

Running Head: Attribution Retraining

The Effect of Attribution Retraining
on Locus of Control and Behavior

S. Michelle Kenney

Algoma University

A thesis submitted to the Department of Psychology of Algoma University in partial fulfilment of the requirements for the degree of bachelor of arts.

THE EFFECT OF ATTRIBUTION RETRAINING ON
LOCUS OF CONTROL AND BEHAVIOR

According to attribution theory, people use a number of techniques to decide why they, and others, behave the way they do (Chaplin, 1985; Hayes & Hesketh, 1989). Causal attributions are the explanations people give for their behavior (Wisniewski & Gaier, 1990). They may vary across the dimension of internality and externality, as well as the dimension of stability and instability (Wisniewski & Gaier, 1990).

Attributions that are internal imply responsibility for behavior (ie. I am responsible for the way I behaved), and attributions that are external imply a lack of responsibility (ie. Someone or something made me behave that way) (Wisniewski & Gaier, 1990). The stability and instability dimension refers to the extent to which attributions imply changeability (ie. Is my behavior changeable, and do I have the power to change it?) (Wisniewski & Gaier, 1990).

For a variety of different reasons, individuals may make incorrect inferences for their own, or for other people's behavior. When providing explanations for one's own behavior, attributions that would be unacceptable would be those that are external and uncontrollable, and those that are internal and uncontrollable. These would be unacceptable because the first implies a lack of

responsibility for behavior and does not suggest the possibility of change, and the second, although implying responsibility, again, does not acknowledge the possibility of change. When people feel that their behavior is beyond their control, or that they cannot change it, they may begin to feel a sense of helplessness, and may develop a low self-esteem (Forsterling, 1985).

A more acceptable attribution for one's own behavior, then, would be one that is internal and controllable. The reason being that this type of attribution implies that individuals are responsible for their behavior, and that they have the power to change it if they so desire. Internal and controllable attributions can help to empower individuals and motivate them to change.

Individuals' attribution styles have been shown to have an impact on a variety of behaviors. Undesirable attributions have been found to be related to depression (Curry & Craighead, 1990; Seligman, Castellon, Cacciola, Schulman, Luborsky, Ollove & Downing, 1988; and Weisz, Weiss, Wasserman & Rintoul, 1987). In addition, attribution style has been implicated in problem areas such as loneliness, smoking and losing weight (Den Boer, Kok, Hospers, Gerards, Strecher, 1991). Because a relationship exists between attribution style and behavior, investigators have sought methods of altering the cognitions associated with it in an attempt to change behavior. One method is

through the use of attribution retraining.

ATTRIBUTION RETRAINING

Attribution retraining is a technique which seeks to help individuals change undesirable attributions they make for behavior into more desirable ones (Forsterling, 1985; and Ho & McMurtrie, 1991). This technique is quite similar to cognitive behavior modification, an approach that is commonly used to change behavioral responses (Forsterling, 1985). Cognitive therapies focus on the relationship between an individual's cognitions and his or her behavior (Den Boer, et al, 1991).

Both attribution retraining and cognitive therapies attempt to alter behaviors by focusing on changing cognitions rather than overt behaviors. They are based on the S-C-R (stimulus - cognition - response) model, which postulates that behavioral and emotional responses are not the direct result of exposure to a stimulus, but rather, the result of the cognitions that are formed following exposure to the stimulus (Forsterling, 1985; Ho & McMurtrie, 1991). Attribution retraining, like cognitive behavior modification, has been shown to successfully alter behavior.

Many studies have demonstrated the effectiveness of attribution retraining on changing behavior. Forsterling (1985) reviewed fifteen studies that employed this technique. Most of the studies he reviewed focused on the area of achievement in the academic domain. Some of the

target behaviors examined were performance on arithmetic tasks, reading performance and general academic performance (cited in Forsterling, 1985).

Forsterling (1985) identifies three different methods of changing the way an individual makes attributions. These three techniques are; using persuasion, providing participants with attribution-relevant information, and using operant methods of reinforcement.

The technique of persuasion involves explicitly telling participants that a certain cause is responsible for a particular outcome without providing a reason (Forsterling, 1985). An example of a study which uses this technique is one done by Anderson (1983). In this study, Anderson (1983) investigated whether modifying his participants' attributions would influence success expectancies, motivation, and performance on an interpersonal task.

Anderson (1983) preselected his participants based on their attribution style and placed them in one of three experimental manipulations; no-manipulation, an ability trait manipulation and a strategy/effort manipulation. The participants were required to call people on the phone and try to convince them to give blood. Prior to their attempts, however, the type attributions given to the participants for success were manipulated (Anderson, 1983).

In the ability/trait manipulation Anderson (1983) told them that people who succeed at persuading people to donate

blood are simply good persuaders. In the strategy/effort manipulation, he told the participants that those who have succeed have tried very hard to come up with the right strategies or tactics to persuade the people they call and in the no-manipulation group, no information was provided about any factors that might influence success.

As Anderson (1983) predicted, the participants who believed that they were responsible for the outcome expected to be more successful, expected to improve more with practice, and were more motivated and performed better than those who believed that the outcome was not dependent upon their performance (Anderson, 1983). The more the individuals felt that they were in control of the outcome, the better they did at the task.

The second method of changing attributions is one in which the participants are provided with attribution-relevant information. The purpose of providing them with information about how others perform in similar situations and why is to lead them to believe that a certain cause is the reason for the outcome (Forsterling, 1985). A study that uses this technique is one done by Wilson and Linville (cited in Forsterling, 1985).

In this study Wilson and Linville attempted to improve the academic performance of college freshmen by manipulating the attributions that they gave for poor grades (Forsterling, 1985). The participants were assigned to

either the experimental group or the control group. The experimental group received information that grades are low at first but often improve afterward, and the control group received filler statistics and saw videotaped interviews where grades were not mentioned.

Wilson and Linville found that providing the experimental group with this type of information altered the type of attributions they made and changed the participants' academic performance (cited in Forsterling, 1985). As soon as the college freshmen came to believe that low grades in first year were temporary, they improved. They no longer attributed their difficulties to lack of ability on their part, but instead to global, changeable causes.

Finally, the third technique that can be used is operant reinforcement. This method involves positively reinforcing appropriate attributions and punishing or extinguishing inappropriate attributions (Forsterling, 1985). Andrews and Debus (1978), use operant methods in a study which examined the effect of altering cognitive attributions on persistence and the perception of failure.

In this study, Andrews and Debus (1978) requested that children make causal attributions for their performance on a training task. The children were required to identify their causal attributions by pressing one of four buttons corresponding to effort, ability, task and chance attributions.

The participants had been placed in one of three groups; the control group, the social reinforcement group, or the token plus social reinforcement group. In the control group, the experimenter did not provide reinforcement for the types of attributions they made. In the other groups, positive reinforcement was provided for the attributions only.

Andrews and Debus (1978) found that the participants who received positive reinforcement for effort attributions learned to attribute success and failure on the tasks to effort significantly more often than did the controls. The participants were also proven to increase significantly from pretest levels in the area of persistence (Andrews & Debus, 1978).

Since attribution retraining has been shown to be an effective tool for modifying some behaviors, it leads one to question whether it may also be effective in other domains as well. It could conceivably be an effective method of altering a personality trait that appears closely related to attribution style. One proposed possibility is locus of control.

LOCUS OF CONTROL

Locus of control is a personality trait that has been studied extensively. Rotter (1966) has defined locus of control as the extent to which individuals believe that their behavior impacts the outcome of events. Like

attribution style, locus of control has a control dimension. Rotter (1966) refers to those who are internal as individuals who believe that their behavior determines the outcome of events, and to those who are external as individuals who believe that the outcome of events is not dependent upon the way they behave.

Similar to the impact of attribution style, the beliefs or cognitions that individuals hold with respect to locus of control impacts on behavior. Internals have been shown to be more likely to take responsibility for their actions and are more patient and persistent than externals (Rotter, 1966). In addition, Singh (1984) states that externals have less ability to tolerate their own impulses and have less ego strength than do internals.

ATTRIBUTION RETRAINING, LOCUS OF CONTROL, AND BEHAVIOR

For attribution retraining methods to be effective, the variables one is attempting to change should be related to the attribution style. The cognitions associated with locus of control seem to be quite similar to those related to attribution style. If this is true, attribution retraining may be effective in altering the personality trait in the same way that it alters attribution style.

Changing external cognitions associated with the trait into more internal ones, may cause a shift from externality toward internality. This shift may also lead to a change in behaviors that are consistent with locus of control. It was

the intent of this research to investigate this question.

HYPOTHESIS

In light of what this research suggests, it can be hypothesized that attribution retraining is an effective method of internalizing locus of control and modifying low impulse control, low self-esteem, and poor coping skills. It was this that the present study was designed to prove.

References

Anderson, C. A. (1983). Motivational and Performance Deficits in Interpersonal Settings: The Effect of Attributional Style. Journal of Personality and Social Psychology, 45 (5), 1136-1147.

NOTES: Identifies the persuasion technique of promoting attribution change and shows how it can be used to modify motivational and performance deficits in a particular setting.

Andrews, G. R., & Debus, R. L. (1978). Persistence and the Causal Perception of Failure: Modifying Cognitive Attributions. Journal of Educational Psychology, 70 (2), 154-166.

NOTES: Identifies the operant method of promoting attributional change and shows how it can be used to modify causal attributions and improve persistence following and the causal perception of failure.

Chaplin, J. P. (1985). Dictionary of Psychology. Dell Publishing, New York.

NOTES: Used for general definitions and descriptions of basic terms.

Curry, J. F., & Craighead, W. E. (1990). Attributional Style in Clinically Depressed and Conduct Disordered Adolescents. Journal of Consulting and Clinical Psychology, 58 (1), 109-115.

NOTES: Article relates attribution style and behavior.

Den Boer, D. J., Kok, G., Hospers, H. J., Gerards, F. M., & Strecher, V. J. (1991). Health Education Strategies for Attributional Retraining and Self-Efficacy Improvement. Health Education Research, 6 (2), 239-248.

NOTES: Describes recent research in the area of attribution retraining and compares results. Also relates attribution theory and self-efficacy theory and how insights from attribution retraining research can be applied to behavioural interventions. Also discusses a relapse prevention theory.

Forsterling, F. (1985). Attributional Retraining: A Review. Psychological Bulletin, 98 (3), 495-512.

NOTES: Provides a great deal of insight into the research that has been done on attributional retraining (up until 1985). This summary reviews 15 attribution retraining studies.

Hayes, B., & Hesketh, B. (1989). Attribution Theory, Judgemental Biases, and Cognitive Behaviour Modification: Prospects and Problems. Cognitive Therapy and Research, 13 (3), 211-230.

NOTES: Discusses attribution theory and Judgemental biases and the prospects and problems of applying them to cognitive behaviour modification.

Ho, R., & McMurtrie, J. (1991). Attributional Feedback and Underachieving Children: Differential Effects on Causal Attributions, Success Expectancies, and Learning Processes. Australian Journal of Psychology, 43 (2), 93-100.

NOTES: A recent study using attribution retaining.

Rotter, J. B. (1966). Generalized Expectancies for Internal Versus External Control of Reinforcement. Psychological Monographs: General and Applied, 80 (1), 1-28.

NOTES: Provides background into locus of control and Rotter's I - E scale.

Seligman, M. E. P., Castellon, C., Cacciola, J., Schulman, Luborsky, L., Ollove, M., & Downing, R. (1988). Explanatory Style Change During Cognitive Therapy for Unipolar Depression. Journal of Abnormal Psychology, 97 (1), 13-18.

NOTES: Article relates attribution style and behavior.

Singh, R. P. (1984). Experimental Verification of Locus of Control as Related to Conformity Behavior. Psychological Studies, 29 (1), 64-67.

NOTES: Useful for distinguishing between Locus of Control and Attribution Style. Also identifies behaviors associated with Locus of Control.

Weisz, J. R., Weiss, B., Wasserman, A. A., & Rintoul, B. (1987). Control-Related Beliefs and Depression Among Clinic-Referred Children and Adolescents. Journal of Abnormal Psychology, 96 (1), 58-63.

NOTES: Article relates attribution style and behavior.

White, J. L., Moffitt, T. E., Caspi, A., Bartusch, D. J., Needles, D. J., & Stouthamer-Loeber, M. (1994). Measuring Impulsivity and Examining Its Relationship to Delinquency. Journal of Abnormal Psychology, 104 (2), 192-205.

NOTES: Very useful article for use with impulse control.

Wisniewski, S. A., & Gaier, E. L. (1990). Causal Attributions for Losing as Perceived by Adolescents. Adolescence, 25 (97), 239-247.

NOTES: Useful for defining attribution style and how it impacts adolescents.

Running Head: Attribution Retraining

THE EFFECT OF ATTRIBUTION RETRAINING
ON LOCUS OF CONTROL AND BEHAVIOR

S. Michelle Kenney

Algoma University

A thesis submitted to the Department of Psychology of Algoma University in partial fulfilment of the requirements for the degree of bachelor of arts.

I investigated the effects of attribution retraining on the locus of control (LOC) and behavior of adolescents aged 13 to 16 living in one of two residential units for at least one month. In a pre-test, participants completed the Nowicki-Strickland Locus of Control scale (N-SLCS) and, after reading a problem situation in which they were involved, listed as many "acceptable" attributions for their behavior as possible. In nine subsequent sessions, participants either watched a video or read a scenario about themselves. Both the videos and the scenarios depicted various problem situations and behavioral responses. The experimental group explored reasons why behavior occurred, receiving positive feedback for internal, controllable attributions, and the control group simply explored what had occurred. Following treatment, a post-test identical to the pre-test was administered. Behavioral measures of impulse control, self-esteem and coping were completed each evening by counsellors observing the participants' behavior. It was hypothesized that attribution retraining would prove to internalize LOC, and improve behavior.

Causal attributions are the explanations people give for their behavior (Wisniewski & Gaier, 1990). They may vary across the dimensions of internality and externality, as well as stability and instability (Wisniewski & Gaier, 1990). With respect to the internal and external dimension, those attributions that imply responsibility (ie. I am responsible for the way I behaved) are internal, whereas those that imply a lack of responsibility (ie. someone or something made me behave that way) are external (Wisniewski & Gaier, 1990). The stability and instability dimension refers to the extent to which attributions imply changeability (ie. is my behavior changeable, and am I able to change it?) (Wisniewski & Gaier, 1990).

In providing explanations for their own behavior, people may provide different types of attributions. Both external, uncontrollable and internal, uncontrollable attributions for one's behavior can be considered to be unacceptable. The reason being, the former implies that people feel they are not responsible for the way they behave and that their behavior is unchangeable. The latter implies that although they are responsible for their behavior, they are unable to change it. When people feel that their behavior is beyond their control, or that it can not be changed, it can lead to feelings of helplessness, and a low self-esteem (Forsterling, 1985).

A more acceptable type of attribution for one's own behavior is an internal and controllable one. This type of attribution implies that individuals are responsible for their behavior, and that they are able to change it if they desire. This is more acceptable in that it allows for a greater sense of control over the way they have behaved in the past, and over the way they will behave in the future.

Attribution style has been found to have an impact on a variety of different behaviors. Undesirable attributions can lead to low persistence, and motivation, and poor academic performance (Forsterling, 1985). Because of the relationship between attribution style and behavior, investigators have sought methods of altering the cognitions associated with it in an attempt to facilitate behavior change. One method of doing so is through the use of attribution retraining.

Attribution retraining is a technique which seeks to help individuals change undesirable attributions they make for their behavior into more desirable ones (Forsterling, 1985). This technique is quite similar to cognitive behavior modification, an approach that is commonly used to facilitate behavior change (Forsterling, 1985). Both approaches attempt to alter behavior by focusing on cognitions rather than on overt behaviors.

Attribution retraining and cognitive behavior modification are based on the Stimulus - Cognition - Response (S-C-R) Model (Forsterling, 1985). The S-C-R model postulates that behavioral and emotional responses are not the result of exposure to a stimulus, but rather, the result of cognitions formed following the encounter with the stimulus (Forsterling, 1985). Both cognitive behavior modification and attribution retraining seek to change one's cognitions, thus leading to a change in the responses which follow them. Attribution retraining has been shown to successfully alter many behaviors (Forsterling, 1985).

Forsterling (1985) reviewed several studies using attribution retraining as a tool for modifying behavior. The majority of the studies done at the time of Forsterling's review had focused on the area of achievement. Within the studies he examined, some of the target behaviors changed were performance on arithmetic tasks, reading performance, and general academic performance (grade point average) (cited in Forsterling, 1985).

Since attribution retraining has been shown to be an effective tool for modifying some behaviors, it leads one to question whether it may also be effective in other domains, as well. It could conceivably be an effective technique for altering a personality trait that appears closely related to attribution style. One proposed possibility is locus of control.

Rotter (1966) has defined locus of control as the extent to which individuals believe that their behavior impacts the outcome of events. Like attribution style, it has a control dimension. Rotter (1966) refers to internals as those who believe their behavior determines the outcome of events, and to externals as those who believe that the outcome of events does not depend on the way they behave (Rotter, 1966).

Similar to the impact of attribution style, the beliefs or cognitions that individuals hold with respect to locus of control impacts on behavior. Internals have been shown to be more likely to take responsibility for their actions and are more patient and persistent than externals (Rotter, 1966). In addition, Singh (1984) states that externals have less ability to tolerate their own impulses and have less ego strength than do internals.

The cognitions associated with locus of control seem to be quite similar to those related to attribution style. If this is true, attribution retraining may be effective in altering the personality trait in the same way that it alters attribution style. Changing external cognitions associated with the trait into more internal ones, may cause a shift from externality toward internality. This shift may also lead to a change in behaviors that are consistent with locus of control. It was the intent of this research to investigate this question. It is hypothesized that

attribution retraining is an effective technique for internalizing locus of control and for improving low impulse control, low self-esteem and low coping ability.

Method

Participants

Participants in this study were 11 male and female adolescents ranging between the ages of thirteen and sixteen. All resided at the Children's Aid Society of Algoma's Receiving and Assessment Home or Youth Centre at least one month. Debriefing occurred once the research was complete.

Pre-Test and Post-Test Sessions

All participants attended a pre-test session, at which time they were administered the Nowicki-Strickland Locus of Control Scale (1973). In addition, they read a problem situation in which they were involved, their response to it, and the outcome that followed. They then wrote as many acceptable explanations for their behavior as they could, and, as a check, indicated which attributions they still deemed to be acceptable (ie. "A"), and which they now deemed to be unacceptable (ie. "U"). The post-test session was identical to the pre-test. Scores on both were used to examine changes in locus of control and attribution style.

Procedure

Participants were assigned to either the "control" group (n=5) or to the "attribution" group (n=6). Those

participants who lived in each residential unit at the time research began were randomly assigned to either of the groups. Those admitted afterward were alternately placed in one of the two groups.

Attribution Group

Each participant attended a three phase treatment program which consisted of three sessions per phase. Each phase represented a gradual shift in focus. In phase one, focus was on the behavior of others, in phase two, on others, but with references made to the participants' own behavior, and in phase three, entirely on the participants' own behavior.

In phase one, participants observed the behavior of another individual via a short video. Each video depicted a character in a problem situation, his or her response to it and the outcome that followed. Afterward, participants read a list of ten attributions for the character's behavior, and indicated whether they believed each to be acceptable or unacceptable using an "A" or a "U". Throughout the course of the study, the acceptable, and therefore encouraged attributions, were defined as those that were internal and controllable.

Once participants had rated attributions as acceptable or unacceptable, they received feedback for their choice. Positive verbal reinforcement, and an explanation of why, was provided for correctly identifying internal and

controllable attributions as acceptable, and for correctly identifying any other type as unacceptable. When participants incorrectly deemed an attribution to be acceptable or unacceptable, they received no acknowledgement for their choice (ie. extinction).

The second phase of the program was conducted in approximately the same manner as the first. The participants again observed the behavior of others via video tapes similar to those used in phase one. Afterward, the situation in the video was related to their own behavior via discussion that was initiated using questions such as, "Have you ever done this?", or "Has this ever happened to you?".

Participants then read a list of six attributions for the character's behavior and were asked provide four acceptable reasons of their own. They again indicated which they considered to be acceptable and unacceptable using the same technique as in the first three sessions. The same assessment and reinforcement procedure used in phase one for the rating of the attributions was used here.

In the final phase, the participants' focus switched entirely to their own behavior. The participants read specific problem situations in which they were involved, their response to the situations, and the outcome of their behavior. They then wrote as many acceptable attributions for their behavior as they could. Afterward, the participants, as a check, rated their attributions as

acceptable or unacceptable. Again, assessment and reinforcement of attributions occurred in the same manner as in the preceding two phases.

Control Group

The "control" group differed from the "attribution" group only in that they focused on what happened, rather than on why behavior was exhibited. They followed the same procedure as the attribution group, but were asked detail questions rather than questions pertaining to attributions for behavior.

In the first phase, participants received a list of 10 details which may or may not have been present in the video. They were required to put a "T" (true) beside those details that were accurate and an "F" (false) beside those details which were not. They received positive verbal reinforcement, and an explanation of why, for all correct responses, and no feedback for incorrect responses.

In the second phase, participants in the control group were given eight details, and were required to come up with two true ones of their own. Again, they indicated whether the details were true or false, and reinforcement procedures were the same as in the first phase.

In the final phase, participants read a problem situation in which they were involved, their response to it and outcome that followed. They then wrote true details about what had happened. As a check, they indicated whether

each detail was true or false, and reinforcement procedures were identical to the two preceding phases.

Behavior Measures

The most important dependent measures were the behavior measures, which were taken outside of the realm of the treatment procedure. Each evening, Counsellors working with the participants rated each participants' impulse control, self-esteem and coping behavior on a scale from negative five to five. Negative five indicated that the behavior was much worse than most, and five indicated that it was much better than most. The counsellors were never told which participants were in the "control" and "attribution" groups. These behaviors were chosen because all participants had some degree of difficulty with them, and the assessments were be used to determine whether behavior improved through the course of the treatment.

Results

A t-test done on post test means on the N-SLCS for the attribution group ($n=6$, $\bar{X}=10.17$) and for the control group ($n=5$, $\bar{X}=13.40$) revealed no significant results, $p=0.38$. Similarly, a t-test performed on change scores for the attribution group ($\bar{X}=-2.17$) and the control group ($\bar{X}=-3.20$) did not yield significant results, $p=0.67$. See figure 1 for pre-test and post-test means for both groups.

T-tests could not be used to compare post-test means for the attribution group ($\bar{X}=1.5$) compared to the control group ($\bar{X}=0$) because most scores were equal to zero. T-tests comparing the change scores for the attribution group ($\bar{X}=1.33$) and for the control group ($\bar{X}=-0.20$), however, did yield statistically significant results, [$T(7)=-3.29$, $p<0.05$] (see figure 2 for graph of pre-test and post-test means for both groups).

T-tests on post-test means for impulse control for the attribution group ($\bar{X}=0.57$) compared to the control group ($\bar{X}=0.04$) yielded no significant differences between the two, $p=0.66$ (see figure 3a for group means on impulse control at four stages of treatment). Similarly, t-tests did not reveal significant differences between post-test means on the self-esteem scale for the attribution group ($\bar{X}=0.90$) and the control group ($\bar{X}=0.13$), $p=0.46$ (see figure 3b for group means on self-esteem at four stages of treatment). Finally, t-tests yielded no significant results for post-test means on the coping behavior scale for the attribution group ($\bar{X}=0.29$), compared to the control group ($\bar{X}=-0.27$), $p=0.67$ (see figure 3c for group means on coping behavior at four stages of treatment).

Discussion

The participants in this study were a group that had an extreme tendency to almost never make internal and controllable attributions. This was evident in the post-

test means for attribution style. Although the attribution group showed a statistically significant improvement from pre-test to post-test when compared to the control group, the number of acceptable attributions still remained quite low.

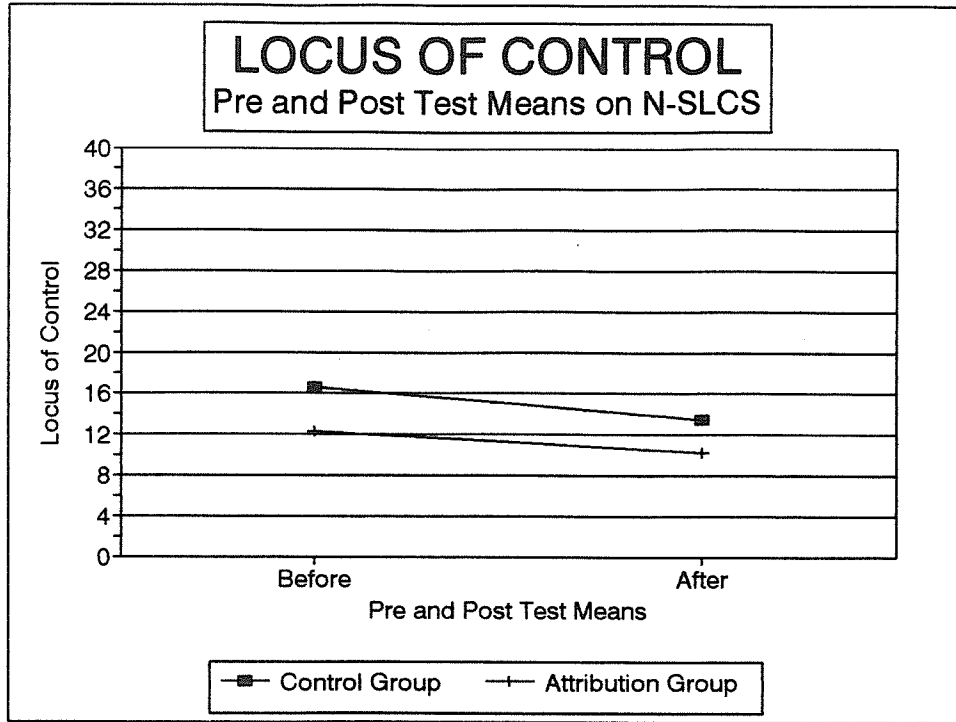
It may be that the beliefs held by this group are so deeply ingrained that they were very resistant to change. The fact that this manipulation was successful in altering attribution style with this group is promising. A longer, more intense and more powerful manipulation may have an even greater effect on changing attribution style.

There was no significant change in locus of control or in behavior for the attribution group. Possible reasons for the lack of significant results may be that the small sample size, or the variation between behavior ratings from different raters may have had an impact on results. On the other hand, it may be that this manipulation was not powerful enough to alter these deeply ingrained beliefs and behaviors. Again, it might be interesting to determine whether a longer, more intense and more powerful manipulation would have an effect in these areas.

Further research should investigate whether attribution retraining can be effective in preventing such deeply ingrained beliefs and behaviors from forming. If programs are effective in this domain, it may be useful to implement such techniques in schools when children are still young.

It may also be interesting to determine whether this manipulation would be effective in altering these beliefs and behaviors in individuals whose cognitions and responses are not so deeply ingrained. Finally, it would also be useful to determine if a similar program can be taught to parents who would like to implement such a technique within the home.

Figure 1. Pre-test and Post-test Means on N-SLCS



* Note: N-SLCS = Nowicki-Strickland Locus of Control Scale

Figure 2. Pre-test and Post-test Means on Attribution Style

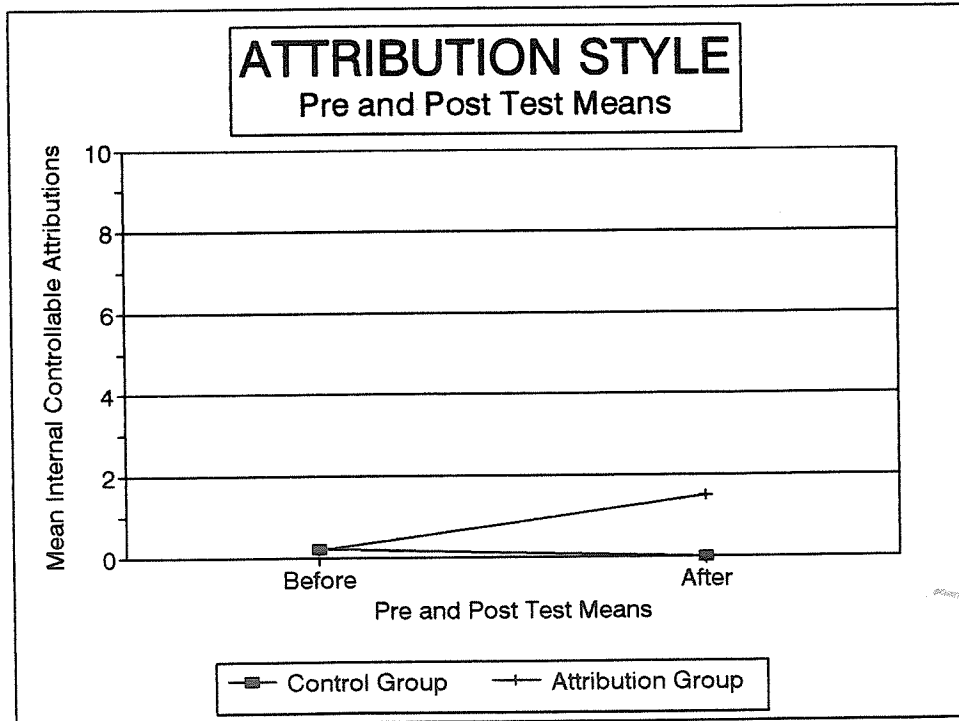


Figure 3a. Pre-test and Post-test Means on Impulse Control

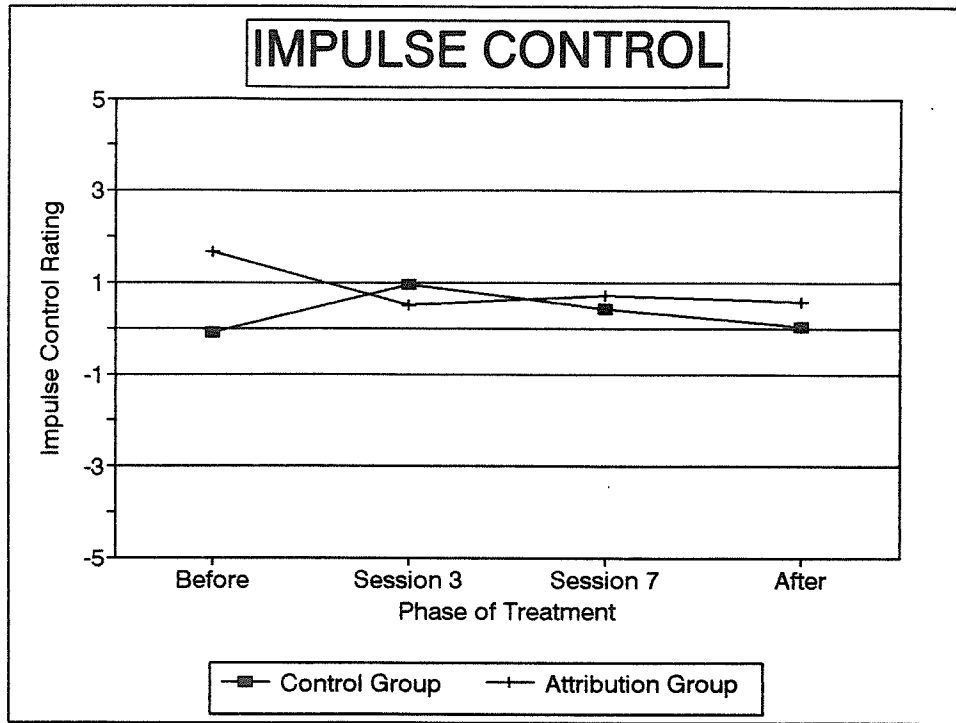


Figure 3b. Pre-test and Post-test Means on Self-Esteem

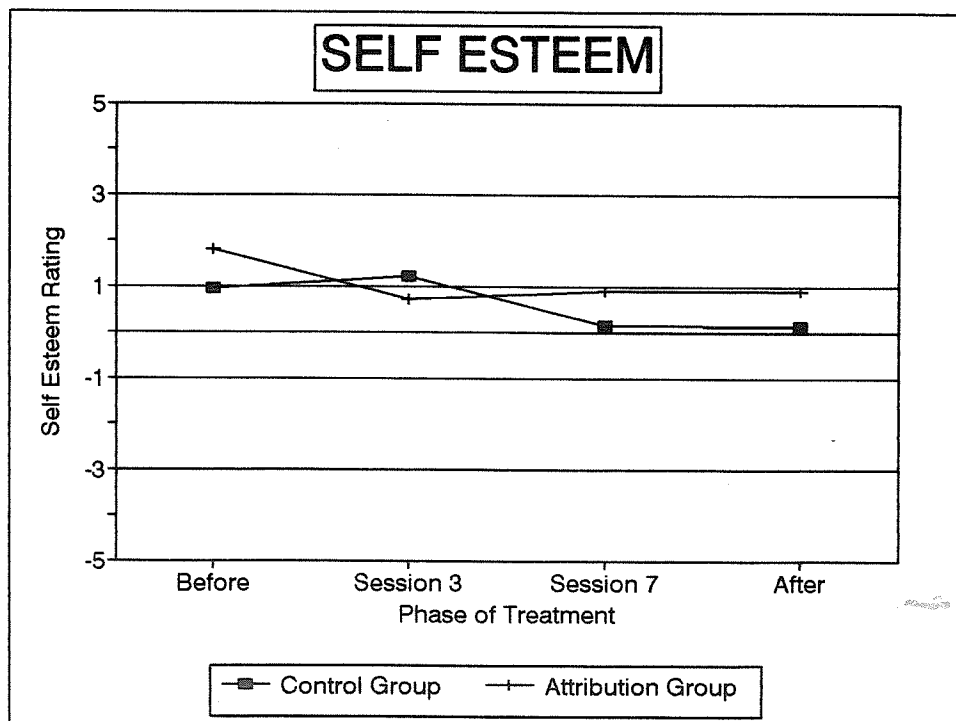
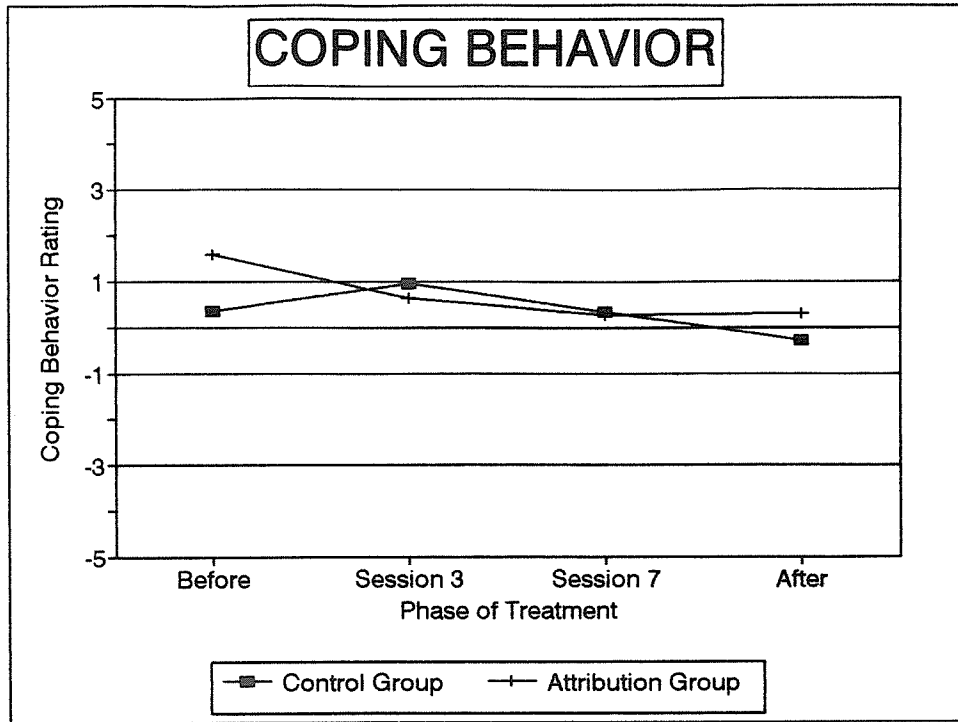


Figure 3c. Pre-test and Post-test Means on Coping Behavior



References

Forsterling, F. (1985). Attributional Retraining: A Review. Psychological Bulletin, 98 (3), 495-512.

Nowicki-Strickland Locus of Control Scale (1973). Used with permission of Dr. Stephen Nowicki Jr., Ph.D.

Rotter, J. B. (1966). Generalized Expectancies for Internal Versus External Control of Reinforcement. Psychological Monographs: General and Applied, 80 (1), 1-28.

Singh, R. P. (1984). Experimental Verification of Locus of Control as Related to Conformity Behaviour. Psychological Studies, 29 (1), 64-67.

Wisniewski, S. A., & Gaier, E. L. (1990). Causal Attributions For Losing as Perceived by Adolescents. Adolescence, 25 (97), 239-247.