PERMEABILITY OF SELVES AND COMPLIANCE
WITH THERAPEUTIC HOMEWORK

THESIS

Presented to the Graduate Council of the
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Fulfillment of the Requirements

For the Degree of

Master of Science

By

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A model of the person as a "community of selves" was used to investigate how adopting the perspective of different selves influenced anticipated compliance with therapy homework designed to decrease academic procrastination. A model of resistance to change derived from personal construct theory was used to predict which selves subjects would tend to see as more likely to take on the role of carrying out the homework. Focusing on different selves was found to influence anticipated compliance, and the model of resistance to change was partially successful in predicting which selves would be seen as more likely to carry out the homework. Implications for therapy and research are discussed within the framework of a model of first and second order change.
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PERMEABILITY OF SELVES AND COMPLIANCE WITH THERAPEUTIC HOMEWORK

Contrary to a commonsense view and commonplace experience of the person as a unitary entity, a long tradition and a growing research literature emphasize a view of the person as a system of selves (Gergen, 1982; Greenwald, 1982; Markus & Wurf, 1987). The self that a person brings to a situation is seen as having important implications for one's perception and anticipation of events and hence for one's emotional and behavioral responding.

The particular model out of which this paper grew views the person as a "community of selves" (Mair, 1977a, 1977b). Within the context of personal construct theory (Kelly, 1955), experiences falling within the domain of such selves should be more meaningful than experiences falling outside their domain. To the extent that one's actions are guided by such a self, one may be viewed as enacting an organized role. To the extent that one's actions are not guided by such a self, one may be viewed as merely behaving.

Such a model closely parallels models of the person as a system of self-schemata (Markus & Smith, 1981). Self schemata are seen as theories about one's person that are used to organize experience and behavior within a given domain into meaningful patterns. Self-schemata typically
represent areas of importance to the person. When confronted with a schema-relevant stimulus, a person is predicted to be more likely to selectively attend to and encode aspects of that stimulus which are schema-consistent and to elaborate that stimulus with information derived from the schema. Because self-schemata do represent areas of importance to the person, they should also tend to process a schema-relevant stimulus in a more affective manner than a stimulus that is not schema-relevant.

Markus and Smith (1981) reported a number of studies supportive of this model. They distinguished schematics (persons having a schema in the domain of interest) from aschematics (persons without a schema in that domain) by more extreme self-ratings on schema-related adjectives and by identification of the schema domain as important to the subject's self-concept. When making self-referent judgments, schematics demonstrated faster processing and superior recognition of schema-consistent than schema-inconsistent material. Aschematics showed no difference in processing of schema-consistent and schema-inconsistent material. Schematics were also found to divide schema-relevant behavior by others into larger units than aschematics.

Selves have also been looked at as reference points for evaluating self-relevant material (Markus & Smith, 1981; Rogers, 1981). The symbolic distance and congruity effects
found in paired comparison tasks have been interpreted in
terms of internal reference points (Holyoak, 1978). Rogers,
Kuiper, and Rogers (1979) demonstrated a symbolic distance
effect but no congruity effects for self-referent judgments
and suggested that the self acted as a fixed reference
point.

In the area of attitude research, one's own position
was found to serve as an anchor for judgment of
communications on issues of importance to the person (i.e.,
self-relevant issues) (Sherif & Sherif, 1967; Whittaker,
1967). Sherif and Sherif referred to the range of
acceptable positions, the range of objectionable positions,
and the range of neutral positions as the latitudes of
acceptance, rejection, and noncommitment respectively.
Communications falling within one's latitude of acceptance
were seen as closer to one's own position than they actually
were. Communications falling within one's latitude of
rejection were seen as further from one's own position than
they actually were. Moreover, the more important the issue
was, the smaller the latitude of acceptance and
noncommitment (with the latter approaching zero) and the
larger the latitude of rejection.

Another approach has looked at the relative
accessibility of different constructs. Suggested
determinants of construct accessibility have included
expectation that a construct instance will occur, motivation
to look for a construct instance, recency of activation of the construct, frequency of activation of the construct, salience of the construct, and accessibility of closely related constructs (Higgins & King, 1981).

Subjects have been found to selectively attend to, encode, and recall stimuli for which they have accessible constructs (Higgins & King, 1981). When accessible constructs were applicable, they tended to be used to evaluate a stimulus, and later evaluations of the same stimulus tended to be consistent with the original evaluations (Higgins & King, 1981; Higgins, Rholes, & Jones, 1977). Differences in relative accessibility of constructs have been found to be associated with differences in subjective impressions of others (Higgins, King, & Mavin, 1982), and personal (i.e., relatively accessible) constructs had more influence on evaluation of a target person than supplied constructs (O'Keefe, Delia, & O'Keefe, 1977).

Related to the research on construct accessibility are studies emphasizing the importance of self-referent processes. Self-reference should create a general orientation toward the person with a particular focus on that self which is most accessible (Wicklund, 1982). Manipulations to increase self-attention have been found to increase the predictive and postdictive validity of self-report measures (Wicklund & Gollwitzer, 1983), and it has been suggested that attention to a specific self-aspect is a
necessary precondition for that self-aspect to have an impact on behavior (Scheier & Carver, 1983; Wicklund, 1982).

Several studies have demonstrated that self-reference does have an effect on behavior. Subjects have shown enhanced recall of material encoded in connection with self-referent judgements (e.g., "Does this word describe you?") (Markus & Smith, 1981; Rogers, 1981; Rogers, Kuiper, & Kirker, 1977). Use of cameras, mirrors, and audiences to increase self-awareness have been found to lead to increased conformity to salient behavioral standards (Carver, 1975), increased awareness of and responsiveness to affect (Scheier, 1976; Scheier & Carver, 1977), and increased perception of threat and resulting reactance arousal (Carver, 1977). Other studies have documented similar effects for individual differences in self-consciousness (Carver & Scheier, 1978; Carver & Scheier, 1981).

The research literature appears to be consistent with the view that the self-system influences the way we see and evaluate our experiences and that this in turn affects our behavior. The focus of the present paper is on the implications a model of the person as a community of selves has for compliance with therapeutic homework assignments. It is suggested that the probability that a given self will take on the role of carrying out therapy homework can be predicted by a model of resistance to change derived from personal construct theory and reactance theory.
While the terminology has varied with the theoretical perspective, traditional models have described resistance to change in terms of transference or of characteristic interpersonal styles. More recent models working from a social psychology perspective refer to impression management or strategic self-presentation (Jones & Pittmann, 1982). Within the context of the "community of selves" model, such traditional notions of resistance to change are perhaps best described in terms of the relative predominance (accessibility) of different selves. One way of looking at predominance is to think of the different selves as if they were competing with one another for time upon the stage of the person's life.

Looking at resistance to change from the perspective of personal construct theory, Hinkle (1965) argued that:

Psychological movement—construct change—will be resisted when such change is anticipated as leading to an imminent comprehensive reduction of the total number of predictive implications of the personal construct system (threat) or as creating a relative absence of predictive implications relating to the events with which one is confronted (anxiety). (p. 13)

The magnitude of a construct's resistance to slot change (moving from one pole to the other) was found to be related to its superordinateness (how important it was) and the
range of its implications (how connected it was with other constructs).

The model developed by Hinkle closely parallels that of reactance theory (Brehm, 1966; Brehm & Brehm, 1981). According to reactance theory, when freedoms are threatened or lost, reactance will be aroused, and the magnitude of the reactance will be related to the importance (superordinateness) of the freedom threatened, the number and/or proportion (connectedness) of the freedoms threatened, and the magnitude of the threat.

In his Modulation Corollary, Kelly (1955) also related the construct of permeability to resistance to change. As defined by Kelly, permeability refers to a construct's relative capacity to take on new elements. The research question focused on in this paper is the relative capacity of different selves to take on a new role (i.e., their permeability with respect to that role). Because of the way the research question was framed, the notion of permeability takes on a particular significance for this study.

Permeability is often talked about as if it was a quality of a construct. It is suggested here that it might be more appropriate to talk about permeability in terms of the relationship between the construct and the particular element to be construed. A construct described as permeable because it has the capacity to take on a wide range of new elements may still be impermeable with respect to a given
element. Thus the present study is concerned not with the permeability in general of the different selves but rather in reference to taking on a particular role.

Hinkle (1965), presumably from comparing the Modulation and Fragmentation Corollaries, equated impermeability with inferential incompatibility but did not elaborate on this suggestion. While questioning the identity of these constructs, I do see inferential incompatibility as being deeply involved in the notion of impermeability.

Kelly (1955), in his discussion of his Fragmentation Corollary, identified inferentially incompatible construct subsystems as subsystems which lead us to anticipate incompatible events. The community of selves may be viewed as a set of construct subsystems. Within this perspective, it is suggested that there are at least two ways that inferential incompatibility may arise. First, the way constructs are linked together may be different for two selves. For example, given two constructs A-B and C-D, one self may link A with C and B with D while another self links A with D and B with C:

<table>
<thead>
<tr>
<th>Self 1</th>
<th>Self 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>A--B</td>
<td>A--B</td>
</tr>
<tr>
<td>C--D</td>
<td>D--C</td>
</tr>
</tbody>
</table>

Second, the way constructs are linked together may be identical for two selves, but the two selves may be polar opposites. For example, two selves may each link A with C.
and B with D, but one self may be positioned at the A and C poles while the other self is positioned at the B and D poles:

\[
\begin{array}{cc}
\text{Self 1} & \text{Self 2} \\
+A--B & A--B+ \\
+C--D & C--D+
\end{array}
\]

When a permeable construct takes on a new element, it may or may not undergo change (Kelly, 1955). The more exactly a new element matches the prior content of a construct, or failing that, the more consistent it is with the pattern of past replications of events subsumed by that construct--in other words, the more inferentially compatible it is or is made to be with that construct--the less likely the construct is to undergo change as a result of taking on that new element. By contrast, the more inferentially incompatible an element is with a construct, the more likely the construct is to undergo change as a result of taking on that new element.

Within the model developed here, the anticipation of inferential incompatibility is seen as guiding the person in determining that a self does not have the capacity to take on a given role (i.e., that it is impermeable with respect to that role). It is hypothesized that the more inferentially incompatible the demands of a new role are with a given self, the greater the change that is likely to be involved for that self in taking on that role, and
because of the greater magnitude of change involved, the more likely it is that the person will resist having that self take on that role.

The degree to which a self is superordinate and the number of selves with which it is functionally equivalent (how connected it is with other selves) are seen as influencing how strongly the person is guided by the anticipation of inferential incompatibility. It is hypothesized that the more superordinate a self is and the greater the number of selves with which it is functionally equivalent, the greater the implications of any change, the more likely it is that the anticipation of such change will be experienced as threatening or anxiety arousing, and the more likely it is that the person will resist having that self take on that role.

While in one way or another inferential incompatibility, superordinateness, and functional dependence with other selves are seen as influencing a self's capacity to take on a new role, predominance is viewed more as influencing a self's opportunity to take on a new role. It is hypothesized that the less predominant a self is, the less accessible it will be, the less fully its range of convenience will be explored, and the less likely the person is to give that self the opportunity to take on a new role (if only because there are more predominant selves
into whose range of convenience similar roles have fallen in the past).

In brief, the more inferentially incompatible a given self is with a new role, the more superordinate a self is, the greater the number of selves with which a self is functionally equivalent, and the less predominant a self is, the more impermeable that self should be with respect to taking on that role. This hypothesis should have implications both for how a person sees him or herself in the homework and for how a person sees his or her constructs as applying to the homework. With regards to how a person sees him or herself in the homework, it was predicted that subjects would see a self that was relatively permeable with respect to the homework as more likely to carry out the homework than a self that was relatively impermeable with respect to the homework.

With regards to how a person sees his or her constructs as applying to the homework, three predictions were made. Specifically, when focused on a self that was permeable with respect to the homework as compared to a self that was impermeable with respect to the homework, it was predicted that a) on a greater number of constructs subjects would see the pole they used in describing that self as helping to carry out the homework, b) on a smaller number of constructs subjects would see the pole they used in describing that self as getting in the way of carrying out the homework, and
c) on a smaller number of constructs subjects would not choose either pole when initially describing that self. This last prediction derives from Hinkle's (1965) statement quoted earlier that construct change is resisted when it leads to a relative absence of predictive implications. It was thought that the more constructs which a subject initially scored zero when describing a given self--i.e. the more constructs he or she saw as not being applicable to that self--the less basis he or she would have for anticipating what it would be like for that self to take on the role of carrying out the homework.

In testing these hypotheses, a contingency management program for procrastination was used as the homework task. Procrastination was selected as a target problem because it is reported to be both a common experience among college students and a significant source of distress (Ellis & Knaus, 1977; Hill, Hill, Chabot, & Barrall, 1978). Furthermore, procrastination itself can be conceptualized as a form of resistance, and there is some suggestion that procrastinators may have poor compliance rates with therapy homework (Young, 1982).

Method

Subjects

Thirty-five undergraduate students (thirteen males and twenty-two females) were recruited to participate in return
for five points of extra credit in their psychology classes. Subjects ranged in age from 18 to 35.

**Experimenters**

Three (two male and one female) graduate level clinical psychology students were recruited to conduct the experiment. Each experimenter had at least one year of previous therapy experience.

**Procedure**

**Session One**

Each subject attended two sessions. During the first session (see Appendix A) the subject was instructed as to the role play nature of the study. In brief, the subject was asked to imagine that he or she had sought help for problems with procrastination and was working with a therapist to improve school performance (Appendix B).

Informed consent was obtained from each subject (Appendices B and C). The subject was then asked to complete a brief screening inventory regarding his or her experience of procrastination (Appendix D). Based on this inventory, two subjects (one male, one female) who indicated that they have rarely experienced themselves as procrastinating were excluded from the data analysis.

The subject was administered a Community of Selves Repgrid (Doster & Watson, 1987). This was a two step procedure in which a variation of Landfield's (1971) modification of Kelly's (1955) Role Construct Repertory Grid
was first used to elicit 15 constructs (Appendix E). The subject was then presented with a sample of 18 potentially self-relevant areas of experience (i.e. potentially meaningful selves) (Appendix F). Included within the sample were the "procrastinating me," the "ideal me," and the "usual me." The subject was asked to recall a specific experience relevant to each potential self and to record that experience on a note card. He or she was then asked to use the 15 constructs and a 13-point bipolar rating scale to describe what he or she was like during that experience.

At this point the subject was presented with a therapeutic program designed to decrease procrastination. This particular therapy program was selected because it involved considerable extratherapy activity and it had been found to elicit poor compliance from patients (Young, 1982). While the subject was not expected to actually perform extratherapy tasks, the program was presented in the same manner as if this was a real therapy session.

The subject was read a treatment rationale (Appendix G) and completed two inventories (Young, 1982). The first inventory (Appendix H) was designed to identify activities that act as positive reinforcers. The subject was encouraged to list those activities that occur most often during procrastination. The second inventory (Appendix I) was designed to identify activities that are neither reinforcing nor aversive. The subject was encouraged to
list those activities that occur least often during procrastination. He or she was then helped to set study goals on a day by day basis (Appendices J and K). Studying was defined as "being seated in a location clear of irrelevant materials and staying on task at least twenty-five minutes out of a thirty minute time period."

The therapy homework was then described to the subject (Appendix L). The homework consisted of a self-imposed contingency management program. According to that program, if the subject succeeded in studying during all blocks of time set aside as study periods for a given day, the subject was to engage for one hour in an activity selected from the inventory of reinforcing activities. If the subject missed one or more of the study periods during a given day, the subject was to engage for one hour in an activity selected from the inventory of least pleasant activities. In either case, the activity was to be engaged in for the hour immediately following the last study period for that day.

The subject was encouraged to think through what such a homework program would mean for him or her. He or she was asked to identify time and place of study, to identify the activity most likely to be engaged in if goals were met or not met, to identify when, where, and with whom that activity would be engaged in, and to identify adjustments needed in his or her regular schedule in order to carry out this program. The subject was then asked to rate on his or
her constructs what he or she would be like in carrying out this therapy program.

Prior to the second session, the Rep-test was scored. Measures of inferential incompatibility, superordinateness, connectedness, and predominance were calculated for each self (see below). Selves were rank ordered along each measure from most to least resistant to change. The rank order scores of all measures were summed for each self to obtain an overall rank order which should correspond to the relative permeability of the different selves with respect to the role of carrying out the homework.

**Inferential Incompatibility**

While two ways in which inferential incompatibility may arise were suggested earlier in this paper, the measure selected was based only on the idea of polar opposite selves. Polar opposite selves are defined in terms of the measure of functional dependence used in computing the FIC score (Landfield, 1971). Two selves are functionally dependent to the extent that the person either consistently uses the same construct pole (positive functional dependence) or consistently uses the opposite construct pole (negative functional dependence) in describing the two selves. Polar opposite selves are negatively functionally dependent. The person can see himself as if he were one or the other, but not both at the same time. The measure of
inferential incompatibility used was the degree of negative functional dependence of each self with the person's original description of how they would be in carrying out the therapy homework. Selves were rank ordered from the most negative to the most positive score (-15 to +15).

Superordination

The measure of superordination was based on the ordination score (Landfield & Barr, 1976) of each self. It was considered to be an indirect estimate of the degree of abstraction of each self. The ordination score consists of the number of different rating levels used in describing a self multiplied by the difference between the lowest and highest rating. Selves were rank ordered from the largest to the smallest score (30 to 0).

Connectedness

The measure of connectedness consisted of the number of selves with which a given self is functionally equivalent, excluding the self described by the subject when asked what he or she would be like in carrying out the homework. Two selves were considered to be functionally equivalent if on each of 12 or more constructs the person either consistently used the same construct pole or consistently used the opposite construct pole in describing the two selves. Selves were rank ordered from the largest to the smallest score (15 to 0).
Predominance

The measure of predominance was the degree of positive functional dependence of each self with the description of the usual self. Selves were rank ordered from the most negative to the most positive score (-15 to +15).

Session Two

During the second session (see Appendix M), the subject was asked to review what would be involved for him or her in carrying out this therapy program. The subject was then presented with the selves predicted to be the most permeable and the most impermeable with respect to taking on the role of carrying out the homework. Both the subject and the experimenter were blind as to the basis for the selection of the two selves. For half the subjects the more permeable self and for half the subjects the more impermeable self was presented first. The order of presentation for a given subject was determined by random assignment.

The most permeable and most impermeable selves were presented one at a time. In each case, to insure that the correct self was being accessed, the subject was handed the notecard from the first session on which a past experience relevant to that self was recorded and was again asked to rate on the fifteen constructs what he or she was like during that past experience. The subject was asked to identify what strengths and weaknesses this particular self would bring to such a homework program (Appendix M). The
interviewer was instructed to spend approximately equal time concentrating on strengths and weaknesses. This portion of the interview was taped. The examiner then read back to the subject their constructs and identified on each construct which pole the subject had used to describe this particular self. The subject was asked to rate whether being at that pole rather than the other pole would help or get in the way of carrying out the homework. Subject responses were coded as positive, negative, undecided, or makes no difference. Constructs on which the subject did not choose a pole—i.e. constructs which they scored 0 as not being applicable to that self—were omitted. After this procedure had been completed for both selves, the subject was asked to complete a compliance rating inventory (Appendix N) comparing both selves in term of how the different perspectives they offer affect the person's construal of, experience of threat and/or anxiety in response to, and expressed willingness to comply with the therapy program.

The subject was also asked to perform a paired comparisons task involving all the selves. He or she was first asked to quickly list some strengths and weaknesses for every self. All possible pairs of selves were then presented in random order. The subject was asked to order the two selves in each pair on the basis of which was more likely to carry out the homework (Appendix O). All rank
order scores for each self were summed and an overall rank order was computed.

**Results**

One of the basic assumptions underlying this study was that subjects could reliably identify what they were like during different types of self-experiencing. In other words, they could reliably identify and adopt the perspective of different selves in considering what carrying out the homework task would be like for those selves. At the second session subjects were again asked to rate on their personal constructs the selves predicted to be most and least permeable with respect to the homework task. A test-retest agreement score over the one week interval was computed by taking the number of constructs on which subjects used the same pole each time in describing a given self and dividing by the total number of constructs. Subjects were found on the average to use the same construct pole in describing a given self 71% of the time.

The stability of their choice of poles over the one week interval after correcting for chance agreement was measured by calculating Cohen's (1960) kappa (see Table 1). The values obtained were significantly greater than zero (i.e., subjects' choice of the same poles was significantly better than chance). A two-tailed, independent t-test calculated to see if there was any difference between the
most and least permeable selves for the value of kappa yielded nonsignificant results ($t=0.47$, $p > .05$).

An item analysis was performed to test whether or not all items on the compliance rating task (Appendix N) appeared to be measuring the same thing. Based on the item-total correlations (see Table 2), the rating task was divided into three parts along the lines of different task responsibilities. Items dealing with meeting and keeping track of study goals were scored together while items dealing with rewarding oneself for meeting study goals and items dealing with not rewarding oneself for not meeting study goals were scored separately. The coefficient alpha for each portion of the compliance rating task is reported in Table 3.

Pearson correlation coefficients were calculated between the three portions of the compliance rating task.
<table>
<thead>
<tr>
<th>Items</th>
<th>Item-Total Correlations</th>
<th>Items</th>
<th>Item-Total Correlations</th>
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<tbody>
<tr>
<td>21</td>
<td>.85</td>
<td>42</td>
<td>.60</td>
</tr>
<tr>
<td>22</td>
<td>.84</td>
<td>64</td>
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<tr>
<td>24</td>
<td>.62</td>
<td>33</td>
<td>-.03</td>
</tr>
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**Note.** Item Numbering: First digit refers to question number on compliance rating inventory, second digit refers to task component. Example: Item 11 deals with (question 1) the extent to which it is clearer to the person how either self would go about (task 1) meeting the study goals. (see Table 4). A low positive correlation was obtained between the portion dealing with meeting and keeping track of study goals and the portion dealing with engaging in a
Table 3

Coefficient Alphas for Compliance Rating Subtasks for Meeting and Keeping Track of Study Goals, Engaging in Reinforcing Activity for Meeting Goals, and Engaging in Nonreinforcing Activity for Not Meeting Goals

<table>
<thead>
<tr>
<th></th>
<th>Coefficient</th>
<th>Alpha</th>
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<tbody>
<tr>
<td>Meeting/Tracking Goals</td>
<td>.97</td>
<td></td>
</tr>
<tr>
<td>Reinforcing Activity</td>
<td>.85</td>
<td></td>
</tr>
<tr>
<td>Nonreinforcing Activity</td>
<td>.89</td>
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nonreinforcing activity for not meeting study goals. There were no other significant correlations.

Two-tailed, independent t-tests were calculated to test if order of presentation of the most and least permeable selves during the second session influenced results on either the compliance rating task or the construct rating task (see Table 5). Nonsignificant results were obtained in all cases.

Two-tailed, independent t-tests were also calculated to test if sex of subject influenced results on either the compliance rating task or the construct rating task (see Table 6). Nonsignificant results were obtained in all cases.
Table 4
Correlations Between Compliance Rating Subtasks

<table>
<thead>
<tr>
<th></th>
<th>Reinforcing Activity</th>
<th>Nonreinforcing Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting/Tracking Goals</td>
<td>-.03</td>
<td>.44*</td>
</tr>
<tr>
<td>Reinforcing Activity</td>
<td>.</td>
<td>-.21</td>
</tr>
</tbody>
</table>

* p < .01

Rank order correlation coefficients (Spearman rhos) were calculated for each self between each of the measures of resistance to change to insure that they were measuring different things. For each pair of resistance to change measures, this method yielded one correlation per self (i.e. a total of 16 correlations). These correlations were converted to z scores, and a mean rank order correlation was calculated (see Table 7). All possible combinations of the measures of inferential incompatibility, connectedness, and predominance yielded significant correlations. The more selves a given self was connected with the more likely that self was to be compatible both with the usual me and with the homework task. The more predominant a given self was, the more likely it was to be seen as compatible with the homework task. However, the correlations obtained were low enough that each of these measures does appear to be measuring something different. Nonsignificant correlations
Table 5

One-Tailed Independent t-Tests for Effect of Order of Presentation of Most and Least Permeable Selves on the Compliance Rating Task and Construct Rating Task

<table>
<thead>
<tr>
<th>Order of Presentation</th>
<th>Permeable Self First</th>
<th>Impermeable Self First</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Meeting/Tracking</td>
<td>12.82</td>
<td>44.39</td>
</tr>
<tr>
<td>Goals</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reinf. Act.</td>
<td>5.00</td>
<td>16.69</td>
</tr>
<tr>
<td>Nonreinf. Act.</td>
<td>4.65</td>
<td>15.41</td>
</tr>
<tr>
<td>Permeable Self</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructs Help</td>
<td>8.76</td>
<td>3.91</td>
</tr>
<tr>
<td>Constructs Hurt</td>
<td>3.65</td>
<td>3.61</td>
</tr>
<tr>
<td>Zero Rating</td>
<td>2.12</td>
<td>2.32</td>
</tr>
<tr>
<td>Impermeable Self</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructs Help</td>
<td>5.59</td>
<td>4.14</td>
</tr>
<tr>
<td>Constructs Hurt</td>
<td>5.53</td>
<td>4.16</td>
</tr>
<tr>
<td>Zero Rating</td>
<td>3.35</td>
<td>3.18</td>
</tr>
</tbody>
</table>

were obtained between the rank order based on the measure of superordinateness and the rank orders based on each of the other measures of resistance to change.
Table 6

One-Tailed Independent t-Tests for Effect of Sex of Subject on the Compliance Rating Task and the Construct Rating Task

<table>
<thead>
<tr>
<th>Sex of Subject</th>
<th>Male</th>
<th>Female</th>
<th>t</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
<td>Mean</td>
</tr>
<tr>
<td>Meeting/Tracking</td>
<td>16.00</td>
<td>52.59</td>
<td>13.14</td>
</tr>
<tr>
<td>Goals</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reinf. Act.</td>
<td>6.58</td>
<td>14.79</td>
<td>6.05</td>
</tr>
<tr>
<td>Nonreinf. Act.</td>
<td>8.58</td>
<td>16.52</td>
<td>-2.29</td>
</tr>
<tr>
<td>Permeable Self</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructs Help</td>
<td>11.25</td>
<td>3.28</td>
<td>8.43</td>
</tr>
<tr>
<td>Constructs Hurt</td>
<td>2.00</td>
<td>2.95</td>
<td>3.52</td>
</tr>
<tr>
<td>Zero Rating</td>
<td>1.58</td>
<td>1.62</td>
<td>2.14</td>
</tr>
<tr>
<td>Impermeable Self</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructs Help</td>
<td>6.17</td>
<td>3.79</td>
<td>7.05</td>
</tr>
<tr>
<td>Constructs Hurt</td>
<td>5.75</td>
<td>3.49</td>
<td>3.90</td>
</tr>
<tr>
<td>Zero Rating</td>
<td>2.67</td>
<td>3.06</td>
<td>3.24</td>
</tr>
</tbody>
</table>

The first hypothesis was that subjects would see a self that was relatively permeable with respect to the homework as more likely to carry out that homework than a self that was relatively impermeable with respect to the homework. One-tailed, independent t-tests were calculated comparing
Table 7

Mean Rank Order Correlations between the Resistance to Change Measures

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Superordination</td>
<td>.08</td>
<td></td>
</tr>
<tr>
<td>Connectedness</td>
<td>.39*</td>
<td>.09</td>
</tr>
<tr>
<td>Predominance</td>
<td>.34*</td>
<td>.05</td>
</tr>
</tbody>
</table>

*p < .05

Subjects' scores for each portion of the compliance rating task against a constant of zero (based on the null hypothesis of no difference between selves) (see Table 8). Significant results were obtained for two portions of the task. Subjects rated the self predicted to be most permeable with respect to the homework as more likely to meet and keep track of study goals than the self predicted to be most impermeable with respect to the homework. Subjects also rated the permeable self as more likely to engage in a reinforcing activity after meeting study goals than the impermeable self. Nonsignificant results were obtained for the portion of the compliance rating task applying to engaging in a nonreinforcing activity after not meeting study goals.
As a second test of this hypothesis, and in an attempt to determine which if any of the measures of resistance to change were influencing which selves a subject saw as more or less likely to carry out the homework, each of the four measures of resistance to change were used to define 16 categories from most to least resistant to change into which the selves were sorted. For each subject, the rankings on the paired comparison task were recorded under the categories defined by each measure of resistance to change. Kendall’s coefficient of concordance $W$ was calculated as a measure of the degree of association among these rankings (see Table 9). For the measure of inferential incompatibility, the paired comparison task rankings were found to be related to one another. Nonsignificant results were obtained for the other measures of resistance to change.
Table 9

Kendall's Coefficient of Concordance W for Paired Comparison Task Rankings of Categories Based on Each Measure of Resistance to Change

<table>
<thead>
<tr>
<th>Measure of Resistance to Change</th>
<th>W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inferential Incompatibility</td>
<td>0.14*</td>
</tr>
<tr>
<td>Superordination</td>
<td>0.04</td>
</tr>
<tr>
<td>Connectedness</td>
<td>0.03</td>
</tr>
<tr>
<td>Predominance</td>
<td>0.02</td>
</tr>
</tbody>
</table>

* P < .001

When Kendall's W is significant, the best estimate of the "true" ranking on the paired comparison task is provided by the sum of the ranks under each category defined by the given measure of resistance to change. The ranks under each category defined by the measure of inferential incompatibility were summed in this manner, and a Spearman rho was calculated between this estimate of the paired comparison task ranking and the original ranking of the categories from most to least resistant to change on the measure of inferential incompatibility (r=.91, p<.001). The rankings based on the paired comparison task and the measure of inferential incompatibility were found to be related to one another.
The second hypothesis was that subjects would see their polar position on a greater number of constructs as helping to carry out the homework when focused on a self that was permeable with respect to the homework than when focused on a self that was impermeable with respect to the homework.

One-tailed, related t-tests were calculated comparing subjects' ratings of their constructs when focused on the permeable self and when focused on the impermeable self (see Table 10). As predicted, when focused on the permeable self subjects rated their polar position on a greater number of constructs as helping to carry out the homework than when focused on the impermeable self.

The third hypothesis was that subjects would see their polar position on a smaller number of constructs as getting
Table 11

One-Tailed, Related t-Tests for Ratings of Constructs as Getting in Way When Focused on Most and Least Permeable Selves

<table>
<thead>
<tr>
<th>Number of Constructs</th>
<th>Permeable Self</th>
<th>Impermeable Self</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>SD</td>
</tr>
<tr>
<td>Construct Hurts</td>
<td>2.97</td>
<td>3.18</td>
</tr>
</tbody>
</table>

* p < .05

In the way of carrying out the homework when focused on a self that was permeable with respect to the homework than when focused on a self that was impermeable with respect to the homework. One-tailed, related t-tests were calculated comparing subjects' ratings of their constructs when focused on the permeable self and when focused on the impermeable self (see Table 11). As predicted, when focused on the permeable self subjects rated their polar positions on a smaller number of constructs as getting in the way of carrying out the homework than when focused on the impermeable self.

The fourth hypothesis was that on a smaller number of constructs subjects would not choose either pole when
Table 12

One-Tailed, Related t-Tests for Ratings of Constructs as Not Relevant When Focused on Most and Least Permeable Selves

<table>
<thead>
<tr>
<th>Number of Constructs</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permeable Self</td>
</tr>
<tr>
<td>Mean</td>
</tr>
<tr>
<td>----------------------</td>
</tr>
<tr>
<td>Zero Rating</td>
</tr>
</tbody>
</table>

* p < .01

initially describing a self that was permeable with respect to the homework than when initially describing a self that was impermeable with respect to the homework. One-tailed, related \( t \)-tests were calculated comparing the number of constructs subjects scored their position on as zero when initially describing the permeable self and when initially describing the impermeable self (see Table 12). As predicted, when describing the permeable self as compared to when describing the impermeable self, they rated a smaller number of constructs as not being applicable to the particular self at hand (i.e., on a smaller number of constructs they did not choose either pole but instead scored their position on the construct as a zero when initially describing the self at hand).
**Additional Findings**

In order to explore the relationship between a subject's ability to identify and adopt the perspective of the permeable and impermeable selves and their construal of these selves in the role of carrying out the homework, Pearson correlation coefficients were calculated between the test-retest agreement score for the most and least permeable selves and each portion of the compliance rating task and of the construct rating task (see Table 13). The test-retest agreement score for the most permeable self was found to be related to three measures on the construct rating task. When asked to focus on the most permeable self, the number of constructs a subject rated as helping to carry out the homework was higher the more successful a subject was at reidentifying the most permeable self. Similarly, the number of constructs rated as getting in the way of the homework was lower the more successful the subject was at reidentifying the most permeable self. When asked to focus on the least permeable self, the number of constructs rated as getting in the way of the homework was also lower the more successful the person was at reidentifying the most permeable self. No significant correlations were found between the test-retest agreement score for the least permeable self and either the compliance rating task or the construct rating task.
Table 13

Correlations of Test-Retest Agreement Scores for Selves with Compliance Rating Task and Construct Rating Task

<table>
<thead>
<tr>
<th>Test-Retest Agreement</th>
<th>Permeable Self</th>
<th>Impermeable Self</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meeting/Tracking Goals</td>
<td>.16</td>
<td>.03</td>
</tr>
<tr>
<td>Reinforcing Activity</td>
<td>.13</td>
<td>-.22</td>
</tr>
<tr>
<td>Nonreinforcing Activity</td>
<td>-.10</td>
<td>-.19</td>
</tr>
<tr>
<td>Permeable Self</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructs Help</td>
<td>.45**</td>
<td>.15</td>
</tr>
<tr>
<td>Constructs Hurt</td>
<td>-.61***</td>
<td>-.16</td>
</tr>
<tr>
<td>Zero Rating</td>
<td>.08</td>
<td>.09</td>
</tr>
<tr>
<td>Impermeable Self</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructs Help</td>
<td>.12</td>
<td>.03</td>
</tr>
<tr>
<td>Constructs Hurt</td>
<td>-.30*</td>
<td>.14</td>
</tr>
<tr>
<td>Zero Rating</td>
<td>.15</td>
<td>-.21</td>
</tr>
</tbody>
</table>

* p < .05    ** p < .01    *** p < .001

It was expected that responses on the compliance rating task and the construct rating task would be related. Pearson correlation coefficients were calculated between the different portions of these two tasks (see Table 14). When focused on the most permeable self, the greater the number of constructs that subjects rated as helping with carrying
Table 14
Correlations between Compliance Rating Task and Construct Rating Task

<table>
<thead>
<tr>
<th></th>
<th>Meeting/Tracking Goals</th>
<th>Reinf. Activity</th>
<th>Nonreinf. Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Permeable Self</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructs Help</td>
<td>.51***</td>
<td>.04</td>
<td>.23</td>
</tr>
<tr>
<td>Constructs Hurt</td>
<td>-.51***</td>
<td>-.28</td>
<td>-.14</td>
</tr>
<tr>
<td>Zero Rating</td>
<td>-.13</td>
<td>.29</td>
<td>-.09</td>
</tr>
<tr>
<td>Impermeable Self</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Constructs Help</td>
<td>.43**</td>
<td>.17</td>
<td>.32*</td>
</tr>
<tr>
<td>Constructs Hurt</td>
<td>-.55***</td>
<td>.07</td>
<td>-.32*</td>
</tr>
<tr>
<td>Zero Rating</td>
<td>.04</td>
<td>-.27</td>
<td>-.17</td>
</tr>
</tbody>
</table>

* p < .05   ** p < .01   *** p < .001

out the homework and the smaller the number of constructs that they rated as getting in the way of the homework, the more they tended to rate the most permeable self as more likely to take on the role of meeting and keeping track of study goals. When focused on the least permeable self, the greater the number of constructs that subjects rated as helping with the homework and the smaller the number of constructs that they rated as getting in the way of the homework, the more they tended to rate the least permeable self as more likely to take on the role of a) meeting and
keeping track of study goals and b) engaging in a nonreinforcing activity for not meeting study goals.

Discussion

As hypothesized, both the way subjects saw themselves in the homework and the way they saw their constructs as applying to the homework did seem to be influenced by which self they were looking at. Moreover, the model of resistance to change derived from personal construct theory was partially successful in predicting which selves the person would see as being more likely to take on the role of carrying out the homework.

One of the more interesting findings emerging from this study was the manner in which the present results differed from those of Hinkle's (1965) study. He found that the more superordinate a construct was and the more constructs that it was connected with, the more subjects tended to resist slot change on it. In the present study, the tests of the intended measures of superordinateness and connectedness did not yield significant results. Instead, which selves subjects tended to see as likely to take on the role of carrying out the homework was found to depend on their degree of inferential incompatibility with that role.

In comparing the present results to those of Hinkle's (1965), two important differences leap immediately to mind. First, the methods employed in measuring the various factors seen as leading to resistance to change were considerably
different. Hinkle made use of an implications grid and a resistance to change grid. The present study made use of a variation of a rep-grid. While most of the measures were derived from Hinkle's work, it was impossible to duplicate the measures he used.

A second, and perhaps more significant difference in terms of its implications, is that the two studies were looking at resistance to change at different levels of organization in the construct system and hence were looking at resistance to fundamentally different types of change. Hinkle (1965) was looking at resistance to slot change on individual constructs within the context of a given construct subsystem. The present study was looking at resistance to taking on a new role by construct subsystems (i.e., selves) within the context of a larger construct system. Because different types of change were involved, what led a person to resist that change may also have differed.

The distinction being drawn here is an example of Watzlawick, Weakland, and Fisch's (1974) notion of the difference between first and second order change. First order change is change that occurs within a given system without changing the system itself. Second order change involves changing the system itself. They went on to make the point that the rules governing change within a given system (i.e., first order change) are not and cannot be the
same rules governing change of that system itself (i.e., second order change).

Within this framework, Hinkle (1965) seems to have been dealing with first order change within a construct subsystem. He in effect obtained a set of descriptive rules governing slot change on constructs within a particular subsystem such that if a given construct underwent slot change, he could predict which other constructs would also undergo change. He was then able to use this information to predict which constructs a person would be more likely to resist slot change on. The rules he obtained, however, told one nothing about how the subsystem itself might change or to what degree any such change would be resisted.

The situation with the present study is less clear cut because it did not identify what change might follow a given self taking on a new role. As Kelly (1955) pointed out, when a construct takes on a new element, it may or may not undergo change in its meaning. Similarly, when a construct subsystem takes on a new role, it may or may not itself undergo change. Nevertheless, the present study does seem to have at least introduced the possibility of a second order change of the construct subsystem.

It was hypothesized that the more inferentially incompatible a construct subsystem was with a new role, the more likely that subsystem would be to undergo change as a result of taking on the new role, and the more likely the
person would be to resist having that subsystem take on the role. The results obtained were consistent with this hypothesis. Subjects did tend to see a self that was more inferentially incompatible with a new role as less likely to take on that role. However, there was no measure as to whether this increased resistance reflected an actual anticipation of greater change for that particular self nor was there a measure of the nature of any change that might have been anticipated.

The notion of second order change bears on this study in another way. The basic hypothesis of this research was that the way one looked at and talked about oneself would influence the way one looked at a homework program in therapy. Specifically, if one were to make use of the metaphor of the community of selves, then looking at homework from the perspective of different selves should influence one's willingness to take on the homework. Using slightly different language, one could talk about the effects of focusing on different self-aspects or of choosing different construct subsystems to guide one's anticipations. Whatever the choice of language, the point is that in shifting from the perspective of one self to that of another, the way that one sees the homework should also shift in ways that cannot be predicted from within the perspective of either self alone. In other words, such
shifts involve second order change that can only be anticipated within the context of a larger system.

If one takes seriously the suggestion that such shifts in perspective influence how we see ourselves and how we see the world, then one is led to the conclusion that the meaning of a given construct depends on the particular perspective that one has adopted and that a shift in one's perspective may lead to a change in the construct's meaning. Hinkle (1965), in elaborating a theory of construct implication seems to have arrived at a similar conclusion, arguing that the implications of a construct depend on the context of relationships among constructs within which it occurs.

There were no formal tests in this study of how constructs might change in meaning with shifts in the perspective adopted in looking at oneself. However, it was observed that when moving from the perspective of one self to that of another, subjects were not always consistent in identifying the poles of a given construct as helping to or getting in the way of carrying out the homework. When informally questioned at the end of their second session about these discrepancies, some subjects could not explain them, some dismissed them as errors, and some indicated that the meaning of the construct in question depended on which self they were looking at.
Some examples might help to clarify this. One subject on the construct "unconfronting versus too confronting" saw being too confronting as getting in the way of carrying out the homework when she was focused on the Getting Ahead Me because this side of herself would try to take on too much. For this side of herself, a shift to being unconfronting would help to carry out the homework. On the other hand, she saw being unconfronting as getting in the way of carrying out the homework when she was focused on the Vulnerable Me because this side of herself tended to be to passive and to not have the initiative to get things done. For this side of herself, a shift to being too confronting would help to carry out the homework.

Another subject on the construct "same view of life in the future versus unimaginative, boring" saw having the same view of life in the future as helping to carry out the homework when he was focused on the Getting Things Done Me because this side of himself has a positive view of life. On the other hand, he saw having the same view of life in the future as getting in the way of the homework when he was focused on the Possessing Me because this side of himself has a negative view of life.

This finding would seem to have important implications for therapy. If the meaning of constructs depend on the context of the self within which they occur, then it will be important to know "who" a client is bringing to a given
situation and "who" they might bring instead. Constructs that seem to allow no room for change may shift in meaning and present a less formidable barrier from the perspective of another self.

With respect to compliance with therapy homework, another implication this study would seem to have for therapy is that homework needs to be given to selves that are compatible with carrying out the demands of that homework. Moreover, in a relatively complex program such as that employed here, it may be necessary for the client to give different selves responsibility for different portions of the program. With the present program, for example, even if a person were to find the perspective of a given self useful in taking on and successfully discharging the responsibility of carrying out the studying, they might still find it difficult from that same perspective to accept responsibility for carrying out a rewarding activity, might find it difficult to carry out that activity if they did accept responsibility, and if they did carry out the activity, might not perceive that activity as very rewarding.

With regards to future research, two questions raised for me by this study would seem to be of particular interest. First, how might a given self change as a result of taking on a new role, and how is the anticipation of that change linked to resistance to taking on the new role.
Second, how might a person's self-experiencing in a given context change as a result of shifting to the perspective of another self, and how is that anticipation linked to resistance to making the shift in perspective. To the extent that such questions could be answered, it would seem that we would be making progress towards identifying some of the rules governing change at different levels of a person's construct system.
APPENDIX A

SCHEDULE FOR FIRST MEETING
Appendix A

Schedule for First Meeting

1. Read the explanation of the study (Appendix B) and ask the subject if he or she has any questions. If so, respond by paraphrasing the explanation, being careful not to provide any substantially new or different information.

2. Ask the subject to sign the consent form (Appendix C).

3. Administer the inventory dealing with their experience of themselves as procrastinating (Appendix D).

4. Administer the Reptest (Appendix E).

5. Have the subject rate the sample of selves along his or her personal constructs (Appendix F).

6. Remind the subject that he or she is playing the part of a person seeking help with procrastination. Tell the subject that for the next part of the study you are going to be playing the part of a therapist presenting a homework task to a client. Make sure that the subject understands that you will be talking about the homework task exactly as if you expected it to be carried out.

7. Read the treatment rationale to the subject (Appendix G).

8. Have the subject complete the reinforcement inventories (Appendices H and I).

9. Help the subject set daily study goals (Appendix J) using a schedule sheet (Appendix K).
Appendix A--Continued

10. Present the contingency management program to the subject (Appendix L).

11. Have the subject rate on his or her personal constructs what he or she would be like in carrying out the homework task.
APPENDIX B

EXPLANATION OF STUDY
Appendix B

Explanation of Study

Many students experience problems with procrastination. They may not complete assignments, they may be late for deadlines, or they may produce inferior rushed work. In some cases this interferes with their school performance to the point that they seek help. What we are asking you to do for this study, by drawing on your own experiences with procrastination, is to place yourself in the position of such a person. In other words, to imagine that you have sought help for problems with procrastination and that you are working with a therapist to improve your school performance.

The study will require two meetings. Today's session will last approximately one and a half hours and will involve completion of some self-rating tasks, presentation of a therapy program for procrastination, and an interview focusing on what might be involved for you if you were to carry out that program. The second session will last approximately one hour and will involve some additional rating tasks as well as a series of brief interviews focusing on what strengths and weaknesses you might bring to such a therapy program.

Your responses will be confidential, and following completion of your second session, any identifying information will be removed from your records. You are free
Appendix B--Continued

to withdraw from the study at anytime. If you desire it, a fuller explanation of this study will be provided at the end of the second meeting.
APPENDIX C

INFORMED CONSENT
Appendix C

Informed Consent

Name of subject:______________________________ I hereby give consent to ______________________ to perform or supervise the following investigational procedure or treatment: A role play study focusing on a therapy program for procrastination.

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

__________________________
Date
Signed:_____________________
Subject
Appendix D

Procrastination Inventory

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

1. I have experienced myself as procrastinating.
   Strongly Disagree Neutral Agree Strongly
   Disagree 2 3 4 5

2. I have sought treatment in the past for problems with procrastination.
   True False
   1 2

If you answered "True" to item 2, respond to the following item.

3. I saw the treatment I received as helping me to successfully reduce my procrastinating.
   Strongly Disagree Neutral Agree Strongly
   Disagree 2 3 4 5
APPENDIX E

INSTRUCTIONS FOR THE ROLE CONSTRUCT REPERTORY TEST
Appendix E

Instructions for the Role Construct Repertory Test

First Step: Find the slanted lines in the upper left-hand corner of the RESPONSE SHEET.

1. Write the first name of your mother or the person who has played the part of your mother where it says .us mother.

2. Write the first name of your father or the person who has played the part of your father where it says .us father.

3. Write the name of your brother nearest your own age, or the person who has played the part of such a brother.

4. Write the name of your sister nearest your own age, or the person who has played the part of such a sister.

5. Your wife (or husband) or closest present girl-friend (or boyfriend). Do not repeat the name of anyone listed above.

6. Your closest present friend of the same sex as yourself. Do not repeat names.

7. A person with whom you have worked or associated who, for some unexplainable reason, appeared to dislike you. Do not repeat names.

8. The person with whom you usually feel most uncomfortable. Do not repeat names.

9. The person you have met whom you would most like to know better. Do not repeat names.
Appendix E--Continued

10. The teacher whose point of view you have found most acceptable. Do not repeat names.

11. The teacher whose point of view you have found most objectionable. Do not repeat names.

12. The most unsuccessful person you know personally. Do not repeat names.

13. The most successful person you know personally. Do not repeat names.

14. The happiest person you know personally. Do not repeat names.

15. Yourself.

Do your best to find people who fit each description. If you cannot remember a person's first name, write the last name or put down something about the person which will remind you who it is. If you know two people with the same first name, use a last initial as well.

Second Step

Below your list of names, find Row A. Notice that Row A has three circles. Look at the names above the circles. Think carefully about these three people.

THINK OF A WAY IN WHICH TWO OF THESE PEOPLE ARE ALIKE AND DIFFERENT FROM THE THIRD.

Write the way in which these two people are alike in the space for Row A under the heading Column 1.
Appendix E--Continued

Write the way in which the third person is different from the two who are alike in the space for Row A under the heading Column 2.

After you finish Row A, complete Row B, Row C, etc. Follow the same instructions.
APPENDIX F

INSTRUCTIONS FOR THE COMMUNITY OF SELVES REP-TEST
Appendix F

Instructions for the Community of Selves Rep-test

Copy each of the directions you wrote on your first response sheet under the headings Column 1 and Column 2 onto your new response sheet under the same headings.

Find the slanted lines in the upper left-hand corner of your new response sheet. Notice that each line has been filled in with a descriptive label. The first label is the Vulnerable me.

THINK OF A TIME WHEN YOU EXPERIENCED YOURSELF AS BEING VULNERABLE.

On the notecard labeled Vulnerable me, write down something about that experience which will remind you of it.

Now look over the descriptions you wrote on Row a under the headings Column 1 and Column 2. Notice that between your two descriptions is a rating scale -6-5-4-3-2-1 0 +1+2+3+4+5+6. A negative rating indicates that the description in Column 1 applies. A positive rating indicates that the description in Column 2 applies. The higher the rating, the more the description fits. A zero rating indicates that neither description fits. Use your descriptions and this rating scale to give your impression of what you were like when you experienced yourself as vulnerable. Do the same for each row of descriptions.
Appendix F--Continued

When you have completed the rating task for what you were like when you experienced yourself as being vulnerable, go on to the next label. Think of a time when you experienced yourself as being spiritual. Complete the rating task following the same instructions. Repeat the procedure for each label.

Note to Experimenter. The subject will be asked to rate the following selves:

Vulnerable me
Protective me
Spiritual me
Inventive me
Critical me
Getting Things Done me
Possessing me
Sensual me
Getting Ahead me
Moral me
Dreaming me
Playful me
Organizing me
Joining me
Sexual me
Procrastinating me

When the subject has rated each of these selves, have him or her rate the ideal me and the usual me. For the ideal me, instruct the subject to think of how they would ideally like to be. For the usual me, instruct the subject to think of how they usually are.
APPENDIX G

TREATMENT RATIONALE
Appendix G

Treatment Rationale

Many students who have problems with procrastination often are confused as to proper application of rewards and punishment. In other words, frequently they reward themselves for work not yet completed. The purpose of your treatment is to improve your study habits by assisting you to learn and practice more effective patterns of reward and punishment.

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

PLEASANT ACTIVITIES INVENTORY
Appendix H

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

Describe activity
1 ____________________________ A B C D E F G
2 ____________________________ A B C D E F G
3 ____________________________ A B C D E F G
4 ____________________________ A B C D E F G
5 ____________________________ A B C D E F G
6 ____________________________ A B C D E F G

Key
A--Usually costs less than $4 to do
B--Usually you do alone
C--Usually you do with one other person
D--Usually takes less than five minutes to plan
E--Usually are activities you initiate
F--Activity you have engaged in during the past seven days
G--Activity you would like to engage in more often
APPENDIX I

LEAST PLEASANT ACTIVITIES INVENTORY
Appendix I

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

Describe activity

1_________________________ A B C D E F G
2_________________________ A B C D E F G
3_________________________ A B C D E F G
4_________________________ A B C D E F G
5_________________________ A B C D E F G
6_________________________ A B C D E F G

Key
A--Usually costs less than $4 to do
B--Usually you do alone
C--Usually you do with one other person
D--Usually takes less than five minutes to plan
E--Usually are activities you initiate
F--Activity you have engaged in during the past seven days
G--Activity you would like to engage in less often
APPENDIX J

SETTING STUDY GOALS
Appendix J

Setting Study Goals

Read the subject the following definition of studying:
"For the purpose of your treatment program, studying will be defined as being seated in a location clear of irrelevant materials and as staying on task at least twentyfive minutes out of a thirty minute time period." Clarify the importance of the work space and have the subject select a specific space. Point out that no television, conversations, snacking, looking out windows, etc. should occur during the study period. Have the subject explain back to you what studying should be and clarify any misunderstandings.

Give the subject a schedule sheet (Appendix K) and assist in setting goals on a day to day basis. Have the subject specify which thirty minute time blocks he plans to use for studying for the next week. Mark the agreed upon time blocks with a yellow hi-liter.

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

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APPENDIX L

CONTINGENCY MANAGEMENT PROGRAM
Appendix L

Contingency Management Program

Read the following instructions: "If, after the last study period of each day, you have studied all of the agreed upon study periods for that day, you are to immediately reward yourself by engaging for the next hour in an enjoyable activity selected from the questionnaire you completed earlier. If you prefer because you are tired or sleepy, you may choose to go to bed, but the reward is not to be saved for the next day." Have the subject specify and talk about which activity he or she would pick for the next day assuming he or she studies all the agreed periods.

Continue with the instructions. "If you do not study for one or more of the agreed upon time periods, you are not to reward yourself, even if you have studied an equal number of hours at other times. Instead you are to engage for the next hour in a least pleasant activity selected from the questionnaire you completed earlier. This should be done immediately following the termination of the last agreed upon study period." Have the subject specify and talk about which activity he or she would pick for the next day assuming a study period was missed.

Instruct the subject that he or she should keep track of all periods spent studying, even if not during agreed upon study periods, by marking an "S" in the appropriate space on the schedule sheet. The subject should also be
Appendix L--Continued

told to keep track of what he or she does in the hour following the last agreed upon study period of the day.

At this point confirm that the subject understands what is involved and clarify any misunderstandings. Ask the subject to describe carrying out the program for the next day. Make sure the subject specifies when and where he or she will study, what activity he or she will engage in if study goals are met or not met, and when, where, and with whom he or she will engage in that activity. Question the subject about what adjustments will need to be made in his or her other activities in carrying out this program.
APPENDIX M

SCHEDULE FOR SECOND MEETING
Appendix M

Schedule for Second Meeting

1. Remind the subject about the role play nature of the study.
2. Ask the subject to review what would be involved in carrying out the homework task during a given day. Prompt as necessary regarding the homework procedures. Make sure the subject specifies when and where he or she will study, what activities he or she will engage in if study goals are met or not met on that day, when, where, and with whom he or she will engage in that activity, and what adjustments will need to be made in the subject's regular schedule in order to carry out this program.
3. Read the subject the following rationale for focusing on different selves: "A useful way of looking at oneself in therapy is to talk as if one were a community of persons with different persons having different responsibilities. While this manner of talking about oneself may seem somewhat awkward and unfamiliar at first, it can help to provide insight into one's behavior. I'd like to explore with you now how you might apply this idea to the therapy program for procrastination that we've been discussing."
4. Based on the results of the first meeting, two "selves" will be selected prior to the second session. Identify the first "self" for the subject by its label and hand him or her the note card used to record an experience related to
Appendix M--Continued

that "self" during the first meeting. Ask the subject to rerate that "self" along his or her personal constructs.

5. Ask the subject to think about what he or she was like when he or she (specify experience on notecard). Explore with the subject what it would be like for him or her if that "self" was given responsibility for carrying out the homework task. Sample questions might include: What will this side of you be like in carrying out this task? What will it bring to this task that might help you to carry it out? What will it bring to this task that might get in the way of carrying it out? Spend approximately equal time focusing on how that self might help and how it might get in the way of carrying out the homework task. Complete this portion of the interview by telling the subject that you're going to read back the descriptions he or she used earlier to rate this self. Read the first construct and say, "Here you described the (fill in label) side of yourself as (fill in construct pole used). Would being (fill in construct pole used) rather than (fill in construct pole not used) help or get in the way of your carrying out this task in therapy." Next to the construct mark a "+" if he or she says it would help, a "-" if he or she says it would get in the way, a "n" if he or she says it would not make a difference, and a "?" if he or she cannot tell. You may omit those constructs on which the subject did not choose
Appendix M--Continued

either construct pole in describing the self (i.e. a zero rating).

6. Follow the procedures outlined in steps 4 through 5 for the second self.

7. Ask the subject to complete the rating task comparing the two selves with respect to carrying out the homework task (Appendix N).

8. Ask the subject to run down the original list of selves, briefly noting strengths and weaknesses that each of these selves might bring to this task.

9. Have the subject perform the paired comparisons task (Appendix O).
APPENDIX N

COMPLIANCE RATING INVENTORY
Appendix N

In responding to the items below, recall what you were like during each of the experiences recorded on the two cards in front of you.

1. Using the rating scales below, identify the extent to which it is clearer to you how one side or the other would go about each task specified.

a. Meeting my study goals
   My _________ Side       My _________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

b. Keeping track of my study time on the schedule sheet
   My _________ Side       My _________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

c. Carrying out the enjoyable activity I picked
   (assuming I met my study goals)
   My _________ Side       My _________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

d. Carrying out least pleasant activity I picked
   (assuming I did not meet my study goals)
   My _________ Side       My _________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6
Appendix N--Continued

2. Using the rating scales below, identify the extent to which it makes more sense to you to give each task specified to one side or the other.

a. Meeting my study goals
   My _________ Side       My _________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

b. Keeping track of my study time on the schedule sheet
   My _________ Side       My _________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

c. Carrying out the enjoyable activity I picked
   (assuming I met goals)
   My _________ Side       My _________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

d. Carrying out the least pleasant activity I picked
   My _________ Side       My _________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6
Appendix N--Continued

3. Using the rating scales below, identify the extent to which it would be more unpleasant for one side or the other to have responsibility for carrying out each task specified.

   a. Meeting my study goals
      
      My _________ Side       My _________ Side
      -6-5-4-3-2-1 0 +1+2+3+4+5+6

   b. Keeping track of my study time on the schedule sheet
      
      My _________ Side       My _________ Side
      -6-5-4-3-2-1 0 +1+2+3+4+5+6

   c. Carrying out the enjoyable activity I picked
      (assuming I met my study goals)
      
      My _________ Side       My _________ Side
      -6-5-4-3-2-1 0 +1+2+3+4+5+6

   d. Carrying out the least pleasant activity I picked
      (assuming I did not meet my study goals)
      
      My _________ Side       My _________ Side
      -6-5-4-3-2-1 0 +1+2+3+4+5+6
Appendix N--Continued

4. Using the rating scales below, identify the extent to which it would be more upsetting for one side or the other to have responsibility for carrying out each task specified.

a. Meeting my study goals

   My __________ Side          My __________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

b. Keeping track of my study time on the schedule sheet

   My __________ Side          My __________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

c. Carrying out the enjoyable activity I picked
   (assuming I met my study goals)

   My __________ Side          My __________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6

d. Carrying out the least pleasant activity I picked
   (assuming I did not meet my study goals)

   My __________ Side          My __________ Side
   -6-5-4-3-2-1 0 +1+2+3+4+5+6
5. Using the rating scales below, identify the extent to which it would be more aggravating for one side or the other to have responsibility for carrying out each task specified.

<table>
<thead>
<tr>
<th></th>
<th>My _________ Side</th>
<th>My _________ Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>a. Meeting my study goals</td>
<td>-6-5-4-3-2-1 0+1+2+3+4+5+6</td>
<td></td>
</tr>
<tr>
<td>b. Keeping track of my study time on the schedule sheet</td>
<td>-6-5-4-3-2-1 0+1+2+3+4+5+6</td>
<td></td>
</tr>
<tr>
<td>c. Carrying out the enjoyable activity I picked (assuming I met my study goals)</td>
<td>-6-5-4-3-2-1 0+1+2+3+4+5+6</td>
<td></td>
</tr>
<tr>
<td>d. Carrying out the least pleasant activity I picked (assuming I did not meet my study goals)</td>
<td>-6-5-4-3-2-1 0+1+2+3+4+5+6</td>
<td></td>
</tr>
</tbody>
</table>
Appendix N--Continued

6. Using the rating scales below, identify the extent to which you feel one side or the other would be more likely to carry out each task specified.

a. Meeting my study goals

My _________ Side          My _________ Side
-6-5-4-3-2-1 0 +1+2+3+4+5+6

b. Keeping track of my study time on the schedule sheet

My _________ Side          My _________ Side
-6-5-4-3-2-1 0 +1+2+3+4+5+6

c. Carrying out the enjoyable activity I picked
(assuming I met my study goals)

My _________ Side          My _________ Side
-6-5-4-3-2-1 0 +1+2+3+4+5+6

d. Carrying out the least pleasant activity I picked
(assuming I did not meet my study goals)

My _________ Side          My _________ Side
-6-5-4-3-2-1 0 +1+2+3+4+5+6
APPENDIX O

PAIRED COMPARISONS TASK
Appendix O

Paired Comparisons Task

Take the note cards used in the first session to record experiences relevant to each of the selves and lay them out on the table in front of the subject. All possible pairs of selves will eventually be presented in order according to a list which you will be supplied with. Look at the first pair of selves on the list, and while pointing to their respective cards, instruct the subject as follows:

"Remember what you were like during these two experiences. Let's assume that you had to give the homework task to one of these two sides of yourself. Which of these two sides would be more likely to carry out this task? We would prefer for you to make a choice if possible. While there may be sides of yourself that appear equally likely to carry out the task, in most cases you will be able to detect some difference between them. Any questions?" Circle their answer and continue down the list.
REFERENCES


Congress of Personal Construct Psychology, Memphis, Tennessee.


