

In psychotherapy, condition one is satisfied by the relationship between patient and therapist. Condition two is fulfilled when the therapist gives the patient a paradoxical instruction,

which on one level explicitly appears designed to worsen his symptoms, while at the same time actually gives the implicit message that the therapist is trying to help the patient (the latter is implicit due to the nature of the relationship between therapist and patient, one in which the therapist is defined as helper). Condition three is fulfilled because the patient cannot ignore the message from the therapist. If he does not succeed in exaggerating his symptoms then he improves, whereas if he does succeed then he has cooperated. Watzlawick, Beavin, & Jackson (1967) comment that it is the therapeutic relationship which prevents the patient from withdrawing or ignoring the message. He cannot since he wants the relationship to continue.

More concretely, the therapeutic use of paradox involves asking the patient to continue or exaggerate his symptoms, but the explanation given differs from that given patients in the use of paradoxical intention. While in the application of paradoxical intention the therapist explains the reason behind the paradoxical instructions, this is not the case with the use of paradox as practiced by systems theorists. In fact, to explain the true rationale would destroy the double bind which is theoretically central to the success of the technique. If a therapist were to explain the rationale for such a task, then there would no longer be anything contradictory about asking the patient to perform it.

A review of the literature on paradoxical techniques (L'Abate & Weeks, 1978) indicated that little of the published material is actual research. Rather, it consists primarily of case histories or descriptive accounts of the methodology. In an updated review (Weeks & L'Abate, 1982), these same authors suggested that paradoxical techniques have been insufficiently researched because of the shortage of paradoxically trained therapists and because the leading paradoxical therapists are not typically in academic settings and so receive little encouragement to do research.

In general, the use of paradoxical intention has been researched more widely than the use of paradoxical techniques as practiced by systems theorists. Paradoxical intention has been successful in the treatment of obsessive thoughts (Solyom, Garza-Perez, Ledwidge, & Solyom, 1972), psychogenic urinary retention (Ascher, 1979), and insomnia (Ascher & Efran, 1978).

Weeks & L'Abate (1982) reported that althouth several studies have been done on the use of paradoxical intention, only two empirical studies have been done on the effectiveness of paradoxical therapy as practiced by systems theorists. Weakland, Fisch, Watzlawick, & Bodin (1974) reported success rates for 97 cases. Success was measured primarily by clients' perceptions of degree of attainment of the goals that had been established at the beginning of therapy. They reported a 40% rate of success, a 32% rate of significant

improvement but not success, and a 28% failure rate. However, this study included no control condition.

Wagner, Weeks, & L'Abate (1980) used a paradoxical technique to supplement an enrichment program for married couples and compared this approach to two other treatments and a control condition. Although all three experimental groups improved in marital functioning more than the control group, the paradoxical group did not differ significantly from the other treatment groups. The authors argued that the assessment of therapy outcome was handicapped in this study and most other studies of paradoxical techniques by the use of global assessment devices, often inadequate as outcome measures since paradoxical therapy typically focuses on specific problems.

Although there is a paucity of empirical investigation of paradoxical techniques, the theoretical and clinical literature abounds in case studies. For example, Erikson (Haley, 1973) treated a young boy who masturbated openly in front of his mother and sister. Erikson instructed the boy to masturbate more frequently on the day the boy enjoyed it the most. As the boy began to resist this control by masturbating less than the frequency requested, Erikson instructed him to masturbate even more frequently. Finally, the boy was instructed to masturbate at least once daily in front of his mother and sister (the original presenting problem). In a short period of time, the problem had been eliminated.

Although Haley emphasizes the struggle for control in such cases, behaviorists might explain the above results by reference to negative practice, a technique first described by Knight Dunlap in 1932. This technique has been used primarily for the reduction in frequency of certain undesirable habits such as tics, nail biting, stuttering, etc. Hull (1943) explained the effectiveness of this technique by proposing that massed practice leads to reactive inhibition, which later develops into conditioned inhibition. This is the most commonly used rationale for explaining the success of similar procedures, although it has also been suggested that other factors such as punishment may be involved (Rimm & Masters, 1974).

Another example of paradox in psychotherapy concerned a young college student in danger of failing because she kept oversleeping her classes (Watzlawick, Beavin, & Jackson, 1967). She was instructed to set her alarm for seven o'clock as usual. The following morning when the alarm sounded, she was to reset it for eleven o'clock. If she chose to arise in time to attend her eight o'clock class, she was to disarm the alarm. If she did not arise in time, she was to stay in bed until eleven o'clock that morning, as well as on the following morning. The double bind was completed by telling her that if she did not comply with these instructions, therapy would be terminated. The girl returned for her next session three days later, reporting that lying in bed had been extremely

boring, and that on the second morning she had been unable to sleep past seven o'clock. Although this case was given as an example of paradox, it could be easily be viewed as an illustration of the use of punishment to eliminate an unwanted habit since supplying an aversive consequence on the occurence of an unwanted behavior constitutes punishment.

Watzlawick, Weakland, and Fisch (1974) cited an example illustrating the use of paradoxical techniques to treat procrastination in studying among students. The authors suggested the setting of a time limit within which a student could reasonably expect to finish an assignment. The student would then be made to agree that if he does not finish his studying by the arranged time, then he would be free to do whatever he liked, except to continue studying. The authors commented that this type of agreement has the effect of reframing leisure time as punishment. Unfortunately, no mention was made as to whether or not the above method was successful.

Many more case histories could be cited here to support the presumed efficacy of paradoxical techniques, but in most instances one could explain the obtained results equally well through behavioral principles. In fact, unless it can be demonstrated that behavioral principles cannot account for the beneficial effects of therapy, it makes better sense to employ them, as they offer a more parsimonious, easy to understand explanation. As long as behavioral principles are able

to predict the nature of the relationship between variables, then there is no need for more complex theories. In addition to a description of the relationsip between variables, which most behaviorists probably would consider adequate theory, systems theorists add the additional dimension of an elaborate theoretical framework involving the double bind, struggle for control, and interpersonal relationships. Whether or not this additional framework is necessary is unclear. It is the purpose of this study to determine if systems theory offers any predictive power over and above a behavioral explanation.

The clinical problem of focus in the present study is that of procrastination with studying among college students. This problem was selected because the example cited earlier which treated procrastination through paradoxical techniques seemed to suit the needs of this study. The relevance of procrastination as a clinical problem may be evident to anyone who has spent significant time in a college setting. Ellis and Knaus (1977) suggested that as many of 95% of college level individuals procrastinate. In a survey of 500 college students (Hill, Hill, Chabot, & Barrall, 1978), 50% of the students indicated they procrastinated at least half the time, while 10% of the students indicated they usually procrastinated. It was unclear what the figures in this study meant, as the authors defined procrastination merely as "incomplete and postponed work." This definition was sufficiently vague so that it likely meant quite different things to different people. In spite of these definitional

problems, the magnitude of the numbers obtained suggested that it is probably realistic to view procrastination as a common problem.

Procrastination is significant as a clinical problem, not merely inconvenient, because of the way these students experience their difficulty. Ellis and Knaus reported that "the majority report self-inflicted mental torture" characterized by negative self-statements which "lead to feelings of depression, guilt, anxiety, panic, remorse, loneliness, helplessness, worthlessness, and loss of control (p. 9)."

Ellis and Knaus expanded upon the above definition by describing a typical cycle consisting of several elements. First, a person makes a decision to do something that is not usually intrinsically rewarding, yet will yield favorable results if completed. Next, the person postpones the task in question, then criticizes himself for this. Postponement continues until there is finally a last minute rush, work finished late, or work not finished at all. Further self-blame ensues, and the pattern of procrastination continues.

There is a good deal of clinical literature reporting that behavioral techniques are effective in increasing amount of study. Some of these are summarized in a recent journal article (Hill, Hill, Chabot, & Barrall, 1978). Self-charting, point systems, setting of target dates, contingency contracting, and incentive plans are all mentioned. Another technique often used is stimulus control (Goldiamond, 1965).

Few of these studies however, have focused on procrastination as a distinct and separate phenomenon. Instead, they have discussed studying in a broad, general manner. Some authors have recognized procrastination as a distinct entity. Because the focus of this study is on treatment of procrastination, the emphasis in this review of literature is primarily upon those studies which specifically recognize and address procrastination.

Born and Moore (1978) make the point that procrastination is often not recognized by instructors as a problem. They state that

> . . . it is not likely that the term procrastination would even occur to the instructor as a descriptor for a student. After looking at a set of examination scores, all that is known is that some students scored higher than others. The possible reasons for this score variance are many, and they are inextricably confounded in this single measure (p. 35).

In surveying the prevalence of procrastination (Hill, Hill, Chabot, & Barrall, 1978) the authors noted that in most investigations of deficient studying, there is no attempt made to determine which students are procrastinating. They go on to state that most authors have taken the position of suggesting "that the 'remedy' be applied to all students regardless of whether or not the student 'procrastinates'" (p. 256).

Most of the procrastination research published appears to have been done in conjunction with Keller's (1968) personalized system of instruction (PSI) courses. Morris, Surber, and Bijou (1978) studied two groups of students in PSI courses, one self-paced and the other instructor paced. They found that although the self-paced group procrastinated more, there was no difference between groups in retention of material or reported course satisfaction. In another study (Ziesat, Rosenthal, & White, 1978), clients instructed in self-control methods were found to procrastinate less than control subjects. No significant differences in grades were noted. Sieveking, Campbell, Rileigh, and Savitsky (1971) reported treatment of procrastination by mail, by giving subjects concrete suggestions about techniques the authors felt would be helpful. Again, a lessening of procrastination was found in the treatment group, with no significant difference in grades. Knaus (1973) described some of the dynamics of procrastination and recommended various suggestions for overcoming this problem; however, he did not report any data supporting his recommendations. Hughes (1978) reported successful treatment of procrastination by using a dunce cap as an aversive stimulus for failure to complete assignments. He added that many different approaches might potentially be effective as treatment for procrastination, except for the frequent problem of client compliance. This idea serves to underline the importance of documentation of what a client

actually does after he is given instructions, a shortcoming of the above cited studies. A further shortcoming of the studies reviewed was the manner in which subjects were selected. Whether procrastination constituted a significant clinical problem for the students in these studies is open to questions, since none of the studies included students who sought treatment on their own, as a result of distress over procrastination.

In the example given earlier, procrastination was treated by setting a time limit on studying, beyond which students were not allowed to continue studying. According to behavioral principles, one would not expect a positive therapeutic outcome to result from arranging free time as a consequence for non-completion of work. In fact, according to the Premack principle (1965), one would expect these instructions to result in a decrease in the frequency of studying. Essentially, the Premack principle states that a high probability behavior can be used to reinforce a low probability behavior. Premack stated that the probability of a behavior must be determined in a free-operant environment. Although contingencies continue to operate, free time approximates a free-operant environment and should allow the enactment of high probability responses. Thus, one would expect the granting of free time to increase the frequency of those behaviors which led to the incompleted work. This would theoretically result in fewer hours of productive study time.

Systems theorists, on the other hand, would expect the above contingencies to lead to increased study time. Instructing a student to take free time for non-completion of work would be seen as a paradoxical task, which places the student in a double bind.

In studying the efficacy of paradoxical techniques, the present study focused upon treatment of procrastination, and assigned college students to one of the following three groups: exploration-support, behavioral, or paradoxical. Hypotheses were as follows: a) all groups would increase their total study time relative to baseline conditions (expected since students often study more near the end of the semester); b) both the behavioral and paradoxical groups would improve more than the exploration-support group (as measured by percent of criterion reached in hours of study time); c) initially the behavioral group would improve more rapidly than the paradoxical group; and 4) at the conclusion of the study, the paradoxical group would show the greatest improvement.

Method

Subjects

Thirty-three college students were used as subjects. All subjects were volunteers, selected by their response to the following ad in the school newspaper:

> Procrastination Problems? If you believe you have this problem and want to change, my research study hopes to

help students who do not complete assignments, are late for deadlines, and produce inferior rushed work. There is no charge for this treatment. The intended benefit is better quality work, and reduced anxiety, guilt, and self-criticism that may result from procrastination.

Don't procrastinate, call Leesa at the N.T.S.U. Psychology Clinic, 788-2631 before 10-15-80. Ask for "Procrastination Treatment," leave your name and phone number.

In order to standardize the initial interview as much as possible, all therapists were given printed procedural instructions specifying the format of the meeting (Appendix B). These instructions included guidelines for obtaining a thorough history of procrastination as well as suggestions for probing other areas for possible psychological problems.

After initial interviews with clients, a meeting for all therapists was held. This meeting was led by the author and supervised by a clinical psychologist. One of the primary purposes of this meeting was to screen the clients accepted for this study by providing alternative treatment for those clients whose primary problem appeared to be alcoholism, depression, or some other problem to which procrastination might be secondary. Decisions about which clients would continue in this study were made on the basis of the diagnostic information available to the author and the clinical psychologist. Clients were excluded from this experiment when

diagnostic information indicated symptomatology needful of other therapeutic approaches.

Five of the applicants for the procrastination treatment were eliminated from the study during the screening process. Two of these drank excessively, one appeared severely depresed, and two requested the opportunity to receive treatment not specifically limited to procrastination. All of these clients were assisted in making the necessary arrangements to receive symptom appropriate therapy from one of the other student therapists at the Psychology Clinic.

Of the 33 subjects that began treatment, 29 subjects completed the study. There were no dropouts in the behavioral group, one in exploration-support group, and three in the paradoxical group. Two subjects did not complete the posttreatment self-report measures. One of these subjects was in the behavioral group, the other was in the exploration-support group.

Procedure

Eleven psychology graduate students were used as therapists in this study. All were advanced students in either clinical or counseling psychology. Ten of the student therapists received credit in therapy practicum for acting as therapists. The other student therapist was the author, who had already completed therapy practicum. All student therapists were supervised by Ph.D. level psychologists. The author and his dissertation director had weekly meetings

for all student therapists in order to standardize procedures as much as possible.

Names and phone numbers of respondents to the ad in the school newspaper were collected confidentially by the personnel at the North Texas State University Psychology Clinic. Subjects were randomly assigned to student therapists and to one of the three treatment conditions. Each student therapist was assigned three clients, one for each of the three treatment conditions, and each treatment condition had 11 subjects.

The procedure each therapist was to follow with clients for each of the three treatment conditions is outlined in Appendix A. After assignment of clients to therapists, all student therapists were given the same printed instructions for the first interview (See Appendix B). Therapists then contacted their clients by telephone to arrange the initial interview. This meeting, like all subsequent ones, was held in one of the offices associated with the Psychology Clinic.

In the first meeting, all therapists explained to the subjects the purpose of the initial interview per instructions. Subjects were then informed that they would not know whether or not they had been selected as participants for the study until the second meeting. They were told that if they were not selected for the study, they would be given assistance in arranging appropriate alternative treatment. An explanation of the study was then read to the subjects by

their therapists (Appendix C), followed by an opportunity to ask any questions they had. Therapists were to respond to inquiries with certain guidelines (Appendix B). After an explanation of the study, subjects were asked to sign a consent for treatment form (Appendix D). Subjects then completed the intensity of symptoms self-report inventory (Appendix E). Next, with the assistance of the interviewer, all students completed the standard intake form for the Psychology Clinic (Appendix F). Further history was gathered, with emphasis on procrastination, any past psychiatric history and treatment, and with special attention to how procrastination was currently affecting participants. The structure for this portion of the interview appears in Appendix B. Finally, the students were instructed in self-monitoring and given data sheets for this purpose (Appendix G). They were told to keep record of all studying by placing the letter "S" in each of the 30 minute time blocks during which they studied. Studying was defined as "Being seated in a location clear of irrelevant materials, and attending to relevant materials for at least 25 minutes of the 30 minute block of time." After further clarification of what comprised studying, as well as suggestions (Appendix B) about the importance and nature of an appropriate work space, therapists scheduled the next weekly session. This first interview lasted approximately one hour. Subsequent sessions were approximately 45 minutes in length.

All therapists then opened files on the students they interviewed. These files were used for all additional information collected. All files were treated confidentially and stored in the office of the Psychology Clinic. As described earlier, in a meeting or all therapists decisions were made as to which students were appropriate for the study.

After the selection of subjects for the present study, there were 30 latecomers who were assisted by one of the therapists with making arrangements for alternative treatment. Most of the referrals were sent to the North Texas State University Center for Counseling and Testing. The author had previously contacted the director of this service to alert him there would be a number of referrals of this type.

All therapists were given the same printed procedural instructions for the second session (Appendix H). At the beginning of the second meeting, subjects were either accepted for treatment or assisted in securing treatment more appropriate to their needs. If therapists lost prospective clients as a result of the selection process, replacement clients were randomly assigned only at this meeting to maintain 11 subjects in each condition. The next step was to check the client's data sheets on amount of study accomplished timewise. Any confusion about record keeping was clarified at this point. Clients were exhorted to keep complete records and were praised for appropriate completion of their data sheets. The

importance of careful record keeping throughout the study was stressed. New weekly data sheets were given to all subjects after each session. Primarily for the purpose of enhancing the therapeutic relationship, an additional 30 minutes was used to gather further history of the presenting problem. To this point, all clients were treated the same procedurally.

In order to introduce an expectancy about treatment as reported above, all subjects were read a treatment specific statement which described the purpose and rationale of the treatment they were to receive (Appendix H, section 5). Each subject heard one of the three possible descriptions, selected according to the treatment condition to which the client had been assigned. Therapists then asked clients to complete inventories on treatment credibility (Appendix I) and therapist characteristics (Appendix J). The subjects were informed that the results of these inventories would not be accessible to their therapists until the completion of the study. The therapists provided their clients with an empty envelope and left the office for about five minutes. Upon returning, the therapists informed the clients that most of the necessary history had been taken and that remaining sessions would be focused more on treatment. Clients were instructed to continue to keep record of their studying. Envelopes containing the rating inventories were sealed by the subjects and returned to the receptionist of the Psychology Clinic. All envelopes were collected by the experimenter and kept unopened until the completion of the treatment phase of the study.

After the second session, therapists were given printed instructions for the third session (Appendix K). The third session began for all clients with a review of their data sheets. Next, all clients were given blank data sheets and assisted in setting study goals at whatever level they felt was realistic. Therapists were carefully instructed not to make the decision about appropriate amount of study for their clients. Therapists assisted clients by marking all planned study periods with a yellow hi-liter, which had earlier been distributed to therapists by the author. This allowed the clients to see at a glance which periods of time they had designated for study. The definition of studying was reviewed and clients were again instructed to place the letter "S" within each time block that was spent studying for 25 minutes of the 30 minute blocks of time.

After setting goals and discussing the previous week's data, all clients were asked to complete two different inventories about preferred activities. The first of these inventories (Appendix L) was designed to determine which activities functioned as positive reinforcers for each client. This reinforcement schedule was filled out by the therapists through interviewing the clients. The other inventory (Appendix M) was designed to tap those activities which were not positively reinforcing, but which were not particularly aversive either. Students were encouraged to list during the interview those activities that most often and least often occurred during procrastination.

The next step was the first point at which subjects were treated differentially in session three and differed according to the treatment condition assigned to each subject. In order to standardize the treatment received by clients within each of the three groups, all therapists were given a copy of procedural instructions which described the differential handling of each of the groups (Appendix K, section 4). In the exploration-support condition, subjects were reminded of the earlier given treatment rationale; namely, that the reduction of conflict resulting from increased self-knowledge and understanding would lead to improved study habits.

The subjects in the behavioral group were told that if they succeeded in studying during all of the blocks of time set aside as goals for a particular day, then they were to reward themselves by engaging in positively reinforcing activities selected from the reinforcement inventory. They were asked to engage in rewarding activities during the hour immediately following the last study period of the day. They were further instructed that if they failed to study during any of the goal periods set for any given day, then they were to engage in one or more of the items from the least pleasant events inventory for the hour immediately following the last goal period for that day.

In the paradoxical group, the consequences for study were the mirror image of consequences provided to the behavioral group. Subjects were told that successful performance for any

given day was to be followed by one of the activities from the least pleasant events inventory and they were to engage in this activity for the hour immediately following the last goal period for that day. Failure to meet all study goals for a day earned one of the positive reinforcers, to also be engaged in for the hour immediately following the last goal period of the day.

After instructions had been given to all clients as described above, appointments were made for the following session. Clients were reminded to continue keeping accurate records of study.

In sessions four, five, six, and seven, each of the three treatment procedures remained stable within each treatment group. The first step for all subjects was always to turn in the data. The next step was to spend 20 to 30 minutes discussing procrastination with each subject in an exploration-support manner (Appendix K). Emphasis was on clarification of feelings and beliefs, support, and encouragement of client's attempts to improve their study patterns. All clients then set goals for the coming week. There was actually little difference procedurally between the three treatment conditions, with the exception of the discussion of study consequences. The latter topic was not discussed in the exploration-support group, as this group was not instructed to consequate their study behavior. In the behavioral and paradoxical groups, clients were reminded of the study contingencies and encouraged

to provide the agreed upon consequences at the appropriate time.

In the final session, all subjects were treated according to the same instructions (Appendix N). After data sheets were collected, subjects were asked to complete the intensity of symptoms self-report inventory (Appendix E), the treatment credibility inventory (Appendix I), and the therapist characteristics inventory (Appendix J). As on the earlier occasion when these inventories were completed, therapists again provided their clients with empty envelopes in order to protect the confidentiality of client's responses and then left the room for approximately five minutes. Most of the subjects terminated therapy at this point, although a few continued with the same therapists during the following semester. Those subjects who wished to continue therapy with someone else were assisted with referrals to the appropriate sources.

Results

The first step in data analysis was to examine whether the three treatment groups differed in their perception of treatment credibility, the interpersonal style of the therapist and symptom severity. One-way analyses of variance for unequal n's (Winer, 1971) yielded no significant differences between groups for these three self-report measures administered at the beginning of treatment (see Table 1). Subjects in the three groups shared similarity with respect to the credibility about their treatment, their perception of

therapist interpersonal style, and self-reported symptom severity. Across conditions, subjects saw their treatment generally as credible and reported a generally favorable view with regard to the interpersonal style of their therapists. In addition, Pearson product-moment correlations were computed in order to determine if any of these three self-report measures were related to the number of hours studied during treatment, students' adherence to designated study periods, or the percentage of goal attainment when all study time was counted. No significant relationships were found between these study outcome measures and the pre-treatment self-report inventories. Thus, with respect to the measures of therapy credibility, characteristics of the therapist, and severity of symptoms as employed in the present study, there was no indication that these factors were a covarying and systematic source of influence or bias, either with respect to differences between treatment conditions or with respect to the amount of time or pattern of study characteristics of students over the course of their therapy.

Essentially, the outcome measures of primary interest fell into three classes: the self-perceived severity of symptoms, number of hours studied, and degree of goal attainment. Goal attainment was analyzed in two separate ways. One form of goal attainment was the percentage of designated study periods actually used for studying. This measure constitutes the primary measure of procrastination for this study and will

Table 1

Summary Table of One-Way Analyses of Variance for the Three Treatment Conditions on Each of the Pre-Treatment Client Inventories Including Means and Standard Deviations for Each Inventory

Dependent Variables	Treatment Conditions			ANOVA	
	Paradoxical	Behavioral	Exploration-Support	F	p
Symptom Intensity Inventory					
Mean	58.1	57.3	43.4	.69	.51
S.D.	9.8	5.7	11.9		
Therapist Characteristics Inventory					
Mean	21.1	22.9	22.4	1.12	.34
S.D.	3.1	2.6	2.1		
Treatment Credibility Inventory					
Mean	17.6	21.9	20.9		
S.D.	5.4	3.0	3.1	3.08	.06

Note. S.D. = Standard deviation.

be referred to hereinafter as "adherence to goals." The second way in which goal attainment was analyzed was to count all study time, regardless of whether or not it fell within the intended study periods. Thus, if a student studied a greater number of hours than the total goals set it would be possible to have greater than 100% attainment of study goals. In contrast, the maximum possible figure for adherence to

goals would be 100% since goal adherence measures the extent to which students used the designated study periods for their intended purpose.

Table 2

Table of Pearson Product-Moment Correlations between Pre-Treatment Inventories and Behavioral Accomplishments during Treatment

Type of Inventory	Hours Studied	Goal Adherence	Percent of Goal Attainment
Intensity of symptoms	.26	-.06	.08
Therapist Characteristics	.28	.34	.31
Treatment Credibility	.20	.08	-.03

Note. None of the obtained correlations were significant at the .05 level of significance.

A two-way, unequal n's analysis of variance for repeated measures was calculated for the three treatment conditions on the pre- and posttreatment symptom intensity inventory scores (Table 3). No significant main effects or interactions were found. Thus, clients' ratings of the intensity of their symptoms did not change over the course of therapy in any of the three treatment conditions.

A one-way, unequal n's analysis of covariance (Winer, 1971) for treatments was performed on the post-treatment measure of self-reported severity of symptoms using the pre-treatment estimate of symptoms as the covariate (Table

Table 3

Summary of Analysis of Variance for the Three Treatment Conditions with Repeated Measures on Pre- and Posttreatment Means on the Symptom Intensity Inventory

Treatment Condition	Means		ANOVA
	Pre	Post	
Paradoxical	58.13	65.75	Treatments $F = 2.9$, $p > .05$
Behavioral	57.27	56.09	Trials (Pre-Post) $F = .001$, $p > .05$
Exploration-Support	53.40	47.40	Treatments x Trials $F = 1.10$, $p > .05$
	56.17	55.76	

4). There was no significant difference between treatment conditions at the end of therapy on this outcome measure, F (2, 23) = 1.72, $p > .05$.

Table 4

Summary of Analysis of Covariance for the Three Treatment Conditions on the Symptom Intensity Inventory with Pre-Treatment Scores as the Covariate

Treatment Condition	Mean		Standard Deviation		ANOVA
	Pre	Post	Pre	Post	
Paradoxical	58.1	65.8	9.8	13.1	$F = 1.72$
Behavioral	57.3	61.7	6.0	5.1	$p > .05$
Exploration-Support	51.4	52.7	10.8	13.4	

A two-way, unequal n's analysis of variance for repeated measures was performed for the three treatment conditions on amount of study, using the average daily hours studied during baseline and the average daily number of hours studied during treatment as the repeated measures (Table 5). No significant main effects were found. Thus, there was no indication that treatments differed significantly with regard to amount of study or that clients changed significantly over time from amount of study during baseline. A significant interaction effect was found of treatments with trials, $p < .05$. However, between cell comparisons of this interaction found no significant simple effects ($p > .05$) at either the levels of treatment or topics which accounted for the significant interaction effect.

Table 5

Summary of Analysis of Variance for the Three Treatment Conditions with Repeated Measures on Mean Daily Hours Studied During Baseline and Treatment

Treatment Condition	Daily Study		ANOVA
	Baseline	Treatment	
Paradoxical	1.81	1.39	Treatments $F = .43$, $p > .05$
Behavioral	1.03	1.48	Trials (Pre-Post) $F = .18$, $p > .05$
Exploration-Support	1.25	1.39	Treatments x Trials $F = 3.63$, $p < .05$
	1.32	1.42	

A one-way, unequal n's analysis of covariance for treatments was performed on the daily average number of hours studied during treatment, using the daily average number of hours studied during baseline as the covariate (Table 6). No significant differences were found between treatment conditions on daily average number of hours studied by subjects during treatment, F (2, 25) = 1.93, $p > .05$.

Table 6

Summary of Analysis of Covariance for the Three Treatment Conditions on Daily Average Hours Studied with Pre-Treatment Baseline Hours Studied as the Covariate

Treatment Condition	Number of Subjects	Mean		S.D.		
		Pre	Post	Pre	Post	ANCOVA
Paradoxical	8	1.81	1.39	1.04	1.28	F = 1.93
Behavioral	11	1.03	1.48	.63	.97	$p > .05$
Exploration-Support	10	1.25	1.39	1.06	.56	

Note. S.D. = Standard Deviation.

A one-way analysis of variance for unequal n's was calculated for the percentage of study goals attained for the three treatment conditions, when only those hours studied within the specified goal periods were counted as study time (Table 7). No significant differences were found between treatment conditions for this treatment outcome measure, F (2, 26) = 1.38, $p > .05$.

Table 7

Summary of One-Way Analysis of Variance for the Three Treatment Conditions on Adherence to Study Goals

Treatment Condition	Mean	Standard Deviation	ANOVA
Paradoxical	41.5	29.8	$F = 1.38$
Behavioral	60.6	22.7	$p > .05$
Exploration-Support	48.8	24.6	

In addition, the attained percentage of study goals was analyzed when all study time was counted, even if not within the specified study periods (Table 8). A one-way analysis of variance for unequal n's was used in order to determine if the three treatments differed on this outcome measure. The obtained F value was not significant, $F (2, 26) = .72$, $p > .05$.

Table 8

Summary of One-Way Analysis of Variance for the Three Treatment Conditions on the Percentage of Study Goals Attained

Treatment Condition	Mean	Standard Deviation	ANOVA
Paradoxical	88.2	72.7	$F = .72$
Behavioral	104.2	33.9	$p > .05$
Exploration-Support	81.8	13.5	

Amount of studying was also analyzed on a session by session basis (Figure 1). The values used in Figure 1 were obtained in the following manner. First, the total number of hours studied each week was summed up for each student. This yielded a total of six values per student; the first value corresponded to the first week of baseline data, while the remaining five values corresponded to the five weeks of treatment data collection. These figures were converted into z-scores for every subject who completed the study. The mean values of z-scores were then determined for each treatment condition for each of the six weeks of data. This resulted in six z-scores for each of the three treatment conditions. The obtained values were used to illustrate graphically the mean weekly study hours for each group in relation to the number of therapy sessions completed in therapy. Because some of the initial z-scores calculated were negative, a sum of 1.0 was arbitrarily added to z-score means for all sessions, so that Figure 1 would include only positive means.

Finally, percentage of adherence to weekly study goals was analyzed statistically (Table 9) by using analysis of variance for repeated measures with unequal n's (Winer, 1971). The unweighted-means solution was used. There was no significant difference between the mean rates of adherence to the behavioral and paradoxical treatment conditions, F (1,17) = 3.83, $p > .05$.

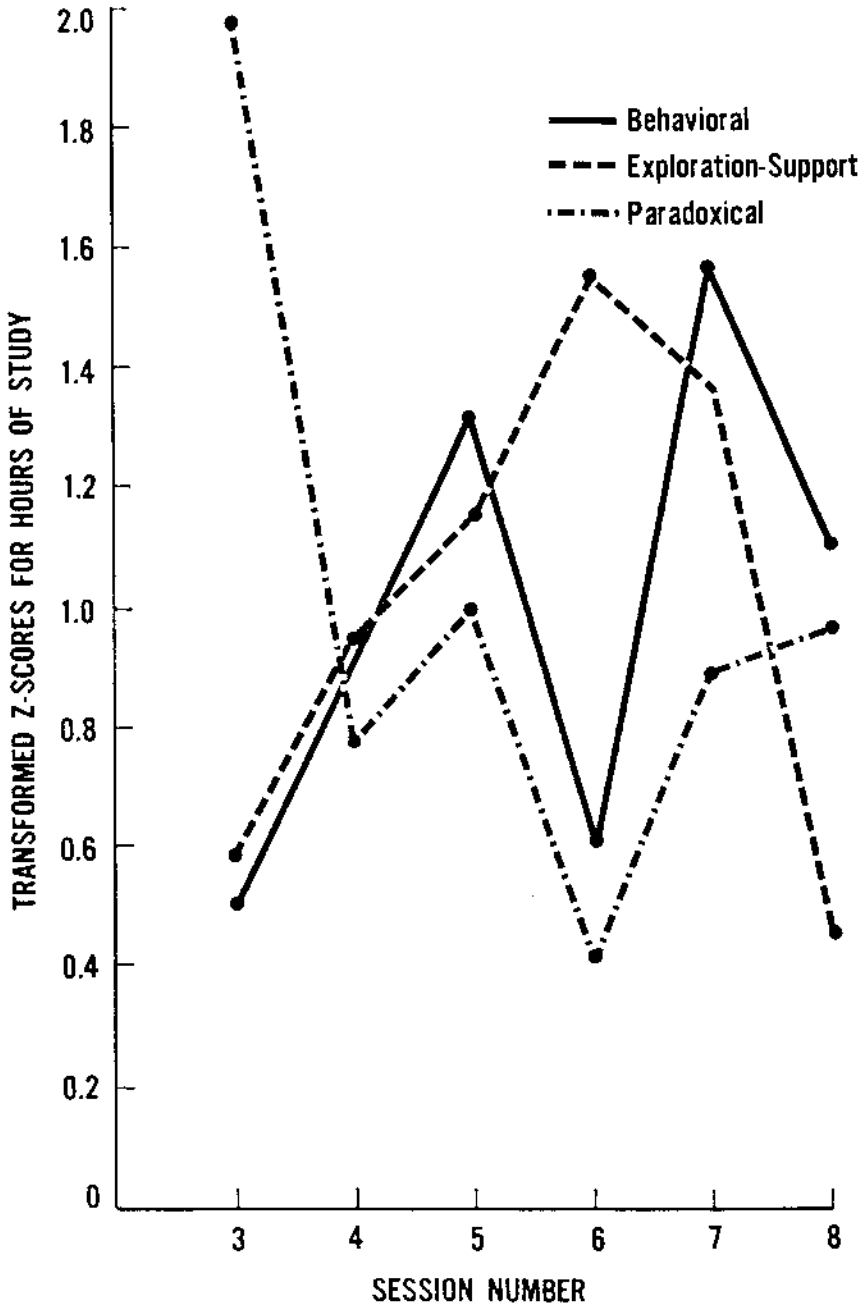


Figure 1. Amount of study for treatment conditions across trials.

Table 9

Summary of Analysis of Variance for the Behavioral and Paradoxical Treatment Conditions with Repeated Measures on Percentage of Weekly Adherence to Study Goals Across Treatment Sessions

Treatment Condition	Treatment Session				
	4	5	6	7	8
Paradoxical	35.3	54.8	44.4	46.3	38.1
Behavioral	48.1	67.2	58.9	63.0	71.2

	Condition	Session	Condition x Session
ANOVA	$F = 3.83$, $p > .05$	$F = 0.56$, $p > .05$	$F = 0.21$, $p > .05$

The number of sessions of therapy received did not appear to significantly influence adherence to designated study times, F (4, 68) = 0.56, $p > .05$. Thus, when no consideration was given to the type of treatment, the number of therapy sessions alone had no significant effect on students' adherence to their intended study periods.

Contrary to expectation, the interaction of treatment conditions with treatment sessions also was not significant, F (4, 68) = 0.21, $p > .05$.

Additional Findings

Intercorrelations were calculated among hours studied during baseline, hours studied during treatment, percent of time within goals spent studying, attained percent of study

goals when all study time was tabulated, and the total hours of study goals set (Table 10).

Table 10

Intercorrelations between Baseline Study, Treatment Outcome Measures, and Study Goals Set by Students

	Baseline Study	Treatment Study	Goal Adherence	Percent of Goal Attainment
Treatment Study	.64**			
Goal Adherence	.10	.51**		
Percent of Goal Attainment	.33	.53**	.60**	
Goals	.42*	.62**	.06	-.24

Note. Goal adherence refers to the percent of designated study periods used for studying. Percent of goal attainment compares goals to total study time.

*$p \leq .05$.

**$p \leq .01$.

The number of hours studied during baseline was positively correlated with both the total number of hours set as goals, and also with number of hours studied during treatment. That is, subjects who studied a greater number of hours during baseline set a greater number of hours as goals for study time during treatment and also reported accomplishing greater number of hours studied during treatment.

There was also a significant positive correlation between the total number of hours of study goals set and the number of hours studied during treatment. Thus, as number of hours set as study goals increased among subjects, there was an increase in the number of hours that subjects studied during treatment.

Hours studied during treatment was significantly and positively correlated with both of the percentage variables obtained, namely percent of time within designated study periods actually spent studying and also with percent of study goals attained when all hours studied during treatment were counted. That is, subjects who were more likely to comply by using the specific study periods they had designated during goal setting each week and subjects who came closer to meeting their goal hours each week were those subjects who devoted more time to study over the entire course of treatment.

Percent of adherence to goals correlated positively and significantly with percent of study goals reached when all hours studied were counted. Thus, subjects who were more likely to comply by using the specific study periods they had designated during goal setting each week also came closer to meeting their intended goal hours set for each week.

In addition, amount of study during the baseline phase was compared to the number of hours of goals set by all

students during the treatment phase of this study. No significant difference was present, t (28) = 1.81, p > .05. Thus, students did not set goals during therapy higher than their amount of study during baseline.

Discusion

In the present study, clients complaining of procrastination received one of three therapy approaches: paradoxical, behavioral, and exploration-support. In the first hypothesis, it was predicted that all clients regardless of treatment received would increase the number of hours they studied over the course of this study. The basis of this expectation was contextual rather than treatment effectiveness. Specifically, the study was temporally situated between a few weeks prior to midterms through final exams, and it was presumed that the circumstance of approaching final exams would motivate students to devote more attention to their studies. The treatments themselves were not designed to increase study time but rather to increase adherence to self-established goals of study time each week.

Contrary to the first hypothesis, clients in all three treatment conditions failed to increase the number of hours they devoted to personal study as a consequence of the impending onset of final exams. Rather, the hours of study they accomplished during treatment essentially was no different than the amount of time they devoted for schoolwork outside of class before treatment was introduced. Since

final exams were approaching, there was an expectancy that all of the clients, regardless of treatment program would systematically increase their home study to meet the demands of the impending exam situation, but this was not the case.

Looking at study habits within each treatment group, the weekly number of hours devoted to study was somewhat erratic rather than a systematic increase during the last several weeks before finals. There was extreme variability from session to session within each group. No clear explanation was found for this variability, but at least two plausible ones could be considered. Certainly the small sample size of the groups treated contributed to this variability, as fluctuations in the study habits of one or two students might significantly affect the apparent study for the entire treatment condition. Also, it appeared that some of the natural contingencies at school might have increased variability. For example, between sessions five and six, the behavioral treatment group and the paradoxical treatment group both showed sharp declines in number of hours studied. This corresponded in the semester to a period of time immediately following midterm exams. Students probably studied more just before midterm exams, then likely slacked off after completing midterm exams.

In inspecting the data for trends, it was noted that the paradoxical treatment group was the only group to show a decline in hours studied from baseline to the treatment

phase. Three of the eight subjects in the paradoxical group who completed treatment studied most productively during the baseline phase. These observations raised the question whether the introduction to paradoxical study contingencies might actually be harmful rather than helpful. Further inspection of the data indicated that the paradoxical group did show some increased study over the last two sessions. Whether or not this trend would have continued is unclear, but perhaps could be evaluated by future studies with a greater number of therapy sessions and a larger number of subjects.

Of the three treatments provided, the exploration-support condition came closest to yielding a discernible trend, with increased study during the first three weeks of treatment, then a slight decline, and finally a sharp drop during the last week. Because the therapist-client relationship was the primary treatment ingredient in this group, perhaps the sharp drop noted the week of termination corresponded to hesitancy on the clients parts about ending the relationship. The effect that premature termination of therapy might have upon amount of study might be another fruitful area for further research.

Another possibility for the failure to observe a systematic increase in hours of study is that students might indeed have increased their study during the baseline phase as a result of self-monitoring. Perhaps students increased their

amount of study during baseline above their usual level of studying strictly as a result of self-monitoring. Improvement of symptoms is a well documented occurrence throughout the behavioral literature on behaviors such as smoking, eating, and studying (McFall, 1970; Mahoney, 1974; Mount & Tirrell, 1977). However, even though students might have studied more than usual during the baseline phase, this would not have prevented them from increasing amount of study significantly above baseline levels, since they continued to express dissatisfaction about their procrastination at the end of treatment. In fact, at the conclusion of treatment, they did not appear to have changed their negative self-perceptions as measured by the intensity of symptoms inventory. Thus, even if baseline study was artifically elevated above usual levels of study, there was still ample motivation through self-dissatisfaction and approaching final exams for further change.

Perhaps the failure of the impending final exams to increase studying had to do with the process of goal setting. Although the results of this study were that goal setting did not increase the number of hours of study above the baseline level of study time, it was also found that students did not set their goals higher than their baseline hours of study. Thus, even with successful attainment of goals set, students would not increase significantly the number of hours studied.

Why students did not set goals for study time higher than their baseline levels is uncertain. Students were allowed complete freedom in the level of goals they chose to set. Therapists did not exhort students to study any certain number of hours since increasing hours was not a goal of therapy. That is, treatment was designed to increase adherence to self-established goals. The high correlation noted between number of hours of goals set and amount of time spent studying during baseline would suggest that students might have been setting their goals based on their knowledge of baseline study. In other words, they might have been merely predicting their usual behavior rather than attempting to increase the amount of study. If this is the case, then the problem may be faulty appraisal of needed study time. In future studies of this type, it might be useful to ask students during the early phases of treatment to compare their level of goal setting to what they remember their level of goal setting to have been during baseline. If students' appraisals of their goal setting were faulty, it might be helpful to provide them with more direct feedback about their goal setting. For example, therapists can illustrate baseline study time graphically so that students can clearly see whether or not they are setting goals above baseline levels of study.

As suggested above, the ineffectiveness of the approaching final exams to yield increased study might have resulted from

cognitive deficits in appraisal. Perhaps students were deficient in their awareness of amount of study actually needed in order to make their desired grades. Although students continued to express dissatisfaction about their study habits, they appeared to do little to reduce this discomfort in terms of increased study. In spite of their professed unhappiness, they continued setting goals at baseline levels. It might have been beneficial to ask students each week if they felt they were keeping up with their courses adequately. If they were not satisfied in this regard, the therapist could then inquire if the student wished to increase the amount of study. At this point, it would probably be helpful for the therapist to inform the student about the amount of study the previous week, and then ask how much the student wished to increase that study.

Unfortunately, it is not clear if setting higher goals would have increased study. In future research, this can easily be checked by being more directive with students during the goal setting process. For example, students may be directed to study at a level consistent with baseline levels for one week, then directed to gradually increase the percent of study the next week and so forth with goals increasing each week. If inappropriate goal setting was an important variable for students who procrastinated, then these students would be expected to study more on weeks as they set higher goals.

Contrary to the second hypothesis, the behavioral and paradoxical treatment approaches fared no better than the exploration-support treatment in terms of increasing the percentage of designated study periods students used for studying. In fact, compliance in this regard was generally poor as students typically used their designated study periods in the manner intended only about half the time. It had been expected that students in the behavioral and paradoxical groups would comply more by studying more consistently during the blocks of time they had set aside as goals than would those students receiving the exploration-support treatment. This had been expected as a result of the greater emphasis the behavioral and paradoxical treatments placed on adhering to the planned study periods students had designated during their weekly goal setting. Specifically, in the exploration-support condition, no particular emphasis was placed on studying during the intended times, whereas students who received the behavioral and paradoxical treatments were instructed to self-administer rewards and punishments contingent upon whether or not they studied during all of their planned study periods. The exploration-support treatment condition was not designed to increase adherence to goals and was intended to serve as a control treatment condition.

The issue of compliance may be one of the most important variables to consider in understanding the obtained results.

Unfortunately, there were no data kept to document clients' cooperation with providing their agreed upon contingencies for study. It had not been anticipated that there might be problems in this area. However, many of the participating therapists noted informally that clients complied poorly in this regard. If the compliance of students in providing their own consequences for study was indeed poor, then this poses some serious problems.

Poor subject compliance with meeting or failing to meet study criteria consequences would ostensibly reduce differences between treatment effects of the three groups, since the application of study contingencies constitutes the primary independent variable. For subjects who were totally noncompliant, the exploration-support treatment would be essentially identical to the behavioral and paradoxical treatments, as all other factors were the same for the groups. Thus, clients who ignored the study contingencies essentially rendered null the primary treatment variable for the behavioral and paradoxical approaches. Again, the extent of the noncompliance in this regard is not known. However, it would appear from the observations of the 11 therapists that the noncompliance with providing consequences was of significant concern to the therapists and served to minimize the differences in the three treatments employed in this study. Thus, it is not surprising that the behavioral and paradoxical treatments produced no greater adherence to designated study periods than did the exploration-support approach.

The reason for the apparent noncompliance described was unclear. Subjects were not forced to participate in this study; rather, they were voluntary subjects who asked for help in solving their problems with procrastination of studying. The consequences subjects were asked to provide for themselves at the end of each day were neither expensive nor difficult. Care had been taken to select events which were inexpensive and could be supplied with relative ease. In fact, the reinforcing events selected were events which clients reported as competing with studying and which clients often engaged in rather than studying. That is, the contingencies employed often were the mechanisms clients used to procrastinate.

The explanation for this apparent noncompliance is further clouded by the observation that subjects were reasonably compliant in other ways. Of the 33 students who were selected for participation in this study, 29 of them attended consistently over an eight week period. When a session was missed, arrangements were made to make up that session. Subjects were typically very consistent about attending make-up sessions when necessary. This consistent attendance of therapy session could be viewed as one form of compliance. Compliance of this type would certainly seem significant and would also seem to represent a major commitment to treatment as subjects attended over an eight week period.

Another form of compliance is completion of the agreed upon eight therapy sessions. In this respect, the behavioral treatment appeared to outperform the paradoxical approach. Three of the students receiving the paradoxical treatment dropped out of therapy prematurely. None of the students being treated with the behavioral method dropped out of therapy before its planned termination. The reasons for the premature terminations of therapy in the paradoxical treatment were not known, as these students simply stopped coming to sessions and gave no explanation for their absences. In future studies of this type, it would be important to ask students who drop out of therapy to attend one final brief session primarily for the purpose of completing any questionnaires and explaining the reasons for leaving therapy.

Subjects were also compliant in the sense of keeping records of their study in a consistent and complete manner. Although occasionally subjects had to be encouraged to record study data accurately and consistenly, for the most part they kept complete records without reminders and encouragement from the therapists. Compliance with this task would seem fairly simple since students were instructed to keep their data sheets in a location near their usual study area. However, once again, the compliance with this task would seem to represent a significant commitment to treatment as students were required to keep accurate and complete records on a daily basis over an eight week period of time.

It seemed incongruent that subjects appeared to be non-compliant with providing consequences when they seemed to be reasonably compliant in the areas just discussed. In addition, students were at best only moderately compliant with studying during the designated study times. Thus, while students cooperated well by regular attendance of therapy sessions and by keeping records of study data, they were not compliant in other areas.

The noncompliance appeared to be in one primary area, the area of the symptom. The tasks students complied with were the most superficial ones, attending therapy and keeping records of their studying. However, the students failed to uphold their part of therapy by supplying the agreed upon consequences for study, perhaps the single most important variable in the treatments provided. Additionally, they continued to procrastinate by failing to adhere to planned study periods. The consistent reporting by students of their failure to study during the times set aside for this purpose was analogous to a child who misbehaves and then confesess to parents by giving detailed accounts of the misbehavior.

The lack of client cooperation with providing the agreed upon positive reinforcements suggested that clients may have been actively resisting therapists' instructions, since before therapy clients reported engaging in these reinforcing events freely. This idea would be consistent

with their failure to comply by studying a higher percentage of their designated study times, as this also represents a failure to keep a contract negotiated with therapists. Although clients had contracted with therapists to study at specified times, they did not comply well with this agreement.

This whole framework of compliance may provide a valuable way of looking at procrastination. Although students who procrastinate may often not be involved in therapy, their procrastination can be thought of as a broken contract with themselves. That is, they feel they should study at a particular time, may actually even make plans to do so, but then fail to engage in the planned activity. Thus, the warning by Hughes (1977) about noncompliance proved to be much to the point. As he noted, compliance did appear to be one of the central problems with treating procrastiantion. In fact, because the noncompliance occurred in the most important areas, it may be that compliance is the most important issue in treating procrastination.

Although clients failed to consistently use designated study periods for studying, they did manage to study sufficiently at other times to satisfy the number of hours specified as study goals. In general, the number of hours studied was approximately the same as the number of hours of goals set. This suggests that many students who identify themselves as procrastinators may be troubled primarily by their failure to maintain a reasonable schedule of studying.

The amount of time spent studying may be adequate but poorly scheduled. The data also provided some insight about clients selected for this study, since the clients tended in general to procrastinate by not studying during planned study periods, even though they met the objective of overall time they wanted to study. This was expected since the clients selected for this study had initially responded to an ad seeking students who were "late for deadlines and produce inferior rushed work."

Neither the behavioral nor the paradoxical treatment showed greater effectiveness than the exploration-support treatment in regard to reducing the dissatisfaction indicated on the intensity of symptoms inventory. None of the three treatments were successful in lowering the client dissatisfaction presumably measured by these inventories even though students studied roughly the amount of time they had established on their goals. Apparently the amount of study was not the main concern of clients since they continued to express dissatisfaction on the symptom inventory in spite of studying the planned amount. This suggests that the main concern of students was their schedule of study, as this was their only major shortcoming in study behavior. Clients appeared to continue to feel unhappy with themselves as a result of their poor adherence to designated study times.

One potential source of variance of this study which did not receive direct measurement was therapist behavior.

The treatment clients received may have differed because of unplanned variations in the behavior of therapists. An effort was made to control this source of variability by providing therapists with very specific procedures. First, the planned manipulations across treatments were provided to therapists in written instructions which they were to present verbatim to the clients. When a prepared script was not available for the portions of the sessions not involving the manipulations, therapists were to follow a fixed role in which responses to clients' verbal statements involved either clarification, support, or encouragement. If substantial differences occurred in the treatments that therapists provided to clients such effects did not significantly or systematically influence the client's perception of the therapist or the credibility of treatment. To the extent that therapists differed in style and approach, these differences appeared not to have systematically affected client appraisals of therapy or therapists.

Even so, there was some indication that some therapists deviated somewhat from the instructions they were given. For example, one therapist presented clients with graphic illustrations of their weekly study. To the extent that other therapists introduced their own innovations, an additional source of unexplained variability was produced.

Although this did not appear to be a major problem in this study, such factors may be systematically included in

future research by offering additional therapist training before therapy begins, and monitoring and coding the behavior of therapists in their sessions.

Indeed, perhaps the most incongruous finding was the high credibility clients attributed to treatment both before and after treatment. There was no difference between groups on pre-treatment credibility measures. Treatment credibility remained high at the conclusion of therapy and did not differ as a result of the treatment approaches administered. What makes this high credibility difficult to explain is its incongruity with the symptom rating inventory. At the end of treatment, clients were still indicating considerable self-dissatisfaction while at the same time rating the treatments provided as highly credible. Perhaps clients blamed themselves rather than the treatments they received for their failure to improve.

One of the main purposes of this study was to evaluate the relative effectiveness of the behavioral and paradoxical approaches in obtaining student adherence to intended study times. Specific predictions were made about the effectiveness of these two treatments in obtaining goal adherence. However, no specific predictions were made in this regard for the exploration-support treatment since this treatment did not emphasize goal adherence and was not designed to increase adherence to designated study times.

Although it was predicted that the behavioral treatment approach would initially yield a higher rate of adherence to designated study times each week and that in later sessions this trend would reverse so that the paradoxical approach would yield greater rates, this was not the case. No significant interaction between treatment approach and number of sessions occurred. However, although not significant, the rate of adherence to designated study times for the behavioral treatment approach exceeded that of the paradoxical approach by a progressively larger amount each week. It appeared that if therapy had continued for a longer period of time, this apparent trend might have been more evident. However, therapy was planned to be brief as both paradoxical and behavioral approaches typically report successful results within a few sessions. In fact, in all of the published cases of paradoxical treatment none have taken more than a few sessions to bring about the claimed therapeutic effect.

One of the limitations of this study is the considerable loss of flexibility in treatment lost in the effort to standardize therapy. Whether this might have affected student compliance with studying during the intended times is not known. Certainly both approaches under ideal circumstances would have made some effort to deal with the apparently widespread student noncompliance with providing the agreed upon reinforcements and punishments for daily study behavior. However, the two approaches would have dealt with this

problem in very different manners. It is necessary to consider whether the loss of flexibility in treatment might have affected one of the treatments more adversely than the other with regard to adherence to goals.

When poor compliance arises as an issue in the usual paradoxical treatment approach, the therapist typically changes his tactics radically. For example, he might become very apologetic, explaining that he had asked too much of the client. He might then refuse to discuss rewards and punishments with the client, telling the client that he is obviously not ready for this big step. The therapist might also compliment the client on his cautiousness toward changing, explaining that change is a very delicate thing that is most stable when it occurs slowly and deliberately. All of these statements would be intended to use the client's resistance in a more productive manner, by involving him in opposing the therapist's negativism and pessimism. Thus, it could be argued that the use of a standardized treatment approach greatly hampered the effectiveness of the paradoxical treatment toward increasing compliance with study time.

However, the behavior therapist could advance similar arguments stating that therapy was handicapped by the use of a standardized approach. For example, perhaps the students required additional training in record keeping. Perhaps the rewards and punishments selected needed to be reviewed to evaluate their appropriateness. Possibly there needed to be

a more thorough reassessment of the behavior targeted for change, the outcome of which might have the therapist refocus on study skills deficits, or to reconstrue targeted behaviors in smaller increments of change. Many other possibilities exist.

As discussed earlier, the purpose of this study was primarily to determine if the complicated theoretical framework of the paradoxical approach was necessary or if simpler theoretical systems would suffice to explain the behavioral changes claimed by those therapists using paradoxical approaches. The current study offers no support for the complicated theoretical formulations employed by "systems theorists" since trends in the data appeared to favor the behavioral approach and since the paradoxical treatment yielded a higher dropout rate from therapy.

A secondary focus of this study was to learn more about the nature of procrastination and its treatment. Results of the present study suggest several important areas to consider in future research and treatment of procrastination. If amount of study is considered an important variable, then students definitely appear to need assistance with accurate appraisal in goal setting. In may be helpful to suggest a certain ratio of study time to hours of enrollment. If the goal of treatment is to increase study, then students need feedback about the amount of study during baseline. This feedback could be presented graphically so that students could see their progress at a glance.

It also appears that there needs to be more emphasis on compliance with therapist's instructions. Clients need to be made aware of the importance of following instructions if therapy is to be effective. If necessary, entire sessions should be devoted to this issue. Phone calls to remind clients about instructions might be necessary in the early stages of treatment. In some cases, it may be helpful to enlist the assistance of one of the client's roommates or friends in order to increase cooperation with instructions. Records of compliance with instructions should be kept and feedback about this should be provided to the client.

A final suggestion about future research on procrastination involves pre-treatment evaluation. The extreme variability among students' goal setting suggests that for some of those students identifying themselves as procrastinators, goal setting itself may have been a greater problem than procrastination of studying. These students need to be identified and assisted to learn to set goals at appropriate levels.

For many students, deeper issues than study behavior emerged during the course of therapy. One student appeared to be struggling to define her identity as an adult and was also in the process of moving away from home for the first time. Another student seemed primarily concerned with altering his self-image and attempted to spend the therapy session talking mainly about this rather than his studying.

Perhaps for some of these students the wrong behavior was targeted for change. Although it is not possible to avoid making occasional errors in assessment, a more thorough evaluation may reduce the number of clients who receive the wrong treatment.

A final problem in this study as well as other procrastination research is defining procrastination itself. Ellis (1977) states that the unpleasant feelings resulting from the postponement of something important is an important part of the definition of procrastination. However, it is often difficult to determine when the conditions for this are met. Some students procrastinate while also feeling guilt and anxiety from a separate and unrelated source. In addition, in some cases depression may give rise to the procrastination, even though the student may identify the reverse sequence of causality to be in effect.

It does seem important to include this dimension of negative feelings in the definition of procrastination, as it is often the subjective discomfort that leads people to identify procrastination as a problem. However, the directionality of the relationship between affect and procrastination needs closer assessment. Students who are comfortable in spite of postponement of work may not have any wish to change their study patterns. At this stage, the term procrastination is still somewhat poorly defined and means different things to different people.

Traditional conceptualizations of procrastination as well as conventional diagnostic procedures as used in the present study appear to produce insufficient information in terms of a) identifying students whose primary problem was procrastination, and b) delineating a uniform set of behaviors characteristic of procrastinators. Future studies are needed to clarify the phenomenon of procrastination. Currently, there is too much reliance of researchers on theoretical conceptualization of procrastination and too little on empirical definition.

In order to provide treatment research with more useful assessment methodology and diagnostic criteria, future investigators need to cercern themselves with three basic process changes. First, future diagnostic research needs to include not only self-report information as provided through the traditional diagnostic interview, but also systematic in vivo behavioral observation to assess the presumed actions of the "procrastinator" and psychophysiological assessment to affirm the presumed affective responses of the "procrastinator." Second, future diagnostic research needs to abandon a syndrome notion of procrastination which limits itself to a theoretically specified set of behaviors. Instead, researchers need to consider a much broader range of symptomatology of which some symptoms (and not necessarily those which are theoretically prescribed) may be found to covary together as a meaningful, relational cluster.

Assuming that behavioral or symptomatic covariance is identified and empirically defines procrastination in future research, a third step for investigators would be assessment studies intent on developing methods to distinguish between primary and secondary procrastination.

As mentioned above, a thorough assessment is crucial. Since most authors appear to agree that procrastination refers to postponement of work, there must be some way to measure this postponement. The use of goals as a reference point is one way to do so. Rather than obtaining an initial baseline of study before goals were being set, it may make more sense to ask students to begin by setting goals and collecting study behavior for one or two weeks before introducing the other elements of treatment. Procrastination could be defined as a certain range of compliance with designated study times. For example, procrastination might be defined as complying less than 60% with designated study times. The figure chosen for the lowest acceptable rate of compliance is somewhat arbitrary at this stage, but perhaps some consensus about an acceptable figure might arise as future research is done. The figure of 60% is only a starting point to be adjusted upward or downward as further research is done.

There are other ways to assess postponement of work that do not require weekly goal setting. For example, students could be asked to count each time they think about

studying but then fail to do so. A wrist-counter could be supplied for this purpose. Again, an arbitrary number could be chosen to begin to define procrastination more clearly. For example, procrastination might be defined as an average of three or more daily thoughts about needing to study without actually doing so. A potential pitfall of this approach is that students could have the appearance of decreasing their rumination about procrastination without actually changing their study behavior if they could somehow manage not to think about studying. This illustrates the problem of defining procrastination.

Because of the complexity of assessing procrastination, especially in terms of establishing common standards for different individuals, it may be helpful to allow the student to make his own determination about whether he is procrastinating. One way to do this and avoid the pitfall of the student who never thinks about studying is to use a variable interval timer that intermittently emits some type of signal. The student could record one of three possible responses: he is not studying but should be, he is studying, or he is not studying and does not need to because he is caught up with his work. This would provide three very informative types of data: some measure of the extent of procrastination, a measure of amount of study, and a way of gauging how well the student is meeting his study needs. Perhaps with this type of data, procrastination might be defined by multiple

criteria, again using arbitrary cutoffs as starting points but working toward some common agreement as research accumulates.

In summary, the most pressing need in procrastination research is to arrive at a clear definition of procrastination. A thorough evaluation is essential in order to avoid those cases where the procrastination problem appears secondary to some other problem. In order to arrive at a clear definition of procrastination, it is necessary to use behavioral referents rather than relying soley on descriptive method of definition.

Appendix A

Overview of Procedure by Session and by Group

Groups	Exploration-support	Behavioral	Paradoxical
Session			
1	Explain purpose of initial interview. Read explanation of study. Ask subejct to sign consent form. Rate intensity of symptoms. Complete clinic intake form. Obtain additional history of procrastination. Instruct subject in self-monitoring and provide with data sheet.		
2	Inform students as to selection, making appropriate referrals as necessary. Review and dicuss data sheets. Gather additional history. Read appropriate treatment rationale statement. Complete therapists' characteristics inventory and treatment credibility inventory.		
3	Discuss study data. End of baseline phase. Goal setting. Clarification[1], support[2], and encouragement[3].	Discuss study data. End of baseline phase. Goal setting. Clarification, support and encouragement.	Discuss study data. End of baseline phase Goal setting. Clarification support and encouragement.

Appendix A--Continued

Groups	Exploration-support	Behavioral	Paradoxical
3		Introduce behavioral contingency.	Introduce paradoxical contingency.
4,5,6,7	Clarification, support and encouragement. No study contingencies. Goal setting	Clarification, support and encouragement. Behavioral contingency. Goal setting	Clarification, support and encouragement. Paradoxical contingency. Goal setting.
8	Complete all three inventories. Make any arrangements for subjects wishing to continue treatment. Thank subjects for their participation.		

[1]Clarification-Answer questions about what subject is to do between sessions. Question the subject about what meaning procrastination has for him and actively listen to his responses. Rephrase statements about subject's feelings. Ask about and restate consequences of procrastination as verbalized by subject.

Appendix A--Continued

[2]Support-Active listening posture, head nodding, brief verbalizations indicating therapist is listening and understands, sympathisize with subject about his feelings.

[3]Encouragement-approval, agreement, praise client for involvement in treatment and for particular strengths.

Appendix B

Schedule for First Meeting

1. Meet with the subject and read the following explanation: "The purpose of this first meeting is to gather history about your problem with procrastination, define the problem as clearly as possible, and then to make a decision about whether the treatment I have to offer seems appropriate for you. Because of the amount of information to be considered, I will probably not be able to inform you about your selection for this treatment until the beginning of our second meeting. If you are not selected for this study, I will be happy to discuss alternate treatment possibilities with you, and if you are interested, I will also assist in making a referral to some setting that is appropriate for your problem."
2. Apologize for the impersonal nature of reading of some materials, explaining it is in the interest of standardization.
3. Read the explanation of the study (Appendix C) and ask the subject if he/she has any questions. If so, respond by paraphrasing the explanation, being careful not to provide any substantially new, different information.
4. Ask the subject to sign the consent for treatment form (Appendix D).
5. Ask the subject to rate the intensity of his/her symptom on the rating inventory provided (Appendix E).

Appendix B--Continued

6. Complete the clinic intake form (Appendix F). Explain that all records are confidential and will be stored in locked files.
7. Obtain additional history, being certain to cover the areas listed below. How long has procrastination been a problem? Has there been any prior treatment? What was the outcome? Attempt to determine if the subject feels the problem is procrastination, rather than lack of ability. Explore what evidence the subject might have for this. Is procrastination a problem in other areas besides studying? Elaborate. Attempt to evaluate the possibility of a more serious psychiatric disorder by asking about previous psychiatric history and treatment, by expanding on responses to symptom rating inventory, and by probing to determine how things are going for the subject currently.
8. Explain about self-monitoring, stating that records are essential to the accurate evaluation of progress, and will later in the study actually affect the treatment process.

    Subjects are to place an "S" for "study" in each of the thirty minute periods during which they studied. Stress that the treatment offered cannot be effective without their cooperation in record keeping. Decide together where the subject will keep this record. It should be kept in the same location consistently (bulletin board, desk, etc.) unless the subjects wishes to take it to the library.

Appendix B--Continued

Not more than five minutes of off-task behavior per thirty minute study period is allowable. Study is defined as "being seated in a location clear of irrelevant materials, and attending to relevant materials at least twenty-five minutes of each thirty minute time block." Clarify the importance of the work space, suggesting feasible places. No television, conversations, snacking, looking out the window, etc. should occur during study time. Have each subject explain what studying should be and help clarify any misunderstanding.

9. Schedule the next meeting. All subjects must bring their study data.

Appendix C

Explanation of Study

A specific treatment for procrastination is offered, which will hopefully aid you in improving your studying this semester. In addition, it is hoped that the treatment provided will benefit you in future semesters.

The study will require hourly meetings each week, for a period of eight weeks. Participation in this study will require that you keep weekly records of your studying, and that this record be reported weekly to your therapist. You will also be asked to discuss your feelings about your procrastination. If you are unable to make this committment, please do not sign up for this study. If during the study, you should need to withdraw there is no penalty for doing so.

This study intends to evaluate the effectiveness of three distinct treatments. If, at the completion of this study, you are interested in further treatment, your therapist will assist you in finding treatment which is affordable and convenient. You have the right at the end of treatment to inquire about results of the study. If one particular treatment proves superior to the other two, that treatment will be offered free of charge to interested parties during the following semester.

Appendix D

FORM 2

USE OF HUMAN SUBJECTS

INFORMED CONSENT

NAME OF SUBJECT: _____

1. I hereby give consent to _____ to perform or supervise the following investigational procedure or treatment:

_____

_____

_____

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 procedure 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 of treatment designated in Paragraph 1 above.

_____
Date

SIGNED: _____ SIGNED: _____
Witness Subject

or

SIGNED: _____ SIGNED: _____
Witness Person Responsible

_____
Relationship

Appendix E

The questionnaire below is included in order to assist your therapist in evaluation of your problem. Procrastination often has negative consequences, many of which are listed below. Please indicate the extent to which you agree or disagree with each of the following statements about procrastination.

Procrastination either causes or has caused:

		strongly disagree	disagree	neutral	agree	strongly agree
1.	depressed feelings	1	2	3	4	5
2.	guilty feelings	1	2	3	4	5
3.	anxious feelings	1	2	3	4	5
4.	panic	1	2	3	4	5
5.	remorse	1	2	3	4	5
6.	loneliness	1	2	3	4	5
7.	helplessness	1	2	3	4	5
8.	feeling worthless	1	2	3	4	5
9.	feeling out of control	1	2	3	4	5
10.	impaired social relationships	1	2	3	4	5
11.	impaired family relationships	1	2	3	4	5
12.	impaired career opportunities	1	2	3	4	5

Appendix E--Continued

	strongly disagree	disagree	neutral	agree	strongly agree
13. increased lying	1	2	3	4	5
14. difficulty sleeping	1	2	3	4	5
15. change in eating habits	1	2	3	4	5
16. increased irritability	1	2	3	4	5
17. lower grades	1	2	3	4	5

Appendix F

Fee Assessed_____
____Therapy ____Assessment

Referral Source_____

_____

Name of Student Assisting in Application

_____

Date _____

CLINIC ADMISSION FORM

ADULT

Name_____ D.O.B. _____ AGE _____ SEX _____
Last First Middle or Maiden

Address_____ Home Phone_____

Business Phone_____ SS No._____

Preferred address & phone for Clinic contact:

_____

Clinician_____ Supervisor_____

Height_____ Weight_____ Place of Birth_____

Marital Status_____ If married--how long?_____
Number of Previous Marriages?_____

PEOPLE CURRENTLY IN HOUSEHOLD

Name	Relationship to client	Age	Sex	Educational Level	Occupation
1.					
2.					
3.					
4.					
5.					
6.					
7.					

Appendix F--Continued

Any children not living in household?_____
Amount of Family Income_____
Religious Preference_____
With whom did you live with as a child?_____
Mother: Living_____ Age_____ Town of Residence_____
Education Level_____
Father: Living_____ Age_____ Town of Residence_____
Education Level_____

If both living marital status: Married___ Living Together___
Separated___ Divorced___

Numbers of Brothers_____ Ages _____ Towns of Residence_____
Number of Sisters_____ Ages_____ Towns of Residence_____

Any history of psychiatric illness in family? If so, explain

_____
_____
_____
_____

Family Doctor:_____ _____
NAME CITY

_____ _____
TELEPHONE WHEN LAST SEEN

Taking any medication? If so, describe_____

Ever been hospitalized? If so, describe_____
_____
_____
_____

With what problem do you want the Psychology Clinic to help you? _____
_____
_____

How long have you had this problem?_____

Have you seen any person or agency in the past about this problem?_____ Who?_____

Appendix F--Continued

I authorize the Psychology Clinic to provide treatment to me. I understand that the Psychology is a training facility and that all information obtained, though confidential, may be used for instructions and training.

_____
APPLICANT'S SIGNATURE

_____
DATE

In case of emergency, the person to contact is:

_____ _____
NAME RELATIONSHIP

_____ _____
TELEPHONE ADDRESS

Appendix F--Continued

CIRCLE ANY OF THE FOLLOWING THAT APPLY TO YOU NOW:

headaches
fearful
heart palpitations
often hungry
bowel disturbances
temper outburst
anger
legal problems
nightmares
aches or pains
feel tense
moody
depressed
unable to relax
don't life weekends or vacations
neglect appearance
can't make friends
sleepy during daytime
financial problems
swelling
excessive sweating
twitches
can't keep a job
easily frustrated
problems with friends
elated at times
dizziness
lying
stomach trouble
immature
fatique
problems in school
take sedatives
continous speech
feel panicky
confused
delusions
suicidal ideas
sexual problems
sinus discomfort
heart problems
overambitious
tired of living
inferiority feelings
tired after sleeping
skin problems

Appendix F--Continued

CIRCLE ANY OF THE FOLLOWING THAT APPLY TO YOU NOW:

memory problems

lonely

often use aspirin or pain killers

problems with family

irritable

fainting spells

speech problems

anxiety

no appetite

trouble falling asleep

overly active

withdrawn

unable to have a good time

problems with opposite sex

take drugs?

how much?_____

what kind?_____

allergies

crying spells

numb or tingling limbs

concentration difficulties

stealing

trouble remaining asleep

alcohol consumption: how much per day?_____

shy with people

lung problems

can't make decisions

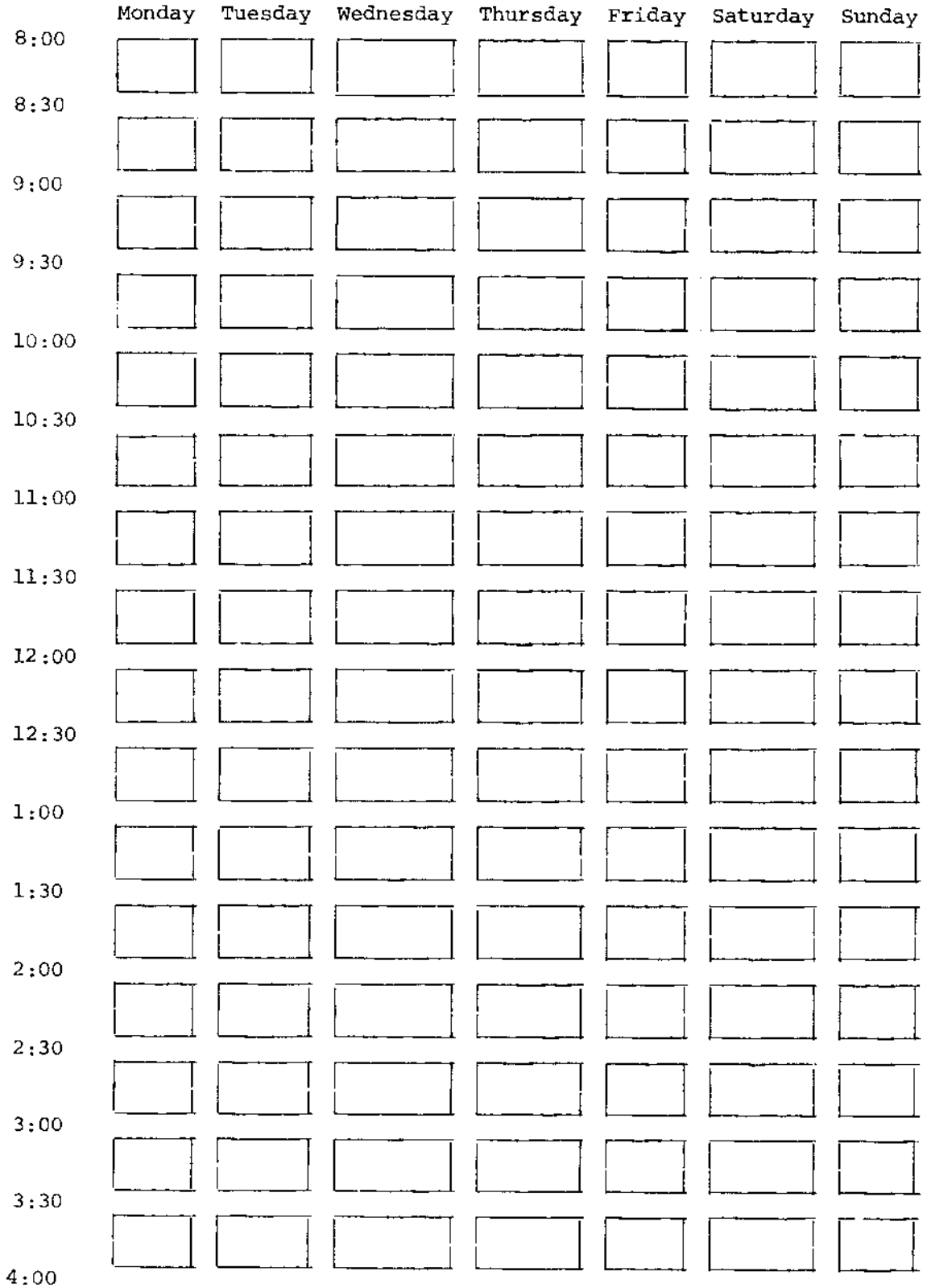
ear problems

other:_____

_____

_____

Appendix G


Monday
Tuesday
Wednesday
Thursday
Friday
Saturday
Sunday
8:00
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1:30
2:00
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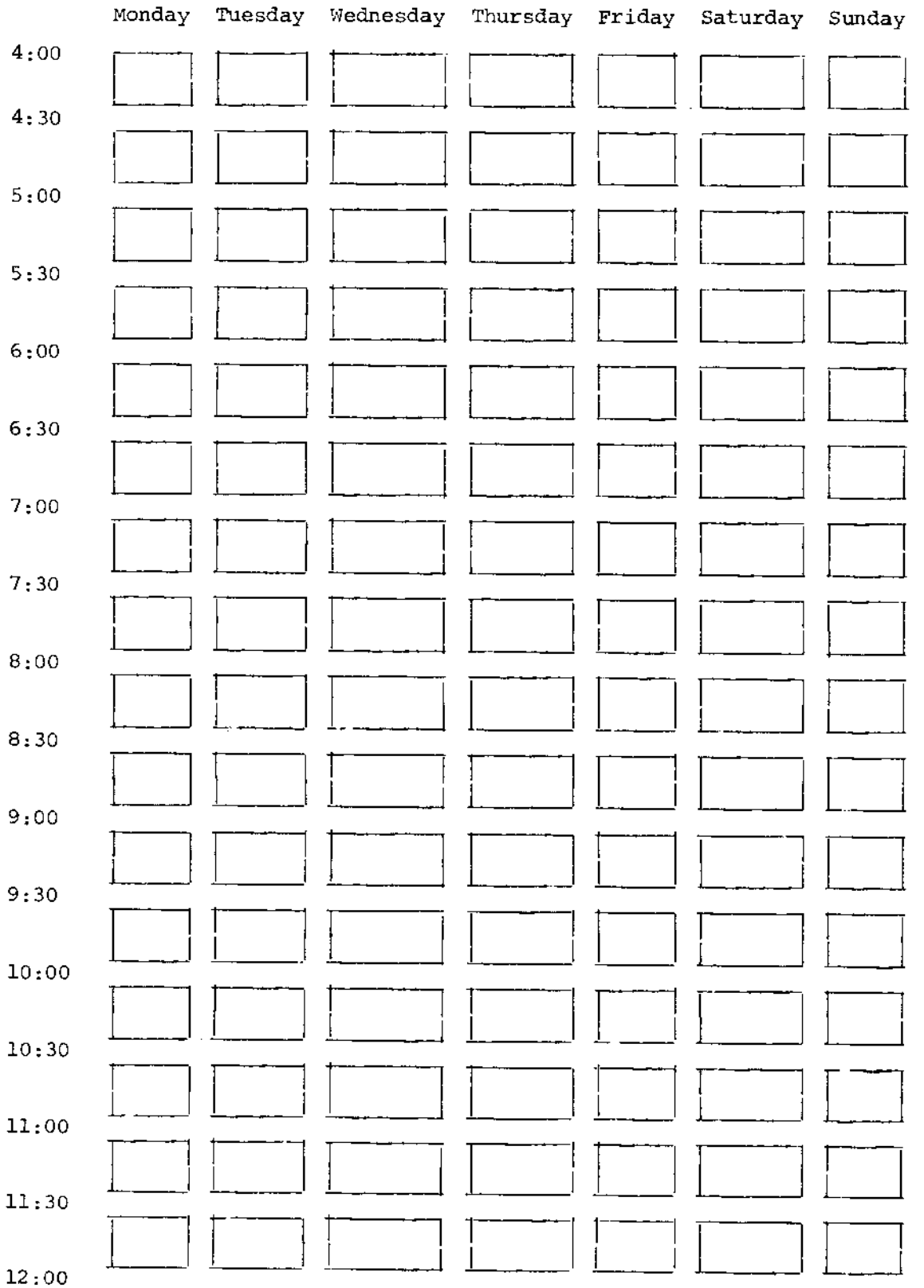
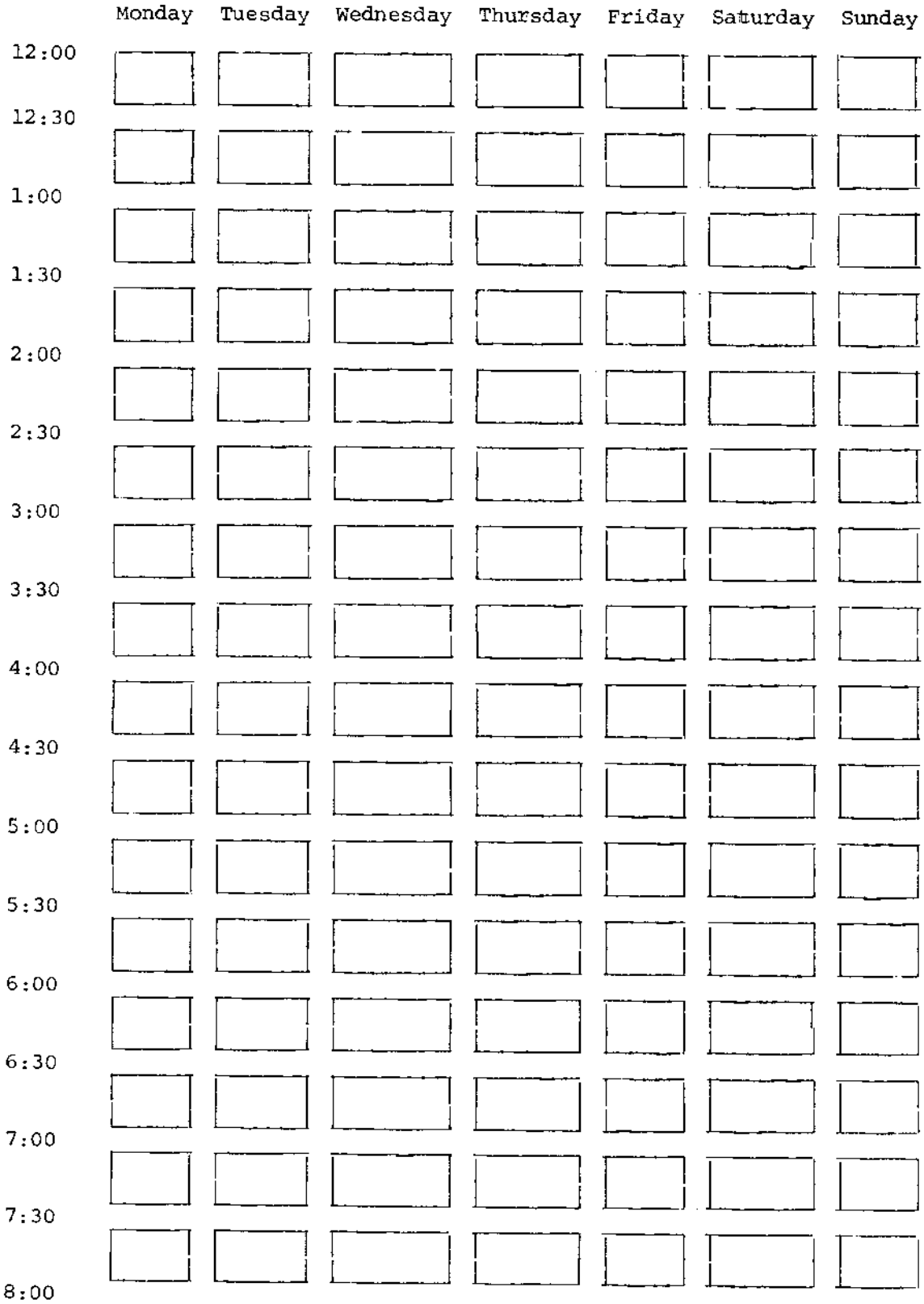
3:00
3:30
4:00

Appendix G--Continued



Appendix G--Continued



Appendix H

Procedural Instructions Given to Therapists for Second Meeting

1. Inform the client about acceptance or rejection for the study, making an appointment at the counseling center if appropriate.

2. Check client's data sheet. Clarify any confusion, praise heavily if properly completed, and stress importance of continuing to keep records. If data is incomplete, make it clear that the client must make this commitment if he wishes to receive treatment for his problem.

3. Give clients their new data sheets.

4. Spend about 30 minutes on additional history, primarily for the purpose of forming a good therapeutic relationship with the client. Expand on the symptom rating inventory used in the previous session by asking the client to describe feelings resultant from procrastination, as well as real and imagined consequences.

5. Read the treatment rationale to the client. Descriptions of the three different groups have been randomly ordered in each therapist's folder. The first sheet in your folder corresponds to the first client you see, etc. Do not identify the name of the treatment groups to the clients.

Behavioral--"Many students who have problems with procrastination often are confused as to proper application of of rewards and punishment. In other words, frequently they

Appendix H--Continued

reward themselves for work not yet completed. The purpose of your treatment is to improve your study habits by assisting you to learn and practice more effective patterns of reward and punishment.

Behavioral techniques such as this are being used today with increasing frequency, and are generally quite successful. The manner in which you reward or punish yourself for your studies is to be closely investigated, and concrete suggestions will be made as to how you can improve in this area. As you learn to motivate yourself more effectively, you will gain a new sense of self-control and well-being."

Paradoxical--"Many students who have problems with procrastination often are confused as to the proper application of rewards and punishment. In other words, frequently they reward themselves for work not yet completed. The purpose of your treatment is to improve your study habits by correcting your ideas about reward and punishment.

Techniques developed by Victor Frankl will be employed, so that you can learn experientially the interaction between rewards, punishments, and work completion. Because these techniques rely on experiential learning, the gains you are making may not be immediately apparent. However, it is expected that you will become more aware of your feelings about your procrastination, and that this will result in a change of behavior."

Appendix H--Continued

Exploration-support--"Many students who have problems with procrastination often find that they have many conflicting impulses which are continually interfering with effective study. Frequently, these same students find themselves baffled about their repetitive and counterproductive behavior patterns. These patterns are maintained due to insufficient awareness and self-knowledge on the part of the student.

The purpose of your treatment is primarily to increase self-knowledge, resulting in improved studying. Counseling techniques developed by Carl Rogers will be employed to help you gain further insight into the motivation behind your procrastination. As you gain in self-awareness, you will begin to behave in ways more consistent with your own expctations for yourself. This reduction of conflict is expected to lead to more efficient studying and a greater sense of well-being."

6. Ask client to rate treatment credibility and therapist characteristics inventories. Leave the room while they do this. Inform client that you will not see ratings until completion of the study. This is to be accomplished by having the client seal inventories in envelopes and leaving these with the secretary at the completion of the session. Be sure to code upper right hand corner to each inventory with your own initials and first letter of the treatment

Appendix H--Continued

group (e.g. if I were meeting with a client from the behavioral group, I would put "R.Y.-B" in the corner before giving the inventory to the client.

7. Tell client that most of the history has been gathered, and that remaining sessions will be focused more on treatment. Remind client of importance of keeping data.

8. Schedule next meeting.

Appendix I

This questionnaire will be used at the completion of treatment to assist in evaluation of relevant variables. All of your responses will be treated confidentially.

Please indicate the extent to which you agree or disagree with the below statements.

1. Rationale for procedures makes sense.

Strongly disagree	disagree	neutral	agree	Strongly agree
1	2	3	4	5

2. Therapist's role is clear.

Strongly disagree	disagree	neutral	agree	Strongly agree
1	2	3	4	5

3. Your own role is clear.

Strongly disagree	disagree	neutral	agree	Strongly agree
1	2	3	4	5

4. Goals are clear.

Strongly disagree	disagree	neutral	agree	Strongly agree
1	2	3	4	5

5. I expect treatment to be successful.

Strongly disagree	disagree	neutral	agree	Strongly agree
1	2	3	4	5

6. I would recommend this treatment to a friend.

Strongly disagree	disagree	neutral	agree	Strongly agree
1	3	4	5	6

Appendix J

This rating scale will be used in order to determine whether characteristics of your therapist might have affected your treatment. Your responses will not be analyzed until after this study is complete. All of your responses will be treated confidentially. Please keep in mind when responding that the statements below apply to the therapist and not the treatment itself.

1. shows concern for your feelings

little	very little	moderate	much	very much
1	2	3	4	5

2. honesty

little	very little	moderate	much	very much
1	2	3	4	5

3. confidence

little	very little	moderate	much	very much
1	2	3	4	5

4. supportive

little	very little	moderate	much	very much
1	2	3	4	5

5. understanding

little	very little	moderate	much	very much
1	2	3	4	5

Appendix K

Procedural Instructions for Third Session

1. Look over weekly data sheet, praising highly those that are completed. If not completed, make arrangements for client to bring sheets in next day or the same day (if they simply forgot to bring data). If necessary, fill out data sheet from client's recall, noting at top of page "done retrospectively from recall."
2. Give client new data sheet and assist in setting goals on a day by day basis. Have client specify exactly which 30 minute time blocks he plans to use for studying. Mark the agreed upon blocks with your yellow hi-liter, so that the client can see at a glance when he is supposed to study. Instruct client that he is simply to place the usual "S" in those squares corresponding to times he studied. See folder marked "sample."

Client must essentially determine how much he is to study with little help from therapist. Simply tell the client verbatim "You are to use your own judgement about setting daily study goals. It is suggested that you set your goals high enough so that work gets done and you feel good about the amount of studying you have done, but be sure to make your goals realistic. I recommend that you leave yourself at least some free time daily." If client seeks help in deciding how much to study, offer to read above suggestions again.

Appendix K--Continued

Remind client that 25 of each 30 minute period must be spent studying in order to count any given period.

3. Assist clients in filling out reinforcement surveys--appendices L and M. Attempt to fill in all ten blanks on each survey. Sample responses on appendix L might include such things as the following: visiting with friends, watching television, talking on the phone, going to a party, eating, going to a movie, reading a good book, listening to music, buying things for self, etc.

Appendix M is designed to tap those activities which are not really fun, but which are not particularly aversive either. In general, I am looking for things which are rather mundane, typically need to be done at some point, and would be chosen infrequently as activities. Certainly this will vary considerably among individuals, but some examples might include such things as cleaning the bathroom, making the bed, writing letters that have been avoided, paying bills, cleaning the car, organizing the desk, exercising, making difficult decision, etc. Be sure to be very specific (e.g., carrying out the trash--not "cleaning up around home").

4. Introduce the experimental manipulations per instructions below.

Clarification-Support Group--Spend about 30 minutes in Rogerian style interview. Primary elements should be clarification, support, and encouragement.

Appendix K--Continued

Clarification--answering any questions about what client is to do between sessions, questioning the client about what meaning procrastination has for him and actively listening to responses, rephrase statements about client's feelings, ask about and restate consequences as verbalized by client.

Support--active listening posture, head nodding, brief verbalizations indicating therapist is listening and understands, sympathize with client about his feelings.

Encouragement--approval, agreement, praise client for involvement in treatment and for particular strengths.

Sample questions might include such things as the following: What does it mean to you to be a procrastinator? How would your life be different if you changed? Is this something you really want? What sacrificies would need to be made? Is it worth it? What is it that keeps you from changing? Do you feel it is possible to change? Any ideas why it is so difficult? Anyone else in your family this way? Are you able to learn anything about self by observing others with the same problem? Have you learned anything about yourself by keeping a record of your recent studying? Is there any sort of pattern? Does procrastination seem related to anything else for you? Any ideas about how your problem originated or developed? Do you think it is learned or instinctive? Are you aware of your procrastination while doing it? Do you feel you cannot study or will not?

Appendix K--Continued

What do you think it would take to change your mind? What in the past has motivated you to study? How would you describe your personality?

Sample statements might include such things as the following: It must be extremely frustrating to do the same thing over and over again without learning from your mistakes. So it seems you are smart enough to do the work, know you will feel bad if you do not get it done, yet for some reason you do not get it done. It sounds like you are saying that you cannot make yourself to do the work. I understand. You are not sure why you do this.

This group sets goals just like other groups, but will not be asked to provide consequences as will other groups.

Encourage client to be on the lookout for patterns, self-perceptions, consequences, etc. that will help him understand himself and his problem more deeply.

Behavioral--If, after the last study period of each day, the client has studied in all of the agreed upon study periods for that day, then he is to reward himself by supplying for the next hour a reinforcer of his choice (to be selected from reinforcement schedules). If client prefers because he is tired or sleepy, he may choose to go to bed, but reward is not to be saved for the next day. Clients should be encouraged to spend a full hour in reinforcing activity. Ask clients to note on schedule sheets what they

Appendix K--Continued

do after completion of studying. If client has not studied during agreed upon time periods, he is asked not to reward himself, even if he has studied a sufficient number of hours at other than agreed upon time periods. If he has not met study goals, then he is asked to engage in one of the least pleasant activities from Appendix M for the next hour. This should be done immediately following the termination of the last agreed upon study period. This procedure is to be followed on all days the client plans to study (some clients may not set goals for Saturday and Sunday).

Although the above is essentially the behavioral procedure, explanation of the above should be preceded by 15 minutes of Rogerian style interview (this is to compensate for amount of time spent with members of differing groups).

Paradoxical--Begin by meeting with client for 15 minutes in Rogerian style interview, following instructions for this as given above.

The paradoxical group is the mirror image of the behavioral group in terms of consequences provided for study. If clients meet their study goals, they are to spend an hour doing one of the least pleasant activities (after the last agreed upon study period for that day). They are also to be told that they are not allowed to study beyond the agreed upon time. If clients do not meet their goals, they are asked to engage in one of the pleasurable activities for the hour following the last agreed upon study period.

Appendix K--Continued

All groups should keep track of all periods spent studying, even if not during agreed upon time periods. All groups should also keep track of what they do in the hour following the last agreed upon study period of the day, even though the exploration-support group has no specific instructions for what to do during this hour.

5. Make sure client has data sheet. Review goals set and schedule next interview. Answer any questions client may have about the procedure.

6. Place data sheet in client's folder, being sure to indicate at the top of the page which session it corresponds to (e.g., "data for session # 3").

7. Note on the upper right hand corner of the clinic intake form the letter corresponding to the client's group (B-behavioral, E-exploration-support, P-paradoxical). You will need this information for all future sessions.

Appendix L

This questionnaire is provided in order to evaluate those activities which sometimes interfere with studying. Below list the most pleasant activities you engage in, especially those activities that often occur when you are procrastinating. Also please place check marks in the columns which appropriately describe the activity.

Describe activity	A	B	C	D	E	F	G
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Key

A-Usually costs less than $3.50 to do

B-Usually you do alone

C-Usually you do with one other person

D-Usually takes less than five minutes to plan

E-Usually are activities you initiate

F-Activity you have engaged in during the past seven days

G-Activity you would like to engage in more often

Appendix M

This questionniare is provided in order to evaluate those activities which are least pleasant for you. List things that are routine or mundane, rather than things that are unpleasant. Unpleasant things are those things that are stressful or disturbing for you to do. Please list them below, especially those that least often occur when you are procrastinating. Check appropriate descriptions.

Describe activity	A	B	C	D	E	F	G
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Key

A-Usually costs less than $3.50 to do

B-Usually you do alone

C-Usually you do with one other person

D-Usually takes five minutes or less to plan

Appendix M--Continued

E-Usually are activites you initiate

F-Activity you have engaged in during the past seven days

G-Activity you would like to engage in less often

Appendix N

Instructions for final session

1. Collect data sheets
2. Ask client to fill out intensity of symptoms inventory (Appendix E), therapist characteristics inventory (Appendix J), and treatment credibility inventory (Appendix I). Give subject empty envelope for inventories, explaining that you will not see the completed inventories. Leave the room for five minutes. Allow the client more time for completion of the inventories if necessary.
3. Determine if client is interested in further treatment. If so, assist in making arrangments for this. Available options are continuing with the same therapist, North Texas State University Center for Counseling and Testing, Denton, County Mental Health and Mental Retardation, or private care.
4. Thank the client for their participation. Offer treatment in whatever group has the best results should one of the three treatment conditions prove superior to the other two. If the client is interested, have them leave their name and mailing address. Make it clear that this is for next semester.
5. Leave the room with the client, reminding them to give the completed inventories to the secretary before leaving the building.

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