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ABSTRACT

This report describes an experiment in which elementary school children with negative self-concepts as measured by the Bolea Pictorial Self-Concept Scale and teacher ratings were exposed to a behavioral procedure designed to raise their self-concepts. Subjects were 30 children, grades K-4, who were randomly divided into experimental and control groups. The treatment procedure consisted of an elicitation by a teacher of a positive self-statement from an experimental subject. Each statement was immediately followed by a positive social reinforcer. At the end of the 40-day treatment period every child receiving the treatment showed a large gain in self-concept score. These gains were maintained on a delayed posttest given one month after cessation of the elicitation procedures. Discussion of the results indicated that the study provided evidence that, by altering specific behaviors, attitudinal changes can be effected even on a more global self-concept measure. An alternative explanation however, is that changes shown by the experimental group may possibly be due to the amount of attention that the children received, rather than the experimental procedures per se. (Author/SDH)

# A Behavioral Approach to Changing Self-Concept in Elementary School Children

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Elementary school children with negative self-concepts were exposed to a procedure designed to raise their self-concepts as measured by the Bolea Pictorial Self-Concept Scale. The procedure consisted of elicitation by a teacher of a positive self-statement from the child following a successful classroom experience. This statement was immediately followed by a positive social reinforcer. At the end of the 40 day treatment period every child receiving the treatment showed a large gain in self-concept score. These gains were maintained on a delayed posttest given one month after cessation of the elicitation procedures. The procedures reported comprise a simple, efficient technique for raising self-concept in negative self-concept children.

Low self-concept has long been considered a correlate of maladaptive behavior both in educational achievement and in social living skills. A number of investigators in education have reported a positive relationship between various measures of self-concept and measures of academic achievement. Borislow (1962) found that college freshman underachievers with high scholastic achievement motivation had significantly lower self-evaluation scores on two different rating scales than achievers with similar academic motivation. In a study by Fink (1962) psychologists independently rated student's self-concept using a traditional psychological battery, without access to data on academic performance. High achieving male students obtained significantly higher self-concept ratings than low achievers. However, despite these correlations, identification of specific factors in a lawful cause and effect relationship are far from clear.

In the clinical area self-concept has played an important role in a number of systems of psychotherapy (cf. Cooley, 1956; Mead, 1934). Therapeutic intervention with clients diagnosed as low in self concept traditionally has centered around verbal interactions designed to promote an attitude change in self-concept, hopefully to be followed by behavioral change. Underlying this procedure is the widely held assumption that attitude change is a prerequisite to subsequent behavioral change, an outgrowth of the medical model orientation toward symptom treatment as secondary to an underlying locus of infection.

Psychologists have tended to assess self-concept through various projective techniques or from inferences based upon clinical interview impressions. While most therapists would agree that poor self-concept patients

are likely to emit a low frequency of positive self-statements, very few therapists would consider this behavioral deficiency in the patient's verbal repertoire as the problem. That is, a low frequency of positive self-statements is more likely to be viewed as just one symptom of a patient's poor general attitude toward himself, with the assumption that therapeutic endeavor must first focus upon general attitude change.

The present study takes the opposite approach. There is a growing body of literature which suggests that when a behavior is changed, attitude change will follow. For example, Bornstein and Siprelle (1973) used behavioral procedures to produce substantial and long lasting weight loss in an obese female. In addition to the weight loss, the subject reported that she no longer felt abused by others, had become more self-assertive and secure in her feelings of worth and value as a person. Similarly, Scholander (1972) used a punishment procedure to eliminate a compulsive neck-gripping behavior in an epileptic boy. The compulsive behavior was eliminated five weeks after initiation of treatment. The boy reported that his whole world had changed since he had rid himself of his compulsive movements. He reported that his self-esteem had increased and, for the first time, he dared to go out with a girl. Both of these cases are clear examples of behavior change preceding attitude change.

One marked characteristic of individuals said to be low in self-concept is that they emit a low frequency of positive self-statements. If one defines self-concept as the aggregate of sentences a person says to himself and others about himself (e.g., Homme, De Baca, Cottingham, and Homme, 1968) it becomes obvious how self-concept may be strengthened. One simply reinforces that class of verbal operants (Skinner, 1957).

Many psychologists antagonistic to a behavioral approach might agree that individuals can learn to increase specific verbal statements through reward procedures, but would argue that this result might not hold any significant meaning in terms of "real" change in self-concept. The question was raised; would a specifically programmed increase in a child's positive self-statements lead to a significant change in how the child scores himself according to a traditional measure of self-concept? Thus, to strengthen our hypothesis, a more traditional attitude measure of self-concept was used as the dependent variable, rather than the more typical operant measure of response rate. Specifically, our measure was change scores on the Bolea Pictorial Self-Concept Scale,(Bolea, Felker, and Barnes, 1971), a Q-sort procedure. This has the advantage of being a non-behavioral, more traditional measure which can be objectively scored, nonetheless.

## METHOD

Subjects. The study was conducted at the Lida Lee Tall Learning Resources Center, an elementary school at Towson State College, Towson, Maryland. Thirty children in grades Kindergarten through 4th grade participated in the experiment. All 30 children selected had scored low in self-concept measures, both on the Bolea Pictorial Q-sort (Scale 5) and according to teacher judgment, rated independently of the Q-sort results.

### INSTRUMENTATION

The principal instrument used was the Pictorial Self-Concept Scale which is a symbolically contrived Q-sort developed by Bolea, Felker, and Barnes (1971). The basic procedure requires us to sort self-descriptive statements into several categories. The Pictorial Self-Concept Scale comprises fifty

picture cards, with each card reflecting negative or positive events. A weighted value is assigned to each of the cards. The child's task is to sort the cards into piles of "like me," "sometimes like me," and "not like me." Scoring is based on the placement and weight value of the card. For this experiment, a score of +25 to +75 was the criterion range for a high, positive self-concept; while -40 to+15 indicated a negative self-concept range. The Bolea Q-sort produces an overall composite self-concept score, as well as a sub score for these areas; physical, affectional, ethnic, peer, academic and self adjustive. For this experiment, only the self concept score in the academic area was used (Scale 5).

## PROCEDURE

All 153 children in kindergarten through fourth grade were given the Pictorial Self-Concept Scale. Thirty negative self-concept children were identified as those scoring both low on the Pictorial Self-Concept Q-Sort (Scale 5) and rated low according to teacher judgment. These subjects within each grade were randomly placed in an experimental or control group.

The following treatment procedures were then put into effect for the experimental group. The elicitors (teachers, aides, and student assistants) were instructed to observe the children for appropriate eliciting situations, occasions in which the S displayed some behavior or completed some task that he should recognize as a successful classroom experience. The teacher then requested the child to "tell me something good about yourself." Immediately after elicitation of the self-assertive statement a social reinforcer was delivered (hug, wink, pat on the back, "beautiful", "I'm proud of you," etc.) Eight elicitations per day were made. If a child was unable to give a positive self-statement, the experimenter would model a statement and the child was

asked to repeat the statement. No child required modeling after the eighth day of the treatment period.

After 40 days of treatment, the Pictorial Self-Concept Scale was readministered as a posttest. No additional positive self-statements were elicited during the next four week post-experimental period. However, all children emitting unelicited self-assertive statement were socially rewarded on some occasions. At the end of this period the Pictorial Self-Concept Scale was again administered as a delayed posttest.

## RESULTS

The major results of the experiment are shown in Figure 1.

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Insert Figure 1 here

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Prior to initiation of the treatment procedure there was little difference between experimental and control groups on the Pictorial Self-Concept Scale (pretest). This was confirmed by a non-significant K on the Kolmogorov-Smirnov Two-Sample Test (Siegel, 1956). Following the 40 day elicitation period the posttest was given. Significant difference ($K < .01$) were found between the groups. The Experimental Group demonstrated a sharp increase in mean Self-Concept scores while the Control Group showed only a slight, non-significant gain. Following a four-week period during which no further elicitation were made the Pictorial Self-Concept Scale was again administered (delayed posttest). The scores of the Experimental Group remained significantly different from those obtained by the Control Group ($K < .01$). A closer examination of the Experimental Group data showed that the mean score decreased slightly from posttest to delayed posttest, but this drop was not significant as tested by the Wilcoxin Matched-Pairs Signed-Ranks Test. The slight gain shown by the Control Group from [illegible] delayed posttesting was non-significant.

Each S in the experimental Group remained substantially above his pre-test score on the delayed posttest, while of the Control Group Ss, six decreased and one remained unchanged. Thus the gains registered in self-concept scores by the Experimental Group were maintained over a four week period without additional use of the elicitation procedure. This occurred for each member of the group. The data for individual Ss are shown in Figure 2, and confirm the results of the experimental procedures more strikingly.

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Insert Figure 2 here

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Each member of the Experimental Group showed a minimum gain of at least 16 points in self-concept score (range 16-94) while in the Control Group 6 of 15 S actually showed decreases from pre to posttesting, and one S showed no change. Individual scores as listed in Table 1.

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Insert Table 1 here

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## DISCUSSION

The construct of low self-concept has often been a correlate of maladaptive behavior, both in educational settings (Borislow, 1962; Fink, 1962) and in personality (Cooley, 1956; Mead, 1934). In therapeutic intervention with low self-concept individuals the approach has centered around verbal interactions designed to produce an attitude change in self-concept to be followed in turn by behavioral changes. However, recent data indicates that the opposite can occur; by changing maladaptive behavior one can also produce concomitant changes in self-concept (Scholander, 1972; Bornstein and Siprelle, 1973).

In the present study self-concept was regarded as a verbal operant, the class of sentences a person says to himself and others about himself. By defining self-concept in this manner a program was devised that could strengthen self-concept. Positive self-statements were elicited from low self-concept children following a successful classroom experience. This was followed immediately with a positive social reinforcer. It was expected that this behavior should increase in frequency just as any operant class does when it is reinforced. The procedures used were successful in producing and maintaining large gains in self-concept as measured by the Bolea Pictorial Self-Concept scale for every child receiving the treatment. Thus, the study provided clear evidence that, by altering specific behaviors, attitudinal changes can be effected, even on a more global self-concept measure. Further, the experiment has demonstrated a simple, efficient way for teachers to increase self-concept in low self-concept children.

The possibility remains that changes shown by the experimental group were due to the amount of attention that the children received, rather than the procedures, per se. Subsequent research will be directed toward controlling this variable.

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TABLE 1

Pretest, Posttest, and Delayed Posttest Scores for Experimental and Control Ss on the Bolea Pictorial Self-Concept Scale (Scale 5)

| | | Experimental Ss | | | | Control Ss | | |
|---|---|---|---|---|---|---|---|---|
| Grade | | Pre | Post | Del | | Pre | Post | Del |
| Kinder. | $S_1$ | -16 | 34 | 47 | $S_1$ | -19 | -19 | 19 |
| | $S_2$ | 0 | 38 | 37 | $S_2$ | -20 | -32 | -24 |
| | $S_3$ | -15 | 79 | 40 | $S_3$ | -2 | 16 | 22 |
| Grade 1 | $S_4$ | -3 | 57 | 50 | $S_4$ | -11 | 3 | 0 |
| | $S_5$ | -28 | 69 | 48 | $S_5$ | -35 | 19 | 16 |
| | $S_6$ | -53 | 28 | 46 | $S_6$ | 7 | -17 | 0 |
| Grade 2 | $S_7$ | 8 | 48 | 58 | $S_7$ | -19 | 33 | 18 |
| | $S_8$ | -33 | 61 | 50 | $S_8$ | -12 | -24 | -22 |
| | $S_9$ | -3 | 53 | 44 | $S_9$ | -6 | 23 | -13 |
| Grade 3 | $S_{10}$ | -17 | 57 | 23 | $S_{10}$ | 6 | -32 | 2 |
| | $S_{11}$ | 11 | 49 | 57 | $S_{11}$ | -33 | -3 | -37 |
| | $S_{12}$ | 8 | 24 | 17 | $S_{12}$ | -3 | -20 | 0 |
| Grade 4 | $S_{13}$ | -13 | 69 | 56 | $S_{13}$ | -18 | 1 | 1 |
| | $S_{14}$ | 8 | [illegible] | 44 | $S_{14}$ | -12 | 26 | 16 |
| | $S_{15}$ | 9 | 37 | 43 | $S_{15}$ | 4 | -14 | 2 |

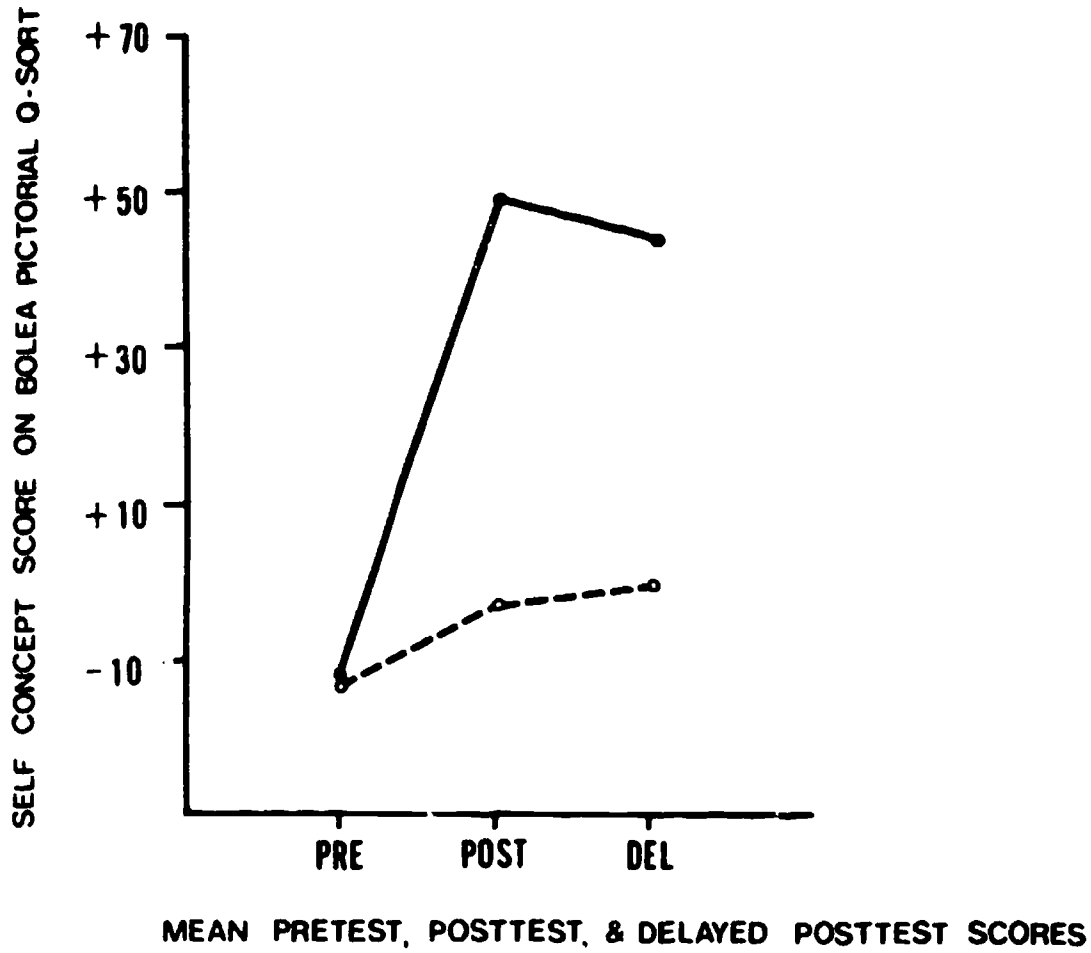


Figure 1 Mean Pretest, Posttest, and Delayed Posttest Scores for Experimental and Control Groups on the Bolea Pictorial Self-Concept Scale (Scale 5). The Experimental Group is shown as a solid line and the Control Group is shown as a dashed line.

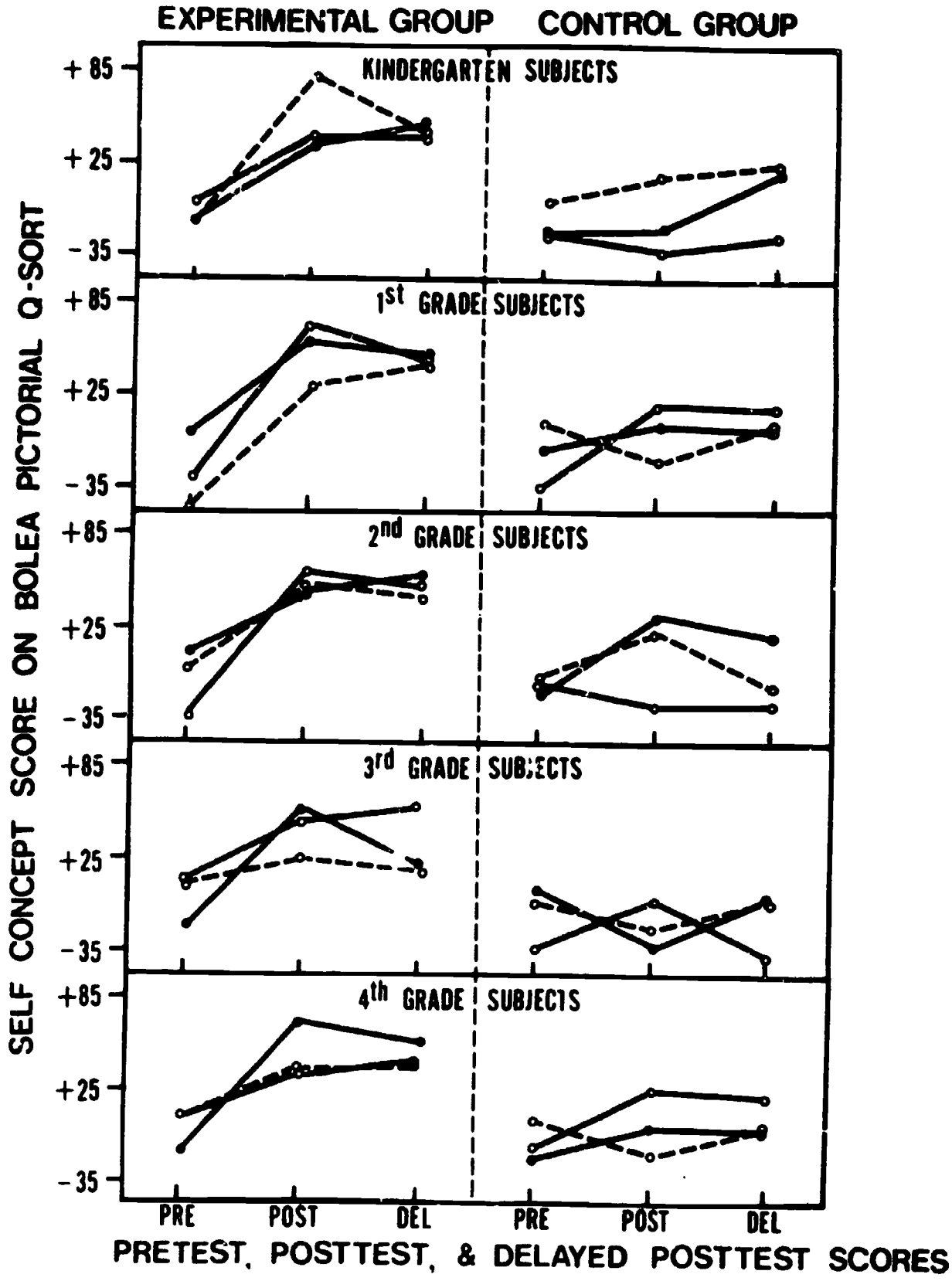


Figure 2 Individual Pretest, Posttest, and Delayed Posttest Scores for Experimental and Control Groups on the Bolea Pictorial Self-Concept Scale (Scale 5). The Ss have been broken down by Grade for convenience of presentation.