

DOCUMENT RESUME

ED 359 441

CG 024 904

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 TITLE Modifying Teachers' Attributions: An  
 Education-Consultation Approach.  
 PUB DATE 26 Mar 93  
 NOTE 26p.; Paper presented at the Annual Meeting of the  
 Southeastern Psychological Association (39th,  
 Atlanta, GA, March 24-27, 1993).  
 PUB TYPE Reports - Research/Technical (143) --  
 Speeches/Conference Papers (150)

EDRS PRICE MF01/PC02 Plus Postage.  
 DESCRIPTORS Academic Achievement; \*Attitude Change; \*Attribution  
 Theory; \*Change Strategies; \*Consultation Programs;  
 Elementary School Teachers; Elementary Secondary  
 Education; Lecture Method; Locus of Control; Modeling  
 (Psychology); Role Playing; Secondary School  
 Teachers; Student Motivation; \*Teacher Attitudes;  
 Teacher Role; Workshops

ABSTRACT

While most of the existing literature on attribution retraining focuses on children's attributions for academic or achievement related tasks, teachers' attribution styles also are an important target for modification. This study was conducted to investigate the effectiveness of a 1-day training workshop designed to significantly alter teachers' attribution styles toward greater optimistic patterns. Fifty-two teachers participated in the 1-day attribution retraining workshops. Retraining methods were lecture, modeling, and role play. Attribution styles were assessed with pretest and posttest administrations of the Attribution Style Questionnaire (ASQ) and the Teacher Attributions for Academic Performance Scale (TAAPS). Following workshop participation, ASQ composite negative scores were significantly decreased and positive scores were significantly increased ( $p < .005$  and  $p < .01$ , respectively). These changes reflected increased levels of optimism on the part of workshop participants. No meaningful changes in scores were observed on the TAAPS. Weak, but statistically significant correlations ( $p < .05$ ) were found for posttest composite ASQ scores with TAAPS composite internal scores. The changes in ASQ scores were in the hypothesized direction and reflected enhancement of attribution styles thought to facilitate student motivation and achievement. (Author/NB)

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ED359441

Modifying Teachers' Attributions:  
An Education-Consultation Approach

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Paper presented at the annual meeting of the  
Southeastern Psychological Association, March 26, 1993.

Running head: Modifying Teachers' Attributions

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## Abstract

Fifty-two teachers participated in one-day attribution retraining workshops. Retraining methods were lecture, modeling, and role-play. Attribution styles were assessed with pretest and posttest administrations of the Attribution Style Questionnaire (ASQ) and the Teacher Attributions for Academic Performance Scale (TAAPS). Following workshop participation, ASQ composite negative scores were significantly decreased and positive scores were significantly increased ( $p < .005$  and  $p < .01$ , respectively). These changes reflected increased levels of optimism on the part of workshop participants. No meaningful changes in scores were observed on the TAAPS. Weak, but statistically significant correlations ( $p < .05$ ) were found for posttest composite ASQ scores with TAAPS composite internal scores. The changes in ASQ scores were in the hypothesized direction and reflected enhancement of attribution styles thought to facilitate student motivation and achievement.

Individuals who habitually ascribe causality for bad events to factors that are internal, stable, and global are said to have a "pessimistic" explanatory or attribution style. These people are, according to the reformulation of the learned helplessness model, more likely to display helplessness deficits after bad events than are people with a more "optimistic" explanatory style (Abramson, Seligman, & Teasdale, 1978; Seligman, Abramson, Semmel, & von Baeyer, 1979).

Attribution style (optimistic or pessimistic) for negative outcomes has been shown to be predictive of achievement (Weiner et al., 1971; Alloy, Abramson, Peterson, & Seligman, 1984; Seligman et al., 1990), health (Peterson, Seligman, & Vaillant, 1988), depression (Sweeney, Anderson, & Bailey, 1986; Oettingen & Seligman, 1990), and even political success and failure (Zullow & Seligman, 1990). Furthermore, the stability of attribution style for negative outcomes has been demonstrated (Burns & Seligman, 1989; Seligman & Elder, 1986).

Teachers' attribution styles are an important target for modification for several reasons. First, the research indicates that teachers' naive attributions for student outcomes are frequently not facilitative to high achievement motivation in students (Brophy & Rohrkemper, 1981; Burger, Cooper, & Good, 1982; Guskey, 1982; Vernberg & Medway, 1981;). Deleterious effects on student achievement may occur as a result of the communication of hopeless teachers' expectations. Hopeless

teachers may also exert less effort and persistence in working with students who are having difficulties.

Second, the attributions that teachers make to explain their own failure to produce student learning have critical implications for the teachers' sense of efficacy. Teacher efficacy has been found to be strongly related to student learning outcomes (Brookover & Lezotte, 1979; Dembo & Gibson, 1985; Denham & Michael, 1981; McLaughlin & Marsh, 1978; Murray & Staebler, 1974, Porter & Cohen, 1977).

Finally, when teachers combine an attribution style that is facilitative to student learning with an awareness of the implications of attribution style for achievement motivation, then teachers can help students develop adaptive attribution styles. Teachers who combine these two qualities of possession and awareness are in a position to directly teach students about attributions as well as to model adaptive attributions and provide students with appropriate attribution feedback.

The bulk of the existing literature on attribution retraining focuses on children's attributions for academic or achievement related tasks. These studies have been, for the most part, limited to promoting change in the attributions children make for their outcomes on a specific task or within a specific academic domain. Foesterling (1985) reviewed 15 attribution studies. Persuasion was the technique used to initiate attribution change in nine of the studies (Anderson, 1983; Chapin & Dyck, 1976; Dweck, 1975; Fowler & Peterson, 1981; Medway &

Venino, 1982; Schunk, 1981, 1982, 1983, 1984). Zoeller, Mahoney, and Weiner (1983) used modeling to bring about changes in causal ascriptions. Operant reinforcement was the method used by Andrews and Debus (1979), while informational antecedents were used by Wilson and Linville (1982), and a misattribution paradigm was used by Weiner and Sierand (1975). With one exception (Schunk, 1981), all of the training programs reported very promising results. The results of the studies that used the Intellectual Responsibility Scale (IAR: Crandall, Katakovsky, & Crandall, 1965) indicated highly generalized beliefs about causal attributions were not significantly influenced by the training programs (Andrews & Debus, 1978; Dweck, 1975; Fowler & Peterson, 1981). However, the same studies clearly revealed that attributions for success and failure at specific tasks that were similar to the training tasks were significantly changed in the expected directions.

Most attribution retraining programs have consisted primarily of teaching participants that their failures are due to lack of effort, an internal, unstable, and controllable attribute. Zoeller, Mahoney, and Weiner (1983) taught participants to attribute success to both ability and effort, and failure to lack of effort. Other studies cited by Foersterling (1985) promoted effort attributions for both success and failure (Anderson, 1983; Andrews & Debus, 1978; Chapin & Dyck, 1976; Fowler & Peterson, 1981; Medway & Venino, 1982; Schunk, 1981),

failure only (Dweck, 1975), and success only (Schunk, 1982, 1983, 1984).

Many investigations into the efficacy of attribution retraining used persistence as the dependent variable (e.g., Borkowski, Weyhing, & Carr, 1988; Craske, 1985). Others (e.g., Reiher & Dembo, 1984) have used both task persistence and effort attributions as dependent measures.

These studies have demonstrated that attributions can be effectively modified through a variety of retraining methods. However, none of the studies attempted to modify attribution styles. Each of the studies reviewed targeted attributions for outcomes on specific tasks rather than targeting the more global style of attributing causation. The studies that did examine generalized belief about attributions found that significant changes had not occurred.

The present study investigated the effectiveness of a one-day training workshop to significantly alter attribution styles toward greater optimistic patterns. This method of training was chosen because of its economy in terms of the time required both of the teachers and the trainers. A one-day workshop is easily scheduled as an inservice training day, and that feature alone increases the likelihood that teachers would be exposed to attribution retraining.

#### Method

Participants. Four groups of teachers were exposed to the attribution retraining workshop. The combined volunteer group

(n=52) consisted of 17 males and 35 females. Thirteen participants reported between one and four years of experience, 10 participants reported between four and six years of experience, and 26 participants had more than six years of experience. Three participants did not provide information about their years of experience. Two of the groups of teachers (n=19) were vocational school teachers, one group (n=18) was made up of middle school teachers, and the fourth group (n=15) were members of a local teachers organization.

Pretest and posttest measures were also completed by returning teachers enrolled in two graduate level courses in a college of education. These teachers did not participate in the attribution retraining workshop, and thus constituted a comparison group. The comparison group included four males and 32 females who completed the ASQ on two separate occasions.

Questionnaires. The Attributional Style Questionnaire (ASQ; Peterson et al., 1982, Seligman et al., 1979) was used to collect pre- and posttest data from the groups. The ASQ poses 12 different hypothetical events for which the respondent is asked to generate a cause and to rate the cause along seven-point scales corresponding to internality, stability, and globality dimensions. Half of the events are good (positive) events, and half are bad (negative) events. Half of the events are interpersonal/affiliative, while the other half are achievement-related. We used two composite scores derived from the ASQ: composite negative attribution style, that is the composite score



for the six negative events, summing across internal, stable, and global dimensions, and composite positive attribution style, the composite score for the six positive events. The following directions appear on the first page of the questionnaire:

1. Read each situation and vividly imagine it happening to you.
2. Decide what you believe would be the major cause of the situation if it happened to you.
3. Write this cause in the space provided.
4. Answer three questions about the cause, circling one number of the scale per question. Fill in the corresponding bubble on the answer sheet.
5. Go on to the next question.

Participants also responded to the Teacher Attributions for Academic Performance Scale (TAAPS; Hall, Villeme, and Burley, 1989). The TAAPS comprises 11 items representing attributions that teachers make for student academic performance. Six of the attribution categories reflect internal influence and the remaining five reflect external influence. Each item allows the respondent to indicate on a six-point scale the relative importance of each attribution in the academic performance of students. The entire set of 11 items are rated twice by each respondent, once for a high-achieving student and once for a low achieving student. Thus, four sets of scores are obtained: Internal Attributions for Academic Success, External Attributions for Academic Success, Internal Attributions for Academic Failure, and External Attributions for Academic Failure.

Procedure. Each of the four workshops was approximately six-hours long and was conducted by the same group leader. The content was presented in the following sequential steps:

1. The pretest questionnaires (ASQ and TAAPS) were administered.
2. An overview of the program was presented and the ASQ protocols were self-scored. The concept of attribution style and its relationship to teacher efficacy and student achievement were discussed.
3. Scenarios were modeled by the lecturer/group leader to illustrate different attributional approaches.
4. Attribution categories were explained in greater detail. The importance of encouraging effort and motivating by maintaining success expectations were emphasized.
5. Participants were presented with different cases for role-play in group work. Each group was composed of three participants; one to act as student, another to act as teacher, and the third to act as observer to note the attributions made in the role-play. Each member of each group rotated through the three roles. After each role play, discussions were led by the lecturer/group leader to reinforce the learning effect.
6. Participants were given the opportunity to bring up for discussion situations from their classroom experience. Discussions were led by the lecturer/group leader to reinforce the learning effect.
7. Participants completed the ASQ and TAAPS as posttests.

Results

Attribution Style Questionnaire. There was no significant difference between pretest ASQ scores for the participant and comparison groups (Composite Negative:  $F[1,86]=3.31, p=0.07$ ; Composite Positive:  $F[1,86]=0.12, p=0.73$ ). Pretest means and standard deviations are presented in Table 1. As predicted, workshop participants showed significantly decreased composite negative scores and significantly increased composite positive

TABLE 1

Means and Standard Deviations of ASQ Pretest Composite Scores for the Participant Group (n=52) and the Comparison Group (n=36)

	Mean	SD
Volunteer Group (n=52)		
Composite Negative	4.11	0.72
Composite Positive	5.10	0.64
Comparison Group (n=36)		
Composite Negative	3.84	0.58
Composite Positive	5.06	0.52

scores (Negative:  $F[1,50]=8.78, p=.005$ ; Positive:  $F[1,50]=6.41, p=.015$ ). There were no differences in ASQ scores for men versus women (Negative:  $F[1,50]=0.10, p=.752$ ; Positive:  $F[1,50]=1.22, p=.275$ ), nor was there any gender-related difference in the score changes following workshop participation

(Negative:  $F[1,50]=0.10$ ,  $p=.97$ ); Positive:  $F[1,50]=0.01$ ,  $p=0.92$ ). As can be seen in Table 2, the comparison group scores remained constant across both administrations of the ASQ.

The posttest composite negative scores of the participant group were not only significantly lower than their own pretest scores, but were also significantly lower than the posttest composite negative scores of the comparison group ( $F[1,86]=4.06$ ,  $p=.05$ ). The difference between the participant and comparison groups' posttest composite positive scores was not significant ( $F[1,86]=1.13$ ,  $p=.29$ ).

TAAPS Pre-Posttest Results. TAAPS questionnaires were presented to workshop participants along with the ASQ forms. While all of the participants who completed the workshop completed ASQ forms, many did not complete both pretest and posttest TAAPS questionnaires. Only 11 new usable cases were available. Group means and variances for the new group ( $n=11$ ) and the group included in Kilbride's (1989) study ( $n=28$ ) were compared on composite internal and external scores for academic success and failure using ANOVA procedures. Their means and standard deviations are shown in Table 3.

Group means and variances were homogeneous for all except the External Attributions for Academic Failure Scores (Internal Attributions for Academic Success: Bartlett Box  $F=1.12$ ,  $p=.29$ ; Internal Attributions for Academic Failure: Bartlett Box  $F=1.26$ ,  $p=.26$ ; External Attributions for Academic Success: Bartlett

TABLE 2

Means and Standard Deviations for Volunteer and Comparison Groups on the ASQ

Group/Gender/Total	Pretest		Posttest		Pre/Post
	Mean	SD	Mean	SD	Net Change
<b>Volunteer Group</b>					
Female (n=35)					
Composite Negative	4.13	0.80	3.67	1.04	-0.46
Composite Positive	5.16	0.61	5.47	0.87	+0.31
Male (n=17)					
Composite Negative	4.06	0.53	3.61	1.02	-0.45
Composite Positive	4.97	0.70	5.25	0.80	+0.28
Total (n=52)					
Composite Negative	4.11	0.72	3.65**	1.03	-0.45
Composite Positive	5.10	0.64	5.40*	0.85	+0.30
<b>Comparison Group</b>					
Female (n=32)					
Composite Negative	3.88	0.57	4.16	0.89	+0.28
Composite Positive	5.11	0.53	5.23	0.64	+0.12
Male (n=4)					
Composite Negative	3.56	0.68	3.42	0.43	-0.14
Composite Positive	4.61	0.18	5.19	0.82	+0.58
Total (n=36)					
Composite Negative	3.84	0.58	4.07	0.88	+0.23
Composite Positive	5.05	0.52	5.22	0.65	+0.07

\* p < 0.005

\*\* p < 0.01

TABLE 3  
Means and Standard Deviations of Pretest TAAPS Composite  
Internal and External Scores for New Participants (n=11)  
and Kilbride's 1989 Workshop Group (n=28)

	Academic Success		Academic Failure	
	Mean	SD	Mean	SD
<u>New Group</u>				
Composite Internal	5.26	0.37	4.99	0.39
Composite External	4.40	0.61	4.62	0.34
<u>Kilbride's Workshop Group</u>				
Composite Internal	5.20	0.50	4.23	0.54
Composite External	4.22	0.81	4.31	0.74

Box F=1.05,  $p=.31$ ; External Attributions for Academic Failure: Bartlett Box F=6.41,  $p=.01$ ). Because the group variances differed significantly for the External Attributions for Academic Failure scores, no further analyses were conducted for this composite score. The two groups' scores were otherwise collapsed to form one combined TAAPS volunteer group.

The effects of the workshop treatment, gender of respondents, and possible interactions between treatment and gender were analyzed using MANOVA procedures. As can be seen in Table 4, a number of main effects emerged for the composite scores. Significant changes in TAAPS scores following workshop

TABLE 4

Means and Standard Deviations of Pre/Posttest TAAPS Composite Internal and External Scores for the Combined Volunteer Groups (n=39)

Gender/Total	Academic Success				Academic Failure			
	Pretest		Posttest		Pretest		Posttest	
	M	SD	M	SD	M	SD	M	SD
Composite Internal								
Male (n=13)	4.95	0.43	4.68 <sup>b</sup>	0.61	4.76	0.44	4.65 <sup>c</sup>	0.70
Female (n=26)	5.35	0.42	5.19 <sup>b</sup>	0.54	5.04	0.50	5.06 <sup>c</sup>	0.60
Total (n=39)	5.21	0.46	5.02 <sup>a</sup>	0.60	4.94	0.50	4.93	0.66
Composite External								
Male (n=13)	4.00	0.76	3.99 <sup>d</sup>	0.61	4.20	0.79	4.05	0.95
Female (n=26)	4.41	0.73	4.50 <sup>d</sup>	0.79	4.50	0.56	4.54	0.87
Total (n=39)	4.27	0.75	4.33	0.77	4.40	0.66	4.37	0.92
<sup>a</sup>	Main effect for time, p=.002							
<sup>b</sup>	Main effect for gender, p=.01							
<sup>c</sup>	Main effect for gender, p=.03							
<sup>d</sup>	Main effect for gender, p=.04							

participation were found only for Internal Attributions for Academic Success ( $F[2,76]=11.42, p=.0002$ ). Differences in scores obtained by males versus females were observed for all three composite scores (Internal Attributions for Academic Success:  $F[2,76]=8.47, p=.01$ ; Internal Attributions for Academic Failure:  $F[2,76]=5.28, p=.03$ ; External Attributions for Academic Success:

$F[2,76]=4.60, p=.04$ ). However, there were no gender-related differences in scores changes following workshop participation.

Comparison group data were not available for TAAPS scores. Data reported for the comparison group used by Kilbride (1989) are presented in Table 5. Although statistical analyses were not conducted, review of the comparison group scores reveals results very similar to those obtained for the present sample.

Correlation of the ASQ and TAAPS. Pearson Product-Moment correlations between pre- and posttest ASQ and TAAPS composite scores are depicted in Table 6. The ASQ composite positive scores were correlated with the TAAPS internal and external scores for academic success. The ASQ composite negative scores were correlated with the TAAPS internal scores for academic failure. ASQ composite score means for the combined subgroup ( $n=39$ ) completing TAAPS questionnaires are depicted in Table 7.

While no significant correlations emerged at pretest, two correlations were statistically significant at posttest.

TABLE 5

Means and Standard Deviations for Kilbride's (1989) Comparison Group TAAPS Composite Internal and External Scores for Academic Success and Failure ( $n=28$ )

TAAPS Scores	Academic Success		Academic Failure	
	M	SD	M	SD
Composite Internal	5.07	0.59	4.75	1.19
Composite External	4.46	0.72	4.34	1.14



TABLE 6

Means and Standard Deviations of Pre/Posttest ASQ Scores for the Subgroup Responding to TAAPS (n=39)

	Pretest		Posttest	
	M	SD	M	SD
Composite Negative	4.14	0.65	3.68	1.07
Composite Positive	5.10	0.63	5.42	0.80

TABLE 7

Selected Pearson Product-Moment Correlations for ASQ and TAAPS Scores (n=39)

TAAPS	Pretest	Posttest
		<u>ASQ Composite Positive</u>
Ext Attributions for Academic Success	.18	.28*
Ext Attributions for Academic Success	.20	.09
		<u>ASQ Composite Negative</u>
Int Attributions for Academic Failure	-.12	-.34**

\*  $p < .04$ , one-tailed.

\*\*  $p < .02$ , one-tailed.

The relationship between posttest Internal Attributions for Academic Success scores and Composite Positive scores was significant ( $r=.28$ ,  $p=.04$ ), as was the relationship between posttest Internal Attributions for Academic Failure scores

and Composite Negative scores ( $r=.34$ ,  $p=.02$ ). There was no significant difference in the pre- and posttest correlations.

#### DISCUSSION

ASQ Results . Workshop participants significantly increased their ASQ composite scores for positive events, reflecting an increase in responses that indicated attributions to internal, stable, and/or global causes for positive events. Workshop participants also significantly decreased their ASQ composite scores for negative events, reflecting a decrease in responses that indicated attributions to internal, stable, and/or global causes for negative events. Changes in composite positive and negative scores were in the hypothesized directions.

It was not possible in the present study to evaluate the maintenance over time of changes in ASQ composite scores. However, there are data available to suggest that explanatory style for negative events, at least, is a stable construct. First, the comparison group in the present study did not show a change over time for composite negative or composite positive scores. Second, two recent studies yielded findings of stability over time for explanatory style for negative events, but no stability of explanatory style for positive events. Thus, it seems reasonable to conclude that in the absence of any intervention or life-altering event, negative explanatory style may be expected to remain constant. Burns and Seligman (1986) used the Content Analysis of Verbatim Explanations (CAVE) technique to analyze explanatory style for 30 subjects. The CAVE

technique was used to rate material written by the same individuals at two different times separated by approximately 50 years. Similarly, Seligman and Elder (1986) performed content analyses of oral interviews conducted with 28 women 27 years apart and also found evidence for the stability of negative attribution style.

This study has shown that training presented in a one-day workshop effected changes in attribution style that would have otherwise remained stable for the lifetime of the participants. This was true for four different groups of participants who received training at different times of the year. The alterations in attribution style were in directions that have been demonstrated to be positively related to health and achievement. There is also strong theoretical support for the expectation of a positive relationship with student achievement. If further research bears out the expected positive effects on student achievement, then the importance of this intervention, economical in terms of both time and money, is clear.

TAAPS Results. The TAAPS was designed to assess teachers' styles of attributing causality for students' academic performances. Teachers are asked to attribute student successes and failures to causes either internal or external to the student. This instrument was used as a dependent measure in the present study to allow evaluation of the effects of attribution retraining on attributions made for students versus those made for self.

TAAPS per-posttest results were mixed, with only one of the three composite scores (one composite score was not analyzed to lack of subgroup homogeneity) showing a significant effect of the workshop. The mean score for Internal Attributions for Academic Success decreased from 5.21 to 5.02. The small absolute difference (0.19) between the pre- and posttest scores calls into question the true significance of the score decrease. While statistically significant, this effect is hardly of any practical importance. Whether or not the TAAPS scores would change as a result of the workshop, reflecting a generalization of treatment effects from self to others (students) was of interest. While these changes did not materialize, the data do provide assurance that changes in maladaptive directions also did not occur.

The scores women obtained on the three TAAPS composite scores subjected to analyses were all significantly different than the scores obtained by men. Women tended to endorse higher scores than did men. The tendency for women to endorse higher scores indicates that female teachers were less willing to discount any factors contributing to student outcomes. This may reflect a greater willingness on the part of female teachers to share with students responsibility for student outcomes, whether successful or unsuccessful. This explanation is supported to some degree by Guskey's (1981) finding that female teachers assumed greater self-responsibility for the academic outcomes of students (the difference was significant only for academic success).

Correlations between the ASQ and the TAAPS. Correlations between ASQ and TAAPS scores were examined to determine whether changes in attribution style for events in the teachers' lives would also bring about changes in the teachers' attribution styles for events in the lives of their students. Weak, but statistically significant, correlations emerged for posttest composite positive ASQ scores with TAAPS composite internal scores for academic success, and for posttest composite negative ASQ scores with TAAPS composite internal scores for academic failure. The differences between correlations at pretest and posttest were not significant.

Future Directions. This study has demonstrated the efficacy of a one-day workshop to modify teachers' attribution styles in a direction considered to be more adaptive from the perspectives of health, achievement, and risk for depression. Theoretical logic presented earlier leads to the speculation that these modifications in teachers' attribution styles and the teachers' sensitivity to and awareness of the importance of attributions would lead to improved student academic achievement. This improvement in student achievement should be brought about via changes in teachers' expectations, and through modeling of adaptive attributions as well as adaptive attribution feedback to students.

Additional research is necessary to define the relationship between teachers' attribution styles and the level of achievement demonstrated by their students. This could be done by gathering

attribution style data from practicing teachers and comparing those data to measures of achievement for the students in each teacher's class.

While the changes in teachers' attribution styles have been demonstrated, the theorized and expected changes in student achievement have not been examined. Longitudinal studies are needed to determine if and to what extent this causal relationship exists and therefore is a moderator of student academic performance. Future studies would be strengthened by use of equivalent control groups, and stratified random samples.

A key component of the expectation of improved student performance is that teachers will help students to develop more adaptive attribution styles. Future research should provide teachers with a structured method of presenting the information to students. A carefully designed and scripted series of presentations similar to that developed by Goldstein (1988) for teaching prosocial competencies would be ideal.

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