Predicting outcome of paradoxical and self-control interventions from resistance and freedom of the target behavior among procrastinators

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PREDICTING OUTCOME OF PARADOXICAL AND SELF-CONTROL INTERVENTIONS FROM RESISTANCE AND FREEDOM OF THE TARGET BEHAVIOR AMONG PROCRASTINATORS

Iowa State University

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Predicting outcome of paradoxical and self-control interventions from resistance and freedom of the target behavior among procrastinators

by

Sandra Lou Davis

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INTRODUCTION

Watzlawick, Beavin, and Jackson defined paradox as a "contradiction that follows correct deduction from consistent premises" (1967, p. 188). Pragmatic paradoxes, those that influence behavior, trap a person in an untenable position. Perhaps the most ubiquitous form of paradox is the injunction demanding specific behavior, which by its nature can only be spontaneous. To comply with the injunction places the respondent in a frame of nonspontaneity (Watzlawick et al., 1967).

Haley (1955) has defined a paradoxical statement as one that is true if it is false. It is generated because two statements at different levels of abstraction are being made simultaneously, one of which contradicts or denies the other. Such paradoxes are not only effective elements of hypnotic inductions, but also permeate our everyday communication with one another.

In their notions of the double bind, Bateson, Jackson, Haley, and Weakland (1956) described the pathogenic effects of paradoxical communications that occur very frequently and do not allow the recipient to escape or comment. They assumed that schizophrenia arises from communication patterns in some families rather than from intrapsychic processes. The outgrowth of their work is the therapeutic double bind, which mirrors the pathological bind (Watzlawick et al.,
1967). The therapeutic bind assumes an intense relationship between therapist and client. The therapist enjoins the client to change while remaining unchanged. The client is placed in the untenable position of either changing and demonstrating control over his pathological behavior or of resisting by behaving nonsymptomatically. The therapeutic context discourages the client from leaving the setting or commenting upon the paradox (Watzlawick et al., 1967).

This paper briefly reviews the historical development of paradoxical concepts, particularly as they have been applied to psychotherapy. All these approaches have in common the therapist's overt encouragement of his/her patient or client to keep, implement, practice, or exaggerate his/her symptoms with the ultimate (and covert) therapeutic aim of decreasing, diminishing, or exerting control over the distressing symptom. Theoretical rationales that hold promise for supplying an underlying explanatory framework for such diverse methods follow. Predictions about client characteristics for whom these types of interventions are most successful will be made, with an empirical investigation of a selected set of these.

Historical Beginnings

As early as the sixth century B.C., Epimenides of Megara devised the paradox of the liar (Hughes & Brecht, 1975). "All Cretans are liars," he asserted, but being from Crete
himself, one must question his veracity. But if Epimenides was a liar, then the statement, "All Cretans are liars," must be a lie, which leads to the notion that all Cretans tell the truth. The paradox continues in a vicious circle.

Through the centuries, man has been enticed and captivated by the notion of paradox (from the Greek "paradoxon": contrary to expectation, incredible) (Andolfi, 1974). Paradox has been inextricably intertwined with developments in logic, epistemology, and mathematics. It underlies much of creativity, humor, fantasy, and play. During this century, psychotherapists have become fascinated with the application of pragmatic paradoxes to problem behaviors, leaving the logical and semantic paradoxes to the domain of linguists and philosophers (Soper & L'Abate, 1977).

The notion of paradox in therapy--encouraging the client to keep his symptom, practice it, or even exaggerate it--is not a new one. Gerz (1966) cited examples of the principle used in the nineteenth century. Alfred Adler is credited by Mozdzierz, Macchitelli, and Lisiecke (1976) with being the first person in Western civilization to use and write about paradoxical (dialectical) techniques for changing behavior. Paradox for Adler was both nonspecifically involved in the psychotherapeutic relationship (Adler, 1972), as well as a part of specific interventions. In terms of the relationship, Adler notes the patient will see the therapist as an
obstacle preventing the attainment of the superiority-ideal of the neurosis; therefore, the patient attempts to deprecate the physician. The physician is advised not to clash with the patient when this occurs, but to renounce superior authority and maintain cooperation and equality (Mozdzierz et al., 1976).

Mozdzierz et al. (1976) also note Adler's anti-suggestion strategies for specific maladies such as depression, insomnia, and nervous tension. Adler, for example, would tell the depressed client never to do anything she or he would not like, a kind of symptom prescription. Sleeplessness is reframed as a sure sign improvement is in sight; only if it were to cease would it be serious. Predicting the possibility of aggravation of fainting spells or phobias is seen as a way to save time at the beginning of treatment, because the attacks, as a rule, then do not occur.

An interesting cross-cultural use of paradox was offered as early as 1917 in Japan by Professor Shoma Morita (Kora, 1965; Four Walls Treatment, 1972). The treatment has been most often used for neurasthenic, obsessive, and anxiety neuroses. Hospitalized patients are in effect told to go to bed and reflect upon their troubles, facing their sufferings all day long. Gradual reintegration to normal living circumstances are added each subsequent week of treatment. One of the main aims of treatment is to persuade the patient not
to attempt eradication of symptoms through will, but through passive acceptance.

In this country, Dunlap, as early as the 1920s, introduced the technique of "negative practice" to decrease or eliminate undesirable behaviors (1928, 1930, 1942). He noted that repetition may be used in the dissolution as well as the formation of habits, and he reported successful treatment of enuresis, nail biting, thumb-sucking, masturbation, homosexual practices, stammering, and specific amnesias. While his theoretical explanations were challenged, underwent revision, and ceased to be influential, his technical procedures have been historically important for others.

Paradoxical Intention

Viktor Frankl (1960, 1975) has more recently described the technique of "paradoxical intention" within his logotherapeutic framework as a specific intervention strategy with obsessive-compulsive and phobic conditions. Anticipatory anxiety is believed to become an exacerbating and integral part of these disorders. When people encourage their worst fears to erupt, however, they nearly always fail to elicit the expected catastrophe. Frankl defines paradoxical intention as the process by which "...the patient is encouraged to do, or wish to happen, the very things he fears" (p. 227, 1975). Humor is deliberately used by the therapist to help the client distance him/herself from ex-
cessive self-concern.

Of the numerous case studies cited, the following one is representative of Frankl's work:

A young physician came to our clinic because of a severe hidrophobia. He had for a long time been troubled by disturbances of the autonomic nervous system. One day he happened to meet his chief on the street and, as the young man extended his hand in greeting, he noticed he was perspiring more than usually. The next time he was in a similar situation he expected to perspire again and this anticipatory anxiety precipitated excessive sweating. It was a vicious circle; hyperhidrosis provoked hidrophobia and hidrophobia, in turn, produced hyperhidrosis. We advised our patient, in the event that his anticipatory anxiety should recur, to resolve deliberately to show the people whom he confronted at the time how much he could really sweat. A week later he returned to report that whenever he met anyone who triggered his anticipatory anxiety, he said to himself, "I only sweated out a liter before, but now I'm going to pour out at least 10 liters!" What was the result of this paradoxical resolution? After suffering from his phobia for four years, he was quickly able, after only one session, to free himself of it for good by this new procedure (Frankl, 1960, p. 522).
Frankl (1960) reported a cured or greatly improved rate of 75.7 per cent of cases treated by paradoxical intention. Gerz (1966) reported 88.2 per cent recovered or considerably improved; Gerz' patients included not only obsessive-compulsive and phobic clients, but also pseudoneurotic schizophrenics. Early literature in this field, however, primarily involved a case study approach, with few controlled attempts at empirical studies.

Solyom, Garza-Perez, Ledwidge, and Solyom (1972) attempted to subject paradoxical intention (PI) with obsessions to an empirical test. In their pilot study, they applied PI methods to a "target thought", while an equally strong control thought was given no specific attention for ten chronically obsessive subjects. They achieved an improvement rate of 50 per cent in the target thoughts over a six-week, six-session treatment period; the control thoughts showed only a 10 per cent improvement rate.

The body of studies dealing with paradoxical intention demonstrating the most rigorous designs and thorough controls appears to have been conducted around the symptom of insomnia. Turner and Ascher (1979) and Ascher and Turner (1979) found that a PI treatment program for sleep onset insomnia was significantly more effective than a placebo or waiting list control; no differences, however, were found among paradoxical intention, progressive relaxation, and stimulus con-
trol (Turner and Ascher, 1979). Clients who failed to respond to conventional behavioral treatment methods (relaxation and systematic desensitization) were helped by a paradoxical instruction to try to remain awake as long as possible (Ascher and Efran, 1978). The authors viewed these "resistant" clients as suffering from performance anxiety associated with being able to fall asleep; the instructions to try to remain awake diminished the performance anxiety and allowed the clients to sleep. Relinger, Bornstein, and Mungas (1978) used a time series analysis with a single subject and obtained good results under counterdemand manipulations. Relinger and Bornstein (1979), using a multiple baseline design, demonstrated an 81 per cent reduction in minutes of sleep onset for four chronic insomniacs, and further obtained these under a counterdemand condition. Their subjects maintained gains at a three-month follow-up assessment.

The manner in which PI instructions are administered also can be varied. Frankl (1960, 1975), for example, has described the use of humor in delivering his paradoxical directives. Watzlawick, Weakland, and Fisch (1974) recommend reframing the meaning or perspective in which the client holds some set of facts. Ascher and Turner (1980) compared two types of administration of PI with insomniacs. The first was a straightforward explanation of the performance anxiety theoretical base; the other was a reframing procedure that
emphasized becoming aware of distressing cognitions while the client attempted to remain awake. The former administration was the more successful; however, the authors noted that no attempt was made to determine a priori which individuals were more resistant, and reframing has been thought to be more successful with more resistant individuals.

Ascher (1979) has also shown successful application of paradoxical intention with five resistant cases of functional urinary retention. These clients had previously not been responsive to conventional behavioral therapy. None showed any return of discomfort during an informal follow-up.

This body of studies appears to reflect cognizance of at least two potential factors in the successful application of PI. The first is explicitly noted; it involves identifying the symptoms as beyond the subject's voluntary control, particularly those symptoms under autonomic control. The second, less overtly stated factor is the resistance of the client; those most refractory to straightforward approaches may be especially receptive to these methods.

Behavioral Approaches

Following Dunlap's (1928, 1930, 1942) lead, later investigators invoked learning principles to explain the effects of negative or massed practice in alleviating problem behavior (Raskin and Klein, 1976). A ticquer, for example, might be given the task of producing tics for a prolonged period
(Clark, 1966). Hullian drive theory would predict a decrease in habit strength by increasing conditioned inhibition. Walton and Black (1959) similarly used Hullian notions to explain the successful treatment of a case of chronic hysterical aphonia. Their client was instructed to read aloud for periods of time; if her volume was not maintained, she would need to read even longer until improvement was made.

Stevenson and Jones (1972), using an operant paradigm, treated an exhibitionist by having him disrobe before an audience of medical professionals. The notion was that extensive practice forced the display of a behavior in a variety of stimulus settings under conditions different from those in which the behavior was first reinforced. The change in stimulus characteristics therefore made it unlikely the response would occur spontaneously in the original setting. Each of the above approaches, however, may be viewed alternatively as owing their success to the paradoxical symptom prescriptions inherent in the methods.

Psychoanalytic and Psychodynamic Approaches

Sherman (1968) noted the value of siding with the resistance in dealing with negativistic patients from a psychoanalytic perspective. He noted that interpretation, regardless of content, may actually perpetuate problems with resistant clients. He likened the process to the attention-seeking behavior of oppositional two-year-olds where disapproval,
condemnation, or punishment becomes preferable to neglect. Sherman advocates paradigmatic (paradoxical) techniques, which often involve mirroring the clients' difficulties.

Davis (1965) reported on a modified psychoanalytic treatment of hospitalized schizophrenics which emphasizes joining the resistances the patient brings to the therapeutic situation. He also emphasized nonverbal aspects of communication. His three case histories illustrate the use of paradoxical treatment with severely emotionally and behaviorally impaired people.

Greenberg (1973) illustrated "anti-expectation" techniques with case examples; he aligns himself with the client's negative views, which contradicts the client's expectations. Greenberg, operating in a fairly traditional psychodynamic frame of reference, noted that these techniques can be used within almost any theoretical framework. He feels the chief value of these in combating symptoms is to give the patient a clear notion that he can control the behavior, perhaps akin to Bandura's notion of increased self-efficacy underlying successful treatment approaches (1979).

Hypnosis

Haley's (1963) observations of Milton Erickson's work suggest that paradoxical injunctions play an essential role in most trance inductions. The hypnotist directs another person to change his behavior "spontaneously"; since a person
cannot spontaneously respond if he is following a directive, he is caught in an untenable position. The result is a change in consciousness, described as trance behavior.

Erickson, Rossi, and Rossi (1976) identify a number of types of double binds used not only in hypnosis but in many therapies. The first involves a choice among comparable alternatives, one of which will be chosen ("Would you like to experience a light, medium, or deep trance?" p. 64). A more complex bind requests something ostensibly at a conscious level but has reverberations at an unconscious level ("If your unconscious wants you to enter trance, your right hand will lift. Otherwise your left hand will lift," p. 67). A third method uses time as a binding agent ("Do you want to enter trance now or in a few minutes?" p. 65). A reverse set bind encourages clients to reveal material by bidding them not to; it permits the subject to resist and to yield at the same time. The last bind is the non sequitur double bind where the hypnotist puts a variety of comments similar in content, but with no logical connection, into a binding form; it tends to immobilize a person's conscious sets so that choice is mediated on a less voluntary level ("Do you want to take a bath before going to bed, or would you like to put your pajamas on in the bathroom?" p. 74).

All of the foregoing binds address the problem of dealing with and utilizing resistance in treatment. Erickson's
principles of symptom prescription are further delineated and illustrated by Zeig (1980a, 1980b). These include the following:

1. meeting the patient within his/her own frame of reference;
2. using the client's motivations and behaviors to make minor therapeutic changes;
3. assisting the client to establish change with his/her own resources and attribute these to his/her own efforts.

Systems Approaches

Marital and family therapists have built upon the base established by systems and communications theory to include paradoxical techniques among their therapeutic armamentarium. Paradoxes used in treatment of more than one individual may be interactional or transactional, depending upon whether interlocking paradoxes are directed toward two or more members of a system or whether one paradox is directed toward a system of behavior which focuses on a single dynamic or pattern of behavior within the system (Weeks & L'Abate, 1982). In either case, paradoxes are seen as powerful tools to disrupt an ongoing systemic pattern that is maintaining problem behavior.

Hare-Mustin (1975) described paradoxical treatment of temper tantrums of a four-year-old boy in his home setting,
which involved encouraging the symptom in a special "tantrum place." Subsequent sessions restricted tantrums to a special time of day, after which they rapidly disappeared.

Jessee and L'Abate (1980) described several other paradoxical strategies with institutionalized children of various ages, and noted the advantages of such methods for clients with limited verbal ability and insight. They also noted the particular efficacy of such methods with oppositional individuals.

Selvini Palazzoli, Boscolo, Cecchin, and Prata (1978, 1980) described the usefulness of paradox in dealing with extremely disturbed families. Working first with families of anorectics and later with those of schizophrenics, this team sees families typically for ten sessions and never more than twenty, spaced at monthly intervals. The sessions end with a paradoxical prescription aimed at disturbing the family's usual mode of communication. They report striking success at removing bizarre behavior patterns in this short (in terms of number of sessions), long-term therapy.

Systems-based approaches also may include nonrelated groups of individuals, those found in classrooms and training groups, for example. Becvar (1978) has devised an ingenious human relations training program which involves a paradoxical prescription to stop practicing newly acquired social facilitation skills midway in training students of human relations.
Resistance to using these techniques dropped dramatically in one pilot group.

**Related Approaches**

Beisser, from a Gestalt perspective, stated that, "Change occurs when one becomes what he is, not when he tries to become what he is not" (1970, p. 77). The therapist, then, is not in the role of a change agent but instead encourages the individual to be fully invested in his current position. Change then can occur when the patient gives up what he would like to become and tries to be what he is.

Cummings (1979) has devised an extremely effective treatment package for substance abusers which involves use of paradoxical principles. Attempting to get the client's massive resistance to work for him/her, the therapist initially expresses disbelief the client can change and will not even begin treatment until the abuser can stop using the substance of choice for a specified period of time.

**Social Psychological Contributions**

These aforementioned studies have illustrated the efficacy of paradoxical methods with natural and assembled groups as well as individuals and demonstrated success with clients that have been deemed to be the most difficult to reach by traditional methods. From the foregoing, one may see that investigators and clinicians have attempted to integrate paradoxical methods into highly diverse psychotherapeutic
theoretical orientations. Researchers within a social psychological perspective have tended to view paradoxical techniques as simply one more instance of the social influence process inherent in all psychotherapy. As such, this approach steps beyond the confines of a particular theory and attempts to explain the success of such methods from a metatheoretical base.

Strong and Claiborn (1982) used an interactional approach with heavy emphasis on impression management notions to account for change within psychotherapy. Their three laws of interaction are as follows:

First law. Past interaction patterns tend to be replicated in present and future interactions, rendering change difficult and unusual.

Second law. Attempts to change a relationship will stimulate efforts to reinstate it.

Third law. Control of others may be gained through yielding control to them.

From these laws, it follows that coming against a symptom will only escalate it; paradoxical injunctions to continue to perform symptomatic behaviors will diminish them.

Chief among the factors Strong and Claiborn (1982) believe are important to consider in instituting change in a relationship are the dependence and social power of the interactants. Perceived dependency determines the vulnera-
bility of a person to another's proposals for the definition of the relationship. Social power, a person's ability to influence another, is rooted in the other's dependency. Dependence will cause a person to change in order to maintain a desired relationship. Most generally, the more dependent person of a dyad will do the most changing when incongruency is introduced into a relationship.

A tactic that people use to counter change is to place compliance or noncompliance with another's directive outside of voluntary control, in a move called disablement by Strong and Claiborn (1982). Most typically, clients who enter psychotherapy believe their symptoms to be outside their control. This must be countered in treatment for change to occur. The process of encouraging the uncontrollable behavior while attributing change to an uncontrollable agent (ego energy, God, e.g.) allows a client to maintain that change had nothing to do with the counselor and to reap the benefits of compliance without the disadvantages of losing power (or face) in the relationship.

Some support for these notions emerge from the social psychological literature. Brehm's reactance theory (1966) assumes that it is adaptive for people to have the freedom to choose among different behavioral possibilities in dealing with their environment. A threatened reduction of this freedom leads to motivational arousal to reestablish that free-
dom. Worchel and Brehm (1970) found that persuasive communications are perceived as threats to attitudinal freedom, and will arouse a reactance boomerang; people will even change a previously held attitude that is endorsed by the persuasive communication in the opposite direction. If clients are given a choice among alternative compliance modes in the face of a threat, higher rates of compliance are obtained than if no choice exists (Heilman & Garner, 1975; Heilman & Toffler, 1976). These studies further suggest that resistance is the mechanism for freedom affirmation, and if freedom can be affirmed in some other channel than the one at issue, resistance can be reduced.

Miller, Brickman, and Bolen (1975) noted that direct persuasive efforts were not nearly so effective in altering children's littering in the classroom as were attributions of neatness, perhaps because of the negative attributions inherent in persuasive communications. Consistent with this finding, Selvini Palazzoli et al. (1978) have reported on the desirability of positively connoting clients' behaviors if change is desired; their work applied to severely disturbed schizophrenics and their families. Beck and Strong (1982) similarly noted the longer duration of therapeutic results obtained with positive versus negative connotation of depressive symptoms in college students.

Somewhat contrary to predictions based on reactance
theory, however, Wright and Strong (1982) found that paradoxical directives that employ a choice of how to respond versus those that do not resulted in no significant outcome differences among college student procrastinators. Both groups, those receiving injunctions to engage in their procrastinating behaviors exactly as they might do under nonexperimental conditions and those instructed to choose some aspect of their procrastination behavior to practice, dramatically decreased their procrastination compared to controls; the only difference observed was those students in the former (exactly) condition tended to attribute their change to nonvolitional causes, while those receiving the choice directive emphasized volitional causes.

Lopez and Wambach (1982) compared the effects of paradoxical and self-control directives on self-report measures of procrastination frequency and controllability. Both the self-control and paradoxical groups showed greater changes in the desired direction than a no treatment control group. The group exposed to paradoxical directives, however, reported a sharper rate of change in their procrastination without viewing their behavior as significantly more controllable.

In another study using depressed college students as subjects, Feldman, Strong, and Danser (1982) found that paradoxical interpretations were more effective than were non-paradoxical interpretations, whereas the nature of specific
directives received made little difference. Consistency between interpretations and directives made little difference on changes in depression, but did affect how clients viewed their counselors; students had more favorable impressions of their therapists when the interpretations and directives were consistent.

Tennen, Rohrbaugh, Press, and White (1981) have proposed a compliance-defiance model to explain how paradox works in therapy. They note that while reactance phenomena in therapy are often viewed as negative, complicating factors, they can be used in the service of therapeutic change. The rationale for paradoxical interventions rests on the utilization of reactance. They feel that two classes of paradox with different rationales exist: compliance-based paradoxical strategies which effect change by virtue of the client's attempting to comply, and defiance-based strategies, which work because the client or patient rebels against the therapist's directive. In the first condition, the counselor frames or presents his/her directive in such a manner as to minimize reactance; in the second, s/he tries to elicit reactance in order to obtain defiance of the directive.

Compliance- and defiance-based paradoxes are somewhat similar to Strong and Claiborn's (1982) classification of paradoxical interventions as negation and affirmation paradoxes. The former consists of the unexpected therapeutic
maneuver of labeling the client's symptomatic behavior as an asset; this promotes therapeutic change by stimulating clients to change their mode of interaction in search of desired feedback and relationship control. This type of paradox may be illustrated by the positive connotation of symptomatic behavior endorsed by Selvini Palazzoli et al. (1978) and Beck and Strong (1982). Affirmation paradox, on the other hand, rests on the therapist's presentation of the desired behavior as part of the definition of the relationship. The therapist communicates, however, that change is a result of processes internal to the client and not as a result of compliance with the therapist. The therapist identifies an agent responsible for change that acts outside of the client's voluntary control.

Roger's humanistic framework is used as an illustration of the affirmation paradox by Strong and Claiborn (1982). This system places the ultimate source of therapeutic change in the basic core processes of the person. Change occurs because of inevitable and intrinsic processes of personal development, not in volitional behavior on the client's part. Change therefore occurs at the level of being, not doing. The therapist allows the client to achieve control of the relationship by adopting the interactional behavior that is proposed, but attributing the change to intrinsic personal development.
Indications for Paradoxical Interventions

It could be argued that paradoxical methods are appropriate in every case, however these strategies are probably more appropriate for certain types of cases. Fisher, Anderson, and Jones (1981) have categorized three types of paradoxical strategies and specified types of families for whom each might be appropriate. Redefinition, or reframing, is a relatively direct attempt to alter the apparent meanings or interpretations families have for the symptomatic behavior, and is most appropriate for families exhibiting moderate levels of resistance. Escalation or crisis induction involves prescribing the massed practice of a symptom or increasing the intensity or frequency of some aspect of the clinical situation to precipitate a crisis; this is advised for families with marked resistance. Redirection involves a change in the circumstances under which a symptom is to appear being prescribed and is recommended for overly compliant families.

Weeks and L'Abate (1982) suggested the consideration of two related continua on which to judge the applicability of paradoxical techniques: (1) the dimension of resistance, ranging from cooperation to difficult or impossible; and (2) the dimension of depth of pathology, ranging from mildly disturbed to severely disturbed. The clinical literature and lore suggest that paradoxical methods might be most useful at
the resistant/severely disturbed ends of the continua. It is therefore interesting that recent research with relatively well-adjusted college students has demonstrated a treatment effect with paradoxical methods and suggests that in this case, an effect may be somewhat harder to achieve than with a clinical population.

Tennen et al. (1981) suggested that defiance- and compliance-based strategies depend on the reactance potential of the client and the perceived freedom of the target behavior. Reactance potential is the assessed probability that the person to be influenced will resist or defy the therapist's suggestions or directives at a given point in time. While not a static phenomenon, Tennen et al. see this as somewhat related to attempts to establish control and dominance in the therapeutic relationship. The second parameter, freedom of the target symptom, depends on whether such behavior can be done voluntarily, either at the present time or in the future.

Tennen et al. (1981) believe that when reactance potential is high and the target behavior is perceived by the client to be free, or voluntary, defiance-based strategies are likely to be most successful. On the other hand, when the target is viewed as unfree and reactance potential is low, compliance-based strategies might be more effective. The most difficult situations might be encountered when reac-
tance potential is high and target behavior is unfree, and in these cases the therapeutic focus may shift elsewhere, away from the use of paradox. When reactance potential is low and the target behavior is free, paradox may not be necessary, and in fact, it is likely these persons would not be seeking professional treatment.

Resistance

The foregoing associations between therapeutic interventions and resistance or reactance potential depend on a more thorough understanding of what is meant by resistance. Strong and Matross (1973, p. 26) defined resistance as the "psychological forces aroused in the client that restrain acceptance of influence (acceptance of the counselor's suggestion) and are generated by the way the suggestion is stated and the characteristics of the counselor stating it." In contrast, opposition refers to anticompliance generated by the content of the influence attempt, not the process of requesting it.

"Resistance refers to certain types of obstacles encountered in the treatment process," according to Munjack and Oziel (1978, p. 122), and is not a unitary phenomenon but may be ascribed to psychological processes within the client, between the client and counselor, or between the client and the environment which oppose or hinder change. They offer a typology of the sources of resistance which include the
client's failure to understand directives, a deficit in client skills to implement instructions, a lack of motivation or expectation of success, a mobilization of guilt or anxiety within the treatment process, and secondary gain.

Wills (1982) further noted the largest current gap in the literature on helping relationships concerns the issue of client resistance, perhaps due in great part to the lack of a single theory of resistance. Critical issues involve a distinction between resistance and simple lack of behavioral change, which might be attributed to lack of mastery of therapeutic techniques or ineffective therapeutic techniques. In a review of perception of clients by professional helpers, Wills (1978) noted the importance of resistance as a therapeutic obstacle in that clinicians almost universally dislike clients who resist influence attempts, and likability is strongly associated with positive therapeutic outcome. He further observed the tendency of experienced helpers to view clients in more negative, personalistic terms than nonprofessional associates or the clients themselves. Resistance, however, has not yet been empirically linked to a set of personality variables residing in the client, although some promising leads might be expected in the relationship between traits of dominance and dependency between clients and counselors (Baekeland & Lundwall, 1975; Heilbrun, 1961; and Heppner & Dixon, 1978).
Several studies have attempted to operationalize and measure resistive client behavior. Patterson, Littman, and Brown (1968), for example, used a picture-preference test in which children indicated a preference for one of a pair of pictures. These pairs were later presented by an adult who attempted to influence the original choice. "Negative set" referred to the proportion of times the child changed his/her original choice. Strickland (1978) focused on the internal-external (I-E) locus of control expectancies in relation to health-related behavior, and Balch and Ross (1975) found differential predictability of success for those identified as externals or internals involved in a self-control weight loss program.

Gomes-Schwartz (1978) found that patient involvement, scorable by judges of videotapes using categories of patient participation and hostility, related to outcome more strongly than theoretical orientation of the counselor or relationship variables such as warmth and friendliness. Patient involvement thus may be the flip-side of resistance.

In a recent counseling analogue study of opposition and resistance, Kerr, Olson, Claiborn, Bauers-Gruenler, and Paolo (1983) have defined resistance as assessed negative attitudes toward counseling. They asked subjects, prior to experimental treatments, to complete the Counselor Rating Form (CRF) (Barak & LaCrosse, 1975) with instructions to respond using
their perceptions of counselors in general. Zamostny, Corrigan, and Eggert (1981) reported a similar use of the CRF as a pretest measure of counselor preferences.

Purpose of Present Study

The purpose of the present study was to evaluate the notion, largely based on clinical lore but also incorporated into theoretical structures (Strong & Claiborn, 1982; Tenmen et al., 1981; and Watzlawick et al., 1967) that paradoxical techniques of encouraging the performance of the symptomatic behavior are differentially more effective than a self-control approach with those individuals demonstrating high levels of resistance, or estimated reactance potential. Reactance potential, for the present study, was deemed to be, in part, a function of the client's negative attitudes towards counselors in general and negative expectations for success. All other things equal, it was predicted that negative attitudes toward counseling will also be related to negative expectations of gain in the area of procrastination, and those individuals with relatively more negative attitudes will be more resistant to conventional, self-control directives and yet responsive to paradoxical techniques; those with more positive attitudes toward counseling will be more compliant and therefore more likely to respond with symptom reduction to a compliance-based, self-control treatment than to a defiance-based, paradoxical one.
A further dimension investigated was the influence of the subject's perception of the freedom of the target behavior to vary on the relative success of paradoxical and self-control treatments. Ascher and Turner (1979), Ascher and Efran (1978), Turner and Ascher, 1979), and Tennen et al. (1981) would predict that paradoxical methods work better than self-control strategies with those individuals who initially perceive relatively low freedom to control the target behavior; conversely, perceptions of relatively greater controllability of the behavior lend self-control strategies an advantage over paradoxical ones.

Neither strategy, however, according to Tennen et al. (1981) should be especially effective with individuals who believe the behavior to be uncontrollable and who evidence high levels of reactance potential; in these cases, the focus of treatment should likely shift elsewhere and not be on the target symptom. Tennen et al. (1981) assert change in a positive direction should be greatest for the high freedom, low reactance group of individuals, regardless of method used; paradoxical and self-control techniques are really unnecessary, and perhaps, any focused treatment becomes irrelevant.
METHODS

Subjects

Fifty-eight subjects, 39 females and 19 males, who identified themselves as having a procrastination problem and attended a screening session for a procrastination study were recruited from an initial subject pool of 98 eleventh and twelfth grade high school psychology students attending Valley High School, a large suburban high school in West Des Moines, Iowa. Of those 98 students, 28 failed to attend class during the initial orientation and evaluation session, believed they did not have a procrastination problem, or otherwise chose not to be in the study. The sample also included a number of individuals who could not be scheduled for an appointment with a counselor or who did not keep rescheduled appointments. Extra course credit was offered for participation. High school students were considered to provide an apt and difficult population for the hypotheses under investigation in that they may be expected to demonstrate relatively less pathology as a group than a clinical population and therefore be somewhat more difficult to influence with a paradoxical approach. Subjects for the final sample were classified according to a double median split on CRF attitude scores and Controllability scores on the Procrastination Inventory into four groups: High resistance, high freedom; high resistance, low freedom; low resistance,
high freedom; and low resistance, low freedom. Members of these groups were randomly assigned to treatments (paradoxical, self-control, and no treatment). This procedure of classifying subjects prior to treatment assignment is an expansion of the previous work using paradoxical directives with college students (Beck & Strong, 1982; Feldman et al., 1982; Lopez & Wambach, 1982; and Wright & Strong, 1982).

Interviewers

The interviewers were four experienced female counselors, three of whom were recently retired. One is a masters' level social worker, with fifteen years' counseling experience. Two are licensed master's level psychologists with 20 years' counseling experience each. One, the present author, is a licensed master's level psychologist with twelve years' counseling experience who is currently a counseling psychology graduate student. Interviewer ages ranged from 35 to 65. Interviewers received approximately twelve hours of pre-experiment training in the administration of the two types of interviews. Training included the memorization and rehearsal of standardized scripts (Lopez and Wambach, 1982) that detailed condition-relevant remarks. In order to minimize the potential of bias, interviewers, with the exception of the author, were told only that the experiment involved the comparison of two different treatments for procrastination. The lack of available interviewers necessitated using the
present author in this role. Each interviewer was assigned 8 to 11 experimental subjects from different combinations of the treatment, resistance, and freedom variables; while an effort was made to insure that subjects and counselors were randomly paired within cells, scheduling difficulties and differential subject attrition prevented complete randomization.

Instruments

Procrastination Log

Lopez and Wambach's (1982) revision of an earlier version of this instrument used by Strong, Wambach, Lopez, and Cooper (1979) measured subjects' procrastination behavior, the dependent variable (see Appendix E). Subjects responded to this 11-item self-report form by indicating how true the item was for them during the week on a 7-point scale ranging from true to false. The sum of the true-false ratings constituted the Procrastination Behavior (PB) scale. The Cronbach alpha coefficient for the revised PB scale has been reported to be .67 (Lopez & Wambach, 1982).

Procrastination Inventory

The 20-item Controllability scale of the 36-item revised inventory (Lopez & Wambach, 1982) was used to assess the subjects' perceptions of the freedom of the target behavior to change, one of the independent variables. The 16-item Expectation scale was used to assess subjects' expectations of
success from counseling (see Appendix D). The items were rated by the subjects on a 7-point scale ranging from true to false. The Controllability scale measures the subjects' assessments of how easily or directly s/he can control her/his procrastination. The items reflect a bipolar contrast between procrastination as something that can be controlled through additional effort (e.g., "Procrastination can be controlled by increasing self-discipline") versus something that cannot be directly changed because of its involuntary nature (e.g., "I can't resist the impulse to procrastinate"). Lopez and Wambach (1982) reported a Cronbach alpha coefficient for the revised Controllability scale of .76, and .89 for the Expectation scale.

Counselor Rating Form

The Counselor Rating Form (Barak & LaCrosse, 1975) is a semantic-differential instrument, with 36 7-point items which consist of bipolar adjectives (see Appendix F). Three scales, perceived expertness (CRF-E), trustworthiness (CRF-T), and attractiveness (CRF-A), may be scored. Split-half reliabilities of these scales are .87, .91, and .85 respectively (LaCrosse & Barak, 1976). The CRF has been shown to be valid for the purpose of measuring perceptions of a particular counselor on these dimensions. Following the procedure of Kerr et al. (1983), the instructions were modified in the current study so that it could be used as a measure of
attitudes toward counseling in general. Subjects were instructed to complete the CRF as follows: "What is your reaction to the word 'counselor'? Respond to this form using your perceptions of counselors in general."

An approximate median split (cutting score = 168) on the CRF total score was used to divide subjects into resistant (low scores) and nonresistant (high scores) groups. According to Claiborn (1979), high correlations among all scales of the CRF justify combining scale scores and using the sum as a single (positive-negative) dimension.

Expectations About Procrastination Counseling (EAPC)

A modification of Tinsley's Expectations About Counseling (1980) scale was used in an effort to explicate further the construct resistance (see Appendix G). Nine items of that scale that correlated highly with his Factor 1, personal commitment to change, were reworded slightly for purposes of this study. The items requested a seven-point response indicating the degree of truth of that item for the subject, ranging from not true to definitely true.

Treatments

This study employed two treatment conditions (paradoxical and self-control directives) and a no treatment control condition. Treatments were replicated as Lopez and Wambach (1982) have described, with each subject attending two 30-minute sessions with an interviewer during which the sub-
ject's procrastination experiences were discussed and the condition-appropriate directives were presented according to scripts (see Appendix B). The interviews were spaced one week apart. Control subjects received no interviews, but instead attended two "evaluation sessions" during which they completed the dependent measures. A description, following Lopez and Wambach (1982), of the two treatment conditions follows:

**Paradoxical condition**

Subjects in this condition were told that in order to overcome procrastination, one must overcome a "lack of awareness and understanding" of the behavior by setting aside 30 minutes each evening during which the subject was to procrastinate actively. No studying was to occur during that interval; instead, the subject was to resist studying and concentrate on procrastinating, observing how the behavior occurs in order to control it later.

In the second interview, the subject's experiences with the paradoxical prescription were discussed. Subjects who complied with the symptom prescription were questioned about their reactions and observations. Any subject report of positive behavior change (i.e., less procrastination) were played down, with the interviewer expressing some skepticism (e.g., "Maybe it would be best not to place too much stock in this--after all, it may be just a temporary change.").
Subjects who resisted and studied during the prescribed procrastination periods were admonished to resist all studying at such times, and reminded of their "lack of awareness" and the need to observe their procrastination. All subjects were then encouraged to schedule and practice their procrastination during the following week. At no time were subjects encouraged to procrastinate less or study more.

Self-control condition

During the first interview, the interviewer challenged all attributions of procrastination to involuntary aspects by stressing the "learned habit" nature of procrastination. The interviewer also focused on identifying antecedent conditions to the subject's procrastination behavior. Following this discussion, the interviewer stressed "developing new behaviors incompatible with procrastination." The interviewer directed the subject to select a place where s/he could study effectively and to "study as much as possible" in that place. Practicing stimulus control by removing distractions from the study environment and self-monitoring study behavior were also stressed, the latter as a means of implementing goals for increasing the frequency of studying.

During the second interview, the subject's response to the directives was discussed. Subjects who complied were verbally reinforced and instructed to set an initial goal of 15 minutes per day above their baseline period, to positively
self-consequence all successful study periods, and to continue self-monitoring. Subjects who resisted the directives were reminded of their need to develop new behaviors and redirected to engage in the same behaviors as suggested in the first interview. Direct encouragement of procrastination by the interviewer during the session was avoided.

Procedure

Subjects were solicited from psychology classes of a large suburban high school via teacher announcement and received extra course credit for their participation. All subjects participated in an initial and termination evaluation session. Table 1 shows the order of presentation of instruments. Experimental subjects also received two 30-minute interview sessions, spaced one week apart; those students in the no treatment control condition participated only in evaluation sessions.

During an initial orientation and evaluation session, subjects were told the general purpose of the study and the time requirements. Independent measures administered during the first evaluation session included the CRF, the Procrastination Inventory, and the Expectations About Procrastination Counseling Scale. The dependent measure, the PB scale of the Procrastination Log, was also administered.

Subjects' scores on the CRF were used to assign them to high resistance or low resistance groups. High resistance
Table 1
Order of Presentation of Instruments

<table>
<thead>
<tr>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procrastination Log (Prol₁)</td>
<td>Procrastination Log (Prol₂)</td>
</tr>
<tr>
<td>Procrastination Inventory (Proin₁)</td>
<td>Procrastination Inventory (Proin₂)</td>
</tr>
<tr>
<td>Expectation scale (Proin-E₁)</td>
<td>Expectation scale (Proin-E₂)</td>
</tr>
<tr>
<td>Controllability scale (Proin-C₁)</td>
<td>Controllability scale (Proin-C₂)</td>
</tr>
<tr>
<td>Counselor Rating Form (CRF)</td>
<td>Expectations About Procrastination Counseling (EAPC)</td>
</tr>
</tbody>
</table>
groups included those who had the lowest scores on the CRF. Low resistance groups included those with the highest scores on the CRF.

Subjects were further divided into high and low freedom groups on the basis of an approximate median split (cutting score = 86) upon Controllability scores on the Procrastination Inventory. Four groups were therefore obtained: high resistance, high freedom (n = 13); high resistance, low freedom (n = 14); low resistance, high freedom (n = 15); and low resistance, low freedom (n = 16). Members of these groups were randomly assigned to treatments (self-control, paradoxical, and no treatment control). This procedure of classifying subjects prior to treatment assignment is an expansion of the previous work using paradoxical directives with college students (Beck & Strong, 1982; Feldman et al., 1982; Lopez & Wambach, 1982; and Wright & Strong, 1982).

Experimental Design

A four-way analysis of covariance with the pre-intervention scores on the Procrastination Log as the covariate and the post-intervention scores as the variate was employed for treatment condition (paradoxical, self-control, and no treatment) by resistance (high or low) by freedom (high or low) by sex as the main analysis. One-way analyses of variance were used to assess the differential effectiveness of counselors and the contribution of sex. Because of the small n's and
the exploratory nature of the study, three-way analyses of variance (condition by freedom by resistance) and covariance were also conducted, as was a four-way analysis of variance, including sex as a fourth independent variable. Specific relationships among various groups, predicted on an a priori basis on the basis of theory, were assessed with t-tests. Ancillary investigations included assessing the correlations between the subjects' CRF total score (CRF-Tot) and scores on the EAPC and Expectation scale of the Procrastination Inventory, as well as two split-plot analyses of variance (with no treatment control group included and deleted), to determine differential effects on the Controllability scale of the Procrastination Inventory as a result of condition and time of testing.
RESULTS

Means and standard deviations of subject scores on all measures are presented in Table 2. Preliminary analyses concerning effects of interviewers and subject sex are presented first, followed by three-way analyses. Results relevant to specific a priori hypotheses are then presented. A four-way analysis of variance, which includes sex, follows. The main analysis, a four-way analysis of covariance is central in the text. Ancillary results involving split-plot analyses of variance and correlations between measures conclude this section. All analyses of variance were unbalanced, with unequal cell sizes.

Preliminary Analyses

Effect of interviewers

A one-way analysis of variance was performed to ascertain the differential effectiveness of interviewers, using subjects' post-intervention Procrastination Log scores as the dependent measure. The analysis did not yield significant effects attributable to interviewer: $F (3, 33) = .51 \ (p = .678)$. Table 3 summarizes subjects' final performance on the Procrastination Log by interviewer by condition.

Effect of sex

A one-way analysis of variance by sex was run upon subjects' final Procrastination Log scores, which failed to yield a significant $F$ value, $F (1, 56) = .00 \ (p = .969)$. The
<table>
<thead>
<tr>
<th>Variable</th>
<th>Pre-Test</th>
<th>Post-Test</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>CRF Total</td>
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</tr>
<tr>
<td>Self-Control</td>
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<tr>
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<td>EAPC</td>
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<tr>
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<tr>
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<td>Control</td>
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<td>4.676</td>
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<td>Procrast. Inventory</td>
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</tr>
<tr>
<td>(Controllability)</td>
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</tr>
<tr>
<td>Self-Control</td>
<td>84.889</td>
<td>17.466</td>
</tr>
<tr>
<td>Paradoxical</td>
<td>86.158</td>
<td>12.393</td>
</tr>
<tr>
<td>Control</td>
<td>84.190</td>
<td>14.834</td>
</tr>
<tr>
<td>Procrast. Inventory</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Expectation)</td>
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<td></td>
</tr>
<tr>
<td>Self-Control</td>
<td>80.056</td>
<td>11.800</td>
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<tr>
<td>Paradoxical</td>
<td>77.789</td>
<td>11.603</td>
</tr>
<tr>
<td>Control</td>
<td>74.667</td>
<td>12.678</td>
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Table 2. Continued

<table>
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<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Procrast. Log</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Procrast. Behav.)</td>
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<tr>
<td>Self-Control</td>
<td>48.500</td>
<td>9.212</td>
<td>28.333</td>
<td>8.785</td>
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<td>46.211</td>
<td>8.290</td>
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<td>8.533</td>
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<tr>
<td>Control</td>
<td>48.000</td>
<td>7.855</td>
<td>42.143</td>
<td>10.101</td>
</tr>
<tr>
<td>Interviewer</td>
<td>Self-Control</td>
<td>Paradox</td>
<td>Combined</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>--------------</td>
<td>---------</td>
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<td>M</td>
<td>SD</td>
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<td>7.57</td>
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<td>N = 5</td>
<td></td>
<td>N = 4</td>
<td></td>
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<td>2</td>
<td>26.50</td>
<td>11.21</td>
<td>27.00</td>
<td>9.62</td>
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<td></td>
<td>N = 4</td>
<td></td>
<td>N = 5</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>25.00</td>
<td>9.25</td>
<td>35.17</td>
<td>8.89</td>
</tr>
<tr>
<td></td>
<td>N = 5</td>
<td></td>
<td>N = 6</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>36.00</td>
<td>8.76</td>
<td>25.50</td>
<td>5.07</td>
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<tr>
<td></td>
<td>N = 4</td>
<td></td>
<td>N = 4</td>
<td></td>
</tr>
</tbody>
</table>
overall mean for males was 33.789, and for females 33.667.

Three-way analysis of variance

A 3 (treatment condition) x 2 (freedom of the target) x 2 (level of resistance) analysis of variance was performed on subjects' final Procrastination Log scores. Only treatment condition reached significance: \( F(2, 46) = 13.48, p < .0001 \) (see Table 4).

Duncan's procedure for a posteriori multiple comparisons reflected a significant difference between the means of the no treatment control group (M = 42.143) and those of paradoxical (M = 29.474) and self-control treatments (M = 28.333), but no difference between paradoxical and self-control groups. This was predicted on the basis of past research (Lopez and Wambach, 1982). In this case, subjects receiving paradoxical or self-control interviews performed much better on self-reported procrastination behavior following treatment than did subjects receiving no intervention.

The data, however, failed to support the predicted significant interactions of condition x freedom or condition x resistance. Because specific predictions about the components of those interactions were made a priori, t-tests were performed to assess the significance of the hypothesized relationships:

1. More resistant subjects will do better with a paradoxical treatment than with a self-control treatment
Table 4
Summary of Three-way Analysis of Variance on Final Procrastination Log Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Partial SS</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>Condition (C)</td>
<td>2</td>
<td>2292.940</td>
<td>13.48</td>
<td>.0001</td>
</tr>
<tr>
<td>Freedom (F)</td>
<td>1</td>
<td>12.013</td>
<td>.14</td>
<td>ns</td>
</tr>
<tr>
<td>Resistance (R)</td>
<td>1</td>
<td>293.834</td>
<td>3.45</td>
<td>ns</td>
</tr>
<tr>
<td>C x F</td>
<td>2</td>
<td>126.399</td>
<td>.74</td>
<td>ns</td>
</tr>
<tr>
<td>C x R</td>
<td>2</td>
<td>158.400</td>
<td>.93</td>
<td>ns</td>
</tr>
<tr>
<td>F x R</td>
<td>1</td>
<td>80.908</td>
<td>.95</td>
<td>ns</td>
</tr>
<tr>
<td>C x F x R</td>
<td>2</td>
<td>82.335</td>
<td>.48</td>
<td>ns</td>
</tr>
<tr>
<td>Error</td>
<td>30</td>
<td>3913.683</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
2. Less resistant subjects will do better with a self-control than a paradoxical treatment ($t = .769$, ns).
3. Subjects who view their behavior as more controllable and, hence, more free to vary, will respond best to a self-control rather than a paradoxical treatment ($t = .295$, ns).
4. Subjects who view their behavior as less free to change will do better with a paradoxical than a self-control treatment ($t = -.264$, ns).
5. Highly resistant subjects who view their behavior as free will do better with a paradoxical than self-control approach ($t = .283$, ns).
6. Low resistance subjects who view their behavior as unfree, or less controllable, will do better with a self-control than a paradoxical approach ($t = 1.036$, ns).

While all but the fourth of these comparisons were in the expected direction, none of the obtained $t$ values reached significance. One other a priori hypothesis concerned the rank order of the treatment groups; it was hypothesized that low resistant subjects with highly controllable perceptions would perform the best of all groups regardless of condition, and that highly resistant subjects with perceptions of low controllability would do the poorest, regardless of treat-
ment. Inspection of the obtained means for all freedom by resistance combinations shows that the first prediction received support, while the second did not (see Table 5).

**Three-way analysis of covariance**

Because pre-intervention data for subjects on the Procrastination Log were available and potentially a contributor of variance to final Procrastination Log scores, a three-way analysis of covariance was performed, with pre-intervention scores on the Procrastination Log as the covariate and post-intervention scores as the variate (see Table 6). Significant effects were obtained for condition, F(2, 45) = 14.46, p < .0001, and for the covariate, the subjects' initial pre-intervention scores on the Procrastion Log, F(1, 45) = 6.31, p < .05. When stable, individual differences in procrastination behavior as assessed by the Procrastination Log were removed as a source of error, the more sensitive resulting statistical analysis failed to detect the predicted interactions between resistance and condition or freedom and condition.

**Four-way analysis of variance**

Because sex has proven in numerous other psychological studies to be a potentially important factor, this variable was added to the analysis. The design was a 3 (treatment condition) x 2 (level of resistance) x 2 (level of freedom) x 2 (sex) analysis of variance upon subjects' final Procrasti-
Table 5
Means of Procrastination Log Post-Intervention Scores for Freedom By Resistance Groups

<table>
<thead>
<tr>
<th>Group</th>
<th>M</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Resistance, High Freedom</td>
<td>36.923</td>
</tr>
<tr>
<td>Low Resistance, Low Freedom</td>
<td>33.813</td>
</tr>
<tr>
<td>Low Resistance, High Freedom</td>
<td>29.333</td>
</tr>
<tr>
<td>High Resistance, Low Freedom</td>
<td>35.286</td>
</tr>
</tbody>
</table>
Table 6
Three-way Analysis of Covariance on Final Procrastination Log Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Partial SS</th>
<th>F</th>
<th>p</th>
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<td>2206.332</td>
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<td>.0001</td>
</tr>
<tr>
<td>Freedom (F)</td>
<td>1</td>
<td>36.291</td>
<td>.48</td>
<td>ns</td>
</tr>
<tr>
<td>Resistance (R)</td>
<td>1</td>
<td>173.976</td>
<td>2.28</td>
<td>ns</td>
</tr>
<tr>
<td>Procrastination Log</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Pre-test Scores)</td>
<td>1</td>
<td>481.186</td>
<td>6.31</td>
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</tr>
<tr>
<td>C x F</td>
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<td>236.893</td>
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<tr>
<td>C x R</td>
<td>2</td>
<td>92.565</td>
<td>.61</td>
<td>ns</td>
</tr>
<tr>
<td>F x R</td>
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<td>70.591</td>
<td>.93</td>
<td>ns</td>
</tr>
<tr>
<td>C x F x R</td>
<td>2</td>
<td>85.612</td>
<td>.56</td>
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</tr>
<tr>
<td>Error</td>
<td>45</td>
<td>3432.497</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
nation Log scores.

Table 7 shows that not only treatment condition emerged as a significant variable, $F(2, 36) = 11.96$, $p < .0001$, but also level of resistance, $F(1, 36) = 9.51$, $p < .0005$, and the treatment condition x sex interaction, $F(2, 36) = 3.30$, $p < .05$. Predicted interactions, however, again failed to reach significance. Table 8 shows that when all treatment conditions are combined, initially more resistant subjects performed more poorly at post-testing on the Procrastination Log than initially less resistant subjects. By inspection of the means, one can see very little difference within the paradoxical treatment group between high and low resisters at post-testing; high or low resisters within the self-control and no treatment control groups, on the other hand, are different upon post-testing. Apparently this interactive trend between condition and resistance was not sufficiently strong to reach significance, however.

Table 9 displays the means and standard deviations of subjects' scores on the Procrastination Log at post-testing for the significant condition x sex interaction. Figure 1 depicts the interaction graphically. Males in this sample appear to show greater treatment effects than females, when compared to untreated controls.
Table 7
Four-way Analysis of Variance
on Final Procrastination Log Scores

<table>
<thead>
<tr>
<th>Source</th>
<th>df</th>
<th>Partial SS</th>
<th>F</th>
<th>p</th>
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</thead>
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<td>1706.505</td>
<td>11.96</td>
<td>.0001</td>
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<tr>
<td>Freedom (F)</td>
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<td>8.184</td>
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<tr>
<td>Resistance (R)</td>
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<td>678.578</td>
<td>9.51</td>
<td>.004</td>
</tr>
<tr>
<td>Sex (S)</td>
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<td>66.646</td>
<td>.93</td>
<td>ns</td>
</tr>
<tr>
<td>C x F</td>
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<td>19.055</td>
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<td>.20</td>
<td>ns</td>
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<tr>
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<td>.32</td>
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<tr>
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<td>211.402</td>
<td>1.48</td>
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<td>81.570</td>
<td>1.14</td>
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<td>F x R x S</td>
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<td>1.215</td>
<td>.02</td>
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<tr>
<td>C x F x R x S</td>
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<td>227.826</td>
<td>3.19</td>
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<td>Error</td>
<td>26</td>
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Table 8
Means and Standard Deviations for Level of Resistance by Treatment Condition

<table>
<thead>
<tr>
<th>Level of Resistance</th>
<th>Self-Control M</th>
<th>Self-Control SD</th>
<th>Paradoxical M</th>
<th>Paradoxical SD</th>
<th>Control M</th>
<th>Control SD</th>
<th>Combined M</th>
<th>Combined SD</th>
</tr>
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<tbody>
<tr>
<td>High</td>
<td>32.444</td>
<td>8.048</td>
<td>29.500</td>
<td>7.709</td>
<td>44.600</td>
<td>8.695</td>
<td>36.074</td>
<td>10.388</td>
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<tr>
<td></td>
<td>N = 9</td>
<td></td>
<td>N = 8</td>
<td></td>
<td>N = 10</td>
<td></td>
<td>N = 27</td>
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<td></td>
<td>N = 11</td>
<td></td>
<td>N = 11</td>
<td></td>
<td>N = 31</td>
<td></td>
</tr>
</tbody>
</table>
Table 9
Means and Standard Deviations for Treatment Condition by Sex Interaction

<table>
<thead>
<tr>
<th></th>
<th>Self-Control</th>
<th>Paradoxical</th>
<th>Control</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
<td>M  SD</td>
</tr>
<tr>
<td>Male</td>
<td>25.250 2.062</td>
<td>25.429 8.810</td>
<td>45.375 10.875</td>
<td>33.789 13.252</td>
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<tr>
<td>N = 4</td>
<td>N = 7</td>
<td>N = 8</td>
<td>N = 19</td>
<td></td>
</tr>
<tr>
<td>N = 14</td>
<td>N = 12</td>
<td>N = 13</td>
<td>N = 39</td>
<td></td>
</tr>
</tbody>
</table>
Figure 1.
Sex of Subject by Treatment Condition Interaction
Main Analysis

A four-way analysis of covariance was chosen as the most appropriate statistical procedure to be used for the purposes of the overall study, which included three treatment conditions (paradoxical, self-control, and no treatment), two levels of resistance (high and low), two levels of freedom of the target (high and low), and two sexes as variables (see Table 10).

Significant effects were obtained for condition, $F(2, 35) = 11.61, p < .0001$; resistance, $F(1, 35) = 7.75, p < .01$; and the covariate, $F(1, 35) = 5.20, p < .05$. These values were based on partial sums of squares, Type IV, SAS (Barr, Goodnight, Sall, & Helwig, 1976), and were deemed to yield conservative values, and also were considered to be more appropriate than sequential sums of squares in this case.

As in the preliminary analyses, condition or treatment yielded a clearly significant effect. Level of resistance emerged as a significant factor, as it did in the four-way analysis of variance. Those individuals in the high resistant group, in general, procrastinated more at the conclusion of the study than those in the low resistant group (means for the high and low resisters were 36.074 and 31.645, respectively). Freedom of the target, or the subject's initial perception of how controllable versus how impulsive his/her
Table 10
Four-way Analysis of Covariance on Final Procrastination Log Scores

<table>
<thead>
<tr>
<th>Source</th>
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<th>p</th>
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</thead>
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<td>.0001</td>
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<td>Freedom (F)</td>
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<td>Resistance (R)</td>
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<td>Sex (S)</td>
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<tr>
<td>Procrastination Log</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Covariate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Pre-test Scores)</td>
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<td>.05</td>
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<tr>
<td>C x F</td>
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<tr>
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<td>37.225</td>
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<tr>
<td>C x S</td>
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<td>379.790</td>
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<td>Error</td>
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</table>
procrastination behavior was, did not assume significance in this study. Furthermore, this analysis again failed to detect the predicted interactions of either resistance or freedom with condition. When variance attributable to subjects' initial pre-test scores on the Procrastination Log was removed as the covariate, sex did not attain significance either alone or in interaction with other variables.

Because statistical significance is only one issue of importance in evaluating experimental effects, it was also considered of interest to assess the strength of effect, or the contribution to total variance accounted for by the independent variables which had shown themselves to be significant. Eta values for condition, stable individual differences (subjects' scores on initial administration of the Procrastination Log), and resistance were .211, .047, and .071, respectively. By far the lion's share of the variance therefore was accounted for by the treatments, with measurably smaller amounts due to subject initial differences in procrastination and level of resistance.

Ancillary Analyses

Because this study in many ways is similar to that conducted by Lopez and Wambach (1982), an additional analysis was performed to attempt partial replication of one of their findings. Specifically, they found that subjects exposed to paradoxical directives did not view their behavior as sig-
nificantly more controllable at the conclusion of the study, while those in the self-control condition did. To assess this effect in the current study, a split-plot analysis of variance was performed with repeated measures on one variable (pre- and post-intervention scores on the Procrastination Inventory Controllability scale) and random assignment of the condition variable, with the no treatment condition deleted. A significant effect was observed for the repeated measure, $F(1, 55) = 17.05$, $p < 0.0001$, indicating an overall improvement in all subjects' perceptions of controllability from pre- to post-intervention (see Table 11). This accounted for approximately 15 per cent of the variance. No difference, however, was obtained between subjects in the two treatment conditions. Subjects in both paradoxical and self-control conditions reported perceptions of greater controllability of their procrastination behavior at the end of the study. Interestingly enough, when the no treatment control group was added to the split-plot analysis, the interaction between time and treatment still did not attain significance, indicating no difference between treated and untreated groups' perceptions of controllability (see Table 12). Means and standard deviations for the groups are presented in Table 2.

In order to further explicate the construct of resistance, Pearson product-moment correlation coefficients were computed between subjects' total CRF scores and the EAPC, as
Table 11
Split-plot Analysis of Variance: Influence of Time of Testing and Treatment Condition on Controllability Scores
(No Treatment Control Group Deleted)

<table>
<thead>
<tr>
<th>Source</th>
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</tr>
<tr>
<td>Condition x Time</td>
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</tr>
<tr>
<td>Error: Time x S(Cond)</td>
<td>35</td>
<td>5768.801</td>
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</tr>
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</table>
Table 12

Split-plot Analysis of Variance: Influence of Time of Testing and Treatment Condition on Controllability Scores
(No Treatment Control Group Included)

<table>
<thead>
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</tr>
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<td>.0001</td>
</tr>
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<td>Error: Time x S(Cond)</td>
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Table 13
Overall Correlations between Measures

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<th>Measure</th>
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<th>Pro1</th>
<th>Proin-E1</th>
<th>Proin-E2</th>
<th>Proin-C1</th>
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<td>0.30*</td>
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<td>EAPC</td>
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</table>

*p .05.
**p .01.
***p .005.
****p .001.
<table>
<thead>
<tr>
<th></th>
<th>Proin-C&lt;sub&gt;2&lt;/sub&gt;</th>
<th>CRF-E</th>
<th>CRF-A</th>
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<th>CRF-Tot</th>
<th>EAPC</th>
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<td>-0.08</td>
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<td>-0.16</td>
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<tr>
<td>-0.43***</td>
<td>-0.17</td>
<td>-0.18</td>
<td>-0.28*</td>
<td>-0.23</td>
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<tr>
<td>0.14</td>
<td>0.24</td>
<td>0.11</td>
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<td>0.13</td>
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<tr>
<td>0.62****</td>
<td>0.23</td>
<td>0.15</td>
<td>0.30*</td>
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<td>0.04</td>
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<td>0.60</td>
<td>0.86***</td>
<td>0.89****</td>
<td>0.41***</td>
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<td>0.88****</td>
<td>0.24</td>
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<tr>
<td>1.00</td>
<td>0.96****</td>
<td>0.43****</td>
<td>0.39***</td>
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<tr>
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<td></td>
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<td>1.00</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
well as the Expectation subscale of the Procrastination Inventory (see Table 13). The prediction was that the CRF total score would correlate positively and modestly with both of these instruments. Obtained Pearson $r$ values were .39 ($p = .002$) for the relationship between CRF total and the EAPC and .23 ($p = .081$) for the relationship between CRF total and the Expectation scale of the Procrastination Inventory, administered prior to interviews. The Pearson $r$ value for the correlation between the EAPC and the Expectation scale of the Procrastination Inventory was .13 ($p = .320$).
DISCUSSION

Summary of Results

While the results of the current study lend further support to the equal efficacy of paradoxical and self-control methods of intervention over no treatment, the predicted interaction effects of subject resistance and perception of freedom or controllability of procrastination behavior with treatment did not emerge. None of the specific hypotheses about relative efficacy of one or the other treatment for various combinations of subject resistance and freedom was confirmed.

Limitations and Implications

A number of explanations for the foregoing results are possible. One of these is that clinical folklore and current theoretical frameworks may be in error (Tennen et al., 1981; Weeks & L'Abate, 1982); it may be equally efficacious to use direct interventions or paradoxical techniques with most clients, with little attention needing to be directed towards a priori subject resistance or beliefs about control of the symptom. Anderson and Stewart (1983) stated that clinicians may simply choose to ignore some forms of resistance in their work. This would also tend to be in keeping with Smith and Glass' (1977) findings of little difference in effectiveness among various treatment approaches. Paradoxical techniques, perhaps because of their seemingly counterlogical nature or
at times questionable ethical value, have tended to be viewed as methods of last resort, after other approaches have failed (Ascher & Efran, 1978). Therefore, if they work as final approaches to a problem, a clinician might therefore assume they are to be reserved for only the most resistant clients, defined as those who are not reached by direct methods. It may be, however, that if the paradoxical methods were tried first, resistant clients would be defined as those who failed to respond to them, and these might then benefit from a more direct approach. It seems advisable in counseling, as with most endeavors, if after eliciting a failure with one approach, to try another; which one comes first, however, may have less to do with predetermined subject resistance or sense of control than has been assumed.

An interesting research possibility to explore this issue might consist of a cross-over design in which groups of clients are first given one or the other treatment approach, with the treatment failures of each then assigned the other approach. One could then compare the relative numbers of clients who respond to each order of treatment. Perhaps we could learn if favorable response is more dependent upon simple numbers of tries, rather than specific techniques, given some efficacy for each.

Certainly clinical anecdotes abound of the client who has tried everything and then succeeds with a particular
counselor or approach; it may have less to do with the brand of therapy, assuming some efficacy for each, than with the sheer persistance (resistance, reframed) of the client and therapist who eventually succeed. Milton Erickson, recognized by many as particularly masterful in dealing with resistance, reportedly advocated such unusual resistance-diffusers as attempting to hypnotize a client unsuccessfully first in one chair, and then switching to a second, a third, or even a fourth chair before the client would be able to enter a satisfactory trance. Presumably, the technique was held relatively constant in these cases (certainly the therapist was), with the chair the only crucial variable undergoing a change (Erickson, Rossi, & Rossi, 1976).

If the foregoing argument were supported by research, it would behoove the practicing clinician to possess a great number of effective interventions within a theoretical approach, or a great number across theoretical approaches, such that he/she always had more remaining therapeutic options than the client had resistance behaviors. Essentially, this is what Bandler and Grinder (1975) argue in their Law of Requisite Variety. This also would tend to focus attention on clinician flexibility rather than predetermination of one purportedly best treatment for all comers or preselecting clients likely to succeed within the clinician's favorite (and limited) mode of responding.
Resistance, then, as a theoretical concept would become more closely tied to outcome, and could consist of the opposites of all those subject or patient characteristics previously found predictive of successful outcome in therapy, as well as therapist factors or service system delivery factors that impede successful treatment (Anderson & Stewart, 1983). In the present study, resistance of the subject was operationalized as negative attitudes towards counseling in general and unfavorable expectations about counseling outcome. When numerous sources of other variance were removed, resistance as so defined did appear to impinge negatively upon outcome, but not to be differentially related to treatment type. Attitudes towards counseling, in general, appeared positively related to expectations about outcome, as predicted.

An interesting extension of this study might be to focus on other resistance factors, such as those residing in the therapist's expectations and attitudes towards clients and towards treatment techniques. Certainly, the highly experienced therapists in the current study had differential responses to the clients and to the techniques used. A surprising and paradoxical effect occurred for one of these, an individual highly committed to a psychodynamic viewpoint, who outperformed all others in terms of successful outcome with clients on the behavioral, self-control approach and did
substantially better implementing it with clients than she did with the paradoxical approach, in which she expressed more interest and enthusiasm. As in the Lopez and Wambach (1982) study, therapist differences did emerge, despite the detailed scripting procedures employed, and may speak to the ubiquitous nature of not only subject but therapist factors influencing outcome. In this study, however, one counselor's differential performance with the two conditions was counterbalanced by another's reversal of that pattern.

Alternative explanations for the results with divergent theoretical implications, of course, exist, and relate primarily perhaps to the limitations of the present study. Resistance may be better conceptualized as something different from the attitudes and expectations assessed, either in terms of having a more global nature or in terms of being more specifically related to moment-to-moment interactions within the counseling session, per se. In may indeed be associated with stable individual differences in personality, for example with dependency and dominance needs, or it may relate to the interplay between subject and interviewer relative dependency and dominance needs (Strong and Claiborn, 1982). Resistance may include factors or dimensions such as attitudes and expectations, but the instruments used may not have effectively measured these qualities.

One might further object that the sample used was not a
highly resistant one in the first place, and that generalization to a wider academic or clinical population is in doubt. In response to this criticism, it is true that for the sample as a whole, the mean obtained value for CRF total scores was 166.793, and therefore on the positive side of the test's theoretical neutral point of 144.00, but the obtained range was 98 to 209 and included many scores within the negative part of the continuum. Perhaps a more resistant population could have been found, but it would have likely been extremely difficult to get voluntary cooperation for a study of this sort. As it was, the initial subject pool of 98 was reduced to 78 by class absences, lack of a procrastination problem, and scheduling difficulties, and the sample was further reduced by eight individuals who chose not to be involved in the study on grounds other than not having a procrastination problem or difficulties arranging their schedule for participation, and despite substantial extra credit incentives. The sample also included a number of individuals that failed initial appointments and required rescheduling, much as might occur in a student counseling center (about a fourth of the subjects in the final sample) and some who simply never did keep their rescheduled appointments. In short, it is difficult to imagine the nonparticipants in the study voluntarily availing themselves of counseling for a procrastination problem, or perhaps any problem. If one has a negative view of
counseling and negative expectations about change as a result of counseling, it is difficult to imagine why they would voluntarily enter such a relationship. Applied settings, however, may serve involuntary clients with such negative expectations and attitudes, or those who are technically voluntary but seeking counseling in an effort to please significant others, for example, or simply say, "I even tried counseling, and that didn't work either." The present study cannot presume to generalize to such a population. It is also unknown if the nature of the presenting problem affected the results. One cannot say whether paradox and self-control methods might be equally effective for depression, for example, although Feldman, Strong, and Danser (1982) have done some preliminary work relevant to this issue. The effects of resistance and freedom might also have different implications in the treatment of disorders considered more under autonomic control, such as urinary retention.

Further limitations of the current study which restrict generalizability include the fact that reported results are based entirely on subjective measures, whose validity is still being established. Sensitivity of the Procrastination Log and Procrastination Inventory to actual changes in subjects' procrastination remains questionable. Perhaps, as Lopez and Wambach (1982) suggested, further studies need to use outside informants, such as parents and teachers, for
relevant and unobtrusive measures of students' procrastination behaviors. There was, furthermore, no way of ascertaining if the subjects indeed implemented the directives, other than their self-report in the interviews. While the reported reliability of the measures appears reasonable, their validity does not appear to be as well established.

A final limitation would appear to be the relatively small sample size and its effect upon power. Clearly, a degree of power was achieved in the study, or the overall treatment effects would not have been detected. More subtle effects such as those postulated in various interactions, may not have emerged as a result of insufficient precision of the instruments in combination with small sample size.

This study, however, moved a step beyond the Lopez and Wambach (1982) one in the addition of freedom and resistance variables, and also included both male and female subjects. With the one-way analysis of variance, sex made no difference in overall final procrastination behavior; with the four-way analysis of covariance, student sex was not a significant factor in response to self-control and paradoxical directives. The four-way analysis of variance, however, suggested that males may benefit more from treatment than females, when compared to nontreated controls.

While the current study replicated the Lopez and Wambach (1982) work with respect to main treatment effects, it failed
to yield consistent results with respect to differential subject perceptions of controllability as a result of self-control or paradoxical directives. In the current study, both types of intervention resulted in significantly enhanced perceptions of controllability of procrastination behavior at the conclusion of the study. While Lopez and Wambach (1982) speculated that paradoxical methods, therefore, might work best with those negativistic clients whose assumptive world includes notions of inability to personally modify their problem behavior, the current study did not yield support for this position. The current results are more in keeping with Greenberg (1973) and Bandura's (1979) notions of effective treatment working as a result of enhancing subjects' perceptions of increased self-efficacy, or Frank's (1973) ideas about mastery as being an important dimension of successful treatment. Again, however, the current design was not identical to that of Lopez and Wambach (1982), nor was the population sampled identical. The current subjects started the study with somewhat higher mean values for controllability than the subjects of Lopez and Wambach (1982); however, actual procrastination behavior was quite similar among both populations. Incidental comparisons with the former procrastination subjects suggest that the present study affected expectations in a different manner. The high school subjects in this current study started with relatively higher expecta-
tions than the college subjects of Lopez and Wambach; those high school subjects in either paradoxical or self-control treatments improved even further on this dimension in contrast to deteriorating levels of expectations for the control group. In the Lopez and Wambach (1982) study, values for expectation increased for all groups, although more for treated than control groups.

Summary and Conclusions

The current study failed to support clinically generated and theoretically predicted notions of the salience of subject resistance and perceptions of controllability of the behavior upon preferred mode of counseling intervention. Brief paradoxical and self-control interventions were equally efficacious in bringing about positive changes in self-reported procrastination behavior; both methods were clearly superior to no treatment. Sex of subject appeared somewhat important, in that males showed a somewhat stronger response to interventions than females. When pre-test subject differences in procrastination behavior were statistically controlled, an overall main effect for subject resistance emerged, with more resistant subjects generally benefiting less from treatment than less resistant ones.

Further research might address itself to removing some of the limitations of the current study. Resistance, as a construct, for example, needs further theoretical clarifica-
tion, and the methods used to measure the construct could benefit from further association with behaviors defined as resistant, whether residing in clients, counselors, or service delivery systems. Additional types of presenting client problems need to be explored with reference to both resistance and freedom dimensions. And of course replication and/or further research with larger sample sizes would be beneficial in clarifying the relationships involved.
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Finally, all data were collected and analyzed in accordance with university and departmental guidelines for the use of human subjects.
APPENDIX A.

STUDENT AND PARENT CONSENT FORM
CONSENT FORM

The research project to be conducted at Valley High School involves comparing the relative effectiveness of two types of counseling interventions with students who have said they would like help with procrastination. Students will participate in an initial orientation and evaluation session lasting approximately one hour, during which they will complete paper-and-pencil inventories describing their procrastination behavior and attitudes towards counseling. Some of the students will then be assigned to see a counselor for two subsequent interviews, each lasting approximately one half hour and spaced about one week apart, during which the student's procrastination will be discussed along with ways to deal with this problem. One of the initial paper-and-pencil inventories will also be administered following each interview. All of the students who attended the original orientation session will then be assembled at the conclusion of the experiment and will complete the same inventories they took initially. Interviews will be tape recorded by the counselors, so that checks on the experimental procedures may be made, but tapes will not be shared with any individuals other than the primary experimenter and the counselor. These tapes will subsequently be erased.

Both procedures used in the counseling interviews have been shown to have some positive effect in decreasing procrastination among college students. It has not been demonstrated if this effect will also occur for high school students, and if so, if this effect is related to general attitudes about counseling. Students who feel they have a procrastination problem but do not wish to participate in this research may wish to see their regular high school counselors for counseling assistance.

The major experimenter, Sandra Davis (255-7473), will be happy to answer any questions or inquiries concerning the procedures. Students who initially choose to participate may withdraw their consent and discontinue participation in the project at any time without prejudice. Every effort will be made to keep data obtained confidential.

I have read the information above and would like to participate in the research project.

Signed: __________________________ (Student)

Phone No.: __________________________
I have read the information above and give my daughter or son permission to participate in the research project.

Signed: ________________________________
(Parent, Guardian)

Phone No.: ____________________________
APPENDIX B.
COUNSELOR SCRIPTED INTERVIEW MATERIALS
OVERVIEW

Self-Control Instruction Condition

The overarching emphasis in this condition is on encouraging the subject to increase his study behavior and to decrease his procrastination. The intervention itself incorporates several traditional components of behavior modification and self-control training. These include a behavioral analysis of the problem behavior and instructions on self-monitoring, appropriate goal-setting, and self-reinforcement of study behavior. The therapeutic goal is explicitly defined as increasing study time and improving self-control. Procrastination is actively discouraged.

In keeping with the self-control framework, the interviewer emphasizes the learned nature of procrastination and deemphasizes any subject references or inquiries to "underlying causes" of the problem behavior. The perspective in this condition is strictly behavioral. In the initial interview, the interviewer "zeroes in" on the behavior and engages the subject in a discussion geared toward identifying the antecedent and situational conditions in which the behavior occurs. The interviewer stresses the importance of improving study conditions as well as encourages the subject to monitor the frequency of effective study behavior. Also during this initial interview, the interviewer directs the subject to "study as much as possible" at the location where stimulus control is strongest.

In the subsequent interview the subject's self-monitoring data are discussed. The interviewer reinforces any increases in studying and decreases in procrastination. Any subject self-reports of successful self-control are especially reinforced. The interviewer encourages the subject to increase studying by 15 minutes per day and to self-reward successful completion of daily study goals. Continued monitoring of studying and structuring of study goals is also encouraged.

A prototype of the counselor script for the self-control instruction condition is presented in the following pages.
Self-Control Interview I

A. Greeting and Purpose

The interviewer (INT) introduces self and thanks the subject (S) for coming. Greets S with a warm handshake and directs S to interviewing room. INT follows with the opening:

INT: "As you know, ____________, the purposes of these interviews are to discuss your experiences with procrastination, to help you understand procrastination better, and to help you do something about it."

B. Recording

INT: "Now I would like to take a few notes as we go along and I would like to record our interview. This recording will only be used for the purposes of this study and it will remain confidential." (INT starts recorder)

C. Description of Problem

INT: "Well, now, your volunteering for this study suggests that you're concerned about procrastination and are interested in doing something about it. Maybe you can begin by giving me some additional background on your procrastination and how it affects your present courses and assignments."

(INT and S discuss features of S's procrastination, and move through courses, tests, reading, papers as S leads. Specific procrastination problems--e.g., writing papers, reading psychology--are noted. INT listens attentively and focuses discussion on antecedents and situational factors that correspond to procrastination. INT also explores other "high probability" behaviors that interfere with studying--e.g., INT: "What do you do most of instead of studying?" INT attempts to find out where and when S does his most effective studying.)

Examples of INT comments during this segment:

"You don't seem to follow a specific plan when you have to study." (e.g., explicit study goals, schedule study time, etc.)

"There seems to be room for improving the conditions under which you study."

"Like procrastination, effective studying is a learned
habit. You may need to develop behaviors that can maintain more effective studying."

During this period, INT does not confront or challenge but instead maintains a straightforward behavioral perspective. In short, S's behavior is the focus of attention. INT restricts dialogue to school work and studying difficulties.

D. Rationale

Following about 15-20 minutes of problem description and clarification, INT briefly summarizes the relevant data, emphasizes the need to develop better self-controlling behaviors and moves to the following commentary:

INT: "Perhaps your previous efforts to control procrastination, to start things earlier, haven't been successful because they haven't been implemented in a systematic way."

"You know, procrastination is a learned habit that represents low self-control of study behavior. If our goal is to increase studying, or, for that matter, any desired behavior, it is necessary to identify the conditions under which it is most likely to occur and to reinforce that behavior by setting explicit goals and then rewarding yourself when you meet them. In this way, you can develop behaviors that are incompatible with procrastination."

E. Directive

INT: "I have some ideas in mind that can help you begin to develop more effective study behaviors." (INT solicits S's interest)

"OK, for starters, select the place where you do your best studying and concentration (INT suggests place identified during problem discussion). All right, now for the next week it is important that you study as much as possible at this location and that you do nothing else but study while you are at that place. By consistently doing this, you will make that place an effective stimulus for studying. If your mind wanders or if you want to write a letter to a friend, leave that place and go somewhere else. Restrict all activity at that place to studying only."

"Secondly, start keeping a record of the amount of time
you spend each day at your study place. This form should help you to keep track of your study time. Just indicate on the sheet each time you sit down and when you break away (INT and S review time sheet). This information will be useful in gauging the average amount of time you spend studying so that we can set additional goals later on that can build upon that amount."

(If S resists directive--e.g., S cites previous unsuccessful efforts at behavioral control--INT: "I'm sure you've done some things like this but probably not as systematically as I have planned.")

(If S asks "why" this directive should work, INT reemphasizes the behavioral rationale.)

F. **Playback**

INT checks S's understanding of the directive by asking him to "playback" the instructions. Any misunderstandings are corrected.

G. **Closure and Exit**

INT moves to closure.
Self-Control Interview I
Cue Sheet

A. Greeting
INT: "Purposes of interviews discuss experiences help
understand better and do something..."

B. Recording
INT: "Would like few notes and record. Recording only
purposes study remain confidential ..." (Start recorder)

C. Problem Description
INT: "Your volunteering suggests concerned procrastina­
tion and interested doing something .. Give me background .. how affects courses, etc...."
(Highlight antecedent conditions, "high probability behs")
INT: ",..you don't follow specific plan"
"..need improve conditions under which study"
"..studying learned habit .. Need develop behs maintain study."
(Focus on behavior, study conditions, deemphasize "deep" interpretations, reinforce self-control statements)

D. Rationale
INT: ",.. previous efforts to control, start earlier not systematic .. Procrastination learned habit .. represents low self-control study behavior .. our goal increase study .. need identify conditions beh likely occur .. reinforce .. explicit goals .. then rewarding .. this develop behs incompatible procrastination."
(Elaborate on need to improve stimulus conditions, self-control, tie into problem description data if possible)

E. Directive
INT: "I idea help you develop effective study behaviors .. Select place best studying .. for next week study as much at location .. nothing but study there .. by consistently this place effective stimulus .. if mind wanders leave .. restrict activity at place studying."
"Secondly, start keep record amount time studying at place .. (Present and explain form) .. this information useful gauging average so later set goals build on amount."

F. Playback

G. Closure

INT: ".. enough today .. let's go .. and schedule next interview..."
Self-Control Interview II

A. Greeting

Go to the reception area and greet S. "Hi, ____________, I'm glad that you were able to make it today. Let's go to my office." As you walk to office, ask S how he has been and respond appropriately. Show S to a seat, sit down and begin.

B. Recording

INT starts recorder.

C. Recap

INT: "Last time we discussed your experiences with procrastination and we considered how your procrastination problem represents low self-control of study behavior. Is that right?" (Respond appropriately to S's response)

D. Discuss Homework

INT: "Last week I recommended some tasks to help you develop more effective study behaviors. How did you do?"

(INT and S discuss in detail S's experiences with the directives to self-monitor studying and to improve stimulus conditions. INT asks for and reviews self-monitoring data. INT reinforces any and all S efforts to increase study time and improve self-control. INT also asks S about procrastination and again checks for information on antecedent and situational factors corresponding to that behavior. INT urges S to exert greater control by minimizing distractions from effective study. INT checks if S is maintaining appropriate stimulus control conditions by not procrastinating at study location. INT urges S to resist low-level procrastination or daydreaming while at study location.

If S did not comply at all with either self-monitoring or stimulus control directives, INT explores what S did during the week and determines if S is still procrastinating. INT follows with the comment:

INT: "Look, ____________, if you are going to increase your studying and avoid procrastinating, you are going to have to approach this task systematically. The first objective is to improve study conditions and to start keeping a record of your studying. The fact that
you're still procrastinating during the week is evidence that this work needs to be done." (INT may move to reemphasizing behavioral perspective, reassigning the directives, and then to closure)

E. Goal-Setting and Self-Reward

Following about 15 minutes of homework discussion, INT begins discussion of second "phase" of behavioral approach--goal-setting and self-reinforcement. The principles underlying this phase are briefly mentioned. The importance of manageable short-range goals and appropriate reinforcers is stressed. Returning to the self-monitoring data, INT comments:

INT: "Your records show your daily totals of study time for the past week. Now, for the next week, let's agree to set, as an initial goal, an additional 15 minutes per day of studying. Now if you meet your daily goal, reward yourself by doing some activity that you enjoy doing (INT may suggest some of the "high probability" non-study behaviors discussed in Interview I and direct S to make these behaviors contingent upon meeting daily study goals). Decide in advance what the reward for each day will be. If you don't reach your goal, don't accept the reward. By exclusively rewarding successful study efforts, you will increase effective studying."

(If S complains that the extra 15 minutes is "too little," INT chides S for setting early goals too high and notes how this can contribute to failure and discouragement.)

INT: "You might also consider a special end-of-the-week reward should you consistently meet each of your daily study goals."

(INT also encourages S to set explicit study goals to be worked on during the study periods. INT directs S to write these goals on a card and to post card near study area to improve stimulus control of that location. INT urges S to discover how much work can be accomplished during daily study periods in order to improve work-estimates.)

F. Summary

INT: "Well, our time is up. We'll check up on your progress next week in class."
(If S fulfilled previous directive) INT: "You've started improving your study conditions and you're keeping good records of your studying. Set a goal of an extra 15 minutes of studying per day and reward yourself if you meet your goal. Continue monitoring your studying and continue studying as much as possible at your study place."

(If S did not fulfill previous directive) INT: "You didn't execute the plan as we discussed earlier and consequently are still procrastinating. I suggest that you stick with the original plan, start keeping records and study as much as possible at your study place."

G. Closure and Exit

INT moves to closure.
Self-Control Interview II
Cue Sheet

A. Greeting
INT: "Hi, glad able make today .. let's go my office."

B. Recording
INT starts recorder

C. Recap
INT: "Last time discussed experiences .. considered how procrastination represents low self-control of study behavior .. right?"

D. Discuss Homework
INT: "Last week recommended tasks help develop effective study behaviors .. How did you do?

(Discuss experiences w/ directive .. How successful? .. Check study conditions .. did S maintain stimulus control? .. Review procrastination .. antecedent conditions, competing behaviors .. Reinforce self-control)

If S did not comply .. explore week's activities, check for procrastination, then...

INT: "Look, if you're going to increase studying and avoid procrastinating have to approach systematically .. First objective improve conditions and keep record .. the fact you're procrastinating evidence work needs be done."

Review self-monitoring data .. reinforce effective study.

E. Goal-Setting and Self-Reward

(INT discusses second phase -- importance of goal-setting, self-reward .. manageable short-range goals, engages S identifying potential reinforcers .. "high probability" behaviors)

INT: "Your records show daily average of ____ per day study .. Now, next week, set initial goal extra 15 minutes/day studying .. if meet goal, reward self with activity enjoy doing .. Decide in advance what reward each day will be .. If don't meet goal, no reward .. by exclusively rewarding successful efforts will increase
studying."

(If S "complains" too little .. INT notes to start small and "build up.")

Discuss (special) end-of-week reward for consistent success .. Encourage S set explicit goals to work on during periods .. write on card .. to improve study conditions .. note that daily reward contingent on time not goals.

F. Summary

INT: "Our time is up. We'll check progress next week in class"

If S followed tasks .. INT: "You started improving conditions and keeping records .. Set goal of extra 15 minutes/day and reward if meet goal .. Continue monitoring and studying as much possible at place."

If S didn't follow .. INT: "You didn't execute plan and are still procrastinating .. stick w/ plan for week .. keep record and study as much at place."

G. Closure

INT: "..let's go"
OVERVIEW

Paradoxical Instruction Condition

This intervention is paradoxical in that it encourages change of the problem behavior (procrastination) and, at the same time, prescribes the performance of that behavior as part of the change process. The basic components of the paradoxical condition are 1) a behavioral prescription which directs the subject to procrastinate under certain time-limited circumstances, and 2) a rationale which links the prescription to the overall change process, thus making the directive both plausible and credible. The combination of these ingredients results in a paradoxical demand for the subject to change by remaining unchanged.

In the initial interview, the interviewer acknowledges the importance of behavior change. In discussing the subject's procrastination problem, the interviewer highlights the subject's previous unsuccessful efforts at self-control as well as the impulsive, "non-thinking" aspects of his problem behavior. These observations serve as a "lead-in" to the rationale statement which stresses the importance of carefully observing the behavior while it is occurring as means by which the subject can achieve the self-understanding vital to improved self-control. Toward this end, the interviewer directs the subject to procrastinate for one-half hour each evening.

In the subsequent interview the subject's self-observations during the enforced procrastination periods are discussed. In keeping with the paradoxical framework, only "active" procrastination performed under direction is reinforced. Studying during the prescribed procrastination periods is discouraged. The interviewer does not reinforce any skepticism. Discussion centers around any "spontaneous" thoughts and feelings that emerged during the procrastination periods. The interviewer directs the subject to continue to procrastinate under the prescribed conditions and cautions the subject to "go slow" in making any changes in his study behavior.

A prototype of the interviewer script for the paradoxical condition is presented in the following pages.
Paradoxical Interview I

A. Greeting and Purpose

The interviewer (INT) introduces self and thanks the subject (S) for coming. Greets S with a warm handshake and directs S to interviewing room. INT follows with the opening:

INT: "As you know, ___________, the purposes of these interviews are to discuss your experiences with procrastination, to help you understand procrastination better, and to help you to do something about it."

B. Recording

INT: "Now I would like to take a few notes as we go along and I would like to record our interview. This recording will only be used for the purposes of this study and it will remain confidential." (INT starts recorder.)

C. Description of Problem

INT: "Well, now, your volunteering for this study suggests that you're concerned about procrastination and are interested in doing something about it. Maybe you can begin by giving me some additional background on your procrastination and how it affects your present courses and assignments."

(INT and S discuss features of S's procrastination, and move through courses, tests, reading, papers as S leads. During this period, INT listens attentively, reflects "problem" aspects of behavior, highlights "non-thinking," impulsive aspects of procrastination, and review S's previous control efforts--e.g., INT: "How have you tried to control procrastination in the past?" and later, "And that didn't work either, huh?" Specific procrastination problems are noted.)

Examples of INT comments during this segment:

"It seems that you are not fully aware of procrastination when it is happening."

"You haven't been consistently successful in controlling procrastination."

"You seemed confused as to why procrastination continues"
to be a problem for you."

During this period, INT does not confront, challenge or interpret. INT maintains a reflective perspective that focuses on the "puzzling" fact that S continues to procrastinate despite the obvious disadvantages of that behavior.

D. Rationale

Following about 15-20 minutes of problem description and clarification, INT briefly summarizes the relevant data, emphasizes S's unsuccessful history of self-control and moves to the following commentary.

INT: "Perhaps your previous efforts to control procrastination, to start things earlier, haven't been consistently successful because they've been implemented without sufficient awareness of what actually happens as you procrastinate."

"You know, ___________, the key to successful control is understanding. And to understand any behavior, whether our own or someone else's, it is necessary to observe it carefully while it is happening. By purposefully studying your thoughts and feelings while procrastinating, you can start making the observations that can lead to more effective control. You can learn a lot from yourself if you just take the time to pay attention while you're behaving."

E. Directive

INT: "I have an idea in mind that can help you make more systematic self-observations without much time or effort on your part." (INT solicits S's interest in the directive)

"OK, first we need to select one half-hour each day, preferably in the evening to make the observations. Select a time when you can be alone and quiet at your study desk. Arrange for your books and notes to be on your desk but keep them closed. This will set up the appropriate context in which to observe procrastination."

"Now during this half-hour period, your task is to sit at your desk and to try and concentrate hard on procrastinating. Actively resist the urge to study for as long as possible so that you can be aware of thoughts and feelings that emerge. Recognize and accept the fact that you
can resist, delay, postpone any activity you wish, any movement. Observe what happens as you try to concentrate on procrastinating. Avoid opening any books or notes. When that urge arises, concentrate on frustrating it and observing the effects. Push yourself to your limits and spend as much of the period as you can procrastinating and observing."

"At the end of the period, make a mental note of your observations. You are then free to do whatever you would like. Repeat the same procedure for each night during the week."

F. Playback

INT checks S's understanding of the directive by asking him to "playback" the instructions. Any misunderstandings are corrected.

G. Closure and Exit

INT moves to closure and schedules next appointment.
Paradoxical Interview I
Cue Sheet

A. Greeting
INT: "Purposes of interviews discuss experiences help understand better and do something ..."

B. Recording
INT: "Would like few notes and record. Recording only purposes study remain confidential ..." (Start recorder)

C. Problem Description
INT: "Your volunteering suggests concerned procrastination and interested doing something .. Give me background .. how affects courses, etc."

(Highlight impulsive, lack of control, specific problems, confusion)

INT: "..not fully aware of procrastination"
"..not consistently successful in control"
"..seem confused why problem continues"

(No confront, side with resistance)

D. Rationale
INT: "..previous efforts unsuccessful .. implemented without awareness what happens while you procrastinate
"..key control understanding .. need observe behavior while happening .. by study thoughts .. you can make observations .. lead more effective control .. can learn a lot by pay attention while behaving."

(Elaborate on need to increase awareness of behavior, spontaneous thoughts, control--tie into problem description data if possible)

E. Directive
INT: "I idea help you more systematic observations .. Select one half-hour each eve to make observations .. Select time alone quiet at study desk .. arrange books, notes closed .. appropriate context .. Your task sit try to concentrate .. procrastinating .. resist study as long .. be aware thoughts emerge .. when study urge frustrate
.. spend as much time procrastinating .. mental note .. at end, you're free .. Repeat procedure each night"

F. Playback

G. Closure

INT: ".. enough today .. let's go .. and schedule next interview..."
**Paradoxical Interview II**

A. **Greeting**

Go to the reception area and greet S. "Hi, __________, I'm glad you were able to make it today. Let's go to my office." As you walk to the office, ask S how he has been and respond appropriately. Show S to a seat, sit down and begin.

B. **Recording**

INT starts recorder.

C. **Recap**

INT: "Last time we discussed your experiences with procrastination and we considered how the control of procrastination flows from a thorough awareness of the problem as it is occurring. Is that right?" (Respond appropriately to S's response)

D. **Discuss Homework**

INT: "Last week I recommended a task to help you increase your awareness of procrastination. How did you do?"

(INT and S discuss S's experience with the directive. INT focuses on any "spontaneous" thoughts and feelings that emerged during the enforced procrastination periods. These are discussed in detail. All observations are accepted by INT as useful. INT may ask leading questions--e.g., "What do you make of that?" or "What did you learn from that?"--to stimulate further discussion. Depending on S's specific experience with the directive, INT may insert one or more of the following comments.)

1. If S fulfills the directive,
   a. but reports no particular thoughts or feelings--

   INT: "Don't be discouraged. It may take some additional time and effort for these awarenesses to develop. These thoughts can't be rushed--they emerge quite spontaneously. The important thing is to maintain the proper conditions so that when they do occur, you are fully aware of them."

   (INT moves to a further discussion of awareness)
and spontaneous control, reassigns the directive and moves to closure.)

b. and reports a decrease in procrastination during the week--INT treats such disclosures with a mix of curiosity and skepticism.

INT: "Now that's interesting. However, it's not at all unusual for people to observe some initial changes and to expect them to be permanent. Maybe it would be best not to place too much stock on this too soon--after all, it may just be a temporary change."

c. but "cheats" by opening books and studying during the prescribed procrastination hour--INT actively discourages this behavior and reemphasizes the importance of procrastination during this period.

INT: "Remember, ____________, it's important that you procrastinate as long as possible during these periods and that you resist the urge to get started with any work-related tasks. If you stop procrastinating too soon, you may lose access to important self-observations."

d. but reports excessive frustration and boredom with the task--INT "accepts" the frustration with the comment:

INT: "It's not unusual for frustration to precede self-discovery. Force yourself to daydream about other things and keep your mind off work. If frustration persists, you can open your books or notes and study but only briefly--no more than 5 minutes--then get back to procrastinating for the rest of the period."

2. If S only partially fulfills the directive or if S does not comply with the directive, INT explores what S did during the non-compliance periods and determines if S is still procrastinating during the week. INT follows with the comment:

INT: "Look, ____________, if you are to increase your awareness and control of procrastination, you first need to procrastinate regularly during these periods so that you can accurately observe this behavior under controlled conditions. The fact that you're still procrastinat-
ing during the week is evidence that this work needs to be done.

In the rare event that S reports a procrastination-free week without following the directive, INT again responds with curiosity and skepticism while having S elaborate on his behavior.

INT: "I don't know exactly how to react to this but I'm puzzled and a little skeptical of sudden changes. After all, this turn of events could be quite temporary. Therefore, I'm inclined to have you "go slow" and stick with the original plan." (INT may reemphasize rationale to support conclusion.)

**E. Summary**

INT: "Well, our time is up. We'll check up on your progress next week in class."

(If S fulfilled directive) INT: "You've started making some careful observations and some valuable information is (is likely to start) emerging. Stick with this plan for the coming week and continue procrastinating as we've discussed so that you can collect more information."

(If S did not fulfill previous directive) INT: "You didn't execute the plan as we discussed earlier and consequently are still unaware of what is happening as you procrastinate. Remember, I'm not insisting that you do anything more than what you are already capable of doing. I'm only asking that you do it under conditions where you can accurately observe and more fully understand your behavior. So, unless you have a better idea, I'd suggest that you follow the original plan and start making some careful observations."

**F. Closure and Exit**

INT moves to closure.
Paradoxical Interview II
Cue Sheet

A. Greeting
INT: "Hi, glad able make today .. let's go my office."

B. Recording
INT starts recorder

C. Recap
INT: "Last time discussed experiences .. considered how control understanding procrastination flows from awareness as occurring .. right?"

D. Discuss Homework
INT: "Last week recommended task to increase awareness procrastination .. How did you do?"

(Discuss experiences w/ directive .. How successful? .. Any thoughts, feelings? .. Probe .. Detail .. Reflect .. INT: "What you make of that?" .. "What did you learn from that?")

1. S fulfills directive and
   a. reports no thoughts, feelings ..
      INT: "Don't discouraged .. May take time, effort awareness develops .. Can't rushed .. emerge spontaneously .. important thing maintain conditions so when occur you fully aware of them."
   b. reports decrease procrastination during week ..
      INT: (curious, skeptical) "Interesting .. however, not unusual for people observe changes and expect permanent .. don't place stock too soon .. may be temporary .. what you think?"
   c. S "cheats"--opens books, notes during period ..
      INT: (mild reprimand) "Remember, important procrastinate long as possible and resist urge .. if stop too soon, may lose access."
   d. reports excessive frustration, boredom ..
INT: "Not unusual .. frustration precedes self-discovery .. try keep mind off work .. if persists, may open books but briefly .. only 5 minutes .. then close .. back procrastination rest of period."

e. reports **increase** procrastination during week ..

INT: "Not unusual .. sometimes initial increase before start decrease .. Don't worry .. Keep with it .. make more observations."

2. S does not comply with directive .. explore what happened .. still procrastinating? INT: "Fact you're still procrastinating **evidence** work needs be done"

E. **Summary**

INT: "Our time is up. We'll check progress next week in class"

If S followed task .. INT: "Some useful info is (is likely to) start emerging .. stick with plan for week .. **continue** procrastinating as discussed."

If S didn't follow .. INT: "You didn't execute plan and are still unaware of what happening .. so, unless better idea, **follow** plan."

F. **Closure**

INT: "Let's go..."
## STUDY RECORD

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APPENDIX D.

PROCRASTINATION INVENTORY

The Procrastination Inventory asks you to describe your attitudes and beliefs about procrastination. For each statement below, please circle the number which best indicates how true or false the statement is as a description of you. Please rate each statement to the best of your ability.

Name ___________________________
Date ___________________________
1. There is nothing complicated about procrastination. 1 2 3 4 5 6 7
2. I procrastinate because it is the easy thing to do. 1 2 3 4 5 6 7
3. I can't resist the impulse to procrastinate. 1 2 3 4 5 6 7
4. I'll never be as conscientious as other people. 1 2 3 4 5 6 7
5. Any decrease in my procrastination will only be temporary. 1 2 3 4 5 6 7
6. Cramming will become less of a necessity in the future. 1 2 3 4 5 6 7
7. It is unrealistic for me to expect any long-term improvement in my procrastination behavior. 1 2 3 4 5 6 7
8. I can choose not to procrastinate when I want to. 1 2 3 4 5 6 7
9. Procrastination is a compulsion that is very difficult to stop. 1 2 3 4 5 6 7
10. I often put things off without thinking about what I am doing. 1 2 3 4 5 6 7
11. The harder I try to study, the more I seem to procrastinate. 1 2 3 4 5 6 7
12. I expect that my procrastination will be reduced only with great difficulty. 1 2 3 4 5 6 7
13. I suspect that I will always put off unpleasant tasks until the last possible moment. 1 2 3 4 5 6 7
14. If I work on it, I can overcome procrastination. 1 2 3 4 5 6 7
15. My procrastination will be less of a problem in the future. 1 2 3 4 5 6 7
16. Procrastination is a stable part of my personality. 1 2 3 4 5 6 7
17. I become anxious when I know I have to study. 1 2 3 4 5 6 7
18. I can deal directly with my procrastination problem. 1 2 3 4 5 6 7
19. I feel prepared to make some real changes in my approach to studying. 1 2 3 4 5 6 7
20. I suppose I will always have to cram in order to get my work done. 1 2 3 4 5 6 7
21. Nothing I do seems to have any real effect on controlling my procrastination. 1 2 3 4 5 6 7
22. Procrastination can be controlled by increasing self-discipline. 1 2 3 4 5 6 7
23. I am confident that I will be able to start new tasks sooner than I used to. 1 2 3 4 5 6 7
24. Procrastination is something that I will be able to change soon. 1 2 3 4 5 6 7
25. I have a "mental block" about studying. 1 2 3 4 5 6 7
(1) True
(2) Mostly true
(3) More true than false
(4) Cannot say
(5) More false than true
(6) Mostly false
(7) False

26. Eliminating procrastination is within my control. 1 2 3 4 5 6 7

27. It will become easier for me to get things done on time. 1 2 3 4 5 6 7

28. I don't anticipate that my procrastination will diminish. 1 2 3 4 5 6 7

29. I'm not sure why I procrastinate. 1 2 3 4 5 6 7

30. My procrastination reflects a lack of clear goals. 1 2 3 4 5 6 7

31. There are no simple solutions for controlling procrastination. 1 2 3 4 5 6 7

32. I expect that my procrastination may soon become a thing of the past. 1 2 3 4 5 6 7

33. I am optimistic about overcoming procrastination. 1 2 3 4 5 6 7

34. I expect that I will always have to live with procrastination. 1 2 3 4 5 6 7

35. Procrastination is a simple habit that can be easily broken. 1 2 3 4 5 6 7

36. Getting organized is the solution to procrastination. 1 2 3 4 5 6 7

Thank you.
Scoring Keys

Procrastination Inventory

Expectation Scale (16 items)
(1) Score directly values for items 4, 5, 7, 12, 13, 20, 28, 34.
(2) Invert values for items 6, 15, 19, 23, 24, 27, 32, 33.
(3) Sum (1) and (2) above.

Controllability Scale (20 items)
(1) Score directly values for items 3, 9, 10, 11, 16, 17, 21, 25, 29, 31.
(2) Invert values for items 1, 2, 8, 14, 18, 22, 26, 30, 35, 36.
(3) Sum (1) and (2) above.
**APPENDIX E.**

**PROCRASTINATION LOG**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
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</table>

Consider this last week. For each item below, please circle the number which best describes how true the item has been for you during the past week.

<table>
<thead>
<tr>
<th>Item</th>
<th>(1) True</th>
<th>(2) Mostly true</th>
<th>(3) More true than false</th>
<th>(4) Cannot say</th>
<th>(5) More false than true</th>
<th>(6) Mostly false</th>
<th>(7) False</th>
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</thead>
<tbody>
<tr>
<td>1. I reviewed my reading and notes so I wouldn't have to cram for exams later.</td>
<td>1 2 3 4 5 6 7</td>
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<td>2. I worked on papers and assignments that are due later in the year.</td>
<td>1 2 3 4 5 6 7</td>
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<td>3. I went to classes prepared for the lectures.</td>
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<td>4. I kept up with the reading required for my courses.</td>
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<td>5. I was late turning in assignments.</td>
<td>1 2 3 4 5 6 7</td>
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<td>6. I daydreamed a lot.</td>
<td>1 2 3 4 5 6 7</td>
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<td>7. I studied more than I usually do.</td>
<td>1 2 3 4 5 6 7</td>
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<td>8. I got more accomplished than I thought I would.</td>
<td>1 2 3 4 5 6 7</td>
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<td>9. I spent time thinking about procrastination and what I could do about it.</td>
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<td>10. I arrived on time for classes.</td>
<td>1 2 3 4 5 6 7</td>
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<td>11. I did other things when I should have been studying.</td>
<td>1 2 3 4 5 6 7</td>
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</table>
Scoring Key
Procrastination Log

(1) Score values directly for items 1, 2, 3, 4, 7, 8, 9, 10.
(2) Invert values for items 5, 6, 11.
(3) Sum (1) and (2) above.
APPENDIX F.
THE COUNSELOR RATING FORM

What is your reaction to the word "counselor"? Respond to this form using your perceptions of counselors in general. Be sure to examine the example item carefully before beginning.

Example: Tall __*__*__*__*__*__*__ Short

If you felt counselors in general were tall, you would mark the item as follows:

Tall _X__*__*__*__*__*__ Short

If you felt counselors in general were short, you would mark the item as follows:

Tall ___*__*__*__*__*__ X Short

If you felt counselors in general were of medium height you would mark the item as follows:

Tall ___*__*__*__*__*__ Short

You may begin to rate counselors in general now:

Unlikeable ___*__*__*__*__*__*__ Likeable
Selfless ___*__*__*__*__*__*__ Selfish
Closed ___*__*__*__*__*__*__ Open
Distant ___*__*__*__*__*__*__ Close
Inexperienced ___*__*__*__*__*__*__ Experienced
Enthusiastic ___*__*__*__*__*__*__ Indifferent
Friendly ___*__*__*__*__*__*__ Unfriendly
Confident ___*__*__*__*__*__*__ Unsure
Unappreciative ___*__*__*__*__*__*__ Appreciative
Stupid * * * * * * * * * Intelligent
Disrespectful * * * * * * * * * Respectful
Prepared * * * * * * * * * Unprepared
Compatible * * * * * * * * * Incompatible
Honest * * * * * * * * * Dishonest
Warm * * * * * * * * * Cold
Responsible * * * * * * * * * Irresponsible
Unsociable * * * * * * * * * Sociable
Unreliable * * * * * * * * * Reliable
Insincere * * * * * * * * * Sincere
Casual * * * * * * * * * Formal
Logical * * * * * * * * * Illogical
Agreeable * * * * * * * * * Disagreeable
Clear * * * * * * * * * Vague
Unattractive * * * * * * * * * Attractive
Analytic * * * * * * * * * Diffuse
Depressed * * * * * * * * * Cheerful
Unskillful * * * * * * * * * Skillful
Genuine * * * * * * * * * Phony
Believable * * * * * * * * * Suspicious
Untrustworthy * * * * * * * * * Trustworthy
Insightful * * * * * * * * * Insightless
Alert * * * * * * * * * Unalert
Straightforward * * * * * * * * * Deceitful
Expert * * * * * * * * * Inexpert
Informed __*___*___*___*___*___*___*___ Ignorant
Undependable ___*___*___*___*___*___*___*___ Dependable
Scoring Key for CRF
Expertness Scale

Unlikeable __*__*__*__*__*__* Likeable
Selfless  __*__*__*__*__*__* Selfish
Closed   __*__*__*__*__*__* Open
Distant  __*__*__*__*__*__* Close
Inexperienced 1 * 2 * 3 * 4 * 5 * 6 * 7 Experienced
Enthusiastic  __*__*__*__*__*__* Indifferent
Friendly    __*__*__*__*__*__* Unfriendly
Confident  7 * 6 * 5 * 4 * 3 * 2 * 1 Unsure
Unappreciative __*__*__*__*__*__* Appreciative
Stupid 1 * 2 * 3 * 4 * 5 * 6 * 7 Intelligent
Disrespectful __*__*__*__*__*__* Respectful
Prepared  7 * 6 * 5 * 4 * 3 * 2 * 1 Unprepared
Compatible __*__*__*__*__*__* Incompatible
Honest    __*__*__*__*__*__* Dishonest
Warm     __*__*__*__*__*__* Cold
Responsible __*__*__*__*__*__* Irresponsible
Unsociable __*__*__*__*__*__* Sociable
Unreliable __*__*__*__*__*__* Reliable
Insincere __*__*__*__*__*__* Sincere
Casual   __*__*__*__*__*__* Formal
Logical  7 * 6 * 5 * 4 * 3 * 2 * 1 Illogical
Agreeable __*__*__*__*__*__* Disagreeable
Clear  7 * 6 * 5 * 4 * 3 * 2 * 1 Vague
Unattractive *** *** *** *** *** *** Attractive
Analytic 7 * 6 * 5 * 4 * 3 * 2 * 1 Diffuse
Depressed *** *** *** *** *** *** Cheerful
Unskillful 1 * 2 * 3 * 4 * 5 * 6 * 7 Skillful
Genuine *** *** *** *** *** *** Phony
Believable *** *** *** *** *** *** Suspicious
Untrustworthy *** *** *** *** *** *** Trustworthy
Insightful 7 * 6 * 5 * 4 * 3 * 2 * 1 Insightless
Alert 7 * 6 * 5 * 4 * 3 * 2 * 1 Unalert
Straightforward *** *** *** *** *** *** Deceitful
Expert 7 * 6 * 5 * 4 * 3 * 2 * 1 Inexpert
Informed 7 * 6 * 5 * 4 * 3 * 2 * 1 Ignorant
Undependable *** *** *** *** *** *** Dependable
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<td>Selfless</td>
<td>___ * * * * * * * * * * Selfish</td>
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<td>Unappreciative</td>
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<td>Stupid</td>
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### Scoring Key for CRF

**Trustworthiness Scale**

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Expert __*__*__*__*__*__*__ Inexpert
Informed __*__*__*__*__*__*__ Ignorant
Undependable 1 * 2 * 3 * 4 * 5 * 6 * 7 Dependable
APPENDIX G.

EXPECTATIONS ABOUT PROCRASTINATION COUNSELING

Name: ______________________

Date: ______________________

In the next few weeks, many of you will be seeing a counselor for two interviews as part of a research project dealing with procrastination. We would like to know just what you think this counseling will be like. On the following page are statements about counseling. In each instance, you are to indicate what you expect counseling to be like, by circling the appropriate scale number on your paper.
USE THE FOLLOWING CODE TO ANSWER THE QUESTIONS BELOW. CIRCLE YOUR CHOICE.

(1) Not true
(2) Slightly true
(3) Somewhat true
(4) Fairly true
(5) Quite true
(6) Very true
(7) Definitely true

I EXPECT TO:

1. Stay in the research program until the conclusion, even if at first I am not sure it will help.
   1 2 3 4 5 6 7

2. Stay in the program even though it may be painful or unpleasant at times.
   1 2 3 4 5 6 7

3. Contribute as much as I can in terms of discussing my procrastination problems.
   1 2 3 4 5 6 7

4. Take responsibility for making my own decisions.
   1 2 3 4 5 6 7

5. Talk about my present concerns with procrastination.
   1 2 3 4 5 6 7

6. Ask the counselor what she means whenever I do not understand something that is said.
   1 2 3 4 5 6 7

7. Work on my concerns outside the counseling interviews.
   1 2 3 4 5 6 7

8. Get a better understanding of myself and my procrastination.
   1 2 3 4 5 6 7
9. Become better able to help myself in the future.

1 2 3 4 5 6 7
Scoring for the EAPC

Sum all score values directly. High scores indicate relatively high expectations for involvement in counseling.