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ABSTRACT

The purpose of this study was to determine whether or not certain attitudes can be modified through laboratory procedures using positively evaluated words within a classical conditioning paradigm. It was hypothesized that evaluations of Vietnamese and Negroes would become more favorable after pictures of each were paired with the presentation of positively evaluated adjectives. Evaluations were made through the use of a semantic differential-type attitude scale. Analysis of covariance demonstrated a significant increase in favorable evaluations toward the Vietnamese only. The reason the evaluation toward the Negroes did not demonstrate similar change may have been due to the fact that Caucasian subjects' attitudes toward Negroes are too psychologically significant an issue to be modified by a single session of conditioning trials.
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Changing Anti-Negro and Anti-Vietnamese Attitudes
in Children Using Classical
Conditioning Procedures

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The purpose of this experiment was to determine whether or not certain attitudes can be modified through laboratory procedures using positively evaluated words within a classical conditioning paradigm. It was hypothesized that evaluations of Vietnamese and Negroes would become more favorable after pictures of each were paired with the presentation of positively evaluated adjectives. Evaluations were made through the use of a semantic differential-type attitude scale (Osgood, 1952). Analysis of covariance demonstrated a significant increase in favorable evaluations toward the Vietnamese only. The reason the evaluation toward the Negroes did not demonstrate a similar change may have been due to the fact that Caucasian subjects' attitudes toward Negroes are too psychologically significant an issue to be modified by a single session of conditioning trials.

Attitudes are defined as concepts with an evaluative dimension (Bairdain, 1962). When a person forms an attitude, his position toward the object in question can no longer be considered neutral (Sherif and Sherif, 1969). Rather, his position toward that object may be characterized by a marked disposition for or against that object (Bairdain, 1962). This disposition toward some originally neutral object may be the result of the object's acquisition of emotional meaning through association with other more emotionally meaningful stimuli (Kiesler, Collins and Miller, 1969). As early as the experiments of Pavlov and Watson, classical conditioning, or conditioning through

association as described above, was used to charge originally neutral objects with positive or negative affect (Stagner and Britton, 1949). This affective component, which is closely related to the evaluation of any object, is considered by many researchers as the essence of attitudes (Katz and Stotland, 1959; Fishbein, 1967). Thus, attitudes can be conceived as conditioned responses toward objects which have been involved in either fear-inhibiting or fear-eliciting events (Chein, 1948). In other words, there is a spread of affect to objects which happen to be present when fear-inhibiting or fear-eliciting events take place (Katz and Stotland, 1959). Objects associated with fear-eliciting events acquired unpleasant eliciting potential, or are less favorable evaluated (Mowrer, 1960; Moscovitch and LoLando, 1968).

Osgood (1952, 1953), Mowrer (1954), and Staats and Staats (1957, 1958, 1963) have all suggested that the principles involved in learning the emotional meaning of words appear to be primarily those of classical conditioning. They have proposed that a minimal but distinctive portion of the emotional response originally elicited by an emotionally meaningful object may become attached to the word which is associated with the emotionally meaningful object. That is, if after several pairings between the word and the object, the word is then presented without support of the object, the word should elicit the emotional part of the total reaction which originally accompanied the emotionally meaningful object (Osgood, 1953). This limited reaction can be perceived as the word's meaning or as an evaluative disposition toward the word since it now represents a sign which symbolizes the emotionally meaningful stimulus (Mowrer, 1954, 1960).

An example of this conditioning process can be perceived when a child is told "bad" by his mother while she proceeds to slap his fingers for playing with the television dial. At first, only the slapping of the fingers results in a finger withdrawal response. Later, however, after several pairings of the word "bad" and the slapping of the child's fingers, the presentation of the word "bad" will result in immediate finger withdrawal without any support of the accompanying slap (Staats and Staats, 1963). Thus as Staats and Staats (1963) and Doob (1947) have pointed out, if the appropriate emotional responses are made when the word "bad" is presented, then it can be said that the child has learned the meaning of the word through the transferring of the emotional reaction from the original emotionally meaningful object to the originally neutral word.

Once words come through classical conditioning to elicit emotional responses, they can transfer these emotional or affective responses to other words with which they are paired. This process, referred to as higher-order conditioning, is also accountable for the formation of attitudes (Staats, Staats and Heard, 1960). To illustrate, let us expand on the example mentioned earlier in which the word "bad" was shown to acquire affective responses through its association with pain inflicted through hand slapping. Pairing the word "bad" over a number of trials with another word (e.g., Viet Nam), will enable the latter to acquire the emotional response of the former. In other words, a child may learn that people and objects are called "bad" and so they, too, soon come to elicit the emotional response originally attributed only to the painful stimulus of hand slapping (Doob, 1947). Experimental support for the higher-order conditioning

paradigm has been reported by Staats and Staats (1957, 1958); Staats, Staats and Biggs (1958); Staats, Staats, Heard and Nims (1959); and Blandford and Sampson (1964). Each of these studies paired various words with evaluative adjectives (Staats and Staats [1957] Staats et al. [1959], and Blandford and Sampson [1964], used nonsense syllables. Staats and Staats [1958], used European nationalities and male names. Staats et al. [1958], used names of colors and negatively connotated words.) Evaluative adjectives were found to significantly affect posttest evaluation of the various words with which they were paired. That is, those words associated with positively evaluated adjectives (e.g., good, beautiful) were later judged to be more pleasant, while those words associated with negatively evaluated adjectives (e.g., bad, ugly) were judged to be less pleasant.

Words are not limited to transferring their emotional or evaluative responses to other words. Rather, any perceptual signs, like linguistic signs, should also be able to come to elicit the emotional responses of the words with which they are associated (Staats and Staats, 1967; Staats, 1967; Kiesler et al., 1969). To date, however, experiments regarding this theory have not been found. Notably though, there are some studies which have associated picture stimuli with nonsymbolic stimuli (e.g., food, fright) and have found significant changes in the evaluation of those objects represented by the picture stimuli according to post-treatment questionnaires (Razran, 1938; Murray, 1933). These latter studies provide some support for the proposition that objects represented by stimuli can come through classical conditioning to elicit an emotional, or evaluative response. The question which remains unanswered, however, and which this experiment will attempt to investigate, will be whether positively

evaluated adjectives (symbolic stimuli) will have an affect on the objects represented by picture stimuli comparable to that of the nonsymbolic stimuli mentioned above. More specifically, this experiment will pair the presentation of either the pictures of Negroes or Vietnamese with positively evaluated adjectives. After multiple paired presentations between the pictures and different positively evaluated adjectives, it is hypothesized that the evaluative response elicited by the positively evaluated words should become conditioned to the Negroes and the Vietnamese represented by the picture stimuli.

METHOD

There were three phases in the experiment: the initial attitude test, the treatment, and the final attitude test.

The Attitude Scale

The attitude measure was a revision of the semantic-differential rating instrument developed by Osgood, Suci, and Tannenbaum (1957). The same test was used for both the initial and final attitude test. Any change was considered an indication of attitude change. See Appendix A for the test that was used.

Apparatus

The pictures of the Negroes and Vietnamese were projected onto Ektachrome transparency slides, 2" x 2". The words were projected onto Kodak slides, 2" x 2".

The projector was a model New Manon Cabimat 35 carousel with a 100 mm lens and a remote slide changer.

The screen was Knox Crusader Projection Screen, manufactured by the Knox Manufacturing Company, Schiller Park, Illinois.

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Subjects (Ss)

Four classes of Caucasian sixth-grade boys and girls were selected for the experiment by the principal of the school. Ss were arbitrarily assigned to three groups. The total for Group One was 29, Group Two was 30, and Group Three was 33. The total, $N = 92$.

Procedure

Each group was tested on a semantic differential test designed to obtain their general impressions of Negroes and Vietnamese. The groups were then arbitrarily designated as Group One (positive word-Negro), Group Two (positive word-Vietnamese) and Group Three (control group).

Group One was then subjected to the experimental treatment. The treatment consisted of the subjects observing pictures of Negroes,¹ Vietnamese,² and words³ as they were flashed on a screen. For Group One, positive words followed Negro pictures and neutral words followed Vietnamese pictures. To maximize group participation, the experimenter verbalized each word as it appeared on the screen and

¹Pictures of Negroes had been clipped from various magazines and were presented to each of three impartial graduate students. They selected those pictures judged to be ambiguous to a high degree of emotional expression. The experiments, in turn, used 21 of these pictures.

²Pictures of Vietnamese were slides taken in Vietnam and judged by the experimenters to be ambiguous to emotional expression. 12 of these pictures were used.

³The words were classified positive or neutral based on research done by Parish (1969). A group of 127 college freshmen were asked to judge a list of words and to rate them positive or negative based on the type of feeling the words connoted. The criteria for a word to be classified positive was its selection by at least 121 students judging it as possessing positive connotation. Words were classified neutral if 51 to 75 students judged them to be positive; this was considered sufficiently ambiguous to warrant this classification.

the subjects replicated his example in unison. The time sequence included a .5 second exposure of a picture followed by a 5 second exposure of a word followed by a 5 second blank exposure.

The experimental treatment for Group Two was the same as that for Group One except that the positive words followed the Vietnamese pictures and the neutral words followed the Negro pictures.

Group Three was the control group and did not participate in the above procedures. These subjects were merely retested on the same semantic differential test to establish test reliability. In addition, Group One and Group Two were retested after they participated in the experimental treatment.

After all groups were retested, each subject was then asked to put on paper his opinion of what was the purpose of the experiment.

RESULTS

The results of this experiment must be divided into two parts. First, statistical analysis failed to support the experimental hypothesis that the group of subjects who were exposed to pictures of Negroes paired with the presentation of positively evaluated adjectives should demonstrate a significant change in the direction of more positive evaluations of Negroes. With analysis of covariance, with $df=2$ and 88 , for $p=.05$, $F=3.11$. $F=1.339$ was calculated for the change on the Semantic Differential Attitude Scale, $p > .25$ (see Table 1).

Second, statistical analysis did show that the group of subjects who were exposed to pictures of Vietnamese paired with the presentation of positively evaluated adjectives did demonstrate a significant change in the direction of more positive evaluations of Vietnamese.

TABLE 1
ANALYSIS OF COVARIANCE: NEGRO

Source	Adj. Sum of Squares	df	Adj. MS	F
Among	125.5585	2	62.779	1.3387
Within	4126.9020	88	46.896	

With analysis of covariance, with $df=2$, and 88, for $p=.05$, $F=11$. $F=4.63$ was calculated for the change on the Semantic Differential Attitude Scale, $.01 < p < .025$ (see Table 2).

TABLE 2
ANALYSIS OF COVARIANCE: VIETNAMESE

Source	Adj. Sum of Squares	df	Adj. MS	F
Among	296.9492	2	148.475	4.6347
Within	2819.1090	88	32.035	

DISCUSSION

In the present experiment, Vietnamese were evaluated more positively after pictures of Vietnamese were paired with the presentation of positively evaluated adjectives. In contrast, Negroes were not found to be evaluated more favorably after pictures of Negroes were

paired with positively evaluated adjectives.

Since both groups (i.e., Negroes and Vietnamese) were initially evaluated rather negatively, it appears that another dimension of attitudes other than pro to con plays an important part in determining one's susceptibility to attitude change. Perhaps the dimension which can best explain the results of the present experiment is the dimension of peripherality versus centrality. This dimension extends from attitudes toward issues which seem peripheral, remote, or trivial to our lives, to attitudes toward issues which are central to our lives. Attitudes toward peripheral, remote, or trivial issues are more readily susceptible to change, while attitudes toward centrally important issues are resistant to change (Watson, 1966).

That attitudes toward issues of peripheral importance are more susceptible to change has been attested to by Stagner and Britton (1949) and Das and Nanda (1963). In both of these experiments classical conditioning procedures were able to condition emotional, evaluative responses to names of nationalities with which their subjects had presumably little, if any, experience.

That attitudes toward issues of central importance are more resistant to change has been attested to by Stagner and Britton (1949) when they remarked that it was unlikely that pairing the termination of painful shocks with the term "Fascism" during World War II would have resulted in people becoming more tolerant of Fascists. Newcomb et al. (1965) also have reported that the more information a person possesses concerning some issue the more resistant to change his attitudes toward that issue will be.

It seems evident that for most Caucasian American, Negroes, as compared to Vietnamese, play a more central role in their lives.

Even before school age, negatively-oriented attitudes toward Negroes have been reported (Horowitz, 1936; Williams and Edwards, 1969, 1970; Parish, 1972). According to Morland (1962), with age, the centrality of the Negro issue increases still further. That the Negro or race issue acquires emotional significance has also been attested to by Rankin and Campbell (1955), Westie and DeFleur (1959) and Vedulich and Krevanich (1966). These investigators found that the presentation of Negroes (either live or in pictured stimuli) was able to elicit galvanic skin responses (which are believed to provide an index of emotional behavior) in the Caucasian subjects.

That attitudes toward Negroes are resistant to change (presumably because of the central significance of the Negro issue in our lives) has previously been reported by Parish (1969, 1972). In the 1969 experiment conducted by Parish, Caucasian college students were exposed to pictures of Negroes paired with the termination of electric shock. In the 1972 experiment conducted by Parish, Caucasian kindergarten children had the color black associated with positively evaluated words. In neither of these experiments were subsequent evaluations of Negroes found to have improved. These findings by Parish (1969, 1972), combined with the findings reported in the present experiment, tend to support the view that the Negro issue is simply too well ingrained or too psychologically significant to the Caucasian subjects involved in these experiments to be readily modified by a single session of conditioning trials.

The finding that attitudes toward Vietnamese became significantly more positive after having been associated with positively evaluated words is particularly interesting since such conditioning was accomplished without the subjects having demonstrated awareness of the conditioning

process. This finding, which supports the contention proposed by Staats and Staats (1958) that the conditioning of attitudes is possible without the subject's awareness, was obtained after the investigators in the present experiment had eliminated those subjects who had indicated the slightest awareness of what the experiment had attempted to do. The Es discovered which subjects were aware by instructing each subject to write down on slips of paper what they thought the experiment attempted to do. Only three subjects out of the entire group of 92 showed sufficient insight to warrant that their questionnaires be pulled. Thus, the results which indicated that conditioning was effective in changing attitudes toward Vietnamese was based only on the reports of those subjects who were deemed by the investigators as unaware of the conditioning procedure.

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APPENDIX A

The purpose of this study is to measure the meaning of certain things to various people by having them judge them against a series of descriptive scales. In taking this test, please make your judgements on the basis of what these things mean to you. You are to rate the concept on each of these scales in order. Here is how you are to use these scales:

If you feel that the concept is very closely related to one end of the scale, place your mark accordingly:

fair X:_:_:_:_:_: unfair
or
fair _:_:_:_:_:X unfair

If you feel that the concept is quite closely related to one or the other and of the scale (but not extremely), place your mark accordingly:

strong X:_:_:_:_:_: weak
or
strong _:_:_:_:_:X weak

If you feel the concept is only slightly related to one side or the other (but is not really neutral), place your mark accordingly:

activeX:_:_:_:_:_: passive
or
active _:_:_:_:_:X passive

If you consider the concept to neutral on the scale or if the scale is completely unrelated to the concept, place your mark in the middle space:

safe _:_:_:X:_:_:_: dangerous

IMPORTANT:

1. Place your check-marks in the middle of spaces, not on the boundaries.
2. Be sure you check every scale for every concept-do not omit any.
3. Never put more than one check-mark on a single scale.
4. ONCE YOU HAVE ANSWERED, DO NOT GO BACK TO OTHER PARTS OF THE TEST.

TEST #1: Judge the following concepts concerning your feelings toward the Negro race.

good _:~::~::~::~:_ bad
 beautiful _:~::~::~::~:_ ugly
 sweet _:~::~::~::~::~:_ sour
 clean _:~::~::~::~::~:_ dirty
 kind _:~::~::~::~::~:_ cruel
 nice _:~::~::~::~::~:_ awful
 honest _:~::~::~::~::~:_ dishonest
 fair _:~::~::~::~::~:_ unfair

TEST #2: Judge the following concepts concerning your feelings toward the Vietnamese race.

good _:~::~::~::~::~:_ bad
 beautiful _:~::~::~::~::~:_ ugly
 sweet _:~::~::~::~::~::~:_ sour
 clean _:~::~::~::~::~::~:_ dirty
 kind _:~::~::~::~::~::~:_ cruel
 nice _:~::~::~::~::~::~:_ awful
 honest _:~::~::~::~::~::~:_ dishonest
 fair _:~::~::~::~::~::~:_ unfair