THE MODIFICATION OF NONVERBAL AGGRESSIVE BEHAVIOR THROUGH VERBAL CONDITIONING

by

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ABSTRACT

The present study investigates the differential effects of positive and negative reinforcement on a class of verbal aggressive responses, and the subsequent differential effects of such reinforcement upon post-interview aggressive behavior. A total of 60 college students was tested under three different reinforcement conditions (20 Ss in each): 1) positive, 2) negative, and 3) control (non-reinforcement). A pre-interview measure of nonverbal aggression was determined by the number of shocks S administered to a second but unseen S during a five-minute period. Following the shock task, a baseline for the emission of aggressive verbal responses was established for each group. Then, each group was subjected to its appropriate reinforcement condition while again emitting aggressive verbal responses. Following this verbal conditioning phase S was given a post-interview shock task that was identical to the pre-interview task. The results indicated that positive and negative reinforcement have differential effects on a verbal aggressive response class but the differential effects failed to transfer to the nonverbal response mode. A critical analysis of why this transfer did not occur was attempted and suggestions for future research were presented.

INTRODUCTION

The efficacy of the traditional patient-therapist verbal interaction in altering the patient's subsequent behavior beyond that seen in the therapist's office has long been an issue for debate. Proponents of the behavior therapies such as Wolpe (1964) and Eysenck (1960) criticize the "cathartic" type therapy and believe that little change in overt behavior can be induced through the usual 50 minute discussion technique and more direct methods for altering the undesirable behavior should be utilized.

Other investigators such as Nuthmann (1957) and Lovaas (1961, 1964), although not necessarily defending the traditional therapeutic techniques, believe that a crucial interaction between verbal and nonverbal behavior actually exists. However, the exact nature of this interaction has not yet been delineated and the failure to pinpoint the dynamics of this interaction has led researchers to be concerned that therapists (although well trained and apparently quite competent) may inadvertently alter behavior other than that which they are attempting to modify. That is, since the dynamics and the exact consequences of the verbal interaction between the therapist and the patient is not yet specified, the therapist may be unwittingly utilizing a technique that may affect behavior in accordance with an unknown principle, producing results in opposition to the therapist's primary goal. These critics feel, therefore, that it is necessary to study the nature of this interaction between verbal and nonverbal behavior and determine the basic principles prior to applying them to the therapeutic situation.

The nature of this interaction has not escaped investigation, however, as Lovaas (1961) offers four possibilities for consideration. The first one is that a verbal response, when reinforced, becomes a discriminative stimulus for a related nonverbal behavior. This implies that positive reinforcement of the verbal behavior denotes an acceptance or at least not a punishment of related nonverbal behavior.

The second is that the two modes of behavior interact on the basis of having common reinforcing stimuli (primary as well as secondary). Thus, reinforcement contingencies resulting in changes in the one mode of responding should have a corresponding effect in the other mode of responding.

The third possibility is that certain verbal and nonverbal behaviors have occurred together in the history of the individual and through this pairing the verbal response has become a discriminative stimulus for the nonverbal behavior.

The fourth manner in which verbal and nonverbal behavior may interact also assumes some influence from the past history of the individual. That is, if a nonverbal behavior has been associated in the past with aversive stimuli the occurrence of the related response may produce some extinction of the conditioned aversive stimuli. Through generalization the effect on nonverbal behavior (if the conditioned aversive stimuli inhibits the nonverbal behavior) would be an increase in the nonverbal behavior.

Although Lovaas offers the only comprehensive explanations of the phenomenon, the modification of nonverbal behavior through the manipulation of mediating verbal referents has been demonstrated by several recent studies. Krasner, and Knowles, and Ullman (1965) report that the

conditioning of positive attitudes toward "medical science" did not increase subsequent performance on a dynamometer. However, Ss whose favorable attitudes toward "medical science" did increase demonstrated less of a decrement in dynamometer performance than Ss whose favorable attitude decreased. Ullman, Weiss, and Krasner (1963) found that psychiatric patients who were high inhibitors on an MMPI scale had lower scores on a perceptual defense test (PDT) following verbal conditioning of emotional words. Furthermore, the lowered perceptual defense led to improved group therapy behavior. Singer (1961) demonstrated that verbal conditioning can alter responses to a combination of the California and Christie F Scales and that generalization occurs to the California E Scale. Using children as subjects, Lovaas (1961) found that an increase in aggressive nonverbal behavior occurs following positive reinforcement of aggressive words. In a similar study, Lovaas (1964) demonstrated an increase in the nonverbal consummatory response of a food object following positive reinforcement of the food term.

However, most studies in verbal conditioning have concentrated on the modification of the verbal behavior and have not extended their investigations to the subsequent modification of the corresponding nonverbal behavior. Affect responses were conditioned by Salzinger and Pisoni (1958); Babladelis (1961) conditioned positive self-statements; Greenspoon (1955) conditioned the rate of emission of plural versus nonplural words; and Matarazzo, Saslow, andPareis (1960) conditioned the verbal response class "human references." Extensive reviews of verbal conditioning studies are provided by Krasner (1958), Salzinger (1959), and Greenspoon (1962).

All of the above studies (including those that concentrated on the verbal behavior alone and those that investigated the modification of nonverbal behavior through the manipulation of the verbal behavior) used a positive reinforcement condition to increase the rate of responding, and all appear to accept the assumption that a negative verbal statement from an Interviewer will not increase or maintain a verbal operant. This assumption appears to be based upon Verplank's (1955) contention that agreement with a speaker or merely paraphrasing the speaker's words will elicit more opinions from the speaker and "...that disagreement reduces the number of opinions given, as does ignoring the speaker's statement." Therefore, negative reinforcing stimuli have seldom been employed in a verbal conditioning paradigm. An exception, however, is the work of Heller, Brahlek, and Morris (1965a) who set out to condition a response class of past references which were emitted by adult subjects. An unseen interviewer administered the reinforcement by presenting a short restatement of the past reference and either a negative evaluation, a positive evaluation, or an ambiguous evaluation of the reference. Contrary to the concept that a positive verbal statement will increase the probability of a response recurring and a negative or aversive verbal statement will decrease the probability of a response recurring, the results indicated that subjects given the negative reinforcement condition emitted more past references than either the ambiguous or the positive conditions. Furthermore, the positive condition resulted in a lower number of past references than either of the other two conditions. In a related study Heller, Brahlek, and Morris (1965b) have shown that negative verbal reinforcement maintained less of a decrement in positive references about

an animal, than did positive verbal reinforcement. However, no changes in the corresponding nonverbal response mode were found.

From this standpoint one must exercise caution when attempting to demonstrate the effects of verbal conditioning by employing only the traditional positive reinforcement techniques. Heller (1965) notes: "...researchers should choose to study experimental variables which are more representative of the cognitive capacities of their human subjects." Therefore, in future verbal conditioning studies, whether they be concerned with the modification of nonverbal behavior through verbal conditioning, a negative reinforcement condition should not be omitted from the paradigm. In fact, in order to provide a better understanding of these experimental variables, replications of previous verbal conditioning and transfer studies should be initiated with the addition of a negative reinforcement condition. One such study is the work by Lovaas (1961) who has demonstrated that nonverbal aggressive behavior can be modified through positive reinforcement of the verbal aggressive response mode. However, due to the lack of experimental evidence, what effect, if any, a negative interviewer would have on these two aggressive response classes is not known. The present study can be seen as an effort to fill this void by attempting a partial replication of the Lovaas study with the addition of a negative interviewer role. However, since the present study uses adult subjects rather than children and a different method to measure verbal and nonverbal aggressive behavior it cannot be seen as an exact replication of the Lovaas study. But it should be noted that Lovaas' major concept that nonverbal aggressive behavior can be modified through verbal conditioning is maintained and is investigated through not one experimental variable (positive reinforcement condition)

but, rather, through two experimental variables (positive and negative reinforcement conditions).

Therefore, the specific hypotheses of the present study are: (a) Negative and positive reinforcement conditions have differential effects upon the rate of responding in a verbal aggressive response class, and (b) Negative and positive reinforcement conditions have differential effects upon post-interview nonverbal aggressive behavior.

METHODOLOGY

Subjects

All Ss were undergraduate volunteers enrolled in introductory psychology classes at the University of Arizona. The mean age was 19 years - 7 months and the range was from 17 years - 2 months to 32 years - 4 months. A total of 60 Ss was tested, 30 males and 30 females.

Procedure

Upon reporting to the experimental room, Ss were brought into an inner 8' x 10' room and were given the following instructions:

> This experiment is divided into two phases. During the first phase of the experiment we are interested in the physiological changes induced in a human subject by means of an electric shock. You will not be shocked. In the outer room we have a subject performing a simple motor task and we have attached electrodes to this subject so that he may receive a mild but slightly painful electric shock. Your task during this first phase is to administer the shock to the subject. You do this, during a five-minute period by pressing the button. Each time you press the button the subject will receive an electric shock. Your instructions are to press the button as often or as few times as you want during the five-minute period. The sequence and number of shocks you wish to administer to the subject is left up to you.
>
> The onset of the five-minute period will be indicated by the light on your left, when the light comes on the five-minute period has begun and when the light goes off the five-minute period has ended. Remember, you may press the button as many or as few times as you want.
>
> During the second phase of the experiment you will be given a verbal questionnaire pertaining to various attitudes and opinions of college students on many topics. More detail of the second phase will be given after you have completed the first phase. Are there any questions?

After the instructions were read E elaborated on the dual nature of the experiment by explaining to S that the first phase of the experiment was

a replication of a previous study with one important alteration -- the elimination of E's control over the number and sequence of electric shocks being administered. The reason for this change was explained in terms of the possibility of the first study's data being biased by E and his method of administering the shocks to Ss. By having a second S administer the shocks E would not have control over the shocks nor would he know how often they would be administered. It was explained further that the two sets of data could then be compared and the issue of experimenter bias could be resolved. S was then told that the second phase was a method of obtaining information concerning attitudes and opinions of college students for a different research project and, in fact, S's time was being utilized very effectively for two research projects simultaneously.

Following the elaboration, E retired to the outer room and recorded the number of times S pressed the button during the five-minute period. The five-minute period constitutes an operant period to establish each S's level of aggressive behavior.

Upon the termination of the five-minute period E returned to the inner room, assumed the role of an Interviewer, and read to S the following instructions:

> You have just completed the first phase of the experiment. The second phase is structured in this manner: I am going to read to you items from a questionnaire concerned with various attitudes and opinions of college students. You should consider each item I read in terms of whether or not it pertains to you or whether or not you agree with the item. If the item pertains to you or if you agree with the item simply say, "I agree." If, however, the item does not pertain to you or if you do not agree with the item simply say, "I disagree."
>
> At times I may make a comment concerning your answers to these items. If I do make a comment I will merely do so and then proceed immediately to the next item. We will not, at this time, discuss any of the items nor my comment, if any. Therefore, the only verbalization required of you during this

second phase is your answers "I agree" or "I disagree." Are there any questions?

After reading the instructions E read each item on the questionnaire to S and responded in role to S's "I agree" answers.

Upon the completion of the second phase E informed S that while he was answering the questionnaire items a second experimenter was preparing another subject for the shock experiment. S was asked if he would participate again in another five minute shock administering phase. E then briefly reviewed the instructions for the first phase, retired to the outer room, and recorded S's responses during the second button pressing segment.

After the second five-minute period E returned to the S and asked him to write an answer to the following question: "In your own words explain what you think this experiment was about."

Groups

Three separate groups of 20 Ss each (10 males and 10 females) and three different interviewer roles were used. Group A received the Positive Condition during which the Interviewers responded to S's "I agree" answers to questionnaire items relating to aggression with the statements "That's good" and "that's fine" or other similar positive remarks. Group B received the Negative Condition and the Interviewers responded with "That's bad" and "That's poor" or other similar negative statements when S answered "I agree" to questionnaire items relating to aggression. The Interviewers remained silent and did not respond to S's "I agree" answers in Group C which constitutes the Control Condition.

Measure of Nonverbal Aggressive Behavior

Ss were given two five-minute periods (a pre-interview period and a post-interview period) during which they were free to shock a second but unseen S by pressing a button as often or as few times as they desired. The number of times S pressed the button during each of these five-minute periods constitutes S's nonverbal aggressive behavior for that period. Since Ss were told that they would not have the opportunity to view the second S while he was being shocked because it might influence their method of administering the shock it was not necessary to actually have a second S participate in the experiment.

This is a modified form of a technique developed by Berkowitz (1958, 1965) who purports to quantify overt aggressive behavior by measuring the number and duration of a limited number of electric shocks Ss administer to another person.

Interviewer

The Interviewer was a 29 year old male graduate student who has participated in several verbal conditioning studies and other related studies as an Interviewer.

Questionnaire

The questionnaire consisted of two forms with each containing 22 items referring to aggression or hostility and 11 filler items pertaining to various other attitudes. The Minnesota Multiphasic Personality Inventory provided 29 aggression items (15 for Form A and 14 for Form B) and six filler items (three items for each form) (see Appendix A). The Edwards Personal Preference Schedule provided nine aggression items (four for Form A and five for Form B) and nine filler items (five for Form A and

four for Form B) (see Appendix B). Six aggression items (three for each form) and seven filler items (three for Form A and four for Form B) were obtained from the 16 P.F. (see Appendix C). The items from each of the three tests were assigned to the two forms on a random basis but each form contained the same sequence of presentation of the aggression items and the filler items. Each form began and ended with an item referring to aggression.

On a random basis one-half of the males and one-half of the females in each group received the sequence Form A - Form B and one-half of the males and one-half of the females received the sequence Form B - Form A. The first form presented to S constituted an operant period to determine the number of times S would answer "I agree" to aggression items and the Interviewer did not respond to any of S's answers. The second form presented to S constituted the conditioning period and the Interviewer responded in role to S's "I agree" answers to the aggression items. The S's "I agree" answers to the filler items were not responded to by the Interviewer nor did he respond to any of S's "I disagree" answers.

RESULTS

Verbal Conditioning

The mean number of positive responses to questionnaire items relating to aggression is shown in Figure 1. The Positive Group had a $\bar{X} = 9.05$ for the first 33 items and to the second 33 items $\bar{X} = 9.55$. The mean number for the first 33 items for the Negative Condition was 8.65 and decreased to $\bar{X} = 7.10$ on the second 33 items. The Control Group had a $\bar{X} = 8.01$ for the first 33 items and decreased slightly to $\bar{X} = 7.90$ for for the second 33 items.

Table I shows orthogonal comparisons between groups using change scores. Change scores were computed for each group by taking the sum of the difference between the number of positive responses on the first and second questionnaire forms for each S. Orthogonal comparisons of change scores between the Positive Group and the Negative Group yielded an F of 7.12 with 1 and 57 d.f. which was significant at the .01 level thus confirming the hypothesis that Positive and Negative Reinforcement Conditions have differential effects upon the rate of responding in a verbal aggressive response class. However, there was no significant difference between the average of the Positive and Negative Groups as compared with the Control Group. Therefore, when taken together the Positive and Negative Conditions were no more effective than a Neutral Condition in producing changes in a verbal aggressive response class.

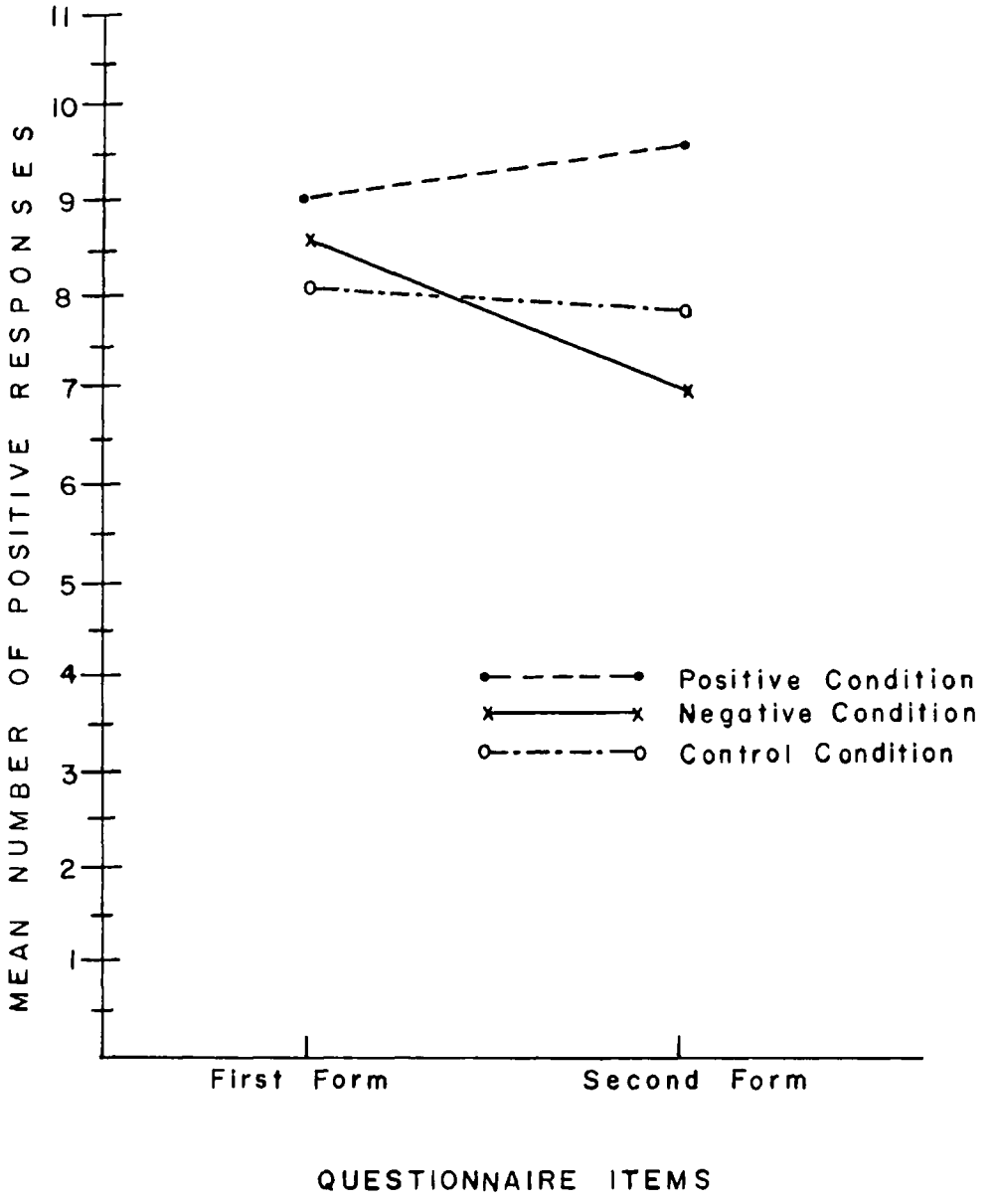

FIGURE 1. MEAN NUMBER OF "I AGREE" RESPONSES TO QUESTIONNAIRE ITEMS RELATING TO AGGRESSION

TABLE I

ORTHOGONAL COMPARISONS BETWEEN GROUPS USING CHANGE SCORES BETWEEN THE FIRST QUESTIONNAIRE FORM AND THE SECOND QUESTIONNAIRE FORM

Source	SS	d.f.	MS	F	p
Between Groups	592.08	2			
Comparison:					
Pos vs Neg	42.02	1	42.02	7.12	.01
Pos + Neg vs Control	1.21	1	1.21	0	-
Remainder	548.85	0			
Error (WG)	336.50	57	5.90		
Totals	928.58	59			

Nonverbal Behavior

The mean number of shocks administered by Ss during the pre-interview and post-interview periods is shown in Figure 2. The Positive Group during the pre-interview period had a mean of 30.95 responses which decreased to $\bar{X}$ = 18.70 during the post-interview period. During the pre-interview period the Negative Group had a $\bar{X}$ = 30.10 responses which increased to $\bar{X}$ = 32.70 during the post-interview period. The Control Group's mean number of responses during the pre-interview was 26.05 which increased to $\bar{X}$ = 28.40 during the post-interview period.

Table II shows orthogonal comparisons between groups using change scores. Change scores were computed for each group by taking the sum of the difference between the number of shock responses administered during the pre- and post-interview periods for each S. No significant differences were found between the Positive and Negative Groups thus the hypothesis that Positive and Negative Reinforcement Conditions have differential

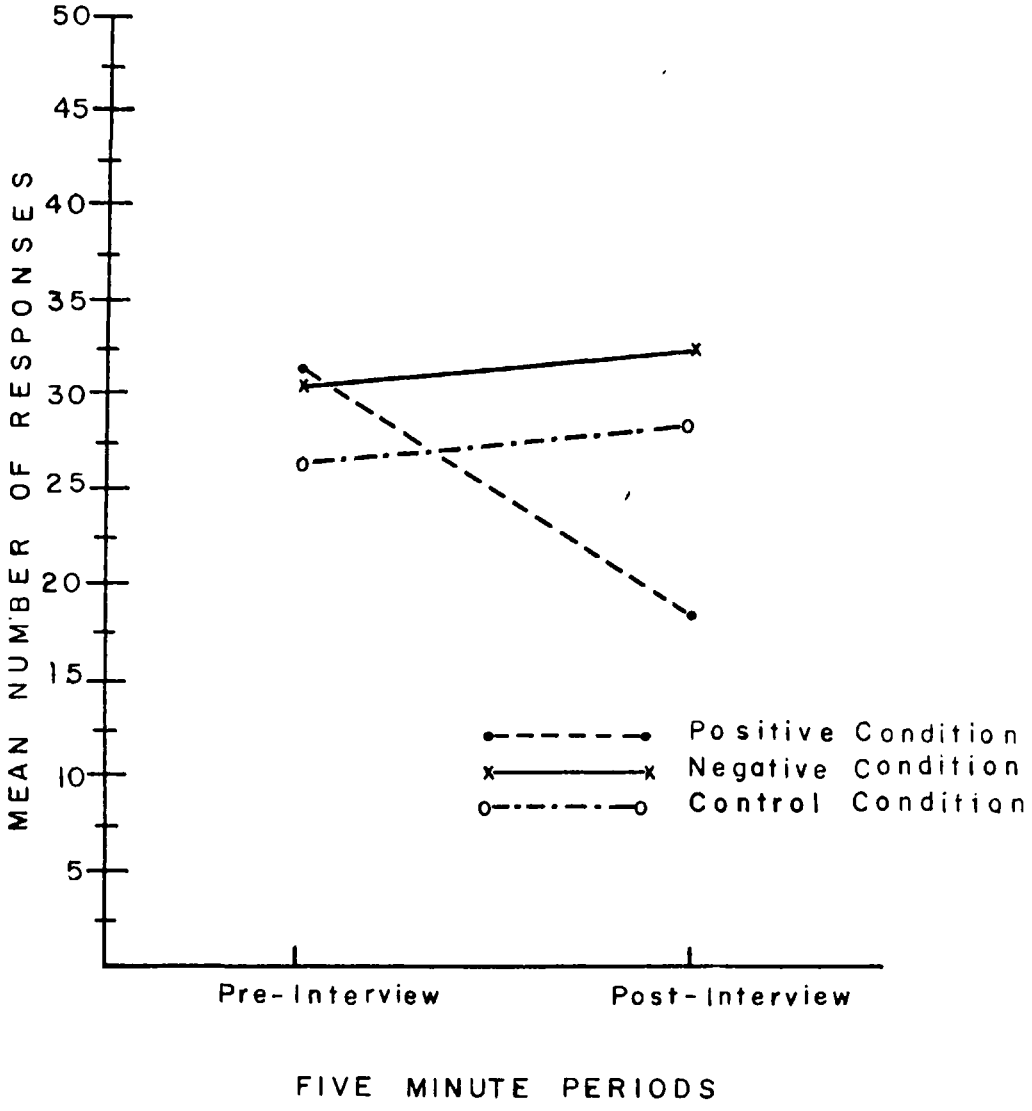

FIGURE 2. MEAN NUMBER OF SHOCK RESPONSES DURING PRE- AND POST-INTERVIEW PERIODS

effects upon post-interview nonverbal aggressive behavior was not confirmed. In addition there was no significant difference between the average of the Positive and Negative Groups as compared with the Control Group.

TABLE II

ORTHOGONAL COMPARISONS BETWEEN GROUPS USING CHANGE SCORES BETWEEN THE PRE- AND POST-INTERVIEW SHOCK PERIODS

Source	SS	d.f.	MS	F	p
Between Groups	31074.23	2			
Comparison:					
Pos vs Neg	2205.23	1	2205.23	2.47	-
Pos + Neg vs Control	343.41	1	343.41	0	-
Remainder	28525.59	0			
Error (WG)	50816.50	57	891.52		
Totals	81890.73	59			

Awareness

To the question "In your own words explain what you think this experiment was about," only one S mentioned I's role as influencing the verbal behavior and the nonverbal behavior. Four mentioned I's role as influencing the verbal behavior or the nonverbal behavior and one mentioned I's role but not its influence on either verbal or nonverbal behavior. The remaining 54 Ss offered explanations of the experiment that did not mention I's role or his influence on verbal or nonverbal behavior. Evidently the lack of awareness did not affect the differential effects of the Positive and Negative Interviewer Roles on Ss' responding in a verbal aggressive response class. However, a true conditioning effect was not obtained and this may be due to Ss' lack of awareness.

DISCUSSION

It is interesting to note that the present study did not confirm the results of the Heller, etal., studies which included both a positive and a negative reinforcement condition in the paradigm. That is, these previous studies demonstrated that the negative reinforcement condition maintained the verbal operant at a higher level than did the positive reinforcement condition whereas the present study found that the positive condition yielded a slight increase in the verbal behavior while the negative condition produced a decrease.

An attempt to explain this disparity can be made in terms of an unstructured versus a structured situation during the verbal conditioning phase of the experiments. The Heller, etal., studies allowed S complete freedom during a 15 minute period to talk about nearly any topic he desired. When S emitted the reference to be conditioned and received a negative statement from the Interviewer for his efforts, S had a strong tendency to become argumentative and to attempt to sway the Interviewer over to his viewpoint. By responding in this manner S necessarily had to continue talking about the same topic that elicited the negative response, thus emitting an increasing number of the verbal referents. Evidently the positive reinforcement condition did not present a similar challenge and S often would begin to discuss topics other than that which elicited the positive statement from the Interviewer.

The present study, however, does not allow the opportunity to discuss or persuade and Ss in the negative condition may have attempted to

avoid the Interviewer's negative comments or gain his approval by the only method available to them at the time -- quit agreeing to aggression items. Immediately following the verbal conditioning phase Ss in the negative condition would invariably begin to qualify why they were agreeing with the items on the questionnaire and question the Interviewer as to why he kept making negative comments. This suggests that Ss had a tendency to become argumentative but the structured situation kept this tendency from being realized.

Since the corresponding nonverbal mode of responding was not altered significantly by verbal conditioning it is difficult to differentiate between the various hypotheses presented by Lovaas concerning the interaction between these two modes of behavior. However, since this interaction apparently did not occur according to prediction some important comments concerning each of the explanations should be made.

To begin, the concept that reinforcement of verbal behavior denotes an acceptance or at least not a punishment or related nonverbal behavior is an interesting one but does not provide an answer to an important question of how many times must a reinforcement be administered before the verbal behavior achieves the power of a discriminative stimulus for related nonverbal behavior. In other words, how many times is it necessary to reinforce verbal behavior before a corresponding change in the nonverbal behavior occurs? Furthermore, Lovaas does not consider what the nature of this interaction might be if one would use an aversive reinforcement rather than a positive reinforcement on the verbal behavior. Can it be assumed that negative reinforcement of verbal behavior denotes a punishment or a least a nonacceptance of related nonverbal behavior?

These questions have important implications for the therapeutic setting. That is, how many times must the therapist positively or negatively reinforce a patient's verbal behavior before the nonverbal behavior yields and begins to change accordingly?

Secondly, the concept that both modes of behavior have common reinforcing stimuli and changes in one mode will result in changes in the other mode suggests a near linear relationship between these behaviors. Why then when positive and negative reinforcement had differential effects upon the rate of responding in the verbal response class did not a corresponding differential effect on the nonverbal behavior also occur? Perhaps there exists a linear relationship for certain kinds of behavior but for other behaviors such as aggression the interaction between verbal and nonverbal response modes may become a matter of the degree of reinforcement once again.

The third possibility assumes that verbal behavior already has the properties of a discriminative stimulus for the nonverbal behavior produced through a pairing of the behaviors during an individual's history. Again the question occurs concerning how much reinforcement of this discriminative stimulus (presumably less since it already has the properties of a discriminative stimulus) is necessary to produce a change in the related nonverbal behavior. Although Lovaas considers the fourth possibility the least likely it has particular importance when considering aggressive behavior. For most individuals nonverbal aggressive behavior has been associated in the past with aversive stimuli. Presumably, by positively conditioning verbal aggressive behavior some extinction of these aversive stimuli may occur. Note that Lovaas was able to increase children's nonverbal aggressive behavior through verbal conditioning of aggression words

yet this study failed to do likewise with adults. Perhaps the failure to increase the verbal and nonverbal aggressive behavior in adults was due primarily to adults having a much greater frequency and divergency of aversive stimuli associated with aggressive behavior than do children. If so then it is possible that a great deal more reinforcement may be necessary for an equal amount of change to occur in adult's aggressive behavior. Furthermore, the verbal aggressive behavior decreased when negatively reinforced while the nonverbal did not show corresponding changes. This suggests that for adults aversive stimuli may be more effective for altering verbal aggressive behavior than for altering the corresponding nonverbal response mode.

Another aspect concerning the difference between children's and adult's aggressive behavior should also be considered. As a child passes through the various stages of socialization he begins to learn that verbal aggressive behavior is more acceptable than acting-out or nonverbal aggressive behavior and respond accordingly. It is highly unlikely, however, that children of nursery school age have learned this socially important discriminating at such an early stage of development. Therefore, since adults realize that verbal aggressive behavior is more acceptable than the nonverbal aggressive behavior, reinforcement of the verbal behavior may alter the verbal response mode but through discrimination correspond- changes in the nonverbal response mode may be inhibited. Children, however, may not as yet learn this discrimination and reinforcement of the verbal aggressive behavior may alter the verbal response mode and through generalization corresponding changes in the nonverbal response mode may also occur.

The point of this discussion is that on the one hand the four possibilities presented by Lovaas are fairly divergent in their respective concepts but on the other hand they all seem to imply a near linear relationship between verbal and nonverbal behavior. A more accurate explanation should include the concept that for some behaviors a great deal more reinforcement may be necessary before changes in the corresponding nonverbal response mode can be obtained than for other behaviors. In addition, some nonverbal behaviors may not have an interaction with a corresponding verbal response mode and verbal conditioning will not produce corresponding changes in the nonverbal response mode.

If it is true that for some verbal behaviors no corresponding interaction with a nonverbal behavior exists, the effects that the traditional "cathartic" type therapies have concerning appropriate changes in a nonverbal response mode may be minimal. Perhaps in situations like these the more direct behavior therapies would be more efficient. However, other behaviors which can be shown to have a strong interaction between the verbal and nonverbal aspects of the behavior may yield themselves to the traditional therapeutic setting quite well. The problem remains, however, to determine which behaviors fall into which categories.

Although several possibilities have been considered in an attempt to explain why the modification of verbal aggressive behavior did not alter the corresponding nonverbal response mode these explanations cannot be considered exhaustive without including an analysis of the experimental design employed by this study. That is, the failure of verbal and nonverbal aggressive behavior to interact may be due to an artifact of the paradigm. One such possibility is that the nature of the shock task may not have been a true measure of nonverbal aggressive behavior. Since Ss were given a

socially acceptable reason why they should shock another person and they did not actually see the person they were shocking they may not have been responding in the same manner as they would have if the task had been viewed by them as a truly aggressive one. Thus if the nonverbal response mode was not an aggressive task it may not have been subject to modification through the reinforcement of verbal items relating to aggression. Therefore a more adequate measure of nonverbal aggressive behavior should be employed in future studies concerned with the modification of nonverbal aggressive behavior through verbal conditioning.

APPENDIX A

QUESTIONNAIRE ITEMS FROM THE MINNESOTA MULTIPHASIC PERSONALITY INVENTORY

Aggression Items

1. When someone does me a wrong I feel I should pay him back if I can, just for the principle of the thing.
2. At times I feel like smashing things.
3. I get angry sometimes.
4. I sometimes tease animals.
5. At times I have a strong urge to do something harmful or shocking.
6. Some people are so bossy that I feel like doing the opposite of what they request, even though I know they are right.
7. Sometimes I feel as if I must injure either myself or someone else.
8. At times I feel like picking a fish fight with someone.
9. I have at times stood in the way of people who were trying to do something, not because it amounted to much but because of the principle of the thing.
10. I get mad easily and then get over it soon.
11. I have been quite independent and free from family rule.
12. I can easily make other people afraid of me, and sometimes do for the fun of it.
13. I do not blame a person for taking advantage of someone who lays himself open to it.
14. I easily become impatient with people.
15. Sometimes I enjoy hurting persons I love.
16. I am often said to be hotheaded.
17. Horses that don't pull should be beaten or kicked.
18. I am often so annoyed when someone tries to get ahead of me in a line of people that I speak to him about it.
19. I have at times had to be rough with people who were rude or annoying.
20. There are certain people whom I dislike so much that I am inwardly pleased when they are catching it for something they have done.
21. I am often inclined to go out of my way to win a point with someone who has opposed me.
22. I like to poke fun at people.

23. In school my marks in deportment were quite regularly bad.

24. I do not try to cover up my poor opinion or pity of a person so that he won't know how I feel.

25. I strongly defend my own opinions as a rule.

26. I would certainly enjoy beating a crook at his own game.

27. Some of my family have habits that bother and annoy me very much.

28. I don't blame anyone for trying to grab everything he can get in this world.

29. It makes me impatient to have people ask my advice or otherwise interrupt me when I am working on something important.

Filler Items

1. Most any time I would rather sit and daydream than to do anything else.

2. I do not worry about catching diseases.

3. Most people make friends because friends are likely to be useful to them.

4. I have no enemies who really wish to harm me.

5. I enjoy social gatherings just bo be with people.

6. When a man is with a woman he is usually thinking about things related to her sex.

APPENDIX B

QUESTIONNAIRE ITEMS FROM THE EDWARDS PERSONAL PREFERENCE SCHEDULE

Aggression Items

1. I like to attack points of view that are contrary to mine.
2. I feel like telling other people off when I disagree with them.
3. I feel like criticizing someone publicly if he deserves it.
4. I feel like making fun of people who do things that I regard as stupid.
5. I feel like getting revenge when someone has insulted me.
6. I like to blame others when things go wrong.
7. I like to read newspaper accounts of murders and other forms of violence.
8. I like to tell others what I think of them.
9. I get so angry that I feel like throwing and breaking things.

Filler Items

1. I like to conform to custom and to avoid doing things that people I respect might consider unconventional.
2. I like to plan and organize the details of any work.
3. I like to avoid responsibilities and obligations.
4. I like to analyze my own motives and feelings.
5. I like my friends to make a fuss over me when I am sick.
6. I feel timid in the presence of other people I regard as my superiors.
7. I like to eat in new and strange restaurants.
8. I like to finish any job or task that I begin.
9. I like to read books and plays in which sex plays a major part.

APPENDIX C

QUESTIONNAIRE ITEMS FROM THE 16 P.F.

Aggression Items

1. In a strange city, I would walk wherever I liked.

2. It is more important to get your own ideas put into practice.

3. If I disagreed with a class teacher on his views, I would usually tell him in class that my opinion differs.

4. When I need immediately the use of something belonging to a friend but he is out, I think it is all right to borrow it without his permission.

5. I have on occasion torn down a public notice forbidding me what I feel I had a perfect right to do.

6. People have sometimes called me a proud, "stuck-up" individual.

Filler Items

1. I am sometimes so very happy that I get afraid my happiness cannot last.

2. I have a feeling that my friends do not need me so much as I need them.

3. I can always change old habits without difficulty and without slipping back.

4. On top of a high building or in a deep tunnel, I never feel nervous.

5. I think I am more sensitive than most people to the artistic quality of my surroundings.

6. I would rather be an insurance salesman than a farmer.

7. In social groups I am bothered by self-conscious shyness.

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