

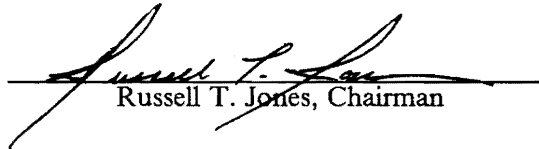
**Primary Prevention of Drug Use With Third Grade Children: A
Skills Intervention Using Rehearsal-Plus**

by


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APPROVED:



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(ABSTRACT)

The effectiveness of a short-term prevention program to increase drug refusal behavior in elementary school children was assessed. Fifty-seven third grade children were randomly assigned to one of three groups: rehearsal-plus, traditional, and control. Children in the rehearsal-plus group were taught drug knowledge, assertiveness skills, decision making skills, and specific drug refusal techniques in the context of a skills-based strategy. This procedure included behavioral training and elaborative rehearsal. The traditional group targeted the same components, drug knowledge, assertiveness skills, decision making skills, and drug refusal skills, and employed a general educational-based approach to enhance children's functioning. Training occurred in three socially validated situations corresponding to settings where children are likely to be offered drugs. Assessment was carried out at pre- and post-test phases. It was hypothesized that children in the rehearsal-plus group would outperform those in the traditional and control groups on targeted responses. The results suggest that the rehearsal-plus procedure was most effective in enhancing desired behavior.

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INTRODUCTION

For more than a decade the incidence of youthful drug and alcohol abuse has been rising steadily. Educators and other professionals have declared war on this enemy, but without much success (Campbell & Swanchak, 1982). This silent enemy has the potential to do enormous damage to the youth of our country. Roberts and Peterson (1984) identified people's behavior as the major contributor to poor health. As a result, psychologists have recently focused their preventive efforts towards behavioral change (Jones, McDonald, Fiore, Arrington, & Randall, 1990).

Experimentation with drugs has been found among adolescents. These drugs include tobacco and alcohol as well as illegal drugs such as marijuana, cocaine, LSD, and amphetamines. It is estimated that by the time adolescents have reached the twelfth grade, 91% of them will have tried alcohol, 68% will have tried cigarettes, and 61% will have tried an illegal substance (Johnston, O'Malley, & Bachman, 1986). By the senior year, 45% of the boys and 28% of the girls will be drinking heavily during any given two week time period. About 5% of these students will be either drinking alcohol or using marijuana on a daily basis. Drug abuse is not restricted to high school students, however. For example, among fifth-grade students, approximately 9% of the boys and 3% of the girls have used alcohol more than once a month. Among sixth-grade students, approximately 10% of boys and 4% of girls have done so (Dielman, Shope, Campanelli, & Butchart, 1987), and nearly 4% of children in this age group have reported using other illicit drugs (Johnston

et al., 1986). One out of every six children will use marijuana by the seventh grade, and for some this early experimentation leads to regular use.

Substance abuse is a major contributor to motor vehicle accidents, medical problems, and other risk-related behaviors in youth. Violent deaths, including accidents, homicides, and suicides, account for more than 77% of mortalities among 15- to 24-year-olds, and substance abuse is the strongest link in the chain that ties these tragedies together (Rhodes & Jason, 1988).

Despite the awareness of negative consequences of substance use, a significant number of teenagers begin using drugs each year. Although for some, use may be discontinued after a brief period of experimentation, for others, initiation of tobacco, alcohol, or drug use may lead to patterns of use which result in dependence. In view of the cost of treating individuals who have already developed substance abuse problems, the idea of developing effective substance abuse prevention strategies has been of great interest to researchers in recent years. The development of effective treatment programs will clearly represent a major advance in the war against drugs (Botvin & Wills, 1985).

The primary purpose of this study was to strengthen an existing intervention strategy by including drug knowledge, assertiveness skills, decision making skills, and specific refusal behaviors in a social learning-based program designed to decrease children's risk for drug experimentation and to increase their awareness of the problem. A primary focus of this study was to determine the differential effectiveness of rehearsal-plus, traditional, and control training strategies on teaching children such skills.

THEORIES ON DRUG ABUSE

The major psychosocial perspectives that have been advanced to explain substance use include: stage theory (Kandel, 1980), the biopsychosocial model (Wills & Shiffman, 1985), problem behavior theory (Jessor & Jessor, 1977), and social learning theory (Bandura, 1977). Although each perspective emphasizes somewhat different factors and processes, all view substance use as stemming from the interaction of personality, environmental, and behavioral factors (Rhodes & Jason, 1988).

Most substance abuse prevention strategies have their theoretical roots in social learning theory and problem behavior theory. From this perspective, substance use is seen as learned through a process of modeling and reinforcement, which is mediated by personal factors such as cognitions, attitudes, and beliefs (Rhodes & Jason, 1988). These theories, as well as the other aforementioned theories, will be reviewed briefly.

Stage Theory

Substance abuse programs that seek to prevent the usage of particular categories of substances (e.g. tobacco, marijuana, alcohol) are generally based on Kandel's stage theory. Kandel (1980) suggests a psychosocial perspective in which involvement with drugs proceeds through different

stages. Children typically progress sequentially from beer and wine to hard liquor and cigarettes, next to marijuana, and then on to other illicit drugs. Although early involvement does not necessarily lead to later stages, usage at one stage is very unlikely without usage at the earlier stage (Rhodes & Jason, 1988).

Kandel's research suggests that somewhat different predictors are important with different types of drugs. Specifically, prior involvement in deviant activities and the use of cigarettes, beer, and wine are most important for predicting hard liquor use. Beliefs and values favorable to the use of marijuana and association with marijuana-using peers are the strongest predictors of initiation into experimentation with marijuana. Poor relations with parents, feelings of depression, heavy marijuana use, unconventional attitudes, and exposure to drug-using peers and role models are most important for predicting initiation into illicit drugs other than marijuana (e.g. cocaine, LSD, amphetamines, heroin).

The Biopsychosocial Model

A new psychosocial perspective on substance abuse is emerging from the field of behavioral medicine and from recent interest in competence and coping (Wills & Shiffman, 1985). The biopsychosocial model is based on two central premises. The first is that substances may be used as a coping mechanism for two independent reasons: (a) they can reduce negative affect, or (b) they can increase positive affect. Individuals may use a substance to reduce negative affect when they are anxious or over aroused, or they may also use the same substance to enhance positive affect when they are fatigued, depressed, or under aroused. The model suggests that several processes (cognitive, physiological, and stress reaction) may intervene between the occurrence of a potentially stressful event and the occurrence of an adverse reaction (Wills & Shiffman, 1985).

The second premise is that it is useful to distinguish between two types of stress-coping skills: (a) those generic responses that help the individual to deal with a variety of stressors, and (b) those responses that are used to cope with temptations for substance use. Skills to cope with stress (e.g.,

enduring and daily stressors) are distinguished from skills relevant for coping with temptation (e.g., peer pressure). This model conceptualizes substance abuse as a product of deficiency in coping skills that are relevant to a variety of stressors. When faced with personal or social pressure to use substances, youth with social skills deficits are more likely to engage in drug usage.

Problem Behavior Theory

Jessor and Jessor (1977), suggest that the likelihood of drug abuse is predicted by one's overall propensity to problem behavior. Problem behavior refers to behavior that is socially defined as either a problem, a source of concern, or simply undesirable, by the norms or institutions of conventional society (e.g., stealing, aggression, substance use). The occurrence of problem behaviors is determined by the outcome of three interconnected systems - behavior, personality, and perceived social environment. The behavior system is differentiated into a problem behavior structure (including drug use, sexual activity, problem drinking and general deviant behavior) and a conventional behavior structure (including involvement with a church or formalized religious activity and academic achievement). Participation in either system serves as an alternative to engaging in the other. For example, participation in academic activities should relate negatively to substance use or other problem behaviors (Rhodes & Jason, 1988).

The personality system is composed of three structures, including: (1) the motivational-instigation system (e.g., the expectation for achieving academic goals, independence, and close peer relations), (2) the personal belief structure (e.g., social criticism, alienation, self-esteem, and locus of control), and (3) the personal control system (e.g., tolerance of deviance, religiosity, and the discrepancy between positive and negative functions of problem behaviors).

The perceived environment is separated into proximal and distal structures which are composed of variables that are directly or less directly related to problem behaviors such as drug use. The variables within the distal structures include: (1) perceived support from parents and from friends, (3) compatibility between parents and peers in their expectations for behavior, and (4) the

relative influence of peers versus parents. The proximal structure includes parent and peer approval for problem behavior and peer models for problem behavior (Rhodes & Jason, 1988).

The Jessor's conceptualization also identifies demographic and socialization factors, but they consider their role minor relative to the personality, perceived environment, and the behavioral systems (Jessor & Jessor, 1977).

Social Learning Theory

Perhaps the most comprehensive theory is social learning. Social learning theory (Bandura, 1977) extends problem behavior theory by suggesting that behaviors will be more or less problematic depending on the opportunities and social influences to which one is exposed, the skillfulness with which one performs, and the balance of rewards one receives from participation in these activities. The risk for problem behavior is thus reduced when youngsters perform skillfully in conventional settings. Substance use is conceptualized as a socially learned, purposeful, and functional behavior which is the result of the interplay of social, environmental, and personal factors (Falck & Craig, 1988). Substance use is learned through a process of modeling and reinforcement which is mediated by personal factors such as cognitions, attitudes, and beliefs.

This modeling and reinforcement process can occur in several ways. Some individuals may find other individuals who smoke, drink, or use drugs, or may be motivated to engage in those behaviors themselves as a way of coping with tension or anxiety. Other individuals may begin smoking, drinking, or using drugs after repeatedly observing high status role models engaging in drug use through advertisements or the media (Botvin & Wills, 1985).

Borrowing from the work of Bandura (1977), Akers (1985) suggests that drug experimentation is typically not solely for the sake of trying the drug, but for gaining acceptance, identification, and status among peers. Friends make drugs available, and provide social reinforcement for learning the techniques and definitions of drug taking. If initial drug effects are pleasant or desirable, it is likely that drug use will be positively reinforced. If the initial experience is aversive, the unpleasant

effects can become redefined as desirable attributes by pairing them with gaining the social approval, attention, and recognition of significant others. Parents, teachers, other authority figures, and the media can also provide sources for attitudes and models of drug use.

The above substance abuse prevention theories were chosen because they represent the predominant theories used in substance abuse prevention. The intervention approaches whose theoretical roots evolve from these theories are usually cognitive-behavioral in nature. These and other types of intervention strategies will be reviewed next.

PREVENTION STRATEGIES

In general, there have been three types of primary prevention strategies for children and adolescents: drug information/education, community-based, and skills training (Rhodes & Jason, 1988). The theoretical foundations, effectiveness, and shortcomings of these approaches will be examined briefly.

Information and Education Programs

Traditional drug education programs provide students with information regarding the health hazards and social consequences of taking drugs. The rationale behind this approach is that children simply need to be provided with the necessary factual information. Once aware of the relevant facts, they can choose to adopt healthy lifestyle patterns. Although these programs have been effective in increasing drug knowledge, they have been less effective in decreasing drug usage (Falck & Craig, 1988). Gordon & McAlister (1982) found that drug information programs can sometimes lead to an increase in experimentation. Attention must be paid to what facts are being transmitted and to whom. They found that children are influenced not only by drug information alone, but a variety of other factors such as parental use of and attitudes towards drugs, false or exaggerated media claims, and an increase in curiosity.

Despite the questionable basis for this approach, as well as a decade of research indicating that information alone does not deter or decrease substance use, drug education continues to be the most widely used approach to preventing substance abuse in children (Botvin, 1985). The information approach, which is generally inexpensive and easily delivered, has a place in drug abuse prevention, but should not be the sole focus of such efforts. The relative failure of informational approaches to prevent drug use and abuse has led to a development of more comprehensive strategies that incorporate the drug information into a larger health curriculum, and teaches effective social skills (Berger, 1989).

Community-Based Interventions

Community-based programs attempt to influence not only the child but the environment as well. By integrating efforts in the family, school, and the media, this approach addresses the individual as well as broader social and environmental factors. This perspective suggests a relatively new concept and is sometimes difficult to implement. Bry (1985) found that families have seldom been included in drug abuse prevention despite the influence that they have on adolescent behavior. She reported that when families or parents are included in school or media-based interventions, risk factors can be reduced.

Despite the appeal of the community approach, there are limitations. For instance, the inclusion of many variables (e.g., family, school, media) can limit the researcher's ability to assess fully all of the factors that may be contributing to the outcome. Another concern is the reliance on community members, teachers, and peers to design and reliably implement programs. Not every school district or community implements a program as recommended, increasing the possibility for variation from one community to the next. Such variation creates difficulties in drawing conclusions about program effectiveness and generalizability (Rhodes & Jason, 1988).

Skills-Based Strategies

Skills-based strategies attempt to enhance the coping skills of youth in order to offset the influences and pressures to use drugs. The first skills-based program focused specifically on cigarettes and the social pressures to smoke (Evans, Hansen, & Mittlemark, 1977). Evans et al. (1977) taught students how to recognize and resist peer pressure. In a sense the students were “inoculated” so they could handle situations in which they were likely to find themselves in the future that might lead to drug abuse.

Skills-based strategies have also focused on role playing, assertiveness training, and modeling to prevent drug use (Botvin & Eng, 1980; Pentz, 1985; Schinke & Gilchrist, 1983). These different strategies have all been used with varying degrees of success. Recent prevention programs have included an even wider range of coping skills such as self-control and problem-solving skills, and focus on a variety of drugs (Botvin & Wills, 1985; Schinke & Gilchrist, 1983). A brief review of these different strategies follows.

Social Assertiveness Skills Training: Pentz (1985) developed a Student Taught Awareness and Resistance (STAR) skills approach that is based on a social competence model of substance abuse. According to this model, substance use in early adolescence is the result of social influences, such as peer and parent usage, and poor social assertiveness skills with which to resist pressures to use substances. This model is based on etiological findings that have found correlations between adolescent substance use and (a) parent and peer substance use; (b) cognitive variables, such as low self-efficacy; (c) problem behaviors, such as school failure, delinquency, and aggression, (d) stress, and (e) low social support from adults. These findings suggest that students with lower social competence may be more likely to use substances as a means of coping with social anxiety. In addition, these students may be less able to resist and counter social pressures to use substances (Rhodes & Jason, 1988).

Evaluation of the STAR intervention have indicated that children provided with the program’s strategies have shown increased social competence, better grades, as well as decreased drug use

(Pentz, 1985). These findings indicate that the intervention program is most effective when conducted just before periods of induced transitions (e.g., beginning of junior high school, beginning of high school). The results reported by Pentz support her hypothesized model of substance use and are consistent with her theoretical rationale for the intervention program (Rhodes & Jason, 1988).

Cognitive-Behavioral Skills Training: Schinke and Gilchrist (1984) have proposed a cognitive-behavioral substance abuse prevention program. The program is derived from their extensive research in the area of pregnancy prevention (Schinke & Gilchrist, 1977). The researchers consider a variety of problem behaviors (drug abuse, unwanted pregnancies, and so forth) from a developmental and social learning theory perspective (Rhodes & Jason, 1988).

They believe that children should be systematically taught the skills necessary to enjoy positive lives and avoid unnecessary risks (Schinke & Gilchrist, 1984). The cognitive-behavioral approach is thus designed to enable children to acquire the social coping skills necessary for them to “handle current problems, anticipate and prevent future ones, and advance their mental health, social function, economic welfare, and physical well-being” (Schinke & Gilchrist, 1984, p. 33). Schinke & Gilchrist have developed strategies aimed at enhancing such skills as decision making, problem solving, and interpersonal communications in a variety of social situations (Rhodes & Jason, 1988).

The programs developed by Schinke & Gilchrist have consistently demonstrated the effectiveness of the cognitive-behavioral approach to substance abuse prevention. In addition, this approach has produced significant improvements in several measures of problem solving, decision making, and assertiveness skills as well as knowledge, attitudes, and intentions (Schinke & Gilchrist, 1983; 1985).

Life Skills Training: Botvin (1985) developed a curriculum-based program called Life Skills Training (LST), which seeks to facilitate the development of generic life skills as well as skills and knowledge more specifically related to substance use. The LST program incorporates a curriculum to teach a wide range of personal and social skills in order to improve youth’s general competence

and reduce potential motivations for substance use. Specific applications of these skills are practiced in social pressure situations. The LST program also teaches students skills and knowledge more specifically related to the problem of substance abuse. For example, in addition to teaching students general assertiveness skills, students are taught how to use these skills to resist direct interpersonal pressure to use drugs.

Evaluations indicate that the LST program is capable of producing initial reductions of 50% or more in new cigarette smoking among junior high school students. In the most recent study conducted, the LST prevention program has also been found to have a significant impact on both drinking and marijuana use (Botvin, Baker, Filazzola, & Botvin, 1990). Moreover, this prevention approach has produced significant changes in knowledge and attitudes relating to smoking, alcohol, and marijuana use. Students' assertiveness, social anxiety, self-esteem, and decision making have also changed as a function of participating in the program. These changes have been in a direction consistent with the theory underlying this prevention model, which posits that the development of generic social coping skills, as well as the transfer of information and skills related more directly to social influences to smoke, drink, or use drugs, can decrease substance abuse among children and adolescents (Rhodes & Jason, 1988).

However, there are a number of problems that may limit the effectiveness of the skills-based approach. Initially, in programs that seek to address a wide range of skills, there may not be sufficient time to address effectively each one. Consequently, each skill may only receive minimal attention. Findings from the smoking cessation literature suggest that studies with more basic treatment programs have resulted in better outcomes than complex ones (Lando, 1981). Children receiving a complex intervention such as some of the aforementioned ones may feel overwhelmed by the number of changes being introduced.

Another limitation concerns cost. Most of the skills-based approaches mentioned above, and many of the programs that are currently being implemented across the country, require the school to purchase an expensive "package". Depending on the number of participants included in the intervention and the setting's prevention budget, the cost of conducting one of these programs may be restrictive. Thus, it is doubtful that the more sophisticated skills-based programs will ever reach

the majority of the nation's students, particularly in areas where drug intervention is needed the most (e.g., inner-city). Most of these programs also tend to be costly in terms of time (Glasgow & McCaul, 1985).

A further limitation with these approaches is that most of their curricula are tailored to white, middle-class populations, and thus most of the research has been conducted with this population. A large proportion of the nation's drug users are lower SES and minority students. Some skills, for example, decision making and effective communication, are influenced by cultural norms. For example, the need to establish eye contact is commonly emphasized in communication skills training. Yet within some cultures (e.g. Chinese, Japanese) children are taught that in certain situations such behavior is discourteous (Bobo, 1986). Thus, current skills-based programs may be unable to provide culturally sensitive curricula for all youth.

There are methodological shortcomings with these approaches as well. For instance, the use of self-reports is prevalent in virtually all studies and has been known to be biased by inconsistent and inhibited reporting (Rhodes & Jason, 1987). Some skills-based programs attempt to control for these biases by collecting saliva samples (bogus-pipeline procedure), while others rely exclusively on self-report. This variation in assessment procedures compromises the ability to make meaningful comparisons across studies.

Another issue concerns the method of assignment and unit of analysis. In most of the studies, there was random assignment to the treatment or control conditions. The unit of assignment, however, has varied from schools to classes to individuals. Many of the studies did not use random assignment of subjects to groups, thus confounding possible school or classroom differences with treatment effects. To some extent, this type of threat to internal validity has been mitigated (Botvin, 1985) by assigning two units to each condition.

A final shortcoming of these efforts is that they have not typically targeted children under the age of eleven (Falck & Craig, 1988). Given recent statistics that suggest that children as young as eight years of age experiment or have been exposed to drugs, the use of third graders is appropriate (Johnston et al., 1986). In summary, although there are practical, methodological, and financial

restrictions associated with the skills-based approaches, this model is currently the most effective approach and considered to be a significant improvement over the drug education approach.

Major Dependent Variables: In reviewing the existing literature, several dependent variables have been targeted including drug knowledge, assertiveness, decision making, drug refusal behaviors, and general knowledge. Theoretical and empirical justification for the selection of each may be helpful in determining which variables may be most useful in preventing later drug use.

The selection of the drug knowledge variable was based on evidence that suggests that drug knowledge can play an important role in substance use prevention. Information regarding the use of tobacco, alcohol, and drugs may be a useful component of substance abuse prevention programs (Botvin & Wills, 1985). Also, research has suggested that drug abuse prevention programs should attempt to delay the age of initiation into drug use (Falck & Craig, 1988). Theoretically, if young people can be prevented from using the “gateway” drugs (tobacco and alcohol), then all other drug use could be prevented. Practically, delaying the age of initiation into the drug-using sequence increases the probability of less intense involvement with drugs after the process has begun. Providing information regarding the health hazards and social consequences of taking drugs, and on proper use of medicines, will help children to choose healthy lifestyle patterns (Bradley, 1988; Rhodes & Jason, 1988).

The use of assertiveness training was based on research by Pentz (1985) that suggests that substance use in early adolescence is partially due to poor social assertiveness skills that are relevant for dealing with situations in which individuals may experience social pressure to smoke, drink, or use drugs. Pentz (1985) has shown that children provided with assertiveness skills show increases in social competence and decreases in drug use. Children were provided with resistance skills that were applied to different relevant social situations. Pentz’s findings indicate that her intervention program is effective with junior high and high school students.

The decision making variable is one that has been suggested by several researchers as an important component of any drug prevention program (Bradley, 1988; Botvin, 1985; Schinke & Gilchrist, 1983). On a cognitive level, students are taught decision making techniques which will

better prepare them to avoid peer pressure situations without alienating friends, and make decisions involving health-compromising behaviors (Schinke & Gilchrist, 1983). Furthermore, Bradley (1988) suggests that the nurturance and development of sound decision making skills should begin at an early age.

Dielman et al. (1987) have suggested that behavioral training of appropriate drug refusal behaviors is an important component of drug education. Additionally, Goodstadt (1986) has suggested that behaviors are notoriously difficult to change and are associated with the most problematic outcomes for drug educators. As shown by Jones, Ollendick, & Shinske (1989), the attainment of knowledge alone is not sufficient to ensure performance of desired behaviors. Church, Forehand, Brown, & Holmes (1990) have suggested that the rehearsal of specific skills in drug education programs may enhance the performance on the application of knowledge and help make the necessary links between the reality of the classroom and the reality outside the classroom.

The selection of the general knowledge variable has been based on available evidence that suggests that information and knowledge can play an important role in substance use prevention (Botvin & Wills, 1985). Once aware of the relevant facts, children can, and presumably will, choose to adopt healthy lifestyle patterns. Programs that have included general knowledge in their curriculum have led to increases in general knowledge (Rhodes & Jason, 1988). Goodstadt (1986) suggests that improvements in general knowledge are a necessary, but not sufficient condition for most behavior change.

Drugs Targeted

In addition to the various dependent variables employed in drug prevention programs, some attention to the specific type of substance targeted should also be provided. According to Kandel (1978), the initiation of substance use is primarily an adolescent phenomenon, occurring within the context of great physical and psychological change. Adoption of one substance typically leads to experimentation with others, and research indicates that individuals begin with tobacco and alcohol,

progress later to marijuana, and may eventually go on to use other drugs (Fleming, Levanthal, Glynn, & Ershler, 1989). For this reason, tobacco is often viewed as a “gateway” drug that greatly increases the probability of regular or problematic drug use. Yamaguchi and Kandel (1984) found that it is unlikely for teenagers to experiment with marijuana without first having had some experience with either alcohol or tobacco. Fleming et al. (1989) found that cigarette use was shown to fall on a cumulative scale of use with other drugs and that cigarette experimentation made one significantly more likely to be using other drugs two years later.

After reviewing the existing literature on major theories, strategies, dependent variables, and targeted drugs, this study will borrow from social learning theory. From this perspective, substance use is seen as a socially learned, purposive, and functional behavior which is the result of the interplay of social-environmental and personal factors. Substance use behavior is learned through a process of modeling and reinforcement which is mediated by personal factors such as cognitions, attitudes, and beliefs. Also, a skills-based strategy will be used in an attempt to enhance the social coping skills of youth in order to offset the influences and pressures to use drugs. This type of strategy is currently considered to be the most effective preventive strategy (Rhodes & Jason, 1988). Dependent variables including general knowledge, drug knowledge, assertiveness skills, decision making skills, and drug refusal behaviors will be targeted based on evidence suggesting their appropriateness. Finally, this study will target three primary drugs as indicated by the stage theory: tobacco, alcohol, and marijuana, as these will typically be the first substances that children will be exposed to in their natural environment.

PURPOSE AND HYPOTHESES

The purpose of this study was to examine the effectiveness of two short-term intervention methods using a treatment strategy design. A primary goal is to determine the relative efficacy of a skills-based strategy (rehearsal-plus) and an informational/educational strategy (traditional) in teaching third grade children components of theoretically-based drug refusal behaviors. The use of third graders is justified by recent studies on age appropriateness of drug interventions (Bradley, 1988; Pisano & Rooney, 1988). Rehearsal-plus is a procedure whereby elaborative rehearsal in combination with behavioral skills training is used to enhance behavioral and cognitive functioning (Jones & Randall, 1987; Jones et al., 1989). Rehearsal-plus consists of: 1) a behavioral component where specific behaviors within an emergency response chain are taught and rehearsed, and 2) a cognitive component, namely elaborative rehearsal, where processes such as attributions, expectations, and beliefs are modified through the reworking of knowledge and information, through the following steps: 1) questions requesting the reasons for performing each step in the sequence; 2) explanations for correct responses; 3) repetition of the correct rationale; and 4) additional opportunities to ask questions, followed by the trainer elaborating on the correct answer if necessary. While many behavior change procedures have used cognitive aids to introduce new information, they often are not presented with any governing conceptual theme (Rosenthal & Downs, 1985).

The rehearsal-plus procedure, however, is clearly derived from behavioral and cognitive conceptualizations. This strategy's theoretical roots stem from social learning theory.

The traditional group strategy consists of instructions on peer pressure presented in a manner similar to the Drug Abuse Resistance Education (DARE) program. For example, subjects participate in discussions about different types of threatening situations, and engage in informal practice of some of the different ways of saying no to drugs. The DARE program is designed to help children recognize and resist the sometimes subtle peer pressure that often leads to experimentation with alcohol and drugs. DARE focuses on building students' self-esteem, stressing that children who feel positively about themselves will be more capable of asserting themselves in the face of peer pressure. Also, emphasis is placed on the consequences of using alcohol and drugs and identifying alternative means of coping with stress, gaining peer acceptance, and having fun. Students learn that real friends will not push them into trying drugs and that being grown up means making their own decisions and coping with problems in a positive way. Most importantly, students learn and practice specific strategies for responding to peers who offer them alcohol, tobacco, or drugs (e.g., walking away, suggesting alternative activities).

A short-term evaluation designed to assess the impact of the DARE program on the knowledge, attitudes, and self-reported behavior of seventh-grade children revealed that students who had DARE training reported significantly lower use of alcohol, cigarettes, and other drugs since graduating from sixth grade when compared to a control group (DeJong, 1987). These findings were especially strong for boys. In response to questions for which students were to imagine friends pressuring them to use alcohol or drugs, DARE students refused the imagined offers more frequently and more often used refusal strategies that removed them from the immediate temptation.

With one exception, systematic evaluations of drug abuse prevention efforts with pre-junior high students have not occurred. Jones et al. (1990) demonstrated that a rehearsal intervention, consisting of learning specific drug refusal behaviors (i.e., behavioral sequence) and appropriate social skills, was more effective than either a drug education program or an attention control condition with third graders. This study extends Jones et al. (1990) efforts by including the drug knowledge, assertiveness, and decision making components.

Hypotheses

The major hypotheses of this study were:

1) Children in both the rehearsal-plus and traditional groups are expected to acquire a greater level of drug knowledge than the control group. The rehearsal-plus group is expected to outperform the traditional group.

2) Children in the rehearsal-plus group are expected to acquire a greater level of drug refusal behaviors than children in both the traditional and control groups.

3) Children in the rehearsal-plus and traditional groups are expected to perform at a higher level in assertiveness and decision making skills than children in the control group. The rehearsal-plus group is expected to obtain the highest number of correct responses, followed by the traditional group.

4) Children in the traditional group are expected to acquire a a greater level of general knowledge than children in both the rehearsal-plus and control groups.

5) Children in the rehearsal-plus group are expected to acquire a greater level of rationale than children in both the traditional and control groups.

METHODS

Subjects

A total of 86 third grade children from a primarily lower-middle class neighborhood, in a small, rural, community in southwestern Virginia were included in the study. All subjects were students from the same elementary school. Subjects were randomly assigned to one of three groups: rehearsal-plus (n = 24), traditional (n = 24), and control (n = 26) at pretest. 12 children were eliminated from the study based on a high number of correct behavioral responses (above 50%) at pretest. 17 children were unable to complete the program due to one or more absences during training, thus the group sizes at posttest were 22, 16, and 19, respectively. The number of male and female students in each group was approximately equal. The subjects' ages ranged from 8- to 10-years old. Children in the rehearsal-plus and traditional conditions were trained in groups of three across three consecutive days. All children participating in this project received consent from their parents and were able to withdraw at any time (See Appendix A). Children with physical handicaps or mental retardation were excluded from the study.

Setting and Apparatus

The setting of the study was in several classrooms designated for training at the elementary school. Within each classroom, three simulated drug-offering situations: school bathroom, school playground, and the sidewalk in front of the school building (path home from school) were assembled for training and assessment purposes. Using tape and string, floor grids were outlined that represented the drug-offering area, path away from area, and an additional area where a chair, indicating where an imaginary adult was seated, was located. Floor grids were approximately eight feet in length and six feet in width. Additionally, seating was provided for both trainers/assessors and subjects, and a tape recorder was situated in the corner of the room. These situations were based on settings where these children might find themselves when offered a drug. Validation of these situations were obtained from a Peer Pressure History Scale (See Appendix C), devised by Jones et al. (1990).

Measures

At pre- and posttest, all subjects were individually assessed on several measures including: drug knowledge, assertiveness skills, decision making skills, and behavioral sequence. General knowledge and rationale which were both used as manipulation checks for the rehearsal-plus and traditional groups respectively were also assessed at pre- and post-testing.

Prevention of Child Drug Use Assessment Instrument (PCDUAI): The PCDUAI is a recently devised instrument developed by Church et al. (1990) for the assessment of children in the early elementary years. It consists of six sections (Basic Information, Discrimination, Drug Use/Abuse, Addicted, Con into Drugs, Application), two of which were used in this study (Application and Discrimination). The Application section is a 9-item questionnaire that was modified by this author from a twelve-item questionnaire to assess the acquisition of decision making skills and ra-

tionale. The Discrimination section is a 19-item questionnaire that was designed to assess the acquisition of drug knowledge.

Life Skills Training Student Questionnaire (LSTSQ): The LSTSQ was developed by Botvin, Baker, Filazzola, & Botvin (1984), and is recommended for researchers interested in obtaining a comprehensive assessment of students' skills, as well as relevant substance related information. It consists of several sections (i.e., substance knowledge, student usage, attitudes, locus of control, assertiveness, social anxiety, self-esteem, self-confidence and self-satisfaction, and influenceability). All of the sections from this instrument have been used in previous research and have test-retest reliabilities ranging from .66 to .78 (Botvin et al., 1984). Botvin et al. (1984) have suggested that depending on program content and goals, the complete questionnaire, or sections of it, can be administered. The assertiveness section of the LSTSQ, taken from the Assertion Inventory (Gambrill & Richey, 1975), was used in the present study after being revised for age appropriateness. Questions were not changed, however, vocabulary was simplified in some instances. Adaptation of the scale was discussed with an assistant to the primary author, and validated by the primary author (Botvin), via personal communication (Botvin, 1990).

Drug Refusal Behavioral Situations Scale (DRBSS): The DRBSS is a behavioral scale designed to assess children in simulated drug offering situations (Jones et al., 1990). The instrument is made up of six different situations consisting of a total of 54 steps and nine different responses. Scores for individual responses as well as sequence of responses for each situation can be obtained. The six situations were based on two criteria: 1) settings where these children might find themselves (school bathroom, playground, path home, woods, party, or at a friend's house) when offered a drug, and 2) individuals with whom they often interact and who may offer them drugs (peers, friends, relatives, strangers). Validation of these two criteria was obtained from a Peer Pressure History Scale (see below), devised by Jones et al. (1990).

Peer Pressure History Scale (PPHS): This scale, devised by Jones et al. (1990) is a 13-item questionnaire designed to assess children's prior history of drug-related peer pressure experience. This multiple choice questionnaire provided descriptive data on the frequency, setting, and outcome of drug-related peer pressure experienced by the respondent.

Procedure

Trainers/Assessors: Ten undergraduate psychology students served as trainers and eleven served as assessors. Trainers were responsible for teaching drug education to subjects in the experimental conditions. Assessors were responsible for the administration of the assessment instruments at pre- and post-test. Both trainers and assessors were trained in two phases by the author. All trainers and assessors learned the behaviors to 100% criterion. Then both were given an extremely detailed training or assessing script to follow. The trainers' teaching skills and adherence to training scripts and assessors' skills and adherence to assessing scripts were facilitated in 13 two-hour training sessions where modeling, role playing, feedback, and social reinforcement were employed.

Experimental Conditions

Rehearsal-Plus Group: In the rehearsal-plus group, children received drug knowledge, assertiveness training, decision making skills, rationale, and behavioral sequence of drug refusal behaviors.

The goal of the drug knowledge component was to provide students with information relating to mood-altering substances and the possible harmful consequences of their usage. This component consisted of identification and discrimination of the three gateway drugs, tobacco, alcohol, and marijuana, as well as factual information concerning their short- and long-term effects. Nine pictures were shown across three days (three each day), with at least one of the pictures displaying a gateway drug. Subjects were asked to identify the picture as a drug or non-drug, to determine if the

drug could be a “bad drug”, and explain why. The pictures were presented in the following order: cigarettes, apple, aspirin, beer, candy bar, wine, marijuana, glue, and medicine.

The purpose of the assertiveness component was to provide children with information regarding the ability to disagree, to refuse, to make requests, and to initiate conversations in the context of an aversive situation. This component consisted of identifying and discussing specific verbal and nonverbal assertiveness behaviors when offered a drug (saying no, telling teacher, leaving quickly). On the first day of training, assertiveness was defined and a worksheet was completed in which subjects rated themselves on how assertive they thought they were in different situations (i.e., saying no to someone who offers me a drug). Subjects were encouraged to be assertive in all situations presented. On the second day of training, subjects were asked to identify assertive behaviors on their own (i.e., telling an adult when offered a drug). Discussion and feedback followed with trainers providing several examples of assertive behavior such as, “telling a person who is bothering you to stop”. On the third day of training, subjects practiced saying assertive statements such as “No, I would not like a beer!”

The decision making component was designed to foster responsible decision making skills. This component involved the three situations (bathroom, playground, path home) in which the children were taught verbal refusal statements as well as instructions on what to say and do in these situations. That is, children were initially asked what they would do in each of these three situations, followed by the question, “What are three things that you could do in this situation?” Subjects were allowed to respond and were then provided with the correct answers (say no, leave quickly, tell an adult). They were then asked to repeat each answer. They were also asked why they should perform these behaviors.

All subjects were provided with corrective feedback following incorrect answers and verbal praise following correct responses. Each subject was asked to repeat correct responses. Subjects were picked in a random fashion and each one was given one opportunity to answer every question.

Finally, the formal rehearsal-plus strategy was used while teaching the behavioral sequence of drug refusal behaviors. The intent of this component was to provide subjects with the necessary sequence of behaviors (nine steps) to handle a drug offering situation as well as reasons for each

step. Children were trained in three socially validated situations (Jones, et al., 1990), one situation per day. For example, on the first day, the children were trained in a simulated setting using props and a photograph of one of the school bathrooms, and instructed to observe the trainer serving as a model being offered a drug. An imaginary pusher offered the model an imaginary drug. After the trainer had modeled the correct behavior sequence, s/he then acted as the pusher and each child was asked to perform the desired behaviors and verbalize each as it was performed. If the child committed an error while performing the sequence, the trainer would stop the child, model and verbalize the correct behavior, and allow the child to proceed with the behavior sequence. If a second error was committed, the model again performed the correct responses. The child was then given the opportunity to perform the response. Once the child completed the entire sequence, s/he was asked to repeat it, this time only receiving verbal feedback and reinforcement from the trainer. The other children were encouraged to give feedback and verbal reinforcement as well. Each child performed the sequence of behaviors two times. Situations two and three were taught in the same fashion on the second and third days, respectively.

Each day following the training of the behavioral sequence, the cognitive (elaborative) component of rehearsal-plus was introduced. Children were provided a rationale for performing each step in the sequence. This component consisted of four steps: 1) questions requesting the reasons for performing each step in the sequence were asked each child, 2) explanations for correct responses were provided, 3) children were asked to repeat the correct rationale, and 4) children were given an additional opportunity to ask questions. For example, the following was carried out for each of the steps in the behavioral sequence: 1. The trainer asked, "Why do we say no to someone who tries to offer us drugs?" All subjects were given an opportunity to respond. 2. The correct answer was provided by the trainer--"I say no because drugs can hurt me. Now repeat after me... I say no because drugs can hurt me." 3. All children were asked to repeat the correct response. The second and third day proceeded as the first.

Traditional Group: Children in this condition received similar components as did children in the rehearsal-plus condition including: general knowledge, decision making, drug knowledge, refusal

behaviors, and assertiveness training, as offered in the DARE program. Training occurred for the same length of time and numbers of days as did the rehearsal-plus group.

More specifically, the goal of the decision making component was to review safety rules that help children to protect themselves at school, home, or in the neighborhood. The decision making component consisted of reading nine threatening situations and providing children with three rules to help them decide how to handle the situation (recognize, resist, report). Children were asked if the situation was safe, what could they do, and who they would tell. Discussion of answers followed. Training of this component occurred on the first day.

The purpose of the general knowledge component was to help subjects to identify rules to help keep them safe at school. The general knowledge component consisted of discussing the concept of rules, why they exist, and who can give them. Children were asked to identify and define "rules", who makes rules, and what are examples of school and classroom rules. Then subjects were provided with three rules to use in threatening situations (recognize, resist, report). Training of this component also occurred on the first day.

The drug knowledge component was designed to help subjects understand that drugs and medicines may be helpful or harmful depending on their use. The drug knowledge component consisted of defining and discriminating drugs and medicines on the second day of training. Definitions were given, and a worksheet was completed that differentiated prescription, store-bought, illegal, harmful, and helpful drugs. Worksheets were reviewed and correct answers were provided.

The intent of the behavioral component was to make students aware of drug offers and to teach them how to say no. The behavioral component consisted of teaching children two ways of saying no (no, no thanks), and providing a reason for doing so. For instance, when offered a cigarette, subjects were taught to say, "No thanks, I don't smoke." Subjects then practiced verbalizing these statements with the trainer through the use of role-playing. Training of this component occurred on the third day.

The goal of the assertiveness component was to provide children with information regarding the ability to disagree and to refuse. This component consisted of identifying and discussing specific verbal assertiveness behaviors (saying no, and no thanks). In addition, children were taught what

to do in dangerous situations (leave quickly, tell someone). Training of this component, which was combined with the training of the decision making and behavioral components, occurred on the first and third days. Identical feedback used in the initial phase of training in the rehearsal-plus group was provided to children in the traditional group. That is, all subjects were provided with corrective feedback following incorrect answers and verbal praise following correct responses. Each subject was asked to repeat correct responses. Subjects were picked in a random fashion and each one was given one opportunity to answer every question. Across both treatment groups daily review sessions were held.

Control Group: Members of the control group received drug education after they received post-assessment. Children in this group were trained in a group classroom format and taught components of both the rehearsal-plus and traditional conditions over a four day period. Children did not practice behaviors individually, rather they rehearsed in groups.

Assessment

Pretraining: Initially, children were group-administered the Peer Pressure History Scale to assess prior drug use and exposure history. Children were then individually assessed on the questionnaire derived from the Prevention of Child Drug Use Assessment Instrument, the Life Skills Training Student Questionnaire, and the Drug Abuse Resistance Education program. Children were also individually assessed on six situations-the school bathroom, the school playground, a path home from school, the woods, a friend's house, and a birthday party. Initially, each child was introduced to the assessor immediately prior to assessment, who described the scenario and identified props. The child was required to identify correctly each prop before each scenario was presented. The assessor then described the situation, and then asked the subject to "show and tell me everything you would do." Cues were presented at appropriate times throughout assessment. All responses were objectively recorded on checklists (DRBSS) for each situation.

Post-Training: Immediately following the third training session on the third day of the program, post-training data on all of the aforementioned scales with the exception of the PPHS were obtained.

Reliability: Ten undergraduate psychology majors served as assessors. They were trained as a group over a two-week period. Reliability data on correct responding in behavioral sequence across the six situations were obtained during 33% of the pre- and post-test assessment sessions. Inter-rater reliability was 92% (range 25% to 100%) across the six situations, while inter-rater reliability for scoring of the self-report assessment instrument was 100% for one-third of the responses. All reliabilities were calculated by dividing the number of agreements by the sum total of agreements and disagreements and multiplying by 100 to form a percentage.

Adherence to Training Procedures: Seven independent raters observed one-third of the training sessions to evaluate trainers' adherence to the prescribed procedures. More specifically, seven undergraduate psychology majors were trained to identify the major elements of the training procedure in each of the two experimental conditions. During unannounced visits to various training sessions in each of the two experimental conditions, objective assessment was carried out. For example, in the rehearsal-plus condition, a checklist containing the following components was used for the first training day: introduction, drug knowledge, assertiveness, decision making, behavioral sequence, modeling, learning, rehearsal, elaboration, feedback, reinforcement, and review, while in the traditional condition the checklist for the first day contained: introduction, general knowledge, decision making, assertiveness, feedback, and review. A dichotomous scoring system was used, whereby the rater indicated whether each of the training components was engaged, determined by the number of components observed by the rater during the observation of the training session. All elements of training were observed during each of observations carried out. Therefore, the quality of adherence to each of the training procedures was 100%.

RESULTS

The impact of rehearsal-plus, traditional, and control groups on the acquisition of all dependent variables measuring social skills and behavioral responding was examined. Several series of 3 Groups (Rehearsal-plus, Traditional, Control) x 2 Times (Pre, Post) ANOVAs were performed on the following variables: drug knowledge, assertiveness, decision making, and behavioral sequence for each of the six situations.

The 3 x 2 ANOVA carried out on drug knowledge revealed significant main effects for Group $F(2, 54) = 7.11, p < .0018$, and Time $F(2, 54) = 21.88, p < .0001$, which were qualified by a Group x Time interaction $F(2, 54) = 5.72, p < .0056$. Results indicate that subjects in the rehearsal-plus group demonstrated a 20% increase in drug knowledge, the traditional group demonstrated a 19% increase, while the control group exhibited a 0% increase (see Figure 1). A Newman-Keuls posthoc test indicated that subjects in the rehearsal-plus and traditional groups significantly outperformed the control group ($p < .05$) as shown in Table 1.

The 3 x 2 ANOVA carried out on assertiveness revealed a significant main effect for Time $F(2, 54) = 8.00, p < .0066$. Results indicate that the rehearsal-plus, traditional, and control groups demonstrated 8%, 0%, and 4% increases in assertiveness, respectively (see Figure 2). A Newman-Keuls posthoc test indicated that the three groups did not differ significantly at post-test ($p < .05$) as shown in Table 2.

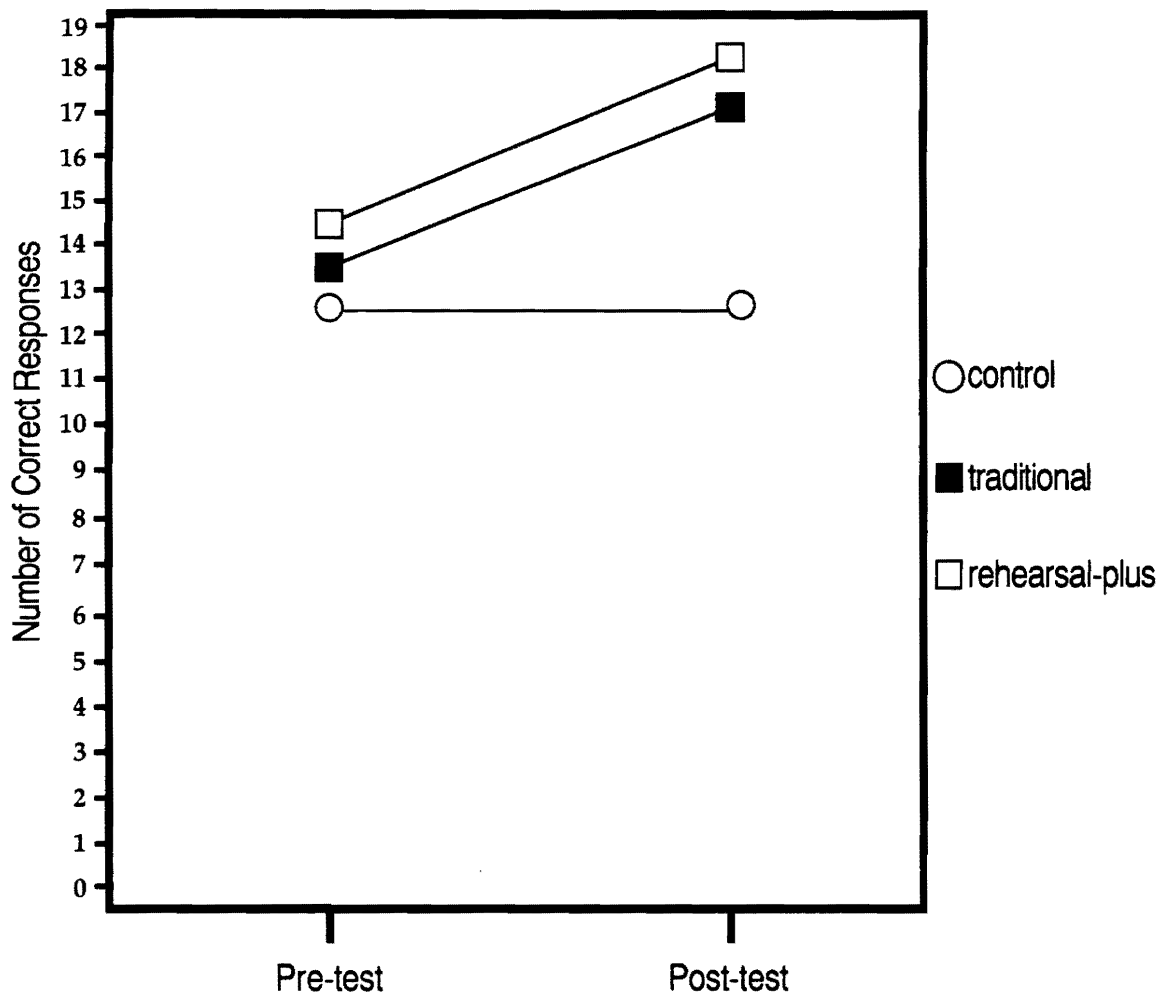


Figure 1: Drug Knowledge

Table 1

Group Means and Standard Deviations of Drug Knowledge Variable

Group	Pre	Post
<hr/>		
Rehearsal-Plus		
Mean	14.45	18.23
SD	4.16	1.19
Traditional		
Mean	13.50	17.06
SD	4.26	2.86
Control		
Mean	12.68	12.63
SD	4.35	4.57

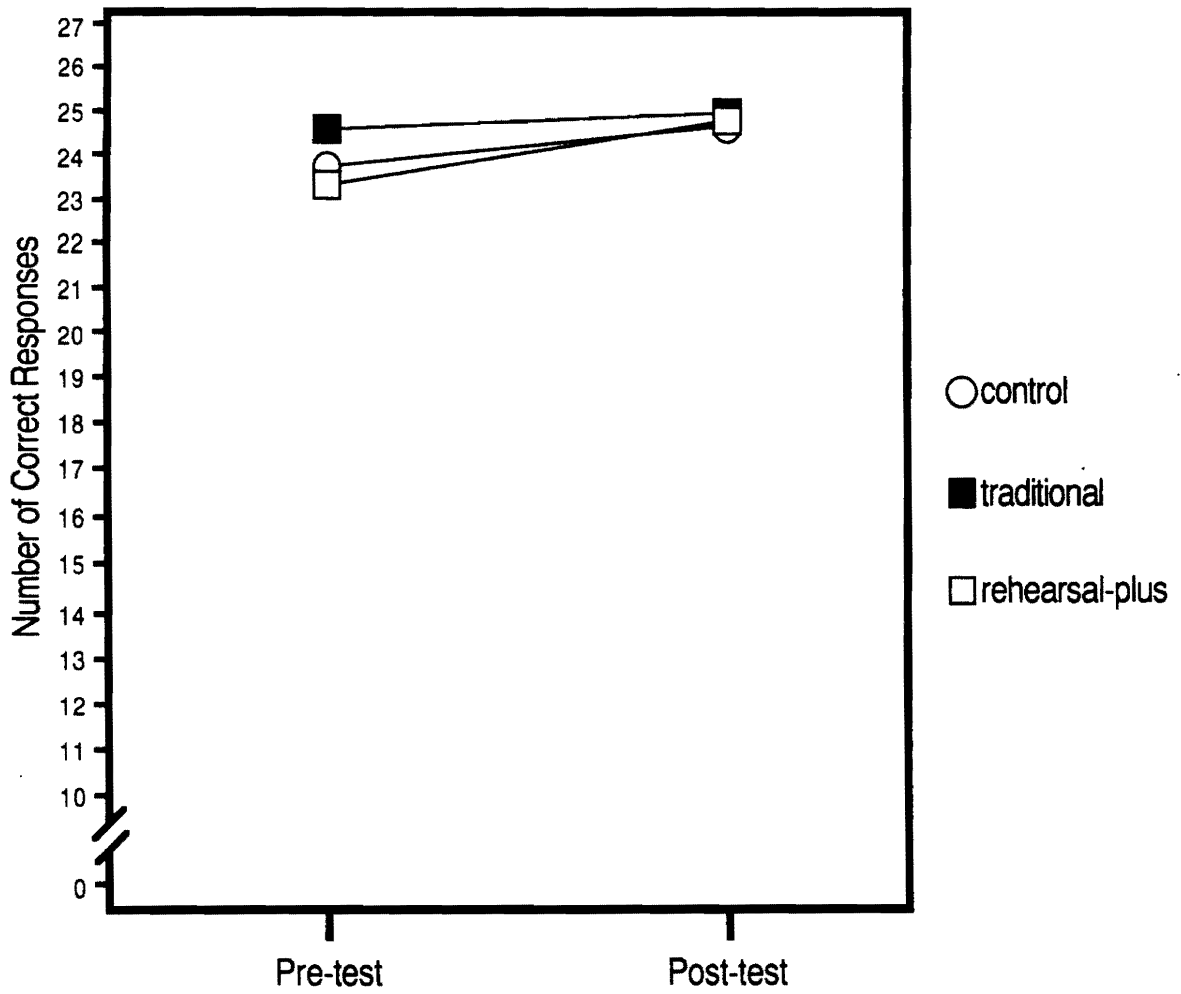


Figure 2: Assertiveness

Table 2

Group Means and Standard Deviations of Assertiveness Variable

Group	Pre	Post
Rehearsal-Plus		
Mean	23.23	24.91
SD	4.23	2.43
Traditional		
Mean	24.62	24.62
SD	2.25	2.22
Control		
Mean	23.74	24.84
SD	3.41	1.50

The 3 x 2 ANOVA carried out on decision making revealed a significant main effect for Time $F(2, 54) = 18.66, p < .0001$, which was qualified by a Group x Time interaction $F(2, 54) = 13.26, p < .0001$. Results indicate a 28% increase in decision making for the rehearsal-plus group, a 0% increase for the traditional group, and a 2% increase for the control group (see Figure 3). A Newman-Keuls posthoc test indicated that the rehearsal-plus group significantly outperformed the other two groups ($p < .05$) as shown in Table 3.

Regarding analyses of behavioral sequence across the first three (trained) situations, it was found that a significant difference was obtained across the three groups on pretest scores $F(2, 54) = 19.90, p < .0001$ for Situation One. Therefore the effects of training were evaluated with an analysis of covariance that compared the three conditions using pretest performance as the covariate. Significant group differences were obtained $F(2, 53) = 20.97, p < .0001$. The adjusted means for each of the groups, shown in Table 4, were then compared using the Newman-Keuls posthoc test which revealed that subjects in the rehearsal-plus group significantly outperformed the other two groups ($p < .05$) as shown in Table 5. Results showed that the subjects in the rehearsal-plus group exhibited a 62% increase in behavioral skills, while subjects in the traditional and control groups exhibited 1% and 21% increases, respectively (see Figure 4).

The 3 x 2 ANOVA on Situation Two revealed significant main effects for Group $F(2, 54) = 9.76, p < .0002$ and Time $F(2, 54) = 40.61, p < .0001$. These findings were qualified by a Group x Time interaction $F(2, 54) = 17.61, p < .0001$. Results indicate that subjects in the rehearsal-plus group exhibited a 60% increase in behavioral skills, while subjects in the traditional and control groups exhibited 9% and 6% increases, respectively (see Figure 5). A Newman-Keuls posthoc test showed that the rehearsal-plus group again, significantly outperformed the other two groups ($p < .05$) as shown in Table 5.

The ANOVA carried out on Situation Three revealed significant main effects for Group $F(2, 54) = 11.78, p < .0001$ and Time $F(2, 54) = 32.93, p < .0001$. These findings were qualified by a Group x Time interaction $F(2, 54) = 10.62, p < .0001$. Results indicate that the rehearsal-plus group exhibited a 51% increase in behavioral skills, while subjects in the traditional and control groups exhibited 10% and 9% increases, respectively (see Figure 6). A Newman-Keuls posthoc test

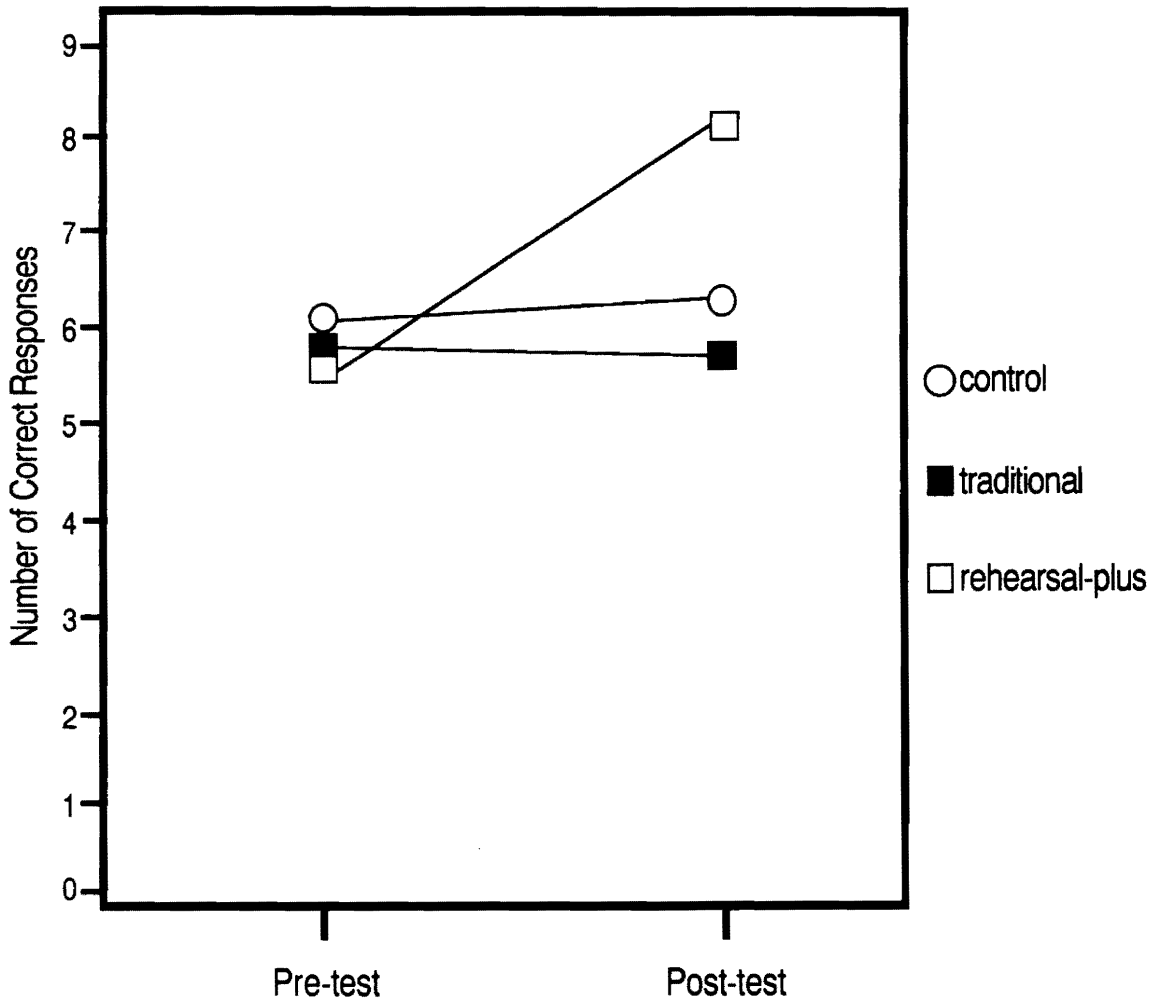


Figure 3: Decision Making

Table 3

Group Means and Standard Deviations of Decision Making Variable

Group	Pre	Post
<hr/>		
Rehearsal-Plus		
Mean	5.68	8.18
SD	1.94	1.14
Traditional		
Mean	5.88	5.81
SD	1.89	1.68
Control		
Mean	6.11	6.26
SD	1.70	1.73

Table 4

Adjusted Means For Situations 1 & 6: Behavioral Sequence

Group	Sit. 1	Sit. 6
Rehearsal-Plus		
Adj. Mean	7.19	6.06
Traditional		
Adj. Mean	2.01	1.53
Control		
Adj. Mean	2.98	1.59

Table 5

Group Means and Standard Deviations of Behavioral Sequence Variable
Situations 1-3 (Trained)

Group	Pre	Post
<hr/>		
Rehearsal-Plus		
Mean	1.33	6.56
SD	1.15	3.38
Traditional		
Mean	1.71	2.27
SD	1.41	2.33
Control		
Mean	1.11	2.19
SD	1.38	2.27
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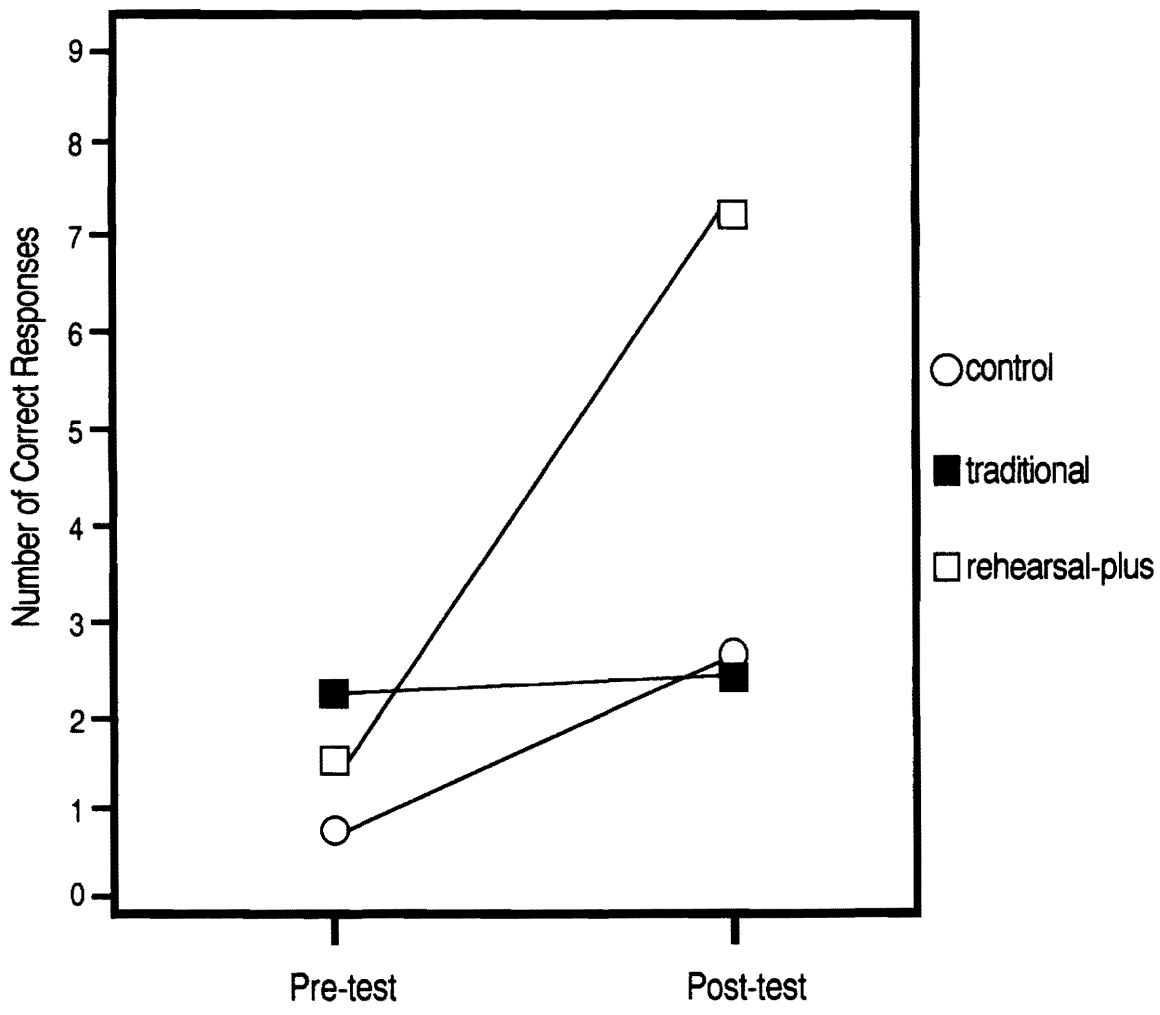


Figure 4: Behavioral Sequence - Situation 1

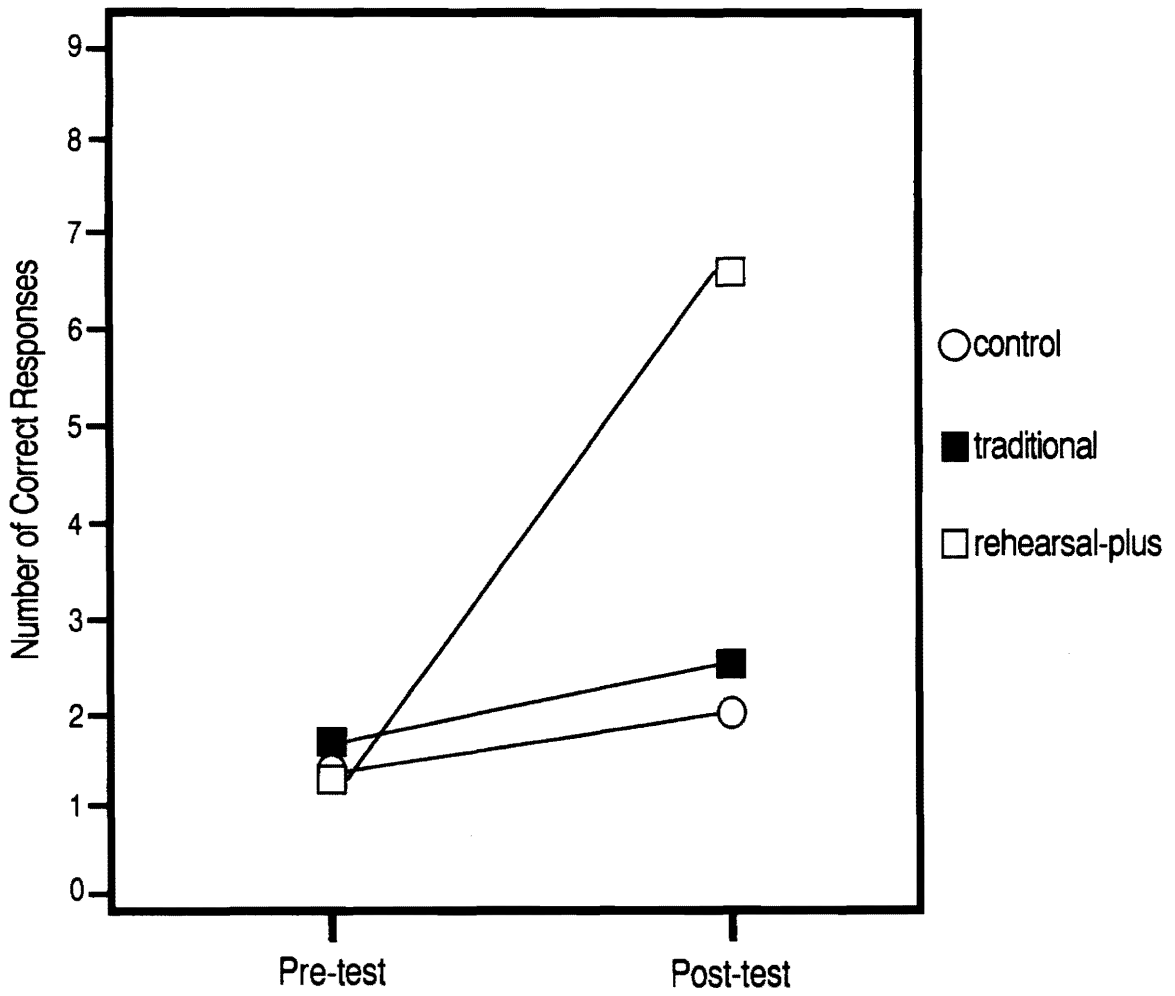


Figure 5: Behavioral Sequence - Situation 2

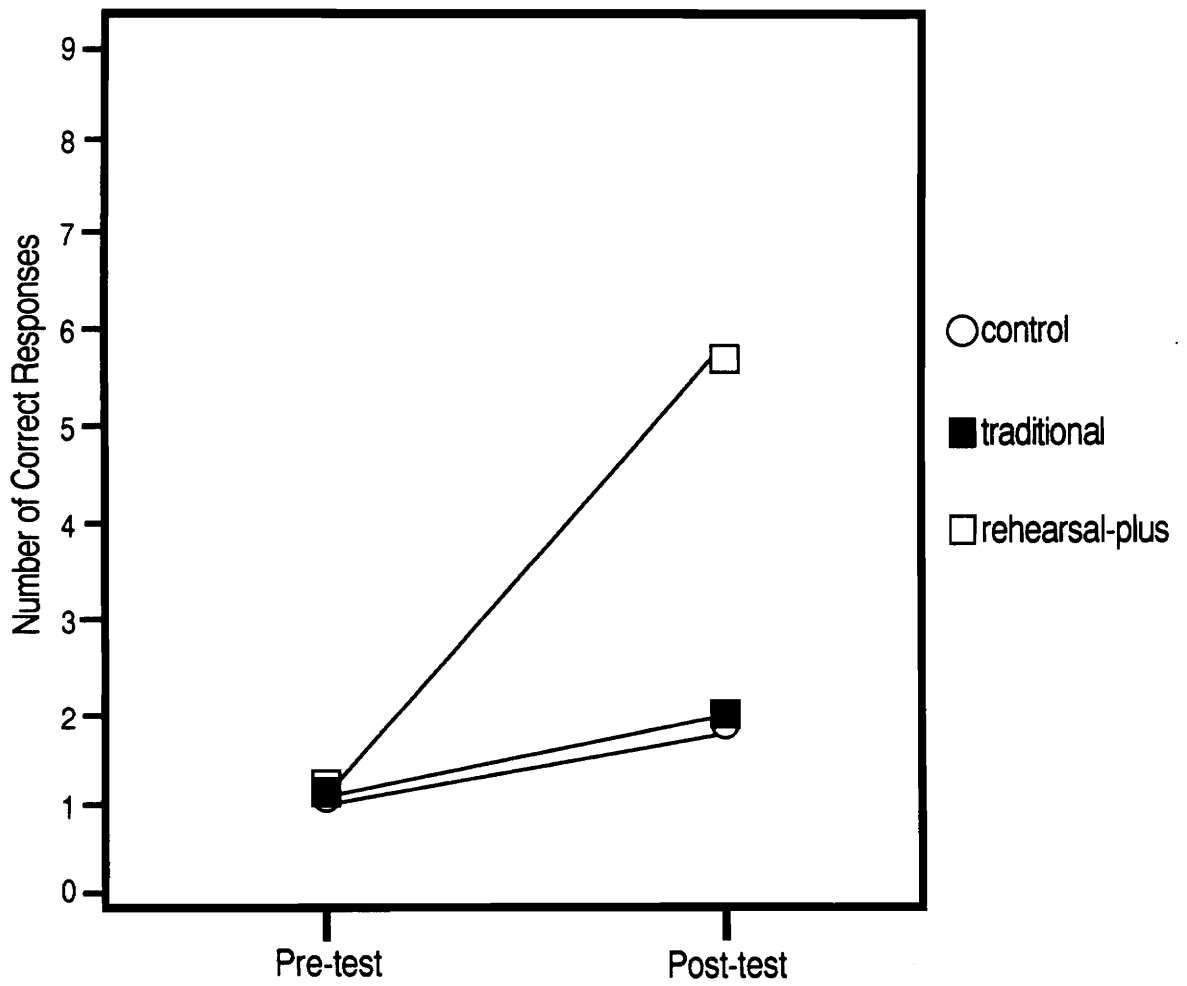


Figure 6: Behavioral Sequence - Situation 3

showed that subjects in the rehearsal-plus group again performed significantly better than the other two groups ($p < .05$) as shown in Table 5.

Concerning analyses of behavioral sequence in the three untrained situations, the rehearsal-plus group again outperformed both the traditional and control groups. The ANOVA carried out on Situation Four revealed significant main effects for Group $F(2, 54) = 6.02, p < .0044$ and Time $F(2, 54) = 40.51, p < .0001$. These findings were qualified by a Group x Time interaction $F(2, 54) = 11.07, p < .0001$. A Newman-Keuls posthoc test indicated that the rehearsal-plus group significantly outperformed both the traditional and control groups ($p < .05$) as shown in Table 6. Results showed that subjects in the rehearsal-plus group exhibited a 49% increase in behavioral skills, while subjects in the traditional and control groups exhibited 6% and 15% increases, respectively (see Figure 7).

The ANOVA carried out on Situation Five revealed significant main effects for Group $F(2, 54) = 13.07, p < .0001$ and Time $F(2, 54) = 42.34, p < .0001$. These findings were qualified by a Group x Time interaction $F(2, 54) = 14.34, p < .0001$. Results indicate that subjects in the rehearsal-plus group exhibited a 52% increase in behavioral skills, while subjects in the traditional and control groups exhibited 8% and 10% increases, respectively (see Figure 8). A Newman-Keuls posthoc test showed that the rehearsal-plus group significantly outperformed both the traditional and control groups ($p < .05$) as shown in Table 6.

When assessing the effects of training for Situation Six, it was found that a significant difference was obtained across the three groups on pre-test scores $F(2, 54) = 17.93, P < .0001$. Therefore the effects of training were evaluated with an analysis of covariance that compared the three conditions using pre-test performance as the covariate. Significant group differences were obtained $F(2, 53) = 20.92, p < .0001$. The adjusted means for each of the groups, as shown in Table 4, were then compared using the Newman-Keuls posthoc test. These multiple comparisons revealed that the rehearsal-plus group significantly outperformed the other two groups ($p < .05$) as shown in Table 6. Results showed that subjects in the rehearsal-plus group exhibited a 56% increase in behavioral skills, while subjects in the traditional and control groups exhibited 3% and 13% increases, respectively (see Figure 9).

Table 6

Group Means and Standard Deviations of Behavioral Sequence Variable
Situations 4-6 (Untrained)

Group	Pre	Post
Rehearsal-Plus		
Mean	1.14	5.85
SD	1.08	3.32
Traditional		
Mean	1.35	1.88
SD	1.02	1.97
Control		
Mean	.80	1.93
SD	1.10	2.14

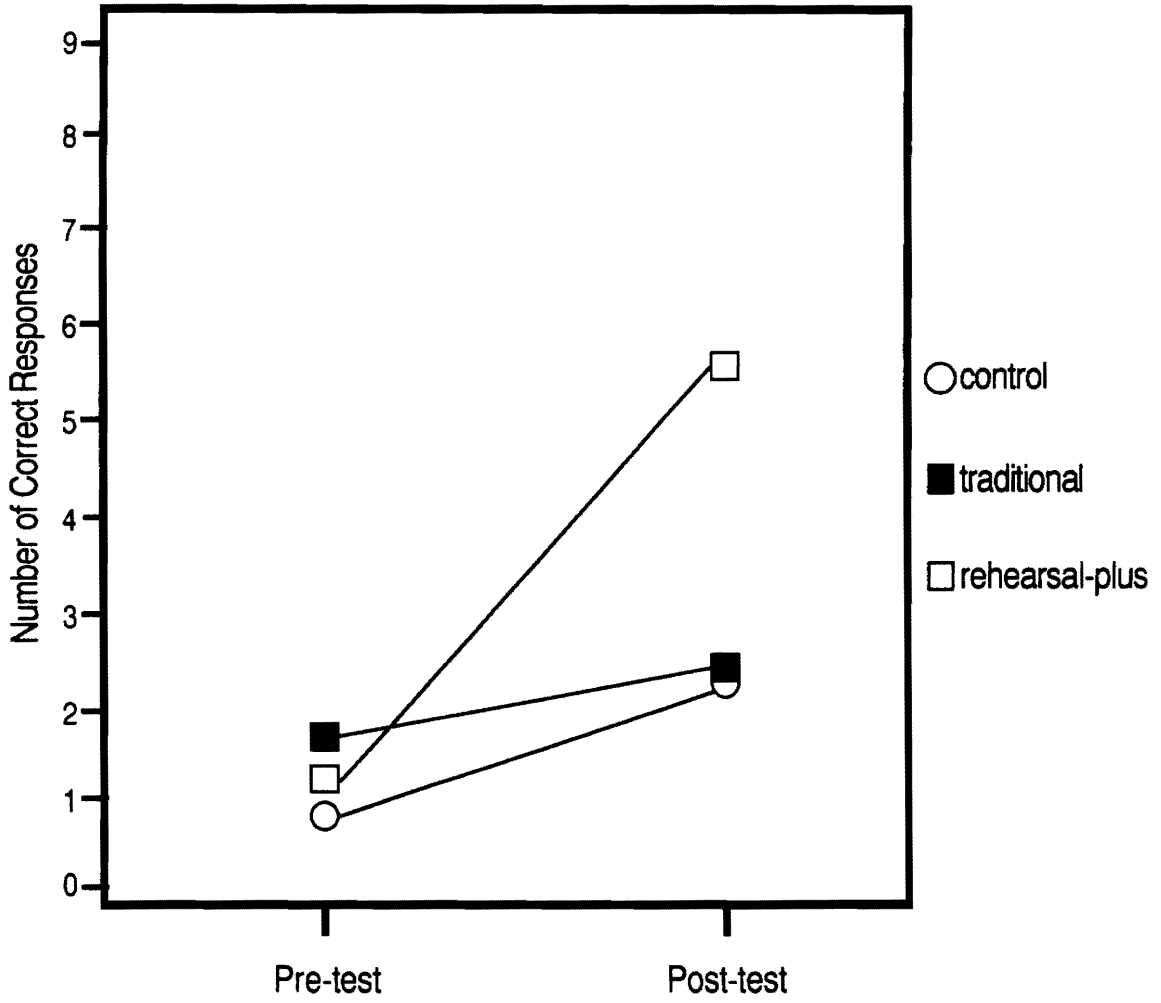


Figure 7: Behavioral Sequence - Situation 4

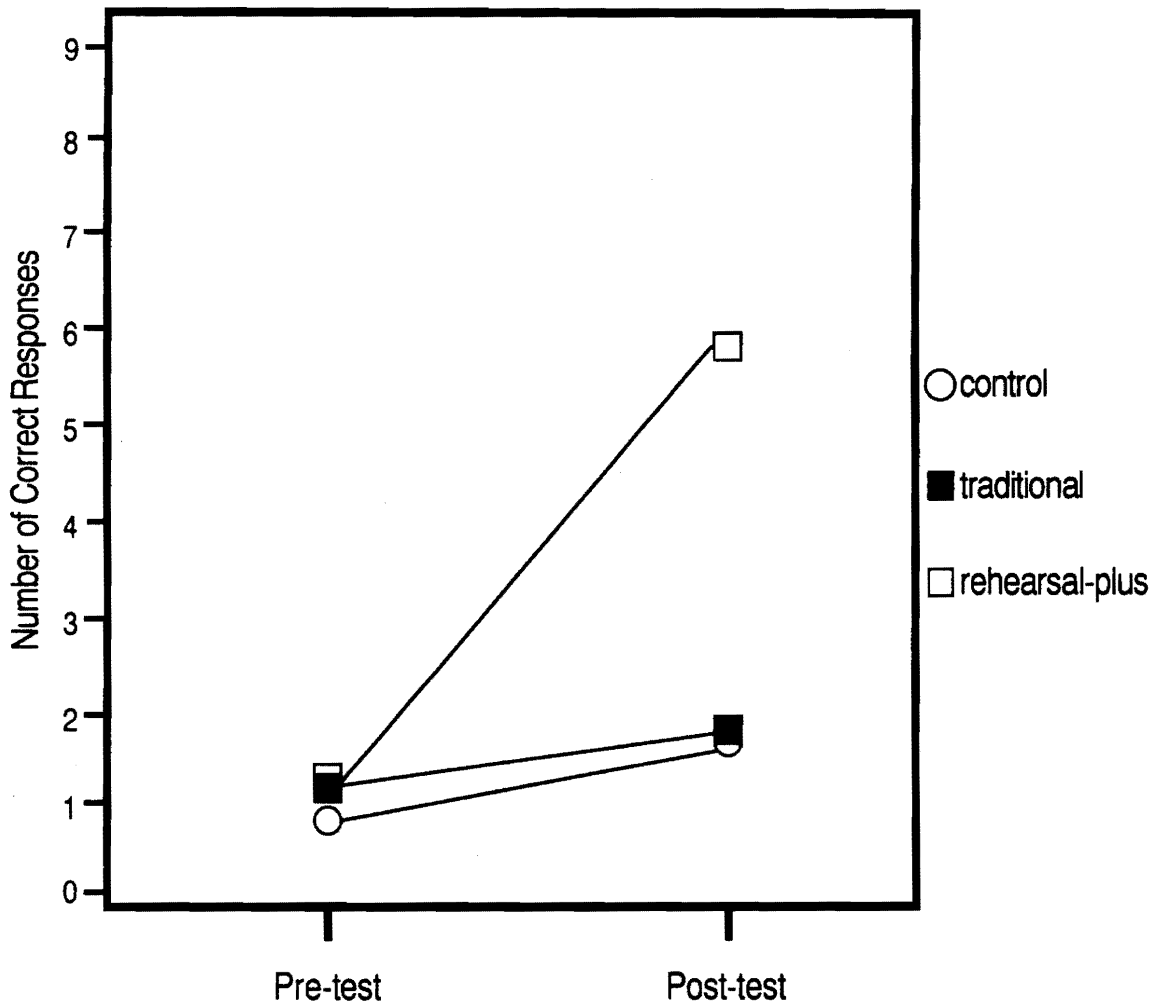


Figure 8: Behavioral Sequence - Situation 5

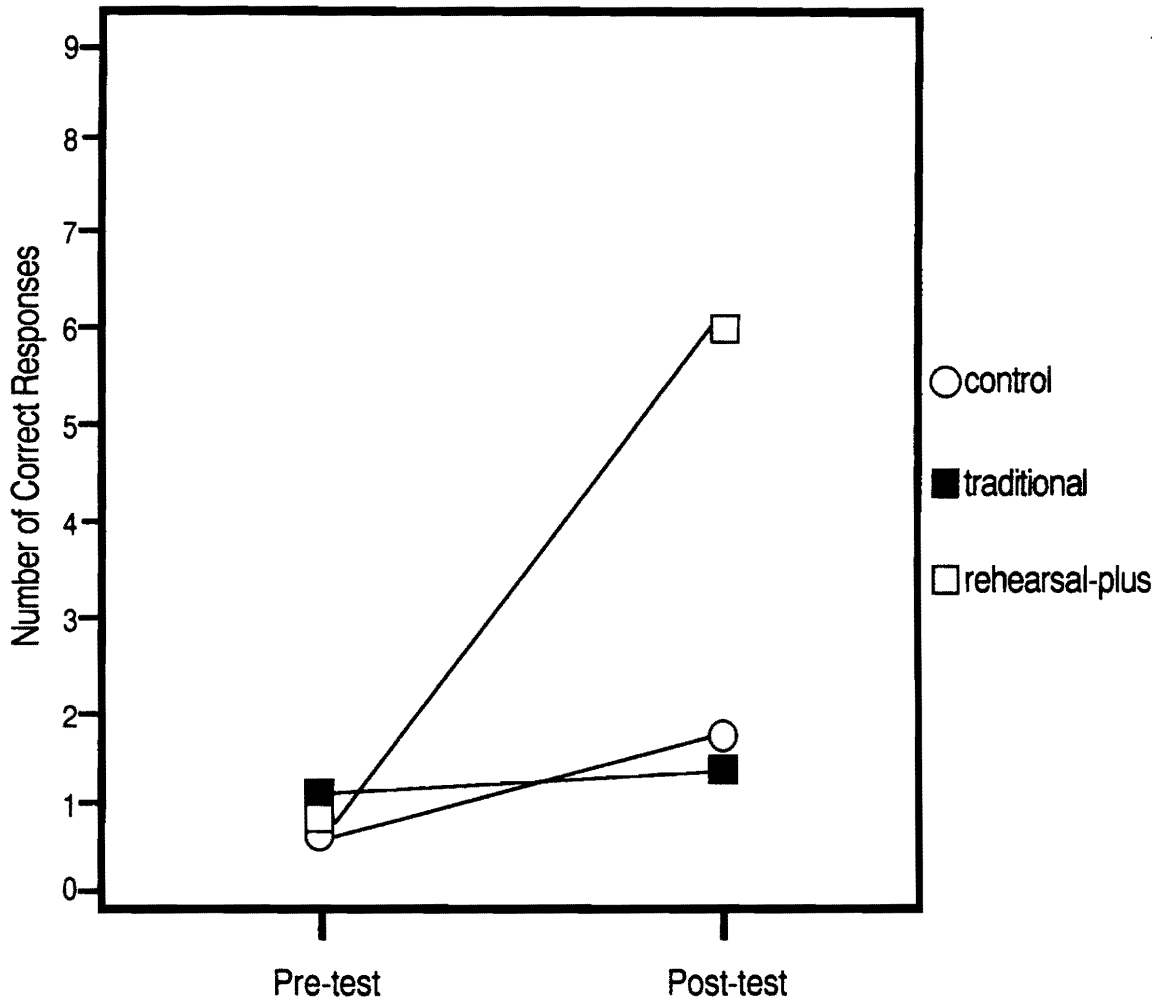


Figure 9: Behavioral Sequence - Situation 6

Analyses for the two dependent variables which served as manipulation checks follow. The 3 x 2 ANOVA carried out on general knowledge revealed significant main effects for Group $F(2, 54) = 3.76, p < .0295$, and Time $F(2, 54) = 30.69, p < .0001$. Results indicate that subjects in the traditional group demonstrated a 15% increase in general knowledge, the rehearsal-plus group demonstrated a 9% increase, while the control group exhibited a 6% increase (see Figure 10). A Newman-Keuls posthoc test showed that the traditional group was superior to the other two groups ($p < .05$) as shown in Table 7.

The 3 x 2 ANOVA carried out on rationale revealed significant main effects for Group $F(2, 54) = 7.12, p < .0018$, and Time $F(2, 54) = 23.60, p < .0001$. These findings were qualified by a Group x Time interaction $F(2, 54) = 14.03, p < .0001$. Results indicate that subjects in the rehearsal-plus group exhibited a 29% increase in behavioral skills, while subjects in the traditional and control groups exhibited 1% and 3% increases, respectively (see Figure 11). A Newman-Keuls posthoc test showed that the rehearsal-plus group significantly outperformed both the traditional and control groups ($p < .05$) as shown in Table 8.

Results of the PPHS showed that 91% of the subjects were abstinent and had never been offered a drug, while 9% had been offered cigarettes, alcohol, or marijuana. Of the 9%, 1 had been offered cigarettes, 5 had been offered alcohol, and 1 had been offered marijuana.

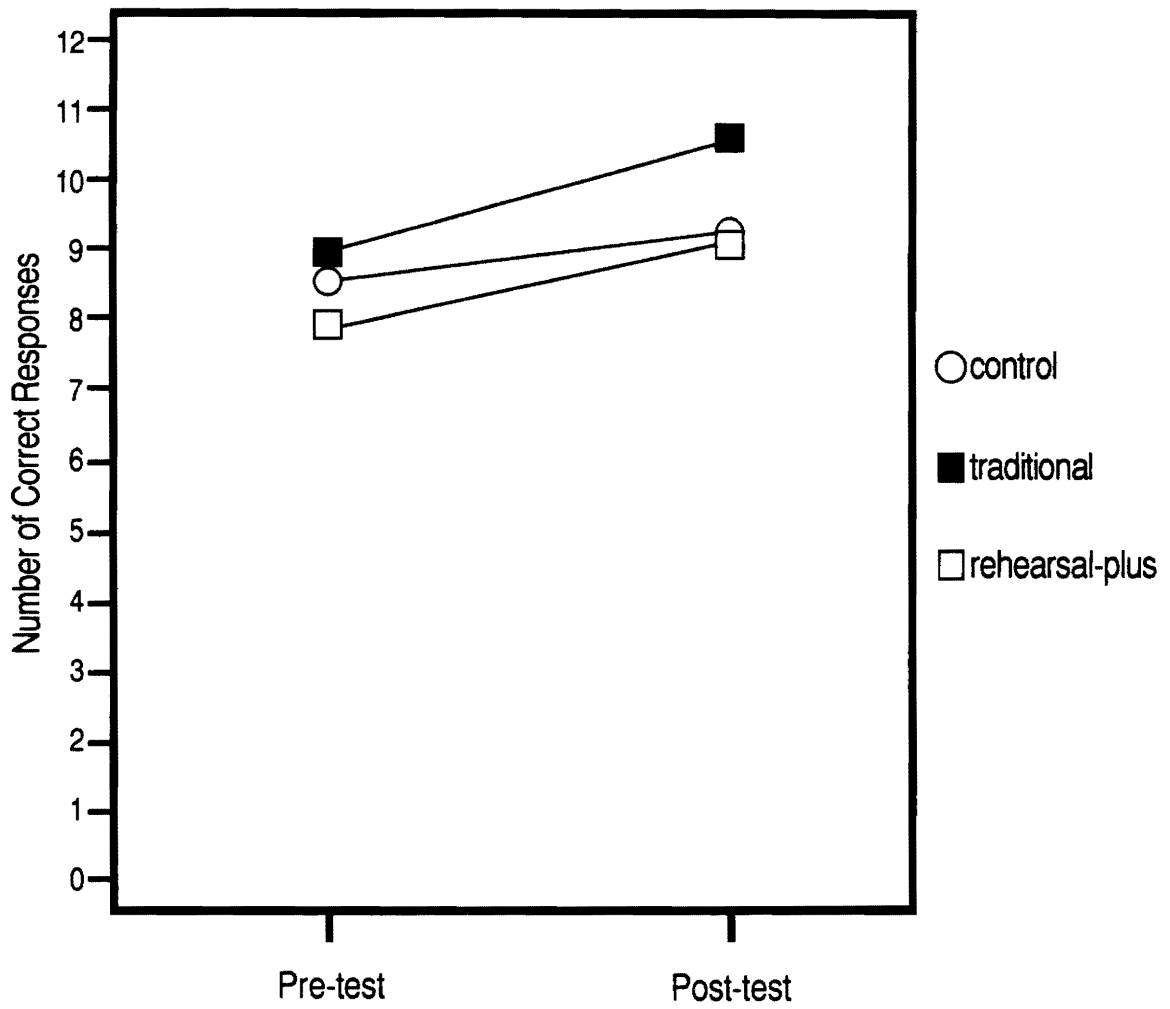


Figure 10: General Knowledge

Table 7

Group Means and Standard Deviations of General Knowledge Variable

Group	Pre	Post
<hr/>		
Rehearsal-Plus		
Mean	7.91	9.05
SD	1.85	1.46
Traditional		
Mean	8.94	10.69
SD	1.39	.79
Control		
Mean	8.47	9.26
SD	2.52	1.56

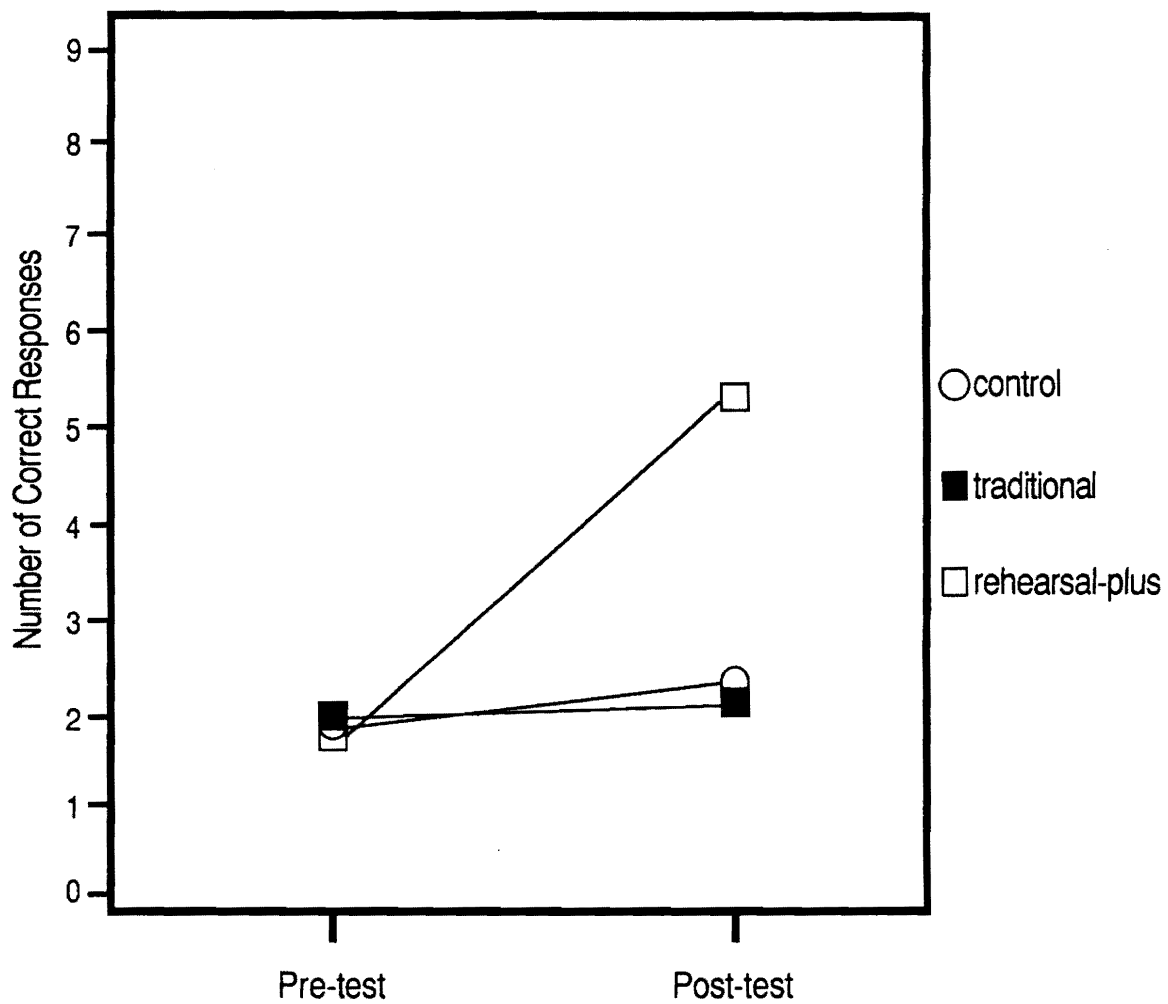


Figure 11: Rationale

Table 8

Group Means and Standard Deviations of Rationale Variable

Group	Pre	Post
<hr/>		
Rehearsal-Plus		
Mean	1.82	5.27
SD	1.37	2.88
Traditional		
Mean	2.00	2.06
SD	1.55	1.12
Control		
Mean	1.95	2.26
SD	1.39	1.79

DISCUSSION

The primary goal of this study was to investigate the relative impact of two treatment packages, namely: rehearsal-plus and a traditional method on children's drug refusal behavior. On three of the six dependent variables (decision making, behavioral sequence, and rationale), children in the rehearsal-plus method significantly outperformed children in both the traditional and control groups. On one dependent variable, general knowledge, the traditional group outperformed both the rehearsal-plus and control groups. On the drug knowledge variable, both the rehearsal-plus and traditional groups significantly outperformed the control group. Concerning the assertiveness variable, children in both treatment groups failed to enhance performance significantly.

Regarding the major dependent variable, behavioral sequence, children in the rehearsal-plus group performed significantly better than children in both the traditional and control groups. The goal of the rehearsal-plus procedure is to enhance specific modes of cognitive and behavioral functioning. Each of its two components (behavioral and cognitive) targets specific types of functioning. For example, cognitive functioning is enhanced through asking questions, the provision of rationale, and verbal rehearsal, while behavioral functioning is enhanced through behavioral rehearsal, feedback, and reinforcement. While the impact of each component cannot be determined in the context of this treatment package design (Kazdin & Wilson, 1978), Jones et al. (1989) showed that while behavioral rehearsal alone can lead to significantly better skills acquisition when compared

to an elaborative rehearsal, attention control, and no-treatment control conditions; behavioral rehearsal plus elaborative rehearsal can lead to even greater skills acquisition than behavioral rehearsal alone. The desired increase in behavioral sequence across the six situations is attributed to the combined impact of each of the behavioral and cognitive components of the rehearsal-plus procedure based on the findings from the aforementioned research (Jones et al., 1989).

Explanations for lower levels of functioning for the traditional group follow. First, the overall goal of the traditional procedure is to provide children with the necessary information to handle threatening situations. However, the behavioral component of this treatment package is severely limited. The behavioral component consists of teaching children two ways of saying no followed by a reason. For instance, if offered a drug, children are taught to say, "No thanks, I don't like the taste." This verbal behavior only represents a fraction of the behaviors presented in rehearsal-plus. That is, while children were provided with a method of saying no, a means of leaving the situation or telling an adult was not, thus allowing children in the traditional condition to obtain only two of the possible nine behaviors in the sequence. Also, children in the traditional condition did not receive an adequate rationale for performing the behaviors. For example, children were trained to say no, but were not provided with an explanation for this behavior. Conversely, children in the rehearsal-plus condition were provided with a rationale for performing the steps in the behavioral sequence. Children were asked why they would say no, were provided with the correct response, and were asked to repeat the correct response. Therefore, children in the traditional group did not receive a cognitive foundation for performing refusal behaviors and their learning and appreciation of such skills was not enhanced. This is further supported by Jones et al. (1989) who showed that providing children with both behavioral skills and a rationale for the skills is apparently most influential in producing significant behavior change.

Children in the rehearsal-plus condition were trained in simulated situations from the immediate school and neighborhood environment, such as the school bathroom, where they might find themselves when first offered a drug (Jones et al., 1990). Conversely, the traditional method exposed children to numerous situations which were not drug-related. This use of familiar and immediate surroundings in the rehearsal-plus condition increases the likelihood that the children will

be able to recall and utilize the information acquired. Similar rationale for the use of familiar and relevant situations was used in the Evans et al. (1977) study in which students were "inoculated" so they could handle situations in which they were likely to find themselves in the future that could lead to drug use.

Additionally, children in the rehearsal-plus condition also outperformed children in the traditional and control groups in the untrained situations on number of correct sequential responses. These were novel situations in which subjects were assessed, but not trained, to test for generalization of behaviors. This significant finding suggests that both the acquisition and generalization of skills can be enhanced by the rehearsal-plus procedure. The ability to facilitate generalization of these behaviors in other relevant contexts is of extreme importance.

Decision making has been identified by several researchers as one of the key ingredients of drug education programs (Bradley, 1988; Botvin, 1985; Falck & Craig, 1988). Theoretically, decision making skills will enable children to more fully utilize drug knowledge and be better prepared to make decisions involving health-compromising behaviors that may go against social norms. Both the rehearsal-plus and traditional conditions received decision making training, however, children in the rehearsal-plus condition significantly outperformed the traditional and control conditions. The rehearsal-plus condition utilized a decision making component borrowed from Church et al. (1990). Children were asked what three things they would do in three different drug offering situations. Correct answers, rehearsal, review and discussion were also provided. Similarly, children in the traditional condition were asked what three things they would do in nine different situations, none of which were drug related. However, in the traditional condition, children's scores did not change from pre- to post-test. Since children in the rehearsal-plus condition were behaviorally trained in the same situations that were presented in the decision making component, it is possible that the combination of discussion (cognitive) and training (behavioral) helped children to acquire more fully the information. Also, given the number of different situations that children were exposed to in the traditional condition, the correct responses were not presented in a relevant context (i.e., drug offering situations). Therefore, children in the traditional condition may not have made the association between the decision-making skills and drug refusal behaviors. For instance, one

of the situations asked children what they would do if they were home alone and a stranger knocked at the door. Children were provided with three rules (recognize, resist, and report) to assist in making decisions to escape this situation. Therefore, children would be expected to be able to apply these decision making rules to the "home alone" situation, but not a drug-offering situation since one was not provided. This type of situation (home alone) may be more relevant for general safety education as opposed to specific drug education.

Additionally, on the rationale variable, the rehearsal-plus children significantly outperformed children in either the traditional or control conditions. This was expected since children in the rehearsal-plus condition were the only ones that received rationale education. This suggests that children receiving rationale as presented by the rehearsal-plus condition should show significant increases in rationale.

While the traditional method suffers from the aforementioned shortcomings, a significant increase was noted in drug knowledge over the control group and a significant increase over both the rehearsal-plus and control groups on the general knowledge variable. Children in the traditional group received general drug information on how to say no to drugs, how to identify drugs and medicines, and how to resist peer pressure.

Children in the traditional condition showed a significant increase in drug knowledge, as did children in the rehearsal-plus condition. Drug knowledge is a common component in most drug prevention programs (Rhodes & Jason, 1988). Different types of drugs are presented as well as their harmful effects. In the rehearsal-plus condition, children were presented with nine pictures (cigarettes, apple, aspirin, beer, candy bar, wine, marijuana, glue, medicine), and asked to identify which pictures were drugs, whether or not the picture could be a bad drug, and why the picture could be a bad drug. In the traditional condition, children were educated on the differences between medicines and drugs, and completed a worksheet that discriminated harmful drugs, prescription and over-the-counter drugs, and illegal drugs. Correct answers, feedback, rehearsal, questions, and review were provided to children in both conditions. The rehearsal-plus and traditional conditions were both successful in enhancing drug knowledge as indicated by the significant findings.

While significant increases in drug knowledge were obtained in both conditions, theoretically drug knowledge targeted by the rehearsal-plus condition may be a more focused intervention. The two conditions differ theoretically in that the rehearsal-plus condition makes use of the stage theory (Kandel, 1980), targeting the specific gateway drugs (cigarettes, alcohol, marijuana) that children of this age and environment are initially exposed to (Fleming et al., 1989; Yamaguchi & Kandel, 1984; Falck & Craig, 1988), while the traditional condition borrows from the knowledge-attitudes-behavior model (Goodstadt, 1978) which provides students with information about many different drugs and their harmful effects. There is little reason to believe it is appropriate to discuss hallucinogens, opiates, and barbiturates, for example, because few children use or have knowledge of them (Falck & Craig, 1988). For instance, in this study 91% of the children were abstinent and 9% had been exposed to gateway drugs only. The gateway drugs were also discussed in the traditional condition, however, many other drugs and medicines were included, thus eliminating the particular focus that the rehearsal-plus children received. For example, in the rehearsal-plus condition, the gateway drugs were also discussed in the other components of the program. More specifically, cigarettes, alcohol, and marijuana were used as target drugs on different days of training. Cigarettes were targeted on the first day of training, and were included in the drug knowledge, assertiveness, decision making, and behavioral components of the program. In this way, the gateway drugs are incorporated into all components of the rehearsal-plus procedure, thereby emphasizing avoidance of these drugs. Therefore, children in the rehearsal-plus condition were exposed to more focused and relevant drug knowledge (gateway drugs) that will be of greater value when confronted with their first drug offering situation.

On one of the five variables assessed in this study, general knowledge, the traditional children significantly outperformed children in either the rehearsal-plus or control conditions. This was expected since children in the traditional condition were the only ones that received general knowledge education. This suggests that children receiving general knowledge as presented by the DARE program should show significant increases in general knowledge.

Theoretically, it is hypothesized that assertiveness training will lead to greater social competence which lowers the child's level of susceptibility to drug use and other problem behaviors (e.g.

delinquency). Assertiveness skills training was a component of both the rehearsal-plus and traditional programs. However, no significant differences were found between the two groups at post-test. There are two potential explanations for this finding. Conceptually, Falck & Craig (1988) have suggested that certain social skills may be introduced at inappropriate ages. For example, most social skills programs target fifth through seventh graders, as this tends to be the age range of initial drug exposure (Botvin & Wills, 1985). While significant findings for assertiveness training have been found with these older populations (Pentz, 1985), none of the previous studies have investigated the impact of assertiveness training on third graders. Since significant increases in assertiveness were not found in any of the three groups, the findings of this study suggest that children's level of assertiveness does not impact on their drug refusal behavior. While Pentz (1985) believes that assertiveness training is important for drug refusal behavior, not all children who have poor assertiveness skills become substance users. In fact, it has been found that some children with strong assertiveness skills begin to experiment with substances (Rhodes & Jason, 1988).

There may also be a methodological explanation for these findings. Although several precautions were taken, the assertiveness scale, adopted from Botvin's (1985) Life Skills Training questionnaire, may have been an inappropriate tool for assessment. The following steps were taken in an effort to make the scale appropriate for this age group. Initially, several items were eliminated based on age-appropriateness. For example, subjects were required to rate on a scale of 1 to 5 (never-always) how they feel about certain statements i.e., "Ask for service in a restaurant when you are not getting it". Statements such as these were considered age-inappropriate for third graders and were subsequently eliminated. Additionally, the scale was revised for third graders from the aforementioned 1 to 5 (never-always) format to a 1 to 3 point scale (none-some-a lot). Notwithstanding, children may have endorsed "a lot" more frequently in the presence of an adult assessor, since most of the statements were ones concerning drug refusal, e.g., "How often would you say no to someone who offers you a cigarette". Children may have endorsed items that they thought were more acceptable to an adult. For example, when asked, "How often would you say no to someone who offers you a drug?", children were not likely to endorse "none" in the presence of the adult assessor. Future investigations should further explore the age-appropriateness of

assertiveness training, and develop an assertiveness scale that can accurately assess assertiveness skills in children of this age.

Two of the five variables assessed in this study, general knowledge and rationale, served as manipulation checks. For general knowledge, children in the traditional group significantly outperformed children in either the rehearsal-plus or control conditions. This was expected since children in the traditional condition were the only ones that received general knowledge education. This suggests that children receiving general knowledge as presented by the DARE program should show significant increases in general knowledge.

Similarly, for rationale, children in the rehearsal-plus group significantly outperformed children in either the traditional or control conditions. Rationale is an important component of the rehearsal-plus method and was expected to improve in this condition. This suggests that in addition to the influence of rationale on the acquisition of behavioral skills, children's rationale for performance of behaviors can also be enhanced.

This study has shown that two conceptually different models can foster different aspects of drug refusal behavior. That is, both the rehearsal-plus method (stemming from social learning theory) and the traditional method (stemming from the information/education approach) produced increases in drug knowledge. However, only rehearsal-plus led to significant increases in decision making and behavioral sequence. These differential findings suggest that programs that are underpinned with social learning theory may be more effective than ones that utilize other theoretical models such as the information/education approach. That is, social learning theory suggests that children can learn specific drug refusal behaviors through exposure to situations in which drugs may be offered. While the maintenance of these behaviors are yet to be determined, their generalization to novel situations has been demonstrated empirically. Not only do children learn the necessary skills to resist social pressures to use drugs, but their familiarity with drug offering situations is increased.

There are several reasons that suggest that rehearsal-plus may be a more effective method of teaching drug education than other methods. First, rehearsal-plus utilizes both cognitive (elaborative rehearsal) and behavioral (behavior rehearsal) strategies to teach drug refusal skills.

Children who acquire appropriate drug refusal skills are able to make well-informed and well-reasoned decisions concerning health-compromising behaviors (Schinke & Gilchrist, 1985). Its cognitive and behavioral components enhance the learning of such skills. Additionally, the rehearsal-plus method is a more focused intervention than the traditional approach. The rehearsal-plus method clearly provides the type of focus that drug education needs, with an emphasis on attainment of both knowledge and skills.

As social learning theory suggests, these children have been exposed to social influences that they will encounter in future years. Enhancing their ability to perform these behaviors and rewarding them for their participation encourages their use of these skills across a variety of situations. This assertion is supported by the fact that children in the rehearsal-plus condition also outperformed children in the traditional and control groups in the untrained situations on number of correct sequential responses. As alluded to earlier, these were novel situations in which subjects were assessed, but not trained, to test for generalization of behaviors. This significant finding suggests that the acquisition of skills and behaviors is enhanced by the rehearsal-plus treatment and can lead to generalization of these behaviors in other relevant contexts.

In addition to social learning theory, stage theory was used to incorporate an effective drug knowledge component within the rehearsal-plus condition. Stage theory suggests that the adoption of one drug typically leads to experimentation and/or problematic use with others. During adolescence, individuals typically experiment with a wide range of behaviors and lifestyle patterns as part of the natural process of individualization and skills development. By delaying the age of initiation into drug use, involvement with drugs is likely to be less intense, and drug use can be deterred (Kandel, 1978). This is important because a child who becomes addicted to cigarettes (to relieve tension, get high, or look grown up), may look for other ways to regulate feelings using other drugs.

Today's children often experiment with behaviors thought to be adultlike with little ability to ascertain the positive and negative consequences of such behavior (Norwood, 1985). The role-modeling of peer and adult behavior encourages or pressures children to engage in smoking, drinking, and other drug-related behaviors. As suggested by problem behavior theory (Jessor &

Jessor, 1977), substance use and abuse during adolescence are strongly associated with other problem behaviors such as delinquency, unsafe sexual behavior, and school attrition. Studies such as this one attempt to prevent this sequential chain from beginning or altering its effects so that minimal harm is done.

Summary and Recommendations

The current investigation has examined the differential effects of rehearsal-plus and a traditional drug education program on children's drug refusal behavior. This study has extended the Jones et al. (1990) study by teaching drug knowledge, assertiveness skills, and decision making skills as well as specific drug refusal behaviors. Also, gateway drugs were targeted, familiar environments were used in the simulated drug offering situations, and the original twelve steps previously targeted were reduced and simplified to nine steps. While significant findings were not obtained for assertiveness training, the drug knowledge, decision making and behavioral variables all increased significantly. These results show that children exposed to training in the context of the rehearsal-plus procedure can learn drug knowledge, decision making skills, as well as specific refusal behaviors in simulated drug offering situations. While children in the traditional group did not learn behaviors or skills as well as the children in the rehearsal-plus group, this may be a function of the generality and amount of the information presented. While these children may be learning the information, they apparently are not able to relate it to a relevant context (i.e., drug-offering situation). Based on the findings of this study, several recommendations are suggested.

For children in the early elementary years (K-4), drug education programs should provide information about specific drugs, not drugs in general. The gateway drugs (tobacco and alcohol) should receive the most attention followed by marijuana. Short- and long-term effects should be addressed, with emphasis on the former (Fleming et al., 1989). Heavier drugs such as opiates, hallucinogens, and barbituates, for example, do not need to be discussed for children of this age and

environment because so few of these individuals use them (Falck & Craig, 1988). This is also supported by the high percentage of abstinent children in this study (91%). Those children making up the 9% had only been exposed to gateway drugs.

This study has shown that children of this age can learn appropriate decision making skills for drug offering situations (i.e., say no, leave quickly, tell an adult). Future research should explore this set of skills further and possibly consider other ways of fostering social skills for third graders (Falck & Craig, 1988). Also, specific behaviors, such as those learned in the rehearsal-plus condition should be presented in such a way that the skills learned can be directly applied to the problematic situation. For example, the use of immediate or familiar surroundings such as the school bathroom, nearby woods, and the school playground may have enhanced the acquisition and generalization of these behaviors. This will help children to make the necessary link between the reality of the classroom and the reality outside the classroom.

Drug education should also attempt to include as many of the external influences, such as family, church, and community resources that could help to facilitate the health education process. Since substance abuse often occurs within the context of these influences, it would seem that an effective prevention strategy would be inclusive of the ecological contexts of which children are a part (Rhodes & Jason, 1988).

Lastly, the programs used in this study and other drug education programs should extend beyond the use of predominately white, middle-class populations. Future efforts will need to be focused on developing programs that are applicable to low SES and minority populations, where children are more at risk for substance abuse (Botvin, 1985). Cultural differences should also be taken into consideration. For example, assertiveness is commonly emphasized during communication skills training, yet in some cultures, children are taught that in many situations such behavior is disrespectful (Bobo, 1986).

Drug specific programs like rehearsal-plus should be included within a larger health curriculum. More common health concepts such as nutrition and self-esteem could be reinforced while skills such as decision making are taught. This broader health curriculum could be included at all levels of primary and secondary education, thereby eliminating the need for booster sessions with

short-term education projects (Davis, Gonser, Kirkpatrick, Lavery, & Owen, 1985; Winters, 1990). A current example of this type of curriculum is the Growing Healthy program now being implemented in several different states. Growing Healthy establishes a highly sequenced set of experiences for each grade level (K-7) with clearly stated objectives, methods, activities, and resources to be used in the classroom. One unifying theme throughout the curriculum involves the study of the human body, how it functions, and how personal choices and the environment effect it (Davis et al., 1985).

Shortcomings

While this study has attempted to enhance adaptive cognitive and behavioral responding, several shortcomings should be noted. An interesting observation was noted for all children at pre-test. Pre-test scores showed that children were performing an average of 52% of the desired behaviors, 52% of the time, but not in sequence. This suggests that on average, children of this age have knowledge of appropriate behaviors in drug offering situations, but most often do not perform them in the correct sequence, or do not perform all behaviors completely (i.e., leaving quickly to tell an adult without saying no first). This emphasizes the need for drug education programs to specify sequenced refusal behaviors. For example, the sequenced trend of the nine behaviors is to say no, leave as quickly as possible, and to tell an adult. While children may have knowledge of these behaviors, as suggested by the data, it would not be appropriate for a child to leave quickly, tell an adult, and then return to the pusher to say no.

Although rates of responding by children in the rehearsal-plus condition were significantly greater than those in the traditional or control conditions, only 14 of the 22 children obtained consistent 100% performances. This may be due to the nature of the responses. For example, children did not perform as well on behaviors that required verbal statements such as, saying "no", or "I need to talk to you" (steps 2 and 8). Children may have misunderstood the nature of the assessment process in that they were asked to "show" the assessor everything they would do,

as opposed to verbalizing what they would do. At post-test children consistently turned away from the drug person and approached the adult, but would not verbalize the statements. Assessors made an effort to clarify this by reminding children to perform the behaviors rather than verbalize them. This calls for further analysis and discrimination of verbal and behavioral responses. Additionally, assessors' instructions should be revised for further clarification. Subjects should be able to fully understand the task and whether they should verbalize or exhibit their responses. Future efforts should address the above-mentioned issues.

REFERENCES

- Akers, R. L. (1985). *Deviant Behavior*. Belmont: Wadsworth Publishing Company.
- Bandura, A. (1977). Self-efficacy: Toward a unifying theory of behavior change. *Psychological Review*, 84, 191-215.
- Berger, J. (1989). Judgement replaces fear in drug lessons. *The New York Times*, October 20.
- Bobo, J. K. (1986). Preventing drug abuse among American Indian adolescents. In L. D. Gilchrist & S. P. Schinke (Eds.), *Preventing social and health problems through life skills training*. Seattle: University of Washington Press.
- Botvin, G. J. (1985). The Life Skills Training Program as a health promotion strategy: Theoretical issues and empirical findings. *Special Services in the Schools*, 1, 9-23.
- Botvin, G. J. & Eng, A. (1980). A comprehensive school-based smoking prevention program. *Journal of School Health*, April, 209-213.
- Botvin, G. J., Baker, E., Filazzola, A. D., & Botvin, E. M. (1984). A cognitive-behavioral approach to substance abuse prevention. *Addictive Behaviors*, 9, 137-147.
- Botvin, G. J., Baker, E., Filazzola, A. D., & Botvin, E. M. (1990). A cognitive-behavioral approach to substance abuse prevention: One-year follow-up. *Addictive Behaviors*, 15, 47-63.
- Botvin G. J., & Wills, T. A. (1985). Personal and social skills training: Cognitive-behavioral approaches to substance abuse prevention. In C. S. Bell & R. Battjes (Eds.), *Prevention research: Detering drug abuse among children and adolescents*. Rockville, MD: National Institute on Drug Abuse, DHEW# (ADM) 63.
- Bradley, D. F. (1988). Alcohol and drug education in the elementary school. *Elementary School Guidance and Counseling*, 23, 99-105.
- Bry, B. H. (1985). Empirical foundations of family-based approaches to adolescent substance abuse. In T. J. Glynn, C. G. Leukefeld & J. P. Ludford (Eds.), *Preventing adolescent drug*

- abuse, (pp. 115-140). Rockville, MD: National Institute of Drug Abuse, DHEW# (ADM) 47.
- Campbell, J. R., & Swanchak, J. (1982). The primary grades: New focus for drug/alcohol education. *Early Years*, 13,34.
- Church, P., Forehand, R., Brown C., & Holmes T. (1990). Prevention of drug abuse: Examination of the effectiveness of a program with elementary school children. *Behavior Therapy*, 21, 339-347.
- Davis, R. L., Gonser, H. L., Kirkpatrick, M. A., Lavery, S. W., & Owen, S. L. (1985). Comprehensive school health education: A practical definition. *Journal of School Health*, 55, 335-339.
- DeJong, W. (1987). A short-term evaluation of Project Dare (Drug Abuse Resistance Education): Preliminary indications of effectiveness. *Journal of Drug Education*, 17(4), 279-294.
- Dielman, T. E., Shope, J. T., Campanelli, P. C., & Butchart, A. T. (1987). Elementary school-based prevention of adolescent alcohol misuse. *Pediatrician*, 14, 70-76.
- Evans, R., Hansen, W. B., & Mittlemark, M. B. (1977). Increasing the validity of self-reports of smoking behavior in children. *Journal of Applied Psychology*, 62, 521-523.
- Falck, R., & Craig, R. (1988). Classroom-oriented, primary prevention for drug abuse. *Journal of Psychoactive Drugs*, 20, 403-408.
- Fleming, R., Levanthal, H., Glynn, K., & Ershler, J. (1989). The role of cigarettes in the initiation and progression of early substance use. *Addictive Behaviors*, 14, 261-272.
- Gambrill, E. D., & Richey, C. A. (1975). An assertion inventory for use in assessment and research. *Behavior Therapy*, 6, 550-561.
- Glasgow, R. E., & McCaul, K. D. (1985). Social and personal skills training programs for smoking prevention: Critique and directions for future research. In C. S. Bell & R. Battjes (Eds.), *Prevention research: Deterring drug abuse among children and adolescents*. Rockville, MD: National Institute on Drug Abuse, DHEW# (ADM) 63.
- Goodstadt, M. S. (1978). Alcohol and drug education: Models and outcome. *Health Education Monographs*, 6, 263-279.
- Gordon, N. P., & McAlister, A. L. (1982). Adolescent drinking: Issues and research. In T. J. Coates, A. C. Petersen, & C. Perry (Eds.), *Promoting adolescent health: A dialog on research and practice*. New York: Academic Press.
- Jessor R., & Jessor, S. (1977). *Problem behavior and psychosocial development: A longitudinal study of youth*. New York: Academic Press.
- Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1986). *Drug use among American high school students, college students, and other young adults: National trends through 1985*. Rockville, MD: National Institute on Drug Abuse, DHEW# (ADM) 86-1450.
- Jones, R. T., & Randall, J. (1987). Role of rehearsal-plus on children's coping with stressful events. 23rd Annual Convention of the Association for the Advancement of Behavior Therapy: Washington, D. C.
- Jones, R. T., Ollendick, T. H., & Shinske, F. K. (1989). The role of behavioral versus cognitive variables in skill acquisition. *Behavior Therapy*, 20, 293-302.

- Jones, R. T., McDonald, D. W., Fiore, M. F., Arrington, T., & Randall, J. (1990). A primary preventive approach to children's drug refusal behavior: The impact of rehearsal-plus. *Journal of Pediatric Psychology*, 15(2), 211-223.
- Kandel, D. B. (1978). Convergence in prospective longitudinal surveys of drug use in normal populations. In D. B. Kandel (Ed.), *Longitudinal research in drug use: Empirical findings and methodological issues*. Washington, DC: Hemisphere-John Wiley.
- Kandel, D. B. (1980). Developmental stages in adolescent drug involvement. In D. J. Lettieri, M. Sayers, & H. W. Pearson (Eds.), *Theories on drug abuse: Selected contemporary perspectives*. (NIDA Research Monograph 30, DHHS) Washington, DC: U. S. Government Printing Office.
- Kazdin, A. E., & Wilson, G. T. (1978). *Evaluation of behavior therapy: Issues, evidence, and research strategies*. Cambridge: Ballinger.
- Lando, H. A. (1981). Effects of preperation, experimenter contact, and a maintained reduction alternative on a broad-spectrum program for eliminating smoking. *Addictive Behaviors*, 6, 123-133.
- Newcomb, M. D., & Bentler, P. M. (1989). Substance use and abuse among children and teenagers. *American Psychologist*, 44, 242-248.
- Norwood, G. R. (1985). A society that promotes drug abuse: The effects on pre-adolescence. *Childhood Education*, 61, 267-271.
- Pentz, M. A. (1985). Social competence skills and self-efficacy as determinants of substance use in adolescence. In S. Shiffman & T. A. Wills (Eds.), *Coping and substance use*. New York: Academic Press.
- Pisano, S., & Rooney, J. F. (1988). Children's changing attitudes regarding alcohol: A cross-sectional study. *Journal of Drug Education*, 18, 1-11.
- Rhodes, J. E., & Jason, L. A. (1987). The retrospective pretest: An alternative approach to evaluating substance abuse prevention programs. *Journal of Drug Education*, 17, 345-355.
- Rhodes, J. E., & Jason, L. A. (1988). *Preventing substance abuse among children and adolescents*. New York: Pergamon Press.
- Roberts, M. C., & Petersen, L. (Eds.) (1984). *Prevention of problems in childhood: Psychological research and applications*. New York: John Wiley.
- Rosenthal, T. L., & Downs, A. (1985). Cognitive aids in teaching and treating. *Advances in Behaviour Research and Therapy*, 7, 1-53.
- Schinke, S. P., & Gilchrist, L. D. (1977). Adolescent pregnancy: An interpersonal skill training approach to prevention. *Social Work Health Care*, 3, 159-167.
- Schinke, S. P., & Gilchrist, L. D. (1983). Primary prevention of tobacco smoking. *Journal of School Health*, 53, 416-419.
- Schinke, S. P., & Gilchrist, L. D. (1984). *Life skills counseling with adolescents*. Baltimore: University Park Press.
- Schinke, S. P., & Gilchrist, L. D. (1985). Preventing substance abuse with children and adolescents. *Journal of Consulting and Clinical Psychology*, 53, 596-602.

- Shedler, J., & Block, J. (1990). Adolescent drug use and psychological health. *American Psychologist*, 45, 612-630.
- Wills, T. A., & Shiffman, S. (1985). Coping and substance use: A conceptual framework. In S. Shiffman & T. A. Wills (Eds.), *Coping and substance use*. New York: Academic Press.
- Winters, P. A. (1990). Getting high: Components of successful drug education programs. *Journal of Alcohol and Drug Education*, 35, 20-23.
- Yamaguchi, K., & Kandel, D. B. (1984). Patterns of drug use from adolescence to young adulthood: Predictors of progression. *American Journal of Public Health*, 74, 673-681.

Appendix A

Dear Parent or Guardian,

I am a graduate student within the Psychology Department at Virginia Polytechnic Institute and State University who is interested in the area of children's stress and coping. I am being supervised by Dr. Russell T. Jones, who has developed programs that help children to cope with stressful situations. Specifically, Dr. Jones has developed programs in the area of fire safety, and drug refusal, which have been carried out in several local schools over the past six years. My specific area of interest is in drug refusal behavior of children, and we have developed a prevention program specifically for elementary school students in this area. The program has been approved by the Human Subjects Committee of the Psychology Department and the Internal Review Board of Virginia Tech.

Often children are confronted with handling difficult situations such as arguing with a friend, becoming upset when doing homework, or being approached with drugs. Many factors help determine how children cope with these situations. Our school-based program teaches children effective coping skills to deal with drug-related situations. Specifically, children are taught drug knowledge, assertiveness skills, decision-making skills, and specific behaviors that can be used in a drug offering situation. Children will be asked what they know about drugs and what they would do in different situations. Children do not have to answer every question that is asked.

The program has been approved by _____, principal of Elementary school, and _____, vice-principal. The program will be administered at the school for several days during regular school hours, and will begin in late January. Of course, all information gathered will be kept completely confidential and stored in locked files. Parents may have access to their child's results at any time.

We feel that children will benefit from these refusal skills in a time period where drug use and abuse is escalating. Any drug-related issues that children raise during the program will be answered and/or discussed. In our six years of implementing prevention programs of this nature, there have been no reports of harmful results. Children may withdraw from the program at any time. We have found some very interesting results thus far and look forward to completing the program with your child.

We will be happy to share our results with you as soon as possible. If there are any questions, please contact us or any of the others listed.

Cordially,

Sal Corbin

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Please check yes or no and return as soon as possible.

Yes, we agree to participate in this program, with the understanding that all information will be kept strictly confidential, and that we may withdraw from the program at any time.

No, we do not wish to participate.

Parent or Guardian

Student

Appendix B

ANSWER SHEET

Name _____

Subject Number _____

Sex: boy girl (circle one)

Race: Black White (circle one)

Assessment: Pre Post Follow-up (circle one)

Date _____

I. General Knowledge - "Now I'm going to ask you some questions and I want you to answer them the best you can." (Write answer child gives you.)

1. Why do we have rules?

2. Who makes rules?

3. Give an example of a school rule.

4. Give an example of a classroom-rule.

5. What are the three R's to remember for keeping safe?

6. What is a drug?

7. How can drugs be helpful?

8. Name a person who can give drugs or medicine to you.

9. Where should medicine and drugs be stored?

10. Give an example of a drug that is not a medicine.

11. Give a reason why drugs that are not used as medicines are harmful.

12. What is a way to say "no" if someone offers you a drug?

II. Drug Knowledge - "Now I'm going to show you some pictures and then I am going to ask you some questions."

1. "Is (name object) a drug?"

2. If answer to 1 is yes, ask "Can (name object) be a bad drug?"

3. If answer to 2 is yes, ask "Why is (name object) a bad drug?"

4. If child answers "no" to any question, go to next picture.

A. Cigarette

1. yes no (circle one) If yes, go to 2.

2. yes no (circle one) If yes, go to 3.

3. Why? _____

B. Apple

1. yes no (circle one) If yes, go to 2.

2. yes no (circle one) If yes, go to 3.

3. Why? _____

C. Aspirin

1. yes no (circle one) If yes, go to 2.

2. yes no (circle one) If yes, go to 3.

3. Why? _____

D. Beer

1. yes no (circle one) If yes, go to 2.

2. yes no (circle one) If yes, go to 3.

3. Why? _____

E. Candy Bar

1. yes no (circle one) If yes, go to 2.
2. yes no (circle one) If yes, go to 3.
3. Why? _____

F. Wine

1. yes no (circle one) If yes, go to 2.
2. yes no (circle one) If yes, go to 3.
3. Why? _____

G. Marijuana

1. yes no (circle one) If yes, go to 2.
2. yes no (circle one) If yes, go to 3.
3. Why? _____

H. Glue

1. yes no (circle one) If yes, go to 2.
2. yes no (circle one) If yes, go to 3.
3. Why? _____

I. Medicine

1. yes no (circle one) If yes, go to 2.
2. yes no (circle one) If yes, go to 3.
3. Why? _____

III.

Assertiveness - Give Assertiveness sheet to child. Say, "I'm going to read you the sentences that are on the page in front of you and I want you to circle over here if you think you would do this none of the time, some of the time, or a lot of the time." Make sure each child understands your instructions. Proceed to read the sentences and give the child time to circle an answer. Make sure the child circles something for every answer.

1. Say no to someone who tries to get you to smoke.
2. Say no to someone who tries to get you to drink.
3. Tell a person who is bothering you to stop.
4. Tell others what you think is wrong.
5. Leave as quickly as possible when someone offers you drugs.
6. Tell an adult when someone offers you a drug.

ASSERTIVENESS SCALE

How often would you:

- | | | | |
|--|------|------|-------|
| 1. Say no to someone who tries to get you to smoke. | none | some | a lot |
| 2. Say no to someone who tries to get you to drink. | none | some | a lot |
| 3. Tell a person who is bothering you to stop. | none | some | a lot |
| 4. Tell others what you think is wrong. | none | some | a lot |
| 5. Leave as quickly as possible when someone offers you drugs. | none | some | a lot |
| 6. Tell an adult when someone offers you a drug. | none | some | a lot |
| 7. Say no to someone who wants you to help them steal. | none | some | a lot |
| 8. Say no to a stranger who tries to give you a ride in their car. | none | some | a lot |
| 9. Tell the teacher when someone gets ahead of you in line. | none | some | a lot |

IV. Decision making - Read each of the following scenes to the child and, after reading each, ask the questions below it. "I'm going to read you something and then I'm going to ask you some questions." Prompt the children by asking them, "Can you think of anything else you can do?"

1. Let's pretend that one day you are in the school bathroom and someone pulls out a pack of cigarettes and offers you one.

A. What are three things you could do?

B. Why should you ____, ____, ____ (repeat all things child said they could do)?

2. Let's pretend that one day you are on the school playground and someone pulls a beer out of their lunch bag and offers you a drink.

A. What are three things you could do?

B. Why should you ____, ____, ____ (repeat all things the child said they could do)?

3. Let's pretend that one day you are walking home from school and a man calls you over to his car. He says he has some marijuana that other kids really like because it makes them feel good. He says he is going to let you have some for free.

A. What are three things you could do?

B. Why should you ____, ____, ____ (repeat all things child said they could do)?

IV. Behavioral Component

	Name:	Name:	Name:
	Date:	Date:	Date:
	Room:	Room:	Room:
	Rater:	Rater:	Rater:
	Situation: #1	Situation: #2	Situation: #3
Look	1. S O	1. S O	1. S O
Say "No"	2. S O	2. S O	2. S O
Turn Around	3. S O	3. S O	3. S O
Walk Away	4. S O	4. S O	4. S O
Go Into _____	5. S O	5. S O	5. S O
Find Adult	6. S O	6. S O	6. S O
Walk to Adult	7. S O	7. S O	7. S O
"I need to talk"	8. S O	8. S O	8. S O
Tell Adult	9. S O	9. S O	9. S O

	Name:	Name:	Name:
	Date:	Date:	Date:
	Room:	Room:	Room:
	Rater:	Rater:	Rater:
	Situation: #4	Situation: #5	Situation: #6
Look	1. S O	1. S O	1. S O
Say "No"	2. S O	2. S O	2. S O
Turn Around	3. S O	3. S O	3. S O
Walk Away	4. S O	4. S O	4. S O
Go Into _____	5. S O	5. S O	5. S O
Find Adult	6. S O	6. S O	6. S O
Walk to Adult	7. S O	7. S O	7. S O
"I need to talk"	8. S O	8. S O	8. S O
Tell Adult	9. S O	9. S O	9. S O

Appendix C

Grade _____

Birthday _____

SUBSTANCE-RELATED PEER PRESSURE HISTORY SCALE Age _____

DIRECTIONS: Sometimes people try to get kids to use drugs. It can happen to any kid, in many different ways. We want to find out more about how this happens. If someone has ever tried to get you to use a drug, I want you to think about what happened. Then answer the following questions.

Remember, it is alright to be completely honest when you answer the questions. Since your name is not on the paper, what you put down is not going to get anyone in trouble; so please be honest.

Please circle the right answer(s) to the questions below. Do not answer any questions that you don't feel like answering. Circle any letter next to something that has happened to you.

1. Has anyone ever tried to get you to smoke, drink alcohol, or use any other kind of drug?
 - a. Yes
 - b. No

2. If they have, what kind of drug was it?
 - a. tobacco (cigarettes, cigars, dip, chew, chewing tobacco, clove)
 - b. alcohol (beer, wine, coolers, champagne, liquor)
 - c. marijuana (reefer, joint, grass, weed, pot, ty bud, primo, indica bud)
 - d. cocaine (rock, snow white, dove, bone, crack)
 - e. pcg (angel dust, love)
 - f. pills (any kind that wasn't given to you by your parents or a doctor and candy doesn't count)
 - g. anything you sniff (glue, rush)
 - h. other (something you're not sure what it is) _____
 - i. No one has tried to get me to use drugs.

3. Where were you?
 - a. at the school playground
 - b. in the school bathroom
 - c. on the school bus
 - d. at home
 - e. at a friend's house
 - f. at a playground or park
 - g. at summer camp
 - h. in the woods or a field
 - i. at a shopping mall
 - j. somewhere else in your neighborhood
 - k. somewhere farther than neighborhood
 - l. No one has tried to get me to use any drugs.

4. Who tried to get you to use the drug?
 - a. a stranger
 - b. a friend
 - c. someone you know but who wasn't your friend
 - d. a brother or sister
 - e. a parent or step-parent
 - f. some other relative (aunt, uncle, grandparent, cousin)
 - g. a stranger or group of strangers
 - h. a group of friends
 - i. a group of kids you knew but weren't your friends
 - j. anyone else (Who? _____)
 - k. No one has tried to get me to use any drugs.

5. Who else were you with?
 - a. no one; I was alone
 - b. a friend
 - c. several friends
 - d. a classmate or several classmates
 - e. my parents
 - f. a brother or sister
 - g. some other relative (aunt, uncle, cousin, grandparent)
 - h. other (Who? _____)
 - i. No one has tried to get me to use any drugs.

6. If it was on a school day, when was it?
 - a. in the morning or before school started
 - b. during school
 - c. at lunchtime
 - d. after school or afternoon
 - e. at night
 - f. No one has tried to get me to use any drugs.

7. What time was it, if it was not on a school day?
 - a. in the morning
 - b. at lunchtime
 - c. in the afternoon
 - d. at night
 - e. No one has tried to get me to use drugs.

8. How long ago did this happen?
 - a. less than a month ago
 - b. 1 to 6 months ago
 - c. 6 to 12 months ago
 - d. over a year ago
 - e. No one has tried to get me to use any drugs.

9. What did you do when you were asked to use the drug?
 - a. I walked away.
 - b. I ran away.
 - c. I told the person I didn't want any (said "No").
 - d. I told a parent, teacher, or policeman about it.
 - e. I took some of the drug.
 - f. Something else happened. (What? _____)
 - g. No one has tried to get me to use any drugs.

10. If you did say "No", what happened?
 - a. Nothing.
 - b. I was laughed at (made fun of, teased).
 - c. They kept bothering me to use the drug.
 - d. They beat me up.
 - e. Something else happened. (What? _____)
 - f. No one has tried to get me to use any drugs.

11. What do you think would have happened if you didn't say "No".
 - a. Nothing.
 - b. I would have been laughed at (made fun of, teased).
 - c. They would have kept bothering me to use the drug.
 - d. They would have beat me up.
 - e. I don't know what would have happened.
 - f. Something else would have happened. (What? _____)
 - g. No one has tried to get me to use any drugs.

12. If you did use the drug, why do you think you did?
- a. I wanted to find out what it would be like.
 - b. I was forced.
 - c. I felt I had to.
 - d. I wanted to.
 - e. I saw everyone else doing it.
 - f. I was scared.
 - g. I'm not sure.
 - h. No one has tried to get me to use any drugs.
13. How many times has someone tried to get you to use drugs?
- a. never
 - b. once
 - c. two times
 - d. more than two times
14. Do you use drugs now?
- a. yes
 - b. no
15. If yes, what kind of drug do you use? _____
16. How often do you use this drug? _____
17. When did you start using this drug? _____

VITA

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EDUCATION

B.A. Psychology/Social Sciences
UC Irvine, June 1989

M.S. Psychology/Clinical Child
VA Tech.

Undergraduate Overall GPA 3.462
Undergraduate Major GPA 3.461
Graduate GPA 3.100

Attended:	Glendale Community College, Glendale, CA	6/87-8/87
	Pasadena City College, Pasadena, CA	6/85-12/86
	Hampton University, Hampton, VA	8/83-6/84
	Virginia Polytechnic Inst. & State Univ.	8/89-present

RESEARCH EXPERIENCE

Ethnic Community Research
University study of the attrition rate among ethnic minorities,
under the direction of Drs. John Liu and Peter Park,
Spring-1988

CLINICAL EXPERIENCE

Graduate Clinician
Psychological Services Center, VPI & SU. Supervisors: Russell
T. Jones, Ph.D., and Carolyn Pickett, Ph.D. Conducted
behavioral assessment and treatment with children exhibiting a
variety of problems such as oppositional defiant disorder.
Sept. 1989-May 1990

Graduate Clinician
Psychological Services Center, VPI & SU. Supervisors: Thomas
H. Ollendick, Ph.D., Russell T. Jones, Ph.D., and Ross Greene,
Ph.D. Conducted behavioral assessment and treatment with
children and adults exhibiting a variety of disorders.
Co-conducted attention deficit disorder assessments and
treatment.
Sept. 1990-May 1991

Coordinator

Annual Battered Women's Workshop, UC Irvine. A collaborative effort of the Blacks in Social Sciences Association and Human Options battered women's shelter involving discussion of victim experiences and interaction with students.
1988-1989

Coordinator

Psychological Services Center Date Rape Workshop, entitled "The Sexual Politics of Men", focusing on male perspectives of date rape, followed by discussion.
Fall-1990

Volunteer

Project Together/Orange County Health Agency, CA. Working with mentally disturbed youth in a Big Brother format, acting as co-therapist.
1988-1989

PROFESSIONAL EXPERIENCE

Student Representative

Executive Committee, Section 1 (Clinical Child), Division 12 (Clinical Psychology), American Psychological Association. Generating student interest, developing student network, voice for student issues.
Nov. 1990-present

Showroom Manager

MKC Floorcovering, Beverly Hills, CA. Measurements and architectural drawings, bookkeeping, pricing, deliveries, stock, general office.
May 1985-June 1989

TEACHING EXPERIENCE

Teaching Assistant

Adolescent Psychology, Adolescent Psychological Disorders, UC Irvine, under the direction of Dr. Joseph White.
Fall-1988, Winter 1989

Instructor

Gary Clark's "Why Say No" Sports Camp, Roanoke, VA. Assessment and education of inner-city youth in drug awareness and refusal.
Summer-1990

THESIS TITLE

Primary Prevention of Drug Use With Third Grade Children: A Skills Intervention Using Rehearsal-Plus. Under the supervision of Russell T. Jones, Ph.D.

PROFESSIONAL AFFILIATIONS

American Psychological Association, student member, Division 12,
Sections 1 & 6.

AWARDS AND HONORS

Navy ROTC Distinguished Honors Award, Hampton University, 1983
Navy ROTC Academic Scholarship, Hampton University, 1983

EXTRACURRICULAR ACTIVITIES

UC Irvine Big Brother/Sister Program, 1987-1989
Co-President, Blacks in Social Sciences Assn., UC Irvine, 1987-1989
Employee, Career Planning and Placement Center, UC Irvine, 1988-1989
Coordinator, Graduate School Workshops, VPI & SU, 1989-present
Member, Black Graduate Student Organization, VPI & SU, 1989-present
Volunteer, "HOT" Tutoring Program, Pulaski, VA, 1989-1990

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