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THE EFFECTS OF A SELF-DIRECTED
BEHAVIOR CHANGE ON SELF-CONCEPT

by

Larry A. Leatham

A thesis submitted in partial fulfillment
of the requirements for the degree

of

MASTER OF SCIENCE

in

Psychology

Approved:

UTAH STATE UNIVERSITY
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1975

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Special thanks to my wife and children for their patience and support throughout my education.

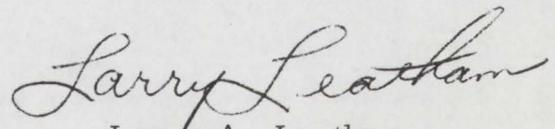

Larry A. Leatham

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ABSTRACT

The Effects of a Self-Directed Behavior Change on Self-Concept

by

Larry A. Leatham, Master of Science

Utah State University, 1975

Major Professor: Dr. Elwin C. Nielsen
Department: Psychology

The effects on self-concept as a result of behavior changes made during a self-directed self-modification project were studied on 16 students at Utah State University over a period of nine weeks. Pre and post measures of self-concept administered were the Tennessee Self Concept Scale and the Well-Being Scale from the California Psychological Inventory. The research design employed was the pretest-posttest control group design. A separate analysis of covariance was run for the Total P raw score of the Tennessee Self Concept Scale and raw scores on the Well-Being Scale. The F was substantially short of the value of F needed for significance.

The hypothesis that a behavior change would result in a self-concept change was not supported. It was hypothesized that a behavior change was not the only variable that controlled self-concept. It was

suggested that a more homogeneous group of subjects be used in further research, one where all the subjects were changing the same behavior, and then control for education and age.

(44 pages)

INTRODUCTION

There are many different theoretical orientations among therapists and counselors on the interrelationship between behavior and self-concept. One position is that of traditional therapists who argue that self-concept change, insight, and awareness are prerequisites of behavior change. The hypothesis runs something like this: Only if the client can come to some understanding of the internal determinants of his present behavior will it be possible for him to affect a change in his behavior.

Along a somewhat different vein, insight therapists such as in gestalt therapy, transactional analysis, and client-centered therapy, assume that neither self-concept nor behavior is independent of the other but that, instead, there is a continual interaction between the two variables. Accordingly, if one's self-concept can be changed or modified, behavioral changes will take place.

A third position is that taken by behaviorally oriented counselors who are not specifically concerned with internal states, but rather with behavior change. Self-concept change, according to behavioral counselors, would follow a change in behavior.

An important question, however, is whether it is more effective to try to change self-concept directly or try to change behavior in order to affect a self-concept change. Fitts (1972) reported that

self-concept is a stable trait at least by the age of 11 or 12. He also reported that experimental programs have shown that self-concept improvement is not easily obtained.

Extensive reviews of the literature (Fitts, 1972; Morgan, 1971; Thompson, 1971) on the specific relationship between behavior change and self-concept change have revealed very little research. One reason for so little research on this relationship seems to be that behavioral psychologists are not specifically concerned with internal states such as self-concept and therefore they don't administer measures of self-concept. Another reason seems to be that phenomenological insight psychologists are not very well versed in behavioral procedures and methods.

The purpose of this study was to examine the hypothesis that changing an observable behavior will produce changes in self-concept.

REVIEW OF LITERATURE

Introduction

Self-concept has been and is still a topic of much research and theorizing. Gordon and Gergen (1968), for example, reported over 2,000 publications in psychology and sociology dealing with self-concept.

One of the first systematic descriptions of the self or self-concept was by W. James (1890), who described the child as being without a self at birth. He proposed that the self develops to become the total of "I," "me," the knower or experiencer. Cooley (1902) saw self-concept as coming directly from social interactions; this view has been labeled "the looking-glass self." Cooley's conceptualization of the self-concept has three basic parts: (1) The imagination of one's appearance to another person; (2) the imagination of the other person's appraisal of that appearance; and (3) some sort of self-feeling such as pride or disgust. Others such as Mead (1934), Rogers (1951), and Sullivan (1953) also view self-concept as arising from social contacts.

The bulk of literature generally defines self-concept as the way a person perceives himself, with these perceptions being developed as a result of interactions with people who are part of his immediate environment.

Traditional Studies

Since the purpose of this research was to study the effects of a behavior change on self-concept, rather than self-concept change on behavior, minimum presentation of the literature concerning self-concept change from traditional means will be given.

Fitts (1972) reported that self-concept is a stable trait at least by the age of 11 or 12 and that experimental programs aimed specifically at self-concept improvement have demonstrated that self-concept is not easily changed.

Concerning self-concept and behavior, as previously mentioned, traditional therapists would argue that self-concept change, insight, and awareness are prerequisites of behavior change.

Combs and Snygg (1959), Rogers (1951), and Wylie (1961), among others, state that an individual's self-concept is a powerful influence on his or her behavior, facilitating learning and interpersonal relations if it is positive and inhibiting them if it is negative. It has been demonstrated that self-concept is directly related to one's general personality, his academic success, and his state of mental health. Those persons who see themselves as undesirable or worthless tend to act accordingly. Combs (1962) goes so far as to maintain that all human behavior stems from the single basic motive of maintenance and enhancement of

perceived self. According to the theories of both Rogers (1951) and Combs and Snygg (1959), then, changes in the self-concept of a person will bring about changes in the person's behavior.

Behavioral Studies

Another position on the relationship between behavior and self-concept is that taken by behavioral counselors, who deal specifically with observable behavior. Strict behaviorists, according to Hilgard (1949), reject mentalistic constructs such as self-concept. A change in self-concept, according to behavior therapists, would occur following a change in behavior. Bandura (1968) makes this point:

Not only are self-attitudes and feeling states fundamentally affected by behaviorally produced experiences, but a favorable change also gains the person acceptance and increased social status. The positive social feedback engendered by behavioral competence can thus have important phenomenological consequences. Cognitive and affective modifications can be achieved more successfully through planned behavioral change than through attempts to alter internal events directly. The relative superiority of a behaviorally oriented approach probably stems from the fact that a basic change in behavior provides an objective and genuine basis by which one feels self-respect, self-confidence and dignity. (p. 91)

Following Bandura's view, then, it is more effective to change behavior directly than to change self-concept and then hope for a behavior change. It has been shown by Bandura, Blanchard, and Ritter (1969) that the modification of attitudes is relatively more stable if there is an overt behavior change which corresponds to the attitude

change. However, if the behavior change is not reinforced by the individual's environment the old behavior and attitudes which coincide are also changed.

In a case study presented by Wahler and Pollio (1968) it was demonstrated that behavior changes in an eight year old boy produced through selective social reinforcement altered favorably his self-evaluations and evaluations of significant others. His evaluation of events closely related to the treatment objectives changed also.

In similar research Krop, Calhoon, and Verrier (1971) used two experimental and one control group to investigate the effects of overt and covert reinforcement on the self-concept of emotionally disturbed children. One group was covertly reinforced for responses associated with a positive self-concept. Overt reinforcement was given upon positive responses for the other experimental group. The control group received no reinforcement following its responses. The results showed the covert reinforcement group was the only group that changed significantly.

These two studies agree with Bandura's (1968) proposition of a behavior change leading to a self-concept change. Other research using a behavioral approach has not been so successful at getting a self-concept change.

Congdon (1959) found that even though some of the deviant behavior of hospitalized psychiatric patients was altered by medication (chlorpromazine), there was no immediate alteration of their self-concepts. Research to be cited later suggests that change in self-concept may be a function of the specific behavior and the specific treatment and their interaction over a period of time.

Sopina (1971) reported that there was no significant difference in self-concept between experimental and control groups of adolescents with learning and behavior problems following a behavior modification program designed to change these behaviors. The changes in the direction of self-concept improvement were at a chance level.

In other similar research, Rohrbacher (1973) has reported that following an eight week special camp program for obese boys, their self-concepts remained unchanged, even with weight loss and a change in eating behavior. In a four month follow-up, there was still no change in the boys' self-concepts.

Using the Tennessee Self Concept Scale (TSCS) as an instrument to measure self-concept changes, Fitts, Strenger, and Hamner (1973) carried out research to investigate the relationship between reduction of phobias, through systematic desensitization and relaxation training, and self-concept. They concluded that a behavior change, the ability to engage in previously phobic behavior, could occur without any appreciable change in self-concept and that self-concept could change

without any change in phobic behavior. They reported that different methods of treatment of the same phobias had specific rather than general effects on self-concept, i. e., systematic desensitization of a snake phobia affected self-concept differently than relaxation training did. The conflicting results of the previously cited studies point out a need for more research on the relationship between behavior change and self-concept.

Self-concept has also been defined as a specific class of verbal behavior, positive self-references. Ince (1968), Hildum and Brown (1956), Krasner (1958), McNair (1957), and Waskow (1962) have shown that it is possible to change such self-references. To illustrate, Ince (1972) reported two cases demonstrating how changing self-reference statements can be used to improve behavior therapy. The first case was a 22 year old male who was suffering from obesity, premature ejaculation, and an inability to make decisions or refuse favors asked of him. His treatment included relaxation training, thought stoppage, role playing, and assertive training. He was "cured" within six months, but reported that he felt "like the same person." His behavior had changed but his self-concept had not, so a program to change his self-concept was implemented. Positive self-reference statements were reinforced by the therapist until they reached three times those in the baseline period. At this time the client terminated because he "felt much better" about himself. The second case reported involved a 62 year old woman being treated for obesity who at the end of each

treatment regained the weight she had lost. As in the other case, verbal reinforcement was given for positive self-references, negative self-references were ignored. The woman was still in therapy at the time of the publication, and was showing an increase in number of positive self-references. This study points out the need, not only to change observable behaviors, but also verbal behavior if necessary. A question then arises as to what behavior to change in order to affect a change in self-concept: What behavior is controlling the individual's self-concept? Is it an observable behavior or verbal behavior?

In summary, the literature cited reveals that there is a lack of conclusive research demonstrating that a change in behavior results in a self-concept change. The purpose of this research was to contribute information on whether changes in behavior through a self-directed, self-modification program will affect self-concept.

METHOD

Subjects

The subjects for this study were students enrolled in a required upper division psychology course, Fall quarter 1974, titled Educational Psychology, at Utah State University, Logan, Utah. The enrollment in the course was predominantly juniors and seniors. All of the students, a total of 32, who were enrolled in the course during the second week of the quarter were used in the research and were randomly assigned to experimental and control groups. Of the 32 subjects, 14 were female and the remaining 18 were males. At the administration of the pretest a total of 36 subjects were obtained. Before the subjects were randomly assigned to groups, four subjects had dropped the class. The experimental group consisted of 6 females and 10 males, while the control group consisted of 8 females and 8 males.

Design

The experimental design used in this study was the pretest-posttest control group design (Campbell and Stanley, 1973). This design required randomly assigning the subjects from the Educational Psychology class to either the experimental or control group. As Borg (1973, p. 380) has pointed out with use of this design, "The

treatment of the experimental and control groups is generally kept as close to identical as possible with the exception that the experimental group is exposed to the experimental treatment." Such was the case in this study; course requirements for the experimental and control groups were the same with the exception of a self-modification project for the experimental group.

Instrumentation

The instruments used for both the pretest and posttest measure of self-concept were the TSCS and the Sense of Well-Being (WB) Scale of the California Psychological Inventory (CPI). The TSCS consists of 100 self-descriptive statements to which the subject responds on a five point scale ranging from "completely true" to "completely false." The Total P score, on the TSCS, which was one dependent variable for this study, is intended to measure the general level of the individual's self-esteem, and is the sum of the scores on 90 items. The other 10 items are from the MMPI L scale and yield a self-criticism score. The WB Scale consists of 44 items of which 5 are keyed true and 39 false. The content of the WB Scale consists primarily of denials of various physical and mental symptoms.

To assess the reliability of the TSCS and WB Scale, a survey of the related literature has been performed with reported retest reliabilities found to be usually in the high 0.80's for the TSCS. Nunnally (1969)

reported a reliability coefficient of 0.91 for Total P scores on the TSCS, and a test-retest reliability of 0.92 for the Total P score is reported in the manual for the TSCS. Short term reliability coefficients reported by Hase and Goldberg (1967) for the CPI, are reasonably high, ranging from 0.71 to 0.90, with a median of 0.83. Long term coefficients are mostly in the 0.60's and 0.70's, indicating moderate stability over one year. Hase and Goldberg (1967) also report short term reliability coefficients in the mid 0.70's for the WB Scale. Long term reliabilities are in the low 0.70's. To enable correlation of pre-test-posttest scores the students were asked to identify both tests with their name or social security number, whichever they preferred.

Procedure

The independent variable was a self-directed, self-modification project, described by Watson and Tharp (1972) as "observing one's own behavior, identifying areas where change or improvement is needed, arranging one's life so that appropriate learning experiences can occur, and then carrying out a plan to obtain those learning experiences" (p. 4).

The scales were administered for the pretest scores on the second day of classwork, a Friday. The scales were administered for posttest scores 70 days later. Following pretesting the subjects were randomly assigned to either the experimental or control group.

On the third day of class, a Monday, the experimental and control groups met independently and were given instructions to be followed for their particular group. During this meeting the subjects were also taught the fundamental skills which the author felt were essential to complete their project. The following is a list of the instructions given to the experimental group.

1. Identify a problem in terms of a specific behavior. Operationally define a behavior, preferably in a specific situation.
2. Observe that behavior and how often it occurs. They were shown examples of how to plot the behavior and methods of observation and recording.
3. Identify the antecedents that precede it, and the consequences that follow it. What is maintaining the behavior?
4. Devise an intervention plan to contingently reinforce desirable behavior. Make a list of reinforcers which could be used.

The experimental group was instructed to begin a record or graph of the frequency of the behavior and to continue it all through the baseline and intervention periods. They were instructed to have the behavior chosen, and the graph started by the following Wednesday, the fourth day of class. This record was kept in the classroom and was readily available to the author and was inspected weekly by the author to ensure that it was being maintained. This weekly inspection was voluntarily attended by the subjects, and served as a question-answer

period for them. Of the 16 experimental subjects only five met regularly in the weekly sessions.

Criteria for a behavior change were determined by the author.

The method used to establish criteria for a behavior change was:

1. Find the mean and range of the seven day baseline observation period.
2. Find the mean and range of the last seven day observation period.
3. If there was an overlap of the baseline and last week observations it was decided there was no change. The ranges of the two observation periods had to be separate.

On a report written about their project, the subjects were instructed to indicate if they felt they had achieved a behavior change. Of the 16 experimental subjects 12 reported they felt they had effected a behavior change. Of these 12, only 5 reached the criteria set by the author. The four subjects who reported no behavior change, in fact, had no behavior change. The subjects as a whole were not consistent between what they felt and what actually happened.

A question of reliability and honesty of the subjects to count and record their behaviors has been discussed with the author's committee. The author took the subjects' word that they were counting and recording the behavior accurately. The only verification that the subjects were engaged in a project was the inspection of their charts and seeing a change in the appearance of those who did a weight reduction project.

If the subject felt he had changed his behavior before the end of the quarter he was instructed to continue plotting the behavior.

It was assumed that the observation and recording of the target behavior during the baseline period would have some effect on that behavior, increasing or decreasing it as Johnson and White (1972) have pointed out, but that their intervention plan would be more effective in bringing about a change in the behavior.

The control group was instructed to do any of a variety of other projects during the same period of time. They were told that the class had been randomly divided and that the other group had been assigned to do a behavior modification project. They were also told that assignment to one group or the other would not effect their final grade.

Data Analysis

The pretest-posttest control group design yields pre- and posttest scores for both the experimental and control groups. The statistical method used was an analysis of covariance (ANCOVA), in which the posttest means are compared using the pretest means as the covariate. The analysis of the data was done on a Burroughs 6700 computer at Utah State University through the Exceptional Child Center, using STATPAC/BASIC, a canned program for ANCOVA.

RESULTS

The prime purpose of this study was to see if students in an Educational Psychology class would have a change in self-concept if they had a change in observable behavior. Two measures of self-concept were used, the TSCS and the WB Scale from the CPI. It was hypothesized in this study that students who had a behavior change would also have a change in self-concept.

Table 1 shows the number and type of projects the subjects completed. As can be seen, the most popular project was weight control with a plotting of the daily weight.

Table 1
List of Behavior Modification
Projects and the Number of
Subjects Engaged in Each

No. of Subjects	Behavior Modification Projects
1	Practice time on band instrument
1	Smiling
1	Popping knuckles
6	Weight control (pounds)
1	Weight control (calories)
1	Eating chocolate
1	Nail biting
2	Increasing studying (time in library)
2	Swearing (specific words)

As previously mentioned there were 16 individuals in each of the experimental and control groups. Five individuals from the experimental group met the author's criteria and had a behavior change. The remaining 11 did the project but had no behavior change. Table 2 reflects the ANCOVA for the TSCS, comparing experimental and control groups' pre- and posttest Total P raw scores. When the two groups as a whole were compared there was no significance. The F for this group was substantially short of the value of F for significance expected under the null hypothesis. Quite clearly almost all the variation in the posttest means can be attributed to the influence of the uncontrolled pretest variable.

The adjusted means vary only slightly one from another, a fact which is clearly reflected in the small F ratio. We may safely conclude that the differences between the unadjusted means for the posttest scores are due largely to the effects of the pretest scores. Using the TSCS as a measure of self-concept the hypothesis is rejected that a behavior change is followed by a self-concept change.

When the five experimental individuals' scores who had a behavior change were compared with the 11 experimental individuals that had no behavior change and an ANCOVA run comparing these individuals there was still no significance.

Table 3 shows the results of the ANCOVA for the WB Scale of the CPI. The results of this table indicate that when all the members

Table 2
Summary Table of Analysis of Covariance
for Pre- and Posttest Scores
on the TSCS

Comparison Group	DF	F	Unadjusted Means	Adjusted Means
Exp. 16	1	0.41	184.19	186.32
Control 16	29		185.31	183.17
Exp. 5	1	0.36	180.60	180.58
Exp. 11	18		185.82	185.83

Note. For significance at the 0.05 level, $F = 4.18$ with 1 and 29 DF
= 4.41 with 1 and 18 DF.

Table 3
Summary Table of Analysis of Covariance
for Pre- and Posttest Scores on the
WB Scale of the CPI

Comparison Group	DF	F	Unadjusted Means	Adjusted Means
Exp. 16	1	1.91	36.62	36.33
Control 16	29		34.68	34.97
Exp. 5	1	0.47	37.00	36.18
Exp. 11	18		36.45	37.27

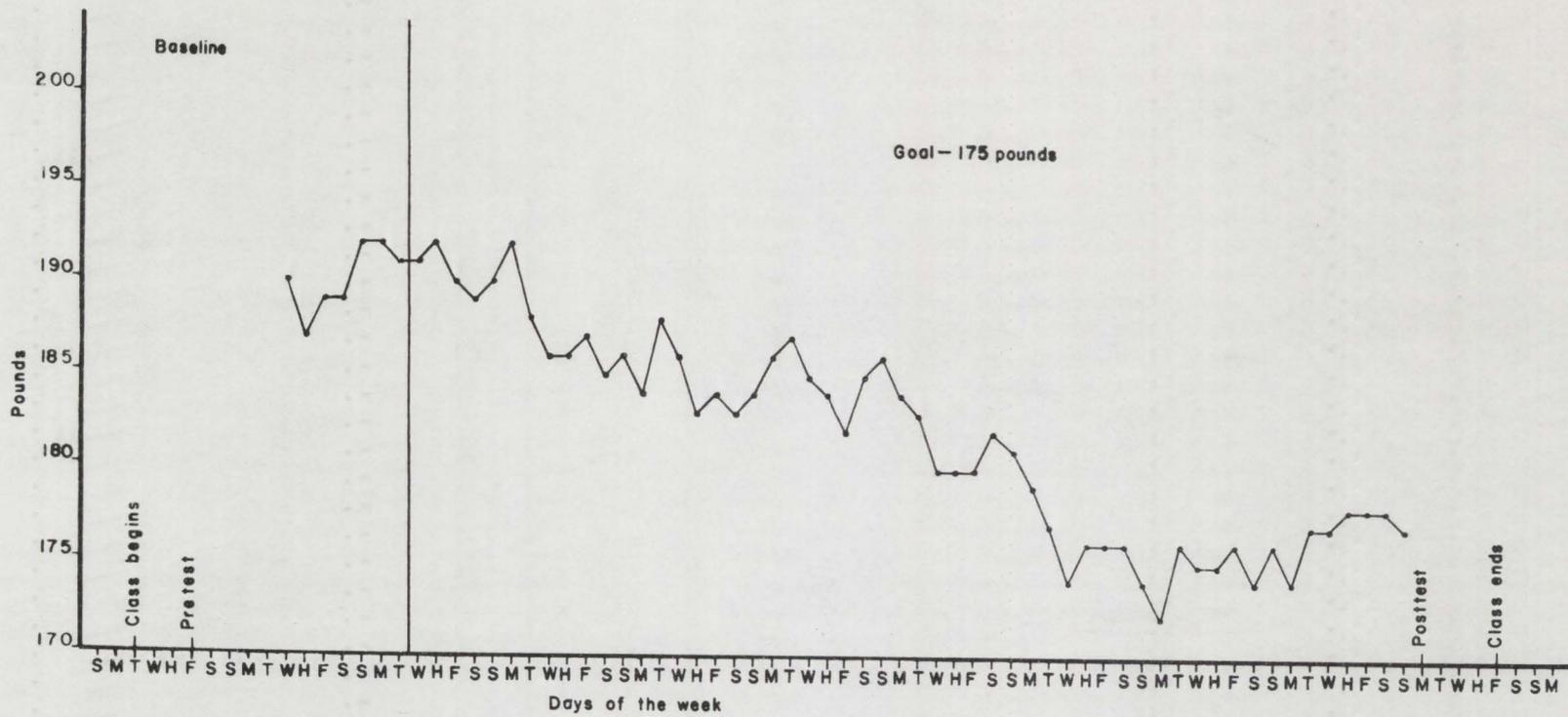
Note. For significance at the 0.05 level, $F = 4.18$ with 1 and 29 DF
= 4.41 with 1 and 18 DF.

of both groups are compared the F is short of the value of F for significance. Almost all the variation in the posttest means can be attributed to the influence of the uncontrolled pretest variable. When

an ANCOVA was run comparing the five experimental individuals that had a behavior change with the 11 experimental individuals with no change, significance was not reached.

Figure 1 is a reproduction of the subject's project which had the most behavior change. It can be seen that the subject did not reach his goal of 175 pounds but had a substantial weight loss for so short a time. The average baseline weight was 190, with the average last week weight being 177, a reduction of 13 pounds. This subject's intervention plan was to purchase a set of bathroom scales and then weigh himself every morning at the same time. This was an effective method of weight control for this subject.

Figure 2 represents a subject's project that had no behavior change. The individual's goal of 120 pounds was never reached, in fact, this subject gained weight. The average baseline weight was 130.28 and the average last week weight was 131.57, a gain in weight of 1.29 pounds. This subject weighed herself everyday, the same as the previous subject, but had no change.



CONCLUSIONS

The hypothesis that a behavior change would be followed by a self-concept change was not supported in this study.

The failure to reach significance may be interpreted in several ways. It is possible that responses to questionnaires and self-ratings, which constituted the dependent variable in this study, are an unreliable indicator of the subjects' actual opinions and attitudes. It has been shown (Schanck, 1932) for example, that privately held attitudes often differ markedly from those that are publicly espoused.

Another reason for failure to reach significance is that the majority of the subjects were unfamiliar with even basic behavior modification skills, and therefore failed to effect a behavior change. Only six of the 16 experimental subjects had taken a class in behavior modification. The other 10 experimental subjects were exposed only briefly to behavior modification in an introductory psychology class. The subjects who attended the weekly question-answer period were generally those who had taken a behavior modification class.

Another major reason for the negative results appears to the author to be a combination of the amount of change and how important the behavior was to the subject. It was generally found that those subjects who had the most change in their behavior also had the most change between their pre- and posttest scores on both measures of self-concept.

The results of this study disagree with Bandura's (1968) position that a behavior change will result in internal, affective changes, which in this study were equated to self-concept. Speculation about the results leads the author to conclude that maybe one's self-concept is controlled by more than one variable, in this case behavior. A simple behavior change does not necessarily change the way a person feels about and perceives himself. The author thinks an important aspect of a self-concept change is the feedback that one gets from those people in his immediate environment. It appears somewhat like a self-fulfilling prophecy, a person tends to act the way he thinks others perceive him, and his self-concept is also somewhat determined by the way he thinks others perceive him. Theoretically speaking, the author thinks behavior and self-concept exert an influence on one another, but do not determine what each will be. As Kinch (1963) has pointed out our self-concept controls our behavior and not behavior controlling self-concept. It appears then, that in order to change self-concept one would have to work directly on the self-concept primarily through social interactions and not at a direct behavior change.

It is theorized that if a follow-up study of the subjects was performed there would still be no change in self-concept, as Rohrbacher's (1973) study has pointed out.

It is suggested that further research be done utilizing a more controlled group of subjects and changing behaviors which are more important to the life-style of the individual. By a more controlled group of subjects the author means, control for education and more specifically, types of classes taken. Age, sex, and marital status may also be important to control for. Another variable may be the type of behavior changed, i. e., have a group of subjects that all wanted to change the same behavior such as overweight, smoking, studying, etc.

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APPENDIXES

Appendix A

Tennessee Self Concept Scale

INSTRUCTIONS: On the separate answer sheet, fill in your name, sex, age, grade and today's date. Then code the appropriate letter or number according to the sample below. Be sure your marks are heavy and completely fill the spaces.

The statements in this inventory are to help you describe yourself as you see yourself. Please respond to them as if you were describing yourself to yourself. Do not omit any item! Read each statement carefully; then select one of the five responses listed below. Erase completely any answer you wish to change and mark your new answer.

RESPONSES	Completely false	Mostly false	Partly false and Partly true	Mostly true	Completely true
	C	M		M	C
	F	F	PF-PT	T	T
	1	2	3	4	5

When you are ready to start, find the box on your answer sheet marked Time Started and record the time. When you have finished, record the time finished in the box on your answer sheet marked Time Finished. Erase any stray marks on your answer sheet.

1. I have a healthy body
2. I am an attractive person
3. I consider myself a sloppy person
4. I am a decent sort of person
5. I am an honest person
6. I am a bad person
7. I am a cheerful person
8. I am a calm and easy going person.....
9. I am a nobody
10. I have a family that would always help me in any kind of trouble.....
11. I am a member of a happy family.....
12. My friends have no confidence in me
13. I am a friendly person
14. I am popular with men
15. I am not interested in what other people do
16. I do not always tell the truth.....
17. I get angry sometimes
18. I like to look nice and neat all the time.....
19. I am full of aches and pains.....

20. I am a sick person.....
21. I am a religious person.....
22. I am a moral failure.....
23. I am a morally weak person.....
24. I have a lot of self-control.....
25. I am a hateful person.....
26. I am losing my mind.....
27. I am an important person to my friends and family.....
28. I am not loved by my family.....
29. I feel that my family doesn't trust me.....
30. I am popular with women.....
31. I am mad at the whole world.....
32. I am hard to be friendly with.....
33. Once in a while I think of things too bad to talk about.....
34. Sometimes, when I am not feeling well, I am cross.....
35. I am neither too fat nor too thin.....
36. I like my looks just the way they are.....
37. I would like to change some parts of my body.....
38. I am satisfied with my moral behavior.....
39. I am satisfied with my relationship to God.....
40. I ought to go to church more.....
41. I am satisfied to be just what I am.....
42. I am just as nice as I should be.....
43. I despise myself.....
44. I am satisfied with my family relationships.....
45. I understand my family as well as I should.....
46. I should trust my family more.....
47. I am as sociable as I want to be.....
48. I try to please others, but I don't overdo it.....
49. I am no good at all from a social standpoint.....
50. I do not like everyone I know.....
51. Once in a while, I laugh at a dirty joke.....
52. I am neither too tall nor too short.....
53. I don't feel as well as I should.....
54. I should have more sex appeal.....
55. I am as religious as I want to be.....
56. I wish I could be more trustworthy.....
57. I shouldn't tell so many lies.....
58. I am as smart as I want to be.....
59. I am not the person I would like to be.....
60. I wish I didn't give up as easily as I do.....
61. I treat my parents as well as I should (Use past tense if parents are not living).....
62. I am too sensitive to things my family say.....
63. I should love my family more.....
64. I am satisfied with the way I treat other people.....
65. I should be more polite to others.....
66. I ought to get along better with other people.....
67. I gossip a little at times.....
68. At times I feel like swearing.....
69. I take good care of myself physically.....
70. I try to be careful about my appearance.....

71. I often act like I am "all thumbs"
72. I am true to my religion in my everyday life
73. I try to change when I know I'm doing things that are wrong
74. I sometimes do very bad things
75. I can always take care of myself in any situation.....
76. I take the blame for things without getting mad
77. I do things without thinking about them first
78. I try to play fair with my friends and family
79. I take a real interest in my family
80. I give in to my parents. (Use past tense if parents are not living).....
81. I try to understand the other fellow's point of view
82. I get along well with other people
83. I do not forgive others easily
84. I would rather win than lose in a game
85. I feel good most of the time
86. I do poorly in sports and games
87. I am a poor sleeper
88. I do what is right most of the time
89. I sometimes use unfair means to get ahead.....
90. I have trouble doing the things that are right
91. I solve my problems quite easily.....
92. I change my mind a lot
93. I try to run away from my problems
94. I do my share of work at home
95. I quarrel with my family
96. I do not act like my family thinks I should
97. I see good points in all the people I meet
98. I do not feel at ease with other people
99. I find it hard to talk with strangers
100. Once in a while I put off until tomorrow what I ought to do today.....

Appendix BWell-Being Scale of the CaliforniaPsychological Inventory

1. Several times a week I feel as if something dreadful is about to happen.
2. I find it hard to keep my mind on a task or job.
3. Sometimes I cross the street just to avoid meeting someone.
4. Once a week or oftener I feel suddenly hot all over, without apparent cause.
5. I can remember "playing sick" to get out of something.
6. I usually expect to succeed in things I do.
7. I am so touchy on some subjects that I can't talk about them.
8. I usually feel that life is worthwhile.
9. I think most people would lie to get ahead.
10. I have very few quarrels with members of my family.
11. At times I have a strong urge to do something harmful or shocking.
12. I don't seem to care what happens to me.
13. I am afraid to be alone in the dark.
14. I have nightmares every few nights.
15. I have a great deal of stomach trouble.
16. I have been afraid of things or people that I knew could not hurt me.
17. Any man who is able and willing to work hard has a good chance of succeeding.
18. I hardly ever feel pain in the back of the neck.

19. When I was a child I didn't care to be a member of a crowd or gang.
20. When I am feeling very happy and active, someone who is blue or low will spoil it all.
21. Everything tastes the same.
22. Much of the time my head seems to hurt all over.
23. My people treat me more like a child than a grown-up.
24. I am made nervous by certain animals.
25. Some of my family have habits that bother and annoy me very much.
26. No one seems to understand me.
27. I dream frequently about things that are best kept to myself.
28. I have reason for feeling jealous of one or more members of my family.
29. There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.
30. My mouth feels dry almost all the time.
31. When I am cornered I tell that portion of the truth which is not likely to hurt me.
32. Life usually hands me a pretty raw deal.
33. I have one or more bad habits which are so strong that it is no use fighting against them.
34. I am bothered by acid stomach several times a week.
35. I get all the sympathy I should.
36. I have felt embarrassed over the type of work that one or more members of my family have done.

37. I have often felt guilty because I have pretended to feel more sorry about something than I really was.
38. The things some of my family have done have frightened me.
39. My skin seems to be unusually sensitive to touch.
40. I am troubled by attacks of nausea and vomiting.
41. I would have been more successful if people had given me a fair chance.
42. Almost every day something happens to frighten me.
43. My family has objected to the kind of work I do, or plan to do.
44. There seems to be a lump in my throat much of the time.

Appendix C

Sample Computer Printout of TSCS

NUMBER 3016

COLUMN A	COLUMN B	COLUMN C	COLUMN D	COLUMN E	SELF-CRIT	RDW TOTALS			
3 0 4 1 4 0	4 4 0 0 0 4	0 3 3 0 3 1	4 1 0 3 0 4	3 2 4 0 1 4	0 0 3 0	P+N	P=N	P=N	V
P 7 N 5	P 8 N 4	P 6 N 4	P 5 N 7	P 9 N 5			ALG	N-ALG	
P+N 12 P=N 2	P+N 12 P=N 4	P+N 10 P=N 2	P+N 12 P=N -2	P+N 14 P=N 4		60	10	14	4
0 3 3 4 0 2	4 0 3 1 4 0	1 1 3 1 1 3	1 0 4 3 3 0	3 4 4 1 4 0	3 0 4 0				
P 6 N 6	P 7 N 5	P 5 N 5	P 5 N 6	P 11 N 5					
P+N 12 P=N 0	P+N 12 P=N 2	P+N 10 P=N 0	P+N 11 P=N -1	P+N 16 P=N 6		61	7	9	6
0 4 0 1 0 3	2 4 3 4 0 0	3 4 4 0 0 1	0 1 3 3 0 4	4 0 1 3 1 4	1 2				
P 4 N 4	P 9 N 4	P 11 N 1	P 4 N 7	P 5 N 8					
P+N 8 P=N 0	P+N 13 P=N 5	P+N 12 P=N 10	P+N 11 P=N -3	P+N 13 P=N -3	SC = 13	57	9	21	5
COLUMN	P+N 32	37	32	34	43	TOT POS(P+N)=178			
TOTALS	ALG P=N 2	11	12	-6	7	TOT NET (ALG P=N)= 26			
	N-ALG P=N 2	11	12	6	13	TOT CONFLICT(N-ALG P=N)= 44			
	V 4	1	2	1	3	RDW-TOT-V = 15			
						COLUMN TOT V = 11			
						TOT V = 26			

DISTRIBUTION OF RESPONSES

RESPONSE	5	4	3	2	1	T/F = 1.923
TOTALS	10	16	22	13	7	= 100
D =	20	16	13	14		= 63

EMPIRICAL SCALES

DP =	60	PD =	37
GM =	51	N =	42
PSY =	73	PI =	6

NUMBER	3016	RAW	T	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95
SC		13	17	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
T/F		1.92	79	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
NET C		26	71	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
TOT C		44	65	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
TOTAL		178	12	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
ROW 1		60	7	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
ROW 2		61	23	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
ROW 3		57	9	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
COL A		32	9	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
COL B		37	12	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
COL C		32	16	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
COL D		34	11	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
COL E		43	21	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
V TOT		26	30	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
V COL		11	26	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
V ROW		15	41	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
DST D		68	26	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
DST 5		10	41	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
DST 4		16	38	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
DST 3		22	54	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
DST 2		13	41	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
DST 1		7	32	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
DP		60	54	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
GM		51	89	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
PSY		73	83	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
PD		37	82	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
N		42	82	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
PI		6	39	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
NDS		82	93	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V

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