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ABSTRACT

The contribution of a structured procedure designed to facilitate the generalization of assertive behavior was examined. Subjects solicited from the community (N=48) were assigned to an assertion training plus generalization instructions (AT Plus), an assertion training only (AT Only), or an attention-placebo control condition. Both behavioral assessments, using a procedure specifically developed to assess generalization, and self-report measures of assertion were included. While self-report data failed to suggest differential treatment effects, videotape data clearly showed the behavioral superiority of experimental subjects in response to training stimuli. The data further suggested that training had generalized across responses classes for experimental subjects at both post-treatment and follow-up. Surprisingly, those in the AT Only group showed more transfer than did those in the AT Plus condition. It was concluded that generalization may occur following assertion training, and that the use of programmed generalization procedures may be counterproductive. (Author)

RESPONSE GENERALIZATION FOLLOWING ASSERTIVE TRAINING: YES, THE RESPONSE DOES GENERALIZE

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Response Generalization Following Assertive Training: Yes, The Response Does Generalize

Though the use of assertive training procedures has increased dramatically in recent years, a thorough examination of the experimental literature in this area suggests that such training may produce rather limited behavioral change. Indeed, as summarized in Table 1, various investigators have consistently demonstrated that the behaviors acquired as a result of assertive training tend to be limited to those assertions specifically trained during the intervention, and that limited response generalization should be expected subsequent to assertive training programs. As a result, recent discussions of assertive training have recommended that programmed generalization procedures be included as part of these interventions to insure the transfer of training effects (e.g. Rich & Schroeder, 1976). Despite this recommendation the existing research evidence fails to suggest that such procedures significantly enhance inter-response generalization (Hersen, Eisler & Miller, 1974; Rosenthal & Reese, 1976; Kirschner, 1976).

Insert Table 1 here

A careful examination of these data, however, raises questions concerning their validity. While it is true that the data suggest that specific manipulations designed to augment inter-response transfer

typically fail to do so, the manipulations employed in most of these experiments tend to be conceptually naive and fail to incorporate parameters which have been shown to enhance transfer and maintenance (e.g. Hersen, Eisler & Miller, 1974; Rosenthal & Reese, 1976). More sophisticated, empirically based techniques may, in fact, result in increased transfer.

In addition, the assessment procedures used to measure generalization effects in these studies are theoretically inconsistent with Wolpe's formulations concerning the etiology of nonassertive behavior. While Wolpe clearly emphasized stimulus generalization in his conceptual framework, measures designed to assess assertion typically focus on response generalization and fail to explicitly consider important parameters of the standard situations used in behavioral assessment (e.g. Young, Rimm & Kennedy, 1973; Hersen, Eisler & Miller, 1974; Kirschner, 1976; Rimm, et al., 1976; Rosenthal & Reese, 1976). Thus, it may be that the consistent failure to find response transfer actually represents an artificat of the assessment procedure rather than a valid empirical finding (Kolotkin, 1978).

As a result of these unresolved questions conclusive comment concerning the ability of assertive training programs to produce generalized behavioral change cannot be made at this time. It is the purpose of this investigation to examine these issues by evaluating the effectiveness of an empirically based programmed generalization procedure when the generalization of assertive behavior is assessed in a theoretically consistent manner.

Method

Subjects

Subjects were solicited from the community using a news item placed in a daily newspaper. Of the sixty-two subjects who responded to the story 48 met screening and time requirements.

Screening

Prior to the experiment, all subjects were requested to complete The Adult Self-Expression Scale (Gay, Hollingsworth, & Gallassi, 1975), and The Assertion Inventory (Gambrill & Richey, 1975). Only subjects who scored as unassertive on both of these measures were included in the study. These subjects were randomly assigned to treatment conditions. In two cases subjects specifically requested that they be placed in a particular treatment group to facilitate transportation to and from classes.

Assessment of Assertive Behavior

Self-report measures: Both The Adult Self-Expression Scale (ASES) and The Assertion Inventory were used in the experiment. Subjects were asked to complete these measures prior to, immediately following, and 6 weeks after the experimental intervention.

Behavioral role-playing test: Behavioral assessment required subjects to role play their responses to a series of interpersonal situations in which assertion would be appropriate. These situations were selected on the basis of previous research in which their

stimulus, or functional value, was empirically determined (Kolotkin, 1978). Subjects' role-play responses were videotaped with both camera and monitor placed behind a one-way glass partition. All subjects were seated, facing the camera, behind a desk. The research assistant sat opposite them and slightly to the side to facilitate unobstructed recording.

Once the subject was seated the research assistant, who was blind as to the nature of the experiment and the assigned treatment condition of each subject, read a set of standard instructions. These instructions were designed to relax and inform the participants, and asked subjects to respond as they normally would were they to actually find themselves in the situation. Two standardized-practice situations, selected due to their minimal arousal value, were presented following the instructional phase to allow subjects to familiarize themselves with the role-play procedure.

The videotapes resulting from the role-playing task were rated independently by two judges who were blind as to the nature of the experiment, the condition of the subject, and the time of assessment (i.e., pre-treatment, post-treatment, or follow-up). Videotapes were presented to these raters in random order. The raters were asked to assess each subject in terms of overall assertion and were instructed to consider both verbal and nonverbal components of the subject's behavior. Inter-rater reliability for this task was computed using a Pearson Product Moment Correlation and was determined to be .9083.

Additional measures: Subjects were also asked to complete a Subject Satisfaction Questionnaire at both post-treatment and follow-up to determine how they responded to the experimental manipulations, how they viewed their experiences while learning assertion, and their impressions of the intervention's effects on their in vivo behavior.

Follow-up

During the post-treatment assessment all subjects were reminded that a 6-week follow-up assessment would be conducted. Ten days prior to the follow-up date subjects were sent a letter reminding them of the follow-up and containing copies of The Adult Self-Expression Scale, The Assertion Inventory, and the Subject Satisfaction Questionnaire. Subjects were asked to complete these before they returned to the laboratory to be videotaped. When subjects returned to be videotaped these questionnaires were collected and each subject again completed the role-playing task.

The Assessment of Assertion and Generalization

Behavioral assessment was accomplished using a standardized behavioral role-playing instrument specifically developed for this purpose. The assessment format used specifically considers the functional properties of the standard assessment stimuli, and measures assertion across sets of empirically equivalent stimulus situations of varying response class. This measure provides a more theoretically consistent procedure than is typically employed in the literature and

is based upon Wolpe's formulations concerning nonassertion. A detailed description of the development of this instrument has been presented elsewhere (Kolotkin, 1978).

Briefly, to develop this measure empirically assessed nonassertive subjects were asked to rate a broad range of interpersonal situations in which assertion would be appropriate in terms of response difficulty. The method of successive intervals (Edwards, 1957), a classical psychological scaling technique, was then applied to these data to develop an empirical continuum along which these interpersonal situations could be ordered in terms of their increasing difficulty. Standard scores derived from this process were then used to determine a hierarchical measure through which training and transfer can be assessed across homogeneous groups of standard stimulus situations of known stimulus value.

A schematic of the assessment procedure is presented in Figure 1. As this figure indicates, all subjects at pre-treatment were asked to role-play their responses to a series of four interpersonal situations in which assertion would be appropriate. These situations were presented to each subject in order of increasing response difficulty, and are labelled AH-1 in Figure 1. Immediately following the intervention subjects were again asked to respond to a series of role-playing situations, but for this assessment subjects were presented with stimuli from both AH-1 and a second, empirically equivalent stimulus hierarchy (AH-2). At follow-up subjects were also asked

to respond to AH-1 stimuli, as well as to a third set of equivalent stimuli, labeled AH-3 in the schematic.

Insert Figure 1 here

Since responses to AH-1 stimuli were explicitly trained in the intervention, and since AH-2 and AH-3 consist of equivalent, novel, untrained stimuli, both training and transfer effects can be evaluated using this procedure. The comparisons required for these measures are indicated in the schematic. Of significance is the fact that this measure specifically equates standard assessment situations in terms of their response difficulty, as suggested by Wolpe's theory, and, as a result, provides a more conceptually sound procedure for the measurement of transfer than those procedures which merely assume specific parameters of the standard stimuli used for behavioral assessment.

Treatment Conditions

Subjects who met screening requirements were randomly assigned to the three group treatment formats listed below. Each of these groups met for a period of ten weeks, once each week, for two hours.

1. Assertion training with programmed generalization instructions (AT Plus): Subjects in this group were exposed to a multi-faceted, structured intervention which included modeling, behavior rehearsal, relaxation training, cognitive restructuring, homework assignments, and instructions specifically designed to facilitate transfer.

2. Assertion training (AT Only): Subjects in this group experienced an identical training program as above with the exception that the procedures designed to facilitate transfer were omitted.

3. Insight oriented, attention-placebo control (Control): Subjects in the control group experienced an identical assessment and meeting schedule as did subjects in the two experimental groups. For this condition, however, subjects were told that it was essential to learn why they were unassertive so that behavioral changes could occur on the basis of these insights. Subjects in this group were asked to read Harris' I'm OK - You're OK (1969) to learn the language of Transactional Analysis. Group sessions for these subjects involved TA-type analyses of situations in their life in which they would like to be more assertive. Relaxation training and cognitive restructuring procedures, designed to challenge the "parent" in the TA model, were also included.

The Programmed Generalization Procedure

Subjects in the generalization condition were requested to keep a "Journal of Assertive Situations" for the entire duration of training. In this journal subjects recorded situations in which they found it difficult to be assertive, and indicated the amount of subjective distress associated with each situation (i.e. their SUDS level).

Beginning with the fourth week of the intervention subjects in the generalization condition were instructed to follow a structured practice format which included covert sensitization (Cautela, 1973),

imagery, and behavioral rehearsal. The generalization instructions asked subjects to begin practice using situations of the lowest SUDS value, to write down appropriate assertions for these situations, to imagine themselves being assertive in these situations while relaxing, to role-play their assertions with a "helper," and to practice their responses in vivo. Imagery instructions asked subjects to visualize multiple coping models receiving positive consequences subsequent to assertion. These instructions were included on the basis of the literature which suggests that these factors enhance generalization effects (McFall & Twentyman, 1971; Kazdin, 1974, 1975; Nietzel, et al., 1977). Subjects were also asked to gradually increase the SUDS value of their practice situations so that, by the end of the intervention, subjects were using situations of the highest SUDS value as a basis for their structured practice exercises.

Results

Self-Report Measures

Preliminary one-way analyses of variance revealed no significant pretreatment differences among the three groups on any of the dependent measures even when the data from both experimental groups were combined. A one-way analysis of variance conducted on the post-treatment and follow-up data also failed to reveal any significant main effects for any of the self-report measures. As in the pre-treatment analysis, significant effects failed to emerge even when the results of the experimental groups were combined.

An examination of the effects of treatment within each group across time, however, yielded significant results. A trend analysis of AT Only data indicated that subjects in this condition reported significant improvements in their ability to be assertive as assessed by both the ASES ($p < .001$, $F = 78.166$, df = 2/30) and The Assertion Inventory ($p < .001$, $F = 26.819$, df = 2/30). AT Only subjects also reported a significant decrease in response related anxiety as measured by the Discomfort Scale of The Assertion Inventory ($p < .001$, $F = 31.483$, df = 2/30).

A Newman-Keuls analysis of these data indicated that, in all comparisons, subjects' scores in the AT Only group increased significantly from pre-treatment to post-treatment assessment ($p < .01$), and from pre-treatment to follow-up ($p < .01$). Comparisons of scores on the ASES and on both measures of The Assertion Inventory, when evaluated between post-treatment and follow-up assessment, failed to suggest any significant differences. These data suggest that subjects in the AT Only condition tended to describe themselves as being significantly more assertive, and less anxious while being assertive, following the intervention. These data also suggest that these effects were maintained at the time of the follow-up.

A trend analysis of AT Plus data also suggested that subjects in this condition felt themselves to be more assertive following the intervention (ASES $p < .001$, $F = 39.999$, df = 2/28; The Assertion Inventory $p < .001$, $F = 25.536$, df = 2/28). Significant reductions in

anxiety were also reported on the Discomfort scale of The Assertion Inventory ($p < .001$, $F = 37.105$, $df = 2/28$).

Newman-Keuls analysis of these data suggested that AT Plus subjects, like those in the AT Only condition, improved in their self-rated ability to be assertive from pre-treatment to post-treatment ($p < .01$ for both ASES and The Assertion Inventory), and from pre-treatment to follow-up ($p < .01$ for both comparisons). Reductions in subjective discomfort were also indicated, with post-treatment scores and follow-up scores yielding significant effects when compared to the pre-treatment data ($p < .01$ for both comparisons). Significant differences between post-treatment and follow-up scores failed to emerge on any of these variables.

A trend analysis of the data obtained from subjects in the Control condition suggested that these subjects also reported significant changes in assertion and anxiety. As with subjects in the previous conditions, Control subjects rated themselves as more assertive on the ASES ($p < .001$, $F = 14.850$, $df = 2/24$) and on The Assertion Inventory ($p < .001$, $F = 14.619$, $df = 2/24$).

As with experimental subjects, a Newman-Keuls analysis suggested that Control subjects felt themselves to be more assertive following treatment, and that these effects were maintained at follow-up. Decreases in self-reported anxiety followed a similar pattern ($p < .01$ for all comparisons). Significant differences again failed to emerge

on any of the variables between post-treatment and follow-up. These data suggest that Control subjects also felt themselves to be more assertive following treatment and that these changes were maintained at follow-up.

Subject Satisfaction

A one-way analysis of variance of subject satisfaction data revealed significant main effects across treatment conditions in the areas of subjects' liking for the course ($p < .019$, $F = 4.337$, $df = 2/42$), their rating of its value to them ($p < .001$, $F = 8.029$, $df = 2/42$), and their belief in its probable effectiveness ($p < .006$, $F = 5.809$, $df = 2/42$) when assessed at post-treatment. Newman-Keuls analyses of these data indicated that Control subjects tended to like the experience less, consider the experience as less valuable, and believe in it less than did subjects in either the AT Only or the AT Plus conditions ($p < .05$, and $p < .05$; $p < .01$ and $p < .01$; $p < .05$ and $p < .01$ respectively). No significant differences between the experimental groups emerged on any of the subject satisfaction variables for this assessment.

Data from the follow-up assessment suggested, however, that these differences in self-reported satisfaction tended to decrease over time. At follow-up a one-way analysis of variance failed to suggest significant main effects except for subjects' self-reported liking of the training program ($p < .032$, $F = 3.725$, $df = 2/41$). A Newman-Keuls analysis of these results indicated that subjects in the control condition continued

to report that they liked the experience less than subjects in either treatment group ($p < .05$ for both comparisons). Significant differences between experimental groups again failed to emerge.

To determine the extent of these changes across time, multiple paired t-tests were completed for all subjects satisfaction variables within groups and across time. One-tailed comparisons indicated that the reduction in main effects at follow-up was attributable to changes in subject satisfaction for the AT Plus group. These data indicated that subjects in this condition tended to value their experiences in the experiment less over time ($p < .05$), and to report less retrospective belief in the efficacy of the procedures ($p < .038$) than they did at post-treatment.

Behavioral Data - Overall Assertion (Training Effects)

One-way analyses of variance utilizing a regression format were conducted for each interpersonal situation across treatment conditions within the pre-treatment assessment. None of these analysis revealed any significant pre-treatment differences across groups in overall assertion for any of the four situations included in the AH-1 hierarchy. Application of this statistical procedure to the behavioral data obtained at post-treatment, however, revealed significant main effects for all four AH-1 stimuli. These data are summarized in Table 2.

Insert Table 2 here

Newman-Keuls analyses of these data indicated that these effects were directly attributable to a deficit in overall behavioral assertion exhibited by Control subjects. For all situations the data indicated that subjects in the Control condition responded with significantly less assertion than subjects in either the AT Only or AT Plus conditions ($p < .01$ for all comparisons except situation 1 in which p was $< .05$). Significant differences between experimental groups, however, failed to emerge within any stimulus situation included in the AH-1 sequence. These post-treatment data suggest significantly greater training effects for experimental subjects than for controls.

When one-way analyses of variance utilizing a regression option were applied to follow-up data, a similar picture emerged. These data are also summarized in Table 2.

Newman-Keuls analysis of these data for situations 1, 2, and 4, again revealed that Control subjects performed with significantly less assertion than AT Only or AT Plus subjects ($p < .01$ for all comparisons). Significant differences between experimental groups failed to emerge for these situations. For Situation 3, however, subjects in the Control group continued to exhibit relative deficits in assertion as compared to experimental subjects ($p < .01$), while AT Only subjects performed significantly better than AT Plus subjects ($p < .05$). As with the post-treatment data, consistently greater levels of assertion were noted at follow-up for subjects in both experimental groups.

To determine the relative extent of training effects over time, a trend analysis of the behavioral data across time and within treatment condition was conducted for all of the AH-1 stimulus situations. AT Only and AT Plus data suggested significant main effects across time, indicating that the intervention was successful in increasing overall behavioral assertion in response to all AH-1 stimuli for these subjects ($p < .001$ for all trend analyses).

Newman-Keuls statistics, computed to determine if the effects of the intervention were maintained at follow-up, indicated that the overall level of assertion for AT Only subjects at pre-treatment was significantly lower than it was at post-treatment and at follow-up ($p < .01$ for all comparisons). No differences were noted between post-treatment and follow-up assessments. These data suggest that, not only was the intervention successful in modifying overall assertion, but also that increases in behavioral assertion were maintained up to six weeks following the termination of assertion training for AT Only subjects.

Similar analysis of AT Plus data yielded equivalent findings. For Situations 1, 2, and 3 Newman-Keuls analyses indicated significant changes from pre-treatment to post-treatment and from pre-treatment to follow-up ($p < .01$ for all comparisons). For these situations no significant differences between post-treatment and follow-up were noted. For Situation 4, however, not only were overall levels of assertion found to be significantly lower in pre-treatment than in

either post-treatment or follow-up ($p < .01$), but a significant decrease ($p < .05$) was noted for this situation from post-treatment to follow-up. Thus for the AT Plus group, increases in overall assertion were maintained for up to six weeks, except in response to the situation rated as most difficult. For this situation a significant reduction in behavioral assertion was noted.

Analysis of Control data suggested that, though these subjects tended to rate themselves as more assertive at post-treatment and follow-up, these changes were not reflected when assertion was assessed behaviorally. For Situations 1, 2, and 3 analyses of variance utilizing a regression format failed to suggest any significant behavioral effects. For Situation 4, however, the analysis revealed a signficant ($p < .05$, $F = 3.95$, $df = 2/22$) change in overall assertion.

A Newman-Keuls analysis of these data indicated that subjects in this condition performed with significantly greater assertion at post-treatment ($p < .05$) and at follow-up ($p < .05$) when compared to pre-treatment levels. The analysis failed to suggest significant changes in overall assertion between the post-treatment and follow-up assesssments. These data indicate that only for the situation judged to be most difficult did control subjects exhibit any significant improvements in assertion, and that such improvements were maintained for up to six weeks following the termination of the intervention.

Behavioral Data - Overall Assertion (Generalization Effects)

The results of one-way analysis of variance utilizing a regression format for the post-treatment assessment of AH-2 stimuli, and the follow-up assessment of AH-3 stimuli, are summarized in Table 3. As this table indicates, these analysis revealed significant main effects for all four interpersonal situations included in both of the stimulus hierarchies.

Insert Table 3 here

As with training effects a Newman-Keuls analysis of the data obtained in response to these novel stimulus situations consistently showed the behavioral superiority of subjects in both experimental groups when compared to Control subjects. For all AH-2 stimuli the data indicated that Control subjects responded to these novel standard situations with significantly less assertion than subjects in either experimental condition ($p < .01$ for all comparisons except Situation 2 in which p was $< .05$), and failed to reveal any significant differences between experimental groups.

For those novel Situations included in AH-3, analysis of the follow-up data showed that Control subjects performed with significantly less overall assertion than did experimental subjects ($p < .01$ for all comparisons on Situations 1, 2, and 4), and again failed to distinguish between experimental groups. For Situation 3, however, the data

suggested that subjects in the AT Only group performed at significantly higher levels than either AT Plus or Attention-Placebo subjects ($p < .05$), with AT Plus subjects showing relatively greater levels of assertion than Control subjects ($p < .01$).

Since the above analyses failed to determine the effects of transfer over time, or compare AH-2 and AH-3 responding to pre-treatment levels, a trend analysis across AH-1, AH-2, and AH-3 stimuli within each situation was conducted. These data are illustrated in Figures 2, 3, and 4.

Figure 2 indicates that, for the AT Only group, all analyses produced significant trend effects. For Situations 1, 2, 3, and 4 the significance levels were $p < .001$ ($F = 19.88$, $df = 2/30$), $p < .01$ ($f = 6.08$, $df = 2/30$), $p < .001$ ($F = 51.37$, $df = 2/30$), and $p < .001$ ($F = 23.02$, $df = 2/30$) respectively. Newman-Keuls analyses of these data suggested a consistent picture across stimulus situation in which AH-1 pre-treatment levels were clearly less than levels determined in response to novel AH-2 post-treatment, or AH-3 follow-up, stimuli. For Situations 1, 3, and 4 the data indicated that AT Only subjects performed at pre-treatment with significantly less assertion than they did at post-treatment or at follow-up ($p < .01$ for all comparisons) despite the fact that these subjects had not been explicitly trained on AH-2 or AH-3 situations. No significant differences were noted between AH-2 and AH-3 responding. These data suggest that not only did transfer occur, but that these effects were maintained at least up to six weeks after the experiment ended.

An identical picture emerged for Situation 2, though for this situation the significance of the difference between AH-2 and AH-1 was $p < .05$, while AH-3 responding differed from AH-1 levels at a probability of $p < .01$.

Insert Figure 2 & 3 here

As suggested by Figure 3, the data obtained from subjects in the AT Plus group were less consistent. While significant trend effects were noted for Situations 1, 3, and 4, ($p < .001$, $F = 18.463$, $df = 2/28$; $p < .001$, $F = 14.188$, $df = 2/28$; $p < .001$, $F = 42.938$, $df = 2/28$ respectively), the data for Situation 2 indicated that subjects showed no significant changes in overall assertion in response to this stimulus situation as it appeared in any of the stimulus hierarchies.

Newman-Keuls analyses of these data provided additional evidence suggesting that AT Plus subjects showed relatively less transfer and maintenance than did subjects in the AT Only condition. For Situation 1 the data indicated that AH-1 levels of overall assertion were significantly less than both AH-2 levels ($p < .01$) and AH-3 levels ($p < .01$), and that AH-3 levels were significantly lower than AH-2 levels ($p < .05$). For Situation 4 AH-1 levels were also found to be significantly lower than either AH-2 or AH-3 levels ($p < .01$ for both comparisons), and AH-3 responding was significantly less than that observed for AH-2 ($p < .01$).

For Situation 3 the data indicated that AT Plus subjects responded equally to AH-1 and AH-3 stimuli, thus suggesting a return to pre-treatment levels despite an increase in performance at post-treatment ($p < .01$).

Figure 4 quickly reveals the significantly lower levels of overall assertion noted for Control subjects. Interestingly, though subjects

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Insert Figure 4 here

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in this condition received no direct behavioral training in the area of assertion, some significant improvement in assertion was observed. Significant trend effects were noted for Situations 1, 3, and 4 ($p < .025$, $F = 4.4032$, $df = 2/22$ respectively) but not for Situation 2.

Newman-Keuls analyses of these data, however, revealed a mixed picture. For Situation 1 the data indicated that AH-2 levels of assertion were significantly greater than those noted in response to AH-1 stimuli ($p < .05$), though AH-2 and AH-3 levels were shown to be equal. AH-1 levels were also found to be equivalent to those of AH-3. For Situation 3, AH-1 levels were found to be significantly lower than those noted for either AH-3 ($p < .05$) or AH-2 ($p < .01$), and AH-2 and AH-3 levels were determined to be equivalent. The data from Situation 4 failed to reveal significant differences between pre-treatment and follow-up. Subjects were, however, found to

respond with significantly greater behavioral assertion in response to AH-2 stimuli than in response to either AH-1 ($p < .01$) or AH-3 ($p < .01$) stimuli.

To investigate the relative magnitude of transfer for each group paired t-tests were completed between AH-1 and AH-2 stimuli, and AH-1 and AH-3 stimuli, for post-treatment and follow-up respectively. These comparisons utilized a two-tailed criterion and were completed across each hierarchical situation within both time of assessment and treatment condition.

An evaluation of the post-treatment data across all stimulus situations for the AT Only group failed to reveal any significant differences. These data suggest that training and transfer effects were of equal magnitude for this group.

For the At Plus group, the data indicated equivalence for Situations 1, 3, and 4, but for Situation 2 suggested that AH-2 levels were significantly lower ($p < .021$) than they were in response to the AH-1, training stimulus. For the Control group the data suggested equivalence for Situations 1 and 3, thought at those significantly lower levels of assertion indicated by the ANOVA data. For Situation 2, however, these data suggested a significant decrement in overall assertion ($p < .004$) in response to the AH-2 transfer stimulus when compared to that noted in response to the AH-1 training stimulus. For Situation 4 the situation was reversed with the data suggesting a significant improvement in overall assertion ($p < .008$) in response to the AH-2 stimulus.

Data comparing AH-1 levels of assertion to AH-3 levels at follow-up for the AT Only group failed to reveal significant differences for Situations 2, 3, and 4. These data suggest the equivalence of training and transfer effects for these situations, and indicate that transfer effects were maintained at follow-up. In addition, a significant improvement ($p < .046$) was noted in subject's responding to Situation 1 of the AH-3 hierarchy. Such data imply that subjects in the AT Only condition were able to improve their assertive performance over time on the easiest situation included in the stimulus hierarchy.

AT Plus data, while suggesting the equivalence of training and transfer for Situations 2 and 4, revealed that these subjects failed to maintain their prior levels of equivalent functioning in response to Situation 1 and 3. For these subjects a significant reduction in overall assertion from AH-1 to AH-3 stimuli was noted for Situations 1 ($p < .006$) and 3 ($p < .014$). For Control subjects all comparisons suggested equivalence between AH-1 levels and those determined for AH-3 stimuli. Such data imply that subjects in this group responded similarily to both training and transfer situations and at those lower levels suggested by the ANOVA data.

The Effects of the Experimental Manipulation - Self-Report

Due to the mixed results concerning the performance of AT Plus subjects, a significant question emerges regarding the extent to which the programmed generalization procedures used in this condition were effective. Information addressing this issue was obtained from

the subjects at post-treatment and follow-up using the Subject Satisfaction Questionnaire.

A traditional one way analysis of variance of the post-treatment data suggested that subjects in all groups reported equivalent levels of past and current practice, equal utilization of the suggested practice format, and in vivo practice of situations with essentially similar arousal value[redacted] mean = 60.91, standard deviation = 21.92). Such data cast doubt upon the utility of the programmed generalization procedures used in the experiment.

An examination of follow-up data suggested similar results in all but one of the variables assessed. At this time a significant main effect was noted for the number of times subjects actually practiced their new assertive skills at the time of assessment ($p < .024$, $F = 4.065$, $df = 2/41$). A Newman-Keuls analysis of these results indicated that these effects were attributable to the significantly greater frequency of practice reported by subjects in the AT Only condition when compared to AT Plus ($p < .05$) and Control subjects ($p < .05$). No differences were noted between AT Control and AT Plus subjects in regard to the frequency of self-reported in vivo practice.

Discussion

The results of this experiment, unlike others in the literature, support the conclusion that behavioral changes observed following assertion training generalize to novel situations requiring assertive

responses which differ from those explicitly taught as part of the training program, at least when transfer is assessed in the laboratory. For subjects in both experimental groups behavioral performance in response to novel situations of varying response type and difficulty was found to be significantly and consistently superior to the performance exhibited by those in the control condition. In addition, experimental subjects were found to perform with significantly more assertion in response to novel stimuli at post-treatment and follow-up than they had in response to then novel, pre-treatment stimulus situations.

The conclusion that subjects continue to effectively apply their new assertive skills in novel situations even after the termination of assertion training is also supported by the results of this experiment. Subjects in both experimental groups were found to respond to novel situations with consistently superior overall assertion than control subjects even when assessed six weeks after the conclusion of the training program. Experimental subjects, when assessed at follow-up, were also found to respond to untrained stimulus situations with significantly higher levels of overall assertion as compared to their performance in response to novel, pre-treatment stimuli.

While previous data suggest that training effects tend to be greater than transfer effects, when assessed within the same general response class (Young, Rimm & Kennedy, 1973; Hersen, Eisler, & Miller,

1974; Kazdin, 1974; Kirschner, 1976) the results of this experiment support the conclusion that training and transfer effects tend to be equivalent. Of the sixteen possible paired comparisons computed between training and novel stimuli across post-treatment and follow-up assessments for experimental subjects, only three suggested lower levels of assertion in response to transfer stimuli. In fact, for one of these comparisons the data showed an increase in assertion in response to a generalization stimulus when compared to an equivalent training stimulus.

In addition, the data also suggest that, not only were the generalization procedures ineffective in producing increased transfer, but also that these procedures may have resulted in less generalization than may have occured had they not been utilized. While subjects in the AT Only condition were found to respond to all transfer stimuli at post-treatment and follow-up with significantly improved assertion as compared to that exhibited at pre-treatment, subjects in the AT Plus condition failed to produce such consistent results. For these subjects a marked decrement in transfer was noted at post-treatment in response to Situation 2 of the AH-2 hierarchy. AT Plus subjects also failed to consistently maintain their post-treatment levels of assertion when assessed at follow-up. Transfer effects were also found to be significantly less than training effects for these subjects.

Though the behavioral data clearly show that the intervention used in the experiment produced significantly greater behavioral change in experimental subjects, no differential training effects were noted

in the self-report data. Such results are consistent with those in the literature which also show increases in self-reported assertion for those in a control condition (Kazdin, 1974; Rimm, et al., 1976; Nietzal, et al., 1977), or with those studies which show equivalent levels of assertion for experimental and control subjects (Kazdin, 1975). Decreases in subjective discomfort, even when observed in the context of continued behavioral deficiency, has also been reported in the literature (Rimm, et al., 1976).

On the basis of these data it would appear that self-report measures fail to assess actual behavioral parameters and, rather, assess subject characteristics more closely associated with attributional and attitudinal aspects of functioning. While this conclusion appears to be warranted, an ancillary conclusion regarding the inappropriateness of self-report measures does not appear to be justified. Rather, it would seem that such measures are of value in the initial screening of subjects prior to the implementation of assertion training, but of little value in assessing either training or transfer effects.

It is also interesting to note that control subjects, despite the fact that they received no actual training in assertion, exhibited a significant increase in behavioral assertion over time for the most difficult situation included in the training series. It may be that it is this limited behavioral improvement that is actually being assessed by the self-report measures.

Behavioral improvement of control subjects is certainly not without precedent (McFall & Twentyman, 1973; Kazdin, 1974 and 1975;

Nietzel, et al., 1977). It is, however, of some comfort to note that, though control subjects showed improved performance, such improvement was not of magnitude as that exhibited by those in the experimental groups. Perhaps control subjects, as a result of attending group sessions in which assertion was discussed and in which subjects could interact with other nonassertive individuals, redefined their problem. As a result of their participation these subjects may have given themselves "permission" to behave in an assertive manner. The self-reported decreases in subjective discomfort noted in this experiment would tend to support this view.

The behavioral improvement noted for control subjects may also represent an artifact of the videotape assessment format. Recently, behavioral assessment procedures such as those used in this experiement have been criticized concerning their lack of ecological and construct validity (Bellack, Hersen & Turner, 1978). Despite efforts to insure a valid assessment of subjects' in vivo behaviors, it is likely that subjects in this assessment situation would attempt to conform to the experimental demands of the measurement procedure. Thus, control subjects, wanting to please the experimenter and conform to the demand characteristics (Orne, 1962) of the assessment situation, may have attempted to maximize their assertive performance. Since subjects in the control condition were not exposed to explicit training in the behavioral components of assertion, their efforts, though showing improvements over those exhibited at pre-treatment, failed to equal

those displayed by subjects in either experimental group. Such a formulation would also account for the tendency for control subjects to perform at equivalent levels in response to both training and transfer stimuli. As a result, it may be that the behavioral improvement observed for Control subjects can be correctly viewed as an estimate of maximum behavioral performance elicited in response to attitudinal change and to the demands of the assessment situation. If so, the actual magnitude of training and transfer effects for experimental subjects may be accurately ascertained by eliminating such extraneous influences.

Despite the rather massive attempt to facilitate generalization, the data suggest that this manipulation was not successful. Similar findings have been reported by other experimenters (Hersen, Eisler, & Miller, 1974; Kirschner, 1976; Rosenthal & Reese, 1976). While the programmed generalization procedures were designed to increase in vivo practice across a wide range of situations of increasing response difficulty, the data indicate that, not only were the procedures not effective in achieving this end, but that AT Plus subjects actually tended to practice less than those in the AT Only condition. Though AT Plus subjects initially expressed as much satisfaction in treatment as AT Only subjects, AT Plus subjects became less satisfied with the intervention as time passed and showed decreased assertive ability when assessed at follow-up. These data suggest that complex generalization procedures, though recommended

as a means to insure transfer (Rich & Schroeder, 1976), may actually reduce the effects which they are intended to produce and may detract from the subjective experience of group participants.

Though the data fail to address the question of why AT Plus subjects showed less practice and satisfaction than AT Only subjects, some speculation concerning these findings appears to be warranted. Within both individual and group treatment formats, resistance to behavior change is commonly noted (Korchin, 1976), and efforts are usually made to reduce or overcome such resistance. Given the highly structured nature of the generalization procedures used in this experiment, and the tendency for nonassertive individuals to employ passive means to gain control, it may be that the subjective effect of these procedures functioned to increase the resistance of subjects in the AT Plus group by tapping into old nonassertive behavioral themes relating to passive resistance to authority. Passive attempts to retain control which commonly characterize nonassertive individuals may thus have been responsible for the relatively poorer performance noted for those in the AT Plus condition.

Subjects in the AT Only condition, however, were free to practice their new assertive skills in whatever manner they desired. Such a situation obviously allowed these subjects to exert more control over their practice and thus over their behavior. It may be that this relatively increased sense of control contributed to an increased desire to practice for these subjects. Increased practice may also

account for the data which indicate consistently greater generalization and maintenance for subjects in the AT Only condition. While clearly speculative, data from the modeling literature, which show that subject control of therapeutic modeling stimuli enhances treatment effects (Bandura & Menlove, 1968) supports such an interpretation.

Though the data obtained in this experiment tend to support Wolpe's (1958, 1969) notions concerning the importance of stimulus generalization and situational specifity in the development of nonassertive behavior, the nature of these data preclude conclusive comment. And, while the data suggest that the formulation and/or assessment of transfer across homogeneous response classes is ill-advised, as well as theoretically inconsistent, a strong conclusion in support of these views would be premature at this time.

The problem with any such conclusion is that, on the basis of the data obtained in this experiment, it is unclear whether it was the novel nature of the assessment procedures employed, or the extended nature of the intervention utilized, which was responsible for the rather unique finding that generalization across response classes may be expected to occur following an intervention designed to increase assertive behavior. Though these data do suggest that previous studies have attempted to evaluate generalization effects in an inappropriate fashion, before this conclusion can be advanced it would be necessary to tease out the separate influences of these variables. An experiment employing the assessment tool used in the present research, but which trains assertion in the short-term, analog format typically found in the literature,

would be invaluable in this regard. The results of this type of experiment would greatly facilitate conclusive comment within this area.

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Table 1

Conclusions and Supporting Research Concerning the Transfer of Training of Assertive Behavior. Conclusions are Listed in order of Decreasing Definitiveness. Studies failing to meet Minimal Design and Methodological Requirements have been Excluded.

Conclusion	Supportive Research
1. Training of a specific type of assertive response will transfer to novel situations in which the same response is called for, at least in the laboratory.	1. McFall & Lillesand (1971) McFall & Twentyman (1973, Exp. II) Hersen, Eisler & Miller (1974) Kazdin (1974; 1975) Kirschner (1976) Nietzel, et al. (1977)
2. Training of a specific type of assertive response will typically transfer to a more demanding situation requiring the same type of assertion, at least in the laboratory.	2. McFall & Lillesand (1971) McFall & Twentyman (1973, Exp. I, II, III) Nietzel, et al. (1977)
3. Training of a specific type of assertive response will typically not transfer to similar in vivo situations which call for the same response, at least when such transfer is assessed through a covert telephone assessment of an all-or-none nature.	3. McFall & Lillesand (1971) McFall & Twentyman (1973, Exp. I, II, III, IV) Kazdin (1974) Nietzel, et al. (1977)
4. Training, either within a specific response class or across many response classes, will not transfer to situations in which responses other than those explicitly trained are called for. This conclusion pertains to both laboratory and in vivo assessments.	4. McFall & Lillesand (1971) Hersen, Eisler & Miller (1974) Kirschner (1976) Nietzel, et al. (1977)

Table 1 (continued)

Conclusion	Supportive Research
5. Follow-up data, utilizing covert in vivo telephone assessments, fail to provide evidence for the maintenance of increased assertion either in areas specifically trained or in situations requiring a novel assertion.	5. McFall & Twentyman (1971) McFall & Twentyman (1973, Exp. III) Kazdin (1974) Nietzel, et al. (1977)
6. Attempts to increase generalization incorporated into experimental design typically fail to facilitate transfer.	6. Hersen, Eisler, Miller (1974) Rosenthal & Reese (1976) Kirschner (1976)

Table 2

Summary of ANOVA evaluating training effects as assessed by between group changes in the behavioral expression of overall assertion assessed at post-treatment and follow-up for each stimulus situation included in AH-1.

Situation Number	Post-Treatment			Follow-Up		
	F	df	Sig. of F	F	df	Sig. of F
1	3.972	2/42	$p < .026$	8.027	2/40	$p < .001$
2	10.881	2/42	$p < .001$	8.911	2/40	$p < .001$
3	15.853	2/42	$p < .001$	12.898	2/40	$p < .001$
4	12.432	2/42	$p < .001$	19.498	2/40	$p < .001$

Table 3

Summary of ANOVA evaluating generalization effects as assessed by changed in the behavioral expression of overall assertion assessed in response to all stimulus situations included in AH-2 (Post-treatment) and AH-3 (Follow-up).

Situation Number	Post-Treatment (AH-2)			Follow-Up (AH-3)		
	F	df	Sig. of F	F	df	Sig. of F
1	10.717	2/42	$p < .001$	16.353	2/40	$p < .001$
2	4.052	2/42	$p < .025$	3.329	2/40	$p < .045$
3	20.614	2/42	$p < .001$	16.916	2/40	$p < .001$
4	14.885	2/42	$p < .001$	11.509	2/40	$p < .001$

Figure 1: Schematic representation of the experimental design used to assess generalization of behavioral components of assertion. The three empirically equivalent stimulus hierarchies are labeled AH-1, AH-2, and AH-3 and represented as 1, 2, 3, 4; A, B, C, D; and W, X, Y, Z respectively. The order of stimulus presentation at post-treatment was 1-A-2-B-3-C-4-D. Stimulus presentation at follow-up was 1-W-2-X-3-Y-4-Z.

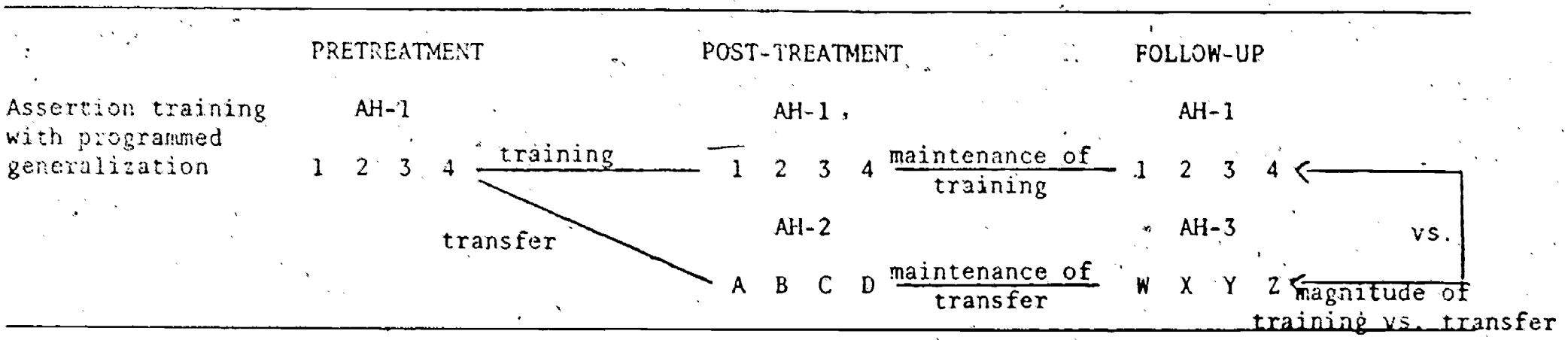

Figure 2: Generalization Effects: Trend analysis of behavioral data for overall assertion across time and stimulus hierarchies obtained from the AT Only group where:

Situation 1 = _____

Situation 2 = _ _ _ _ _

Situation 3 = —X—X—X—

Situation 4 = —O—O—O—

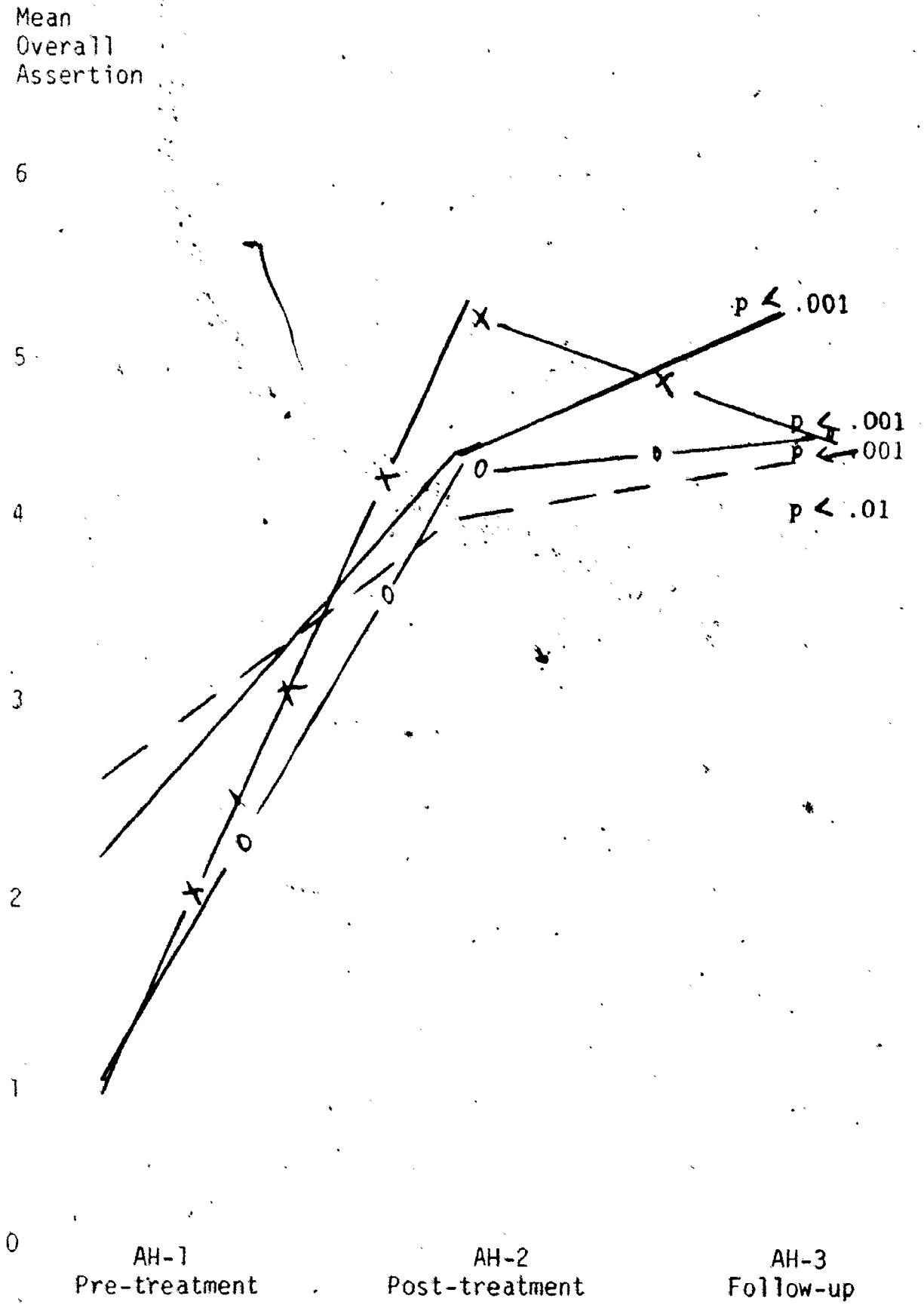

Figure 3: Generalization Effects: Trend analysis of behavioral data for overall assertion across time and stimulus hierarchies obtained from the AT Plus group where:

Situation 1 = _____
Situation 2 = _ _ _ _ _
Situation 3 = _X_X_X_
Situation 4 = _O_O_O_

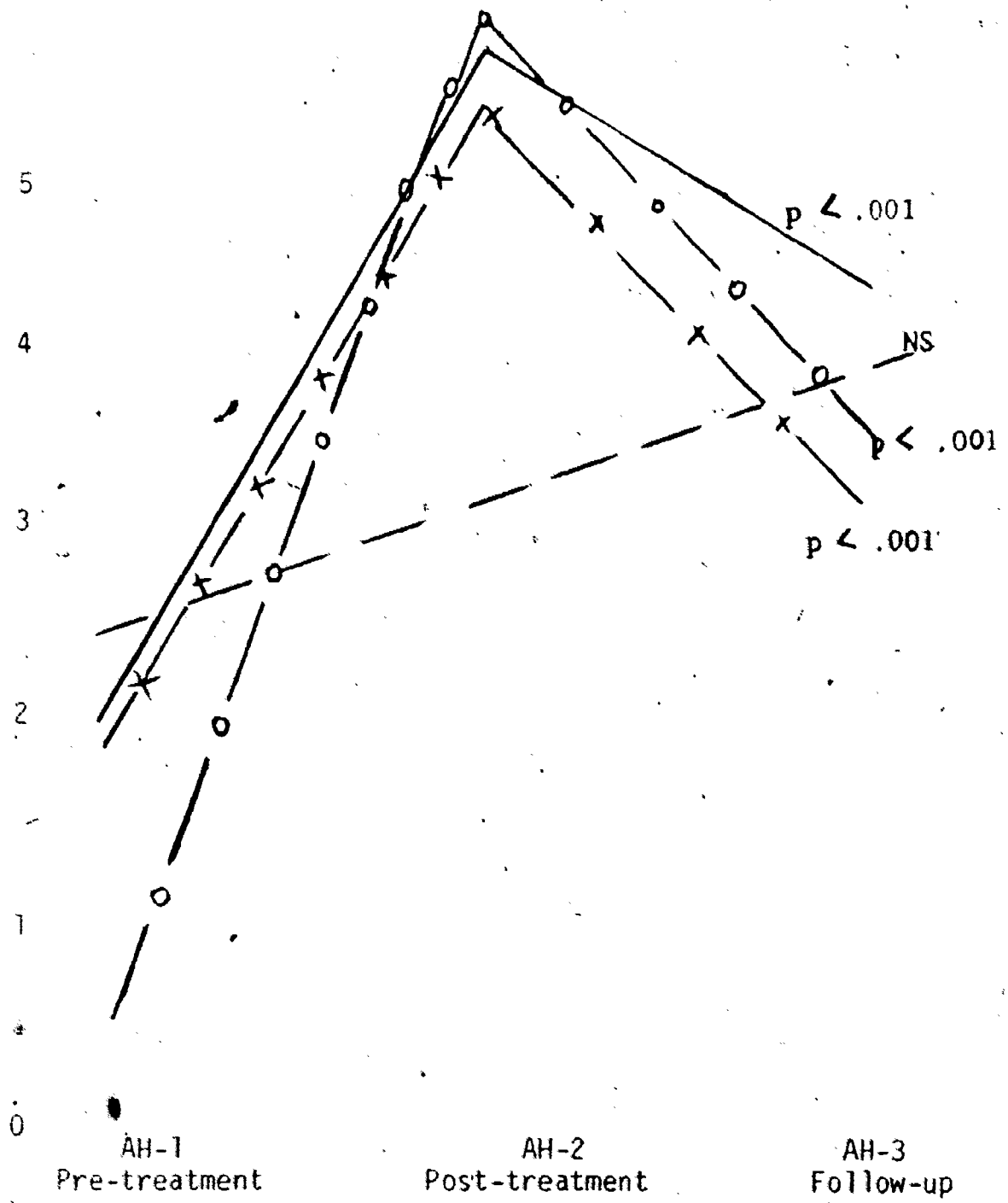

Figure 4: Generalization Effects: Trend analysis of behavioral data for overall assertion across time and stimulus hierarchies obtained from the Attention-Placebo group where: Situation 1 = ———— Situation 2 = — — — — — Situation 3 = —X—X—X— Situation 4 = —O—O—O—