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What Young Children Know About Drugs: Influences of Age, Sex, Race, and Mother's Drug Attitudes

A Thesis

Presented for the

Master of Science

Degree

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Janelle Marie Von Bargen

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ABSTRACT

The present study investigated young children's drug knowledge and attitudes. Fifty-two low income children between the ages of three and eight years were tested using two different interviews: The Pictorial Drug Knowledge Interview with Young Children (PDKIYC) and the Verbal Drug Knowledge Interview with Young Children (VDKIYC). With the PDKIYC the children were shown 11 black and white photographs of different legal and illegal substances and asked four specific questions about each photo. The VDKIYC was similar in methodology except the children were asked to discuss the same substances with verbal prompts instead of pictures. The results of the study show that young children do have attitudes towards and knowledge of alcohol and other drugs. Paired t-tests showed a significant difference in mean scores of what the young children knew about drugs when tested on the PDKIYC and the VDKIYC. Analysis of variance showed a significant effect for age on both of the interviews. The mothers of the children were given two surveys on their attitudes towards drugs. One of the two surveys, The Drug Attitude Scale for Parents, was significantly correlated with the children's score on the VDKIYC. This study supports previous findings that young children are knowledgeable about alcohol and also adds to the research that children are knowledge of and have attitudes about other legal and illegal drugs.

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Chapter I

Introduction and Literature Review

Introduction

The United States has the most significant rate of illicit drug use of any industrialized country. Every neighborhood or community, regardless of location or income level, has experienced some type of drug abuse (Johnston, O'Malley, & Bachman, 1988). Concern about the drug knowledge of children and the serious dangers posed to society by substance abuse among our nation's youth has risen. Most drug education research has not focused on young children but rather middle school and high school age children. It has been suggested that the lack of research with children of preschool and primary-school age can be attributed to the difficulty of using survey questionnaires with subjects who lack the requisite communication skills and the mistaken beliefs that young children know very little about or are too young to learn about alcohol and other drugs. However, the little research that has been done with young children has shown that they are knowledgeable and aware of alcohol and other drugs (Spiegler, 1983; Young & Williamson, 1985).

Review of the Literature

The majority of research on drug attitudes and usage in the past has focused on children between the ages of nine and 18 (Fournet, Estes, Martin, Robertson & McCrary, 1990). However, there are growing numbers of younger children

experimenting with and using drugs. Miller (1988) has reported that initial experimentation with alcohol occurs somewhere between the ages of ten and 15 years. This would suggest that attitudes about the use of alcohol are being formulated before the teen years. Research has shown that attitudinal changes are more difficult to bring about than simple behavioral changes (Wadsworth, 1971). Therefore, the need to change attitudes about drugs and alcohol must start with young children. If education is to be an effective weapon it must begin before use, misuse, or abuse occurs (Cohen, 1977).

Social Learning Theory

Social learning theorists believe that when a model is provided for a child, patterns of behavior are rapidly acquired in large segments or in their entirety (Bandura, 1962). This is contrasted with the relatively slow process of instrumental learning, in which learning occurs in small segments and over a longer period of time. Social learning theory is concerned with how children learn, often through indirect teaching, to conform to the cultural expectations of acceptable behavior. Children have the opportunity to observe and imitate their parents in many day-to-day activities, which may lead children to share their parents' values, attitudes, and characteristic response styles (Gelfand, 1969). Common to all social learning theory is the belief that environmental, situational and social, rather than biological and maturational, factors are primarily responsible for learning and development. Central to this theory is the belief that modeling, imitation and identification shape children's development.

Children learn about drugs from many different sources, and social learning

principles have been cited as one of the most important agents in young children's drug knowledge (Bumgarner, 1987). Smart and Fejer (1972) found that adolescents model their drug use after parental use. In their study of drug use among adolescents and their parents, when parents were reported to be frequent users, their children were more likely to be as well. Where parents were reported to be infrequent drug users or nonusers, their children also were likely to be nonusers. The researchers suggest that a reduction in parental use would be necessary to produce a reduction in adolescent use. There is an element of observational learning occurring with the parent serving as the model. If the extent of parental influence could be measured at an earlier point, more appropriate intervention could be applied for the child.

The impact of both family and peer influences on early alcohol and drug use is frequently studied, but two other aspects that should not be ignored are the neighborhoods in which children are growing up and the influences of models such as athletes and celebrities. Different celebrities are frequently on television either doing adds for alcohol or in the news because of their use or abuse of drugs. These models are very attractive to children because of the money they make and publicity they receive. Therefore they could be stronger reinforcers for some children than their parents as models for alcohol or drug use. No research has yet examined the impact on young children of observing neighbors, relatives, or adult friends of parents using drugs. For example, although drugs may not be in the home, children who are living in high risk and low-income neighborhoods may be observing from infancy drug related behaviors in their neighborhoods from infancy. Because these children are

routinely exposed to environmental influences, they may require direct drug education prior to entering school. See Brooks-Gunn, Duncan, Kato, & Sealand (1991) for a detailed discussion of the influence of neighborhoods on children's development.

The view of social learning theory is that most learning phenomena can occur through observing other people's behavior and the consequences for them (Bandura, 1977). Observing the behaviors that occur in our surroundings is the most basic form of learning. The models that fill these surroundings are important elements for the learning process. The influence and impact these models have on the observer will contribute to the amount of learning that occurs.

Models do more than teach novel styles of thought and conduct. Modeling influences can strengthen or weaken inhibitions over behavior that observers have previously learned (Bandura, 1971). While seeing models punished may inhibit similar behaviors, seeing others engage in threatening or prohibited activities without adverse consequences can reduce inhibitions and encourage those behaviors. Behaviors that are repeated in the same environment by numerous people soon become accepted as behaviors that are socially acceptable and therefore unencumbered by restraints. Modeling plays a major role in spreading social practices within a society, or from one society to another. As new behaviors are introduced they are adopted rapidly, and then either decline or stabilize dependent upon their functional value in that society.

If the people within a society are benefiting from the behaviors that are occurring, even if the behaviors are negative, the behaviors will be strengthened and last over.

Once the behavior is observed two representational systems made up of images and words are needed to strengthen the retention process (Bandura, 1977). Some behaviors are retained in memory by the use of images. As a result of repeated exposure, mere reference to an activity that has been repeatedly observed usually arouses its imaginal counterpart. Visual imagery plays an important role during early periods of development when verbal skills are lacking. The child may not be able to verbally recognize or recall the name of something but will be able to visualize an image. The second system involves verbal coding of events. Visual information can be converted into verbal codes for describing the event in familiar and recognizable terms. Observers who code behaviors with both images and concise labels retain information better. This process is also enhanced through repeated exposure to the behaviors.

Social learning theory and the impact of observational learning has been studied in a number of different settings. Bandura (1962) observed children during free play in preschool and found that they frequently reproduce the entire parental role, including the appropriate mannerisms, voice inflections, and attitudes. The extent to which aggression can be transmitted to children through exposure to models has been studied. Bandura, Ross, & Ross (1961) had one group of children observe an aggressive model who exhibited forms of physical and verbal aggression towards an inflated doll. Another group observed a very subdued model, and children in a control group observed no models. The results of the study show that children who observed the aggressive model exhibited twice as much aggression as did subjects in the non-

aggressive group or the control group. The children who observed a subdued non-aggressive model expressed significantly less aggression than the control children. The results also showed that the children who observed the aggressive model displayed a great number of precisely the same aggressive acts, whereas these responses did not occur with either of the other groups.

Another area of research that is conducted to better understand the impact of social learning is fear modification through modeling. Bandura, Grusec, and Menlove (1967) found that well-established fears and inhibitions can be eliminated through observation. Nursery school children who were fearful of dogs watched eight brief sessions of a model interacting with a dog. Two-thirds of the children overcame their fear shown by their willingness to remain alone in a playpen with the dog confined in the room.

The power of observational learning and influence of models is apparent as shown by the above studies. It is believed that attributes such as standards of achievements and self-evaluation, patterns of emotional responsivity, syntactic styles, moral judgmental orientations, and patterns of self-gratification can all be learned through observations of adults and peers. Knowing that these characteristics are capable of being learned through observation, the extent to which drug behaviors and attitudes are being learned through observation needs to be studied in greater detail.

Developmental Issues

According to Piaget's theory of cognitive development, children between the ages of two and 11 make transitions through two developmental stages, preoperational and concrete operational. During these two stages children rely first on their perceptions

and then on concrete ideas and events. In the preoperational stage, ages 2 to 7, children rely on perception rather than on logic. They use what they see to formulate ideas or opinions. In the concrete operational stage, ages 7-11, children are able to use rules of logic but they are tied to real, concrete objects and events. It is not until children are older than eleven that they are able to think in abstract ways. In order for young children to be knowledgeable about alcohol and drugs they would have to learn what they know by observation or participation. During the preoperational and concrete operational stages children are not at the developmental levels that would allow them to correctly assess the effects that drugs and alcohol have on the body or differentiate between different drugs.

The ability to remember things that are seen and recall them later is a process that improves with age. For the stages of memory that involve little cognitive processing, young children might not perform very differently from older children but when processing strategies are necessary, there are greater differences between younger and older children. Short-term memory is similar between younger and older children because no rehearsal or strategy for recall is needed. However with long-term memory, younger children are consistently poorer than older children in their recall ability. Perhaps for older children the "storage" area becomes larger, appropriate memory strategies appear spontaneously, children are simply better motivated and better able to pay attention, or all three are present in order for memory to improve (Cairns & Valsiner, 1984).

Due to different developmental levels, children look at pictures in different ways.

Travers (1969) investigated the differences in what children at different ages describe in pictures. He found that four and five year old children remained fixated on a single object and were less likely than six, eight, and 10 year old children to respond to anything else in the picture. When asked follow-up questions, the younger children were three times more likely to repeat what they had said to the previous question than were the older children. The older children expanded their perception with each question and each picture that they saw, but the younger children did not.

Assessment Issues

Preschoolers' knowledge and attitudes can be very difficult to assess. They may not have well-developed verbal skills, may not be able to sit attentively for very long, and, more often than not, are not concerned with compliance in order to please the examiner (Meier, 1973). As Graham and Berman (1961) pointed out, the younger the child, the greater the effect of age on any performance.

How do young children's age-related characteristics influence the choice of assessment instruments or strategies used. One issue relates to the most appropriate way to measure what children know. If the children are unable to read or write an alternative method other then a written survey must be used. Most often an individual interview is conducted along with sometimes using a prompt such as a picture or a real object. Although these methods are time consuming they may be the best way to accurately measure what is being assessed. The use of prompts or pictures is effective because young children are able to actually see the object or touch it, which may be needed during the preoperational or concrete operational stage of development. The

Children's Apperception Test (CAT) (Bellak & Bellak, 1961), The Pictorial Scale of Perceived Competence and Acceptance for Young Children (Harter & Pike, 1980) and the Roberts Apperception Test for Children (Roberts, 1982) are all examples of well known tests that use pictures when assessing young children.

Children's Drug Knowledge

Early research in the area of children's drug knowledge began with investigating their knowledge of the basic concept of a drug. Korn (1978) interviewed 48 first graders and 37 third graders and found that all of the third graders and 54% of the first graders had some concept of a drug. The third grade children gave detailed information on drug descriptions, motives for using drugs and drug names. The children most frequently reported parents as their main source of information, followed by the television. Another study involved interviewing 64 children, grades K-6, about their understanding of medicines and drugs (Bush & Davidson, 1982). Seventy-two percent of the children reported having asked for medicines and 19% reported buying medicines. There was still considerable confusion about medicines and "bad drugs", which led the researchers to conclude that there is a need to provide integrated information about medicines and abusable substances to younger children.

Tobacco Studies. In looking at children's knowledge of more specific drugs, the two most frequently studied substances are tobacco and alcohol. Young and Williamson (1985) interviewed 112 kindergarten children in Arkansas concerning recognition, use, and expected use of smokeless tobacco. They found that 81% of the children recognized the product, 68% knew someone who used it, 21% had used the

product, and 35% expected to use the product in the future. There were significant relationships between personal and expected use, knowing someone who used the product and seeing it used in the home. This shows the impact of parents and other adults as role models. Harris and Ford (1988) surveyed 204 fifth graders from rural New Mexico on their use of tobacco products and found that 45% of the children had tried smoking at least once, 33% had tried chewing tobacco and 5% had tried dipping smokeless tobacco.

Alcohol Studies. Numerous studies have demonstrated that young children are well aware of alcoholic beverages and the social context of their consumption (Gaines, Brooks, Maisto, Dietrick & Shagena, 1988; Noll, Zucker, & Greenberg, 1990). Gaines et al. (1988) have shown a link between the extent of parental alcohol use and children's early ability to label alcoholic beverages. Eighty children from grades K, 3, 6, and 8 were interviewed on their understanding of adult drinking and motives for drinking. The children were read three vignettes of drinking motives: escape from painful affect, facilitation of social interaction, and celebration of a positive event. The results revealed relationships between parental drinking (witnessed by the child) and the child's knowledge of drinking motives; between parental drinking and the child's stated intentions to drink, and between cognitive developmental variables and the child's understanding of drinking. As expected, kindergartners' answers were less mature than third graders', who in turn were less mature than sixth and eighth graders in explaining why people drink.

Noll, Zucker, and Greenberg (1990) tested preschoolers' recognition of alcoholic

beverage odors and whether this ability was related to parental drinking patterns and motivation. They found that children between the ages of 30 and 72 months could identify alcohol by smell alone. If the children could not label a smell or labeled it incorrectly, they were given a second chance and shown pictures of the substance to help them remember the names of the odors they were smelling. Success in labeling the odor was related to the use of additional variables such as seeing the picture, prior exposure, more frequent parental drinking, and age.

Jahoda, Davies, and Tagg (1980) were some of the few early researchers who used pictures to assess what children know about alcohol. They used a set of twelve colored pictures of bottles, six of alcoholic drinks (e.g. whiskey, vodka, and beer) and six of non-alcoholic drinks (e.g. tomato juice, lemonade, and cola). First, the child was shown a drawing of a child of the same sex, then of the opposite sex, and then two of adult figures. With each drawing the child was asked to pick three of the pictures of bottles that the person in the drawing would like. The child was then asked to identify the names of the bottles in the pictures. The results revealed that one-third of the youngest children, 4 to 5.5 year olds, could differentiate what was appropriate for children and adults to drink. In labeling the names of the bottles, more of the older children, 6.7 to 7.6 year olds, could correctly label the alcoholic bottles.

Spiegler (1983) also used pictures to assess six to 10 year old children's attitudes toward alcohol. In this study, by using pictures of people doing different activities (smoking, drinking, reading and talking on the phone) it was found that the children's judgments of drinkers became increasingly unfavorable while their judgments of non-

drinkers became increasingly more positive with age. The data also showed that men were perceived as liking alcohol-related activities more than either women or children.

More recently Fournet, Estes, Martin, Robertson, & McCrary (1990) surveyed 2,290 children in grades 5-12. The questionnaire not only measured their attitudes toward alcohol and drugs but also their frequency of use. They found that, regarding the use of alcohol and other drugs, reported usage increased with age. Thirty percent of the seventh graders reported drinking alcohol, as well as 75% of the 12th graders. With marijuana, 10% of the fifth graders and 53% of the 12th graders reported having used the drug at least once. One interesting finding showed that fifth graders, rather than ninth or twelfth graders were more likely to report thinking alcohol was a drug, 82%, 67%, and 73% respectively.

To date, the research done with young children has focused on their knowledge of what a drug is and their attitudes towards tobacco and alcohol. The results show that young children do have opinions about and knowledge of these substances. However, some of their information is not correct and there is some confusion about which substances may be dangerous. Researchers need to find out what children know about other types of drugs to be able to offer them developmentally appropriate information.

There is a lack of research on the drug knowledge of very young children. There also is a lack of data on what they know about drugs other than tobacco and alcohol. This is the result of two factors. First, it is difficult to assess what young children know. And second, it is generally assumed that young children have little involvement with or understanding of other drugs. The purpose of the present study

was to look at the relationship between children's drug knowledge using a pictorial versus interview format. The second purpose was to look at this relationship based on the child's age, sex, and race, as well as mother's attitudes toward drugs. The third purpose was to find out what a group of high risk young children know about 11 specific drugs.

Chapter II

Methods

Research Questions

The questions that guided this research were as follows:

1. What is the relationship between children's drug knowledge scores using pictorial versus verbal interview formats?

2. What is the relationship between children's drug knowledge scores with a pictorial interview and:

   a. age of child

   b. sex of child

   c. race of child

   d. mother's attitudes toward drugs

3. What is the relationship between children's drug knowledge scores with a verbal interview and:

   a. age of child

   b. sex of child

   c. race of child

   d. mother's attitudes toward drugs

4. What do young children reveal about specific drugs with a picture interview and a verbal interview?

a. beer
b. cigarettes
c. cocaine
d. cola
e. glue
f. heroin
g. liquor
h. marijuana
i. prescription pills
j. spray paint
k. wine

Sample

The sample consisted of 52 children and their mothers living in two low income housing projects in Knoxville, Tennessee in 1990. The children were recruited from two of the Knoxville Boys and Girls Clubs and one Knoxville Headstart. The children were between the ages of three and eight years old. The numbers in each age group were: three year olds (2), four year olds (22), five year olds (3), six year olds (4), seven year olds (11), and eight year olds (10). The mean age for the children is 5.8 years. Thirty of the children were Black and 22 were White. Thirty-two were female. The mean age of the mothers was twenty-nine and each family had an average of three children. Thirty-one (59%) of the mothers were single mothers, either divorced or never married and 18 (36%) of the mothers had not completed high school or obtained a GED.

The following figures emphasize the high risk nature of the two housing projects where these children live (Knoxville Community Development Corporation, personal

communication, August 1990): 1) over 80% of the households are single parent families, 2) the average household income is under $5,000, 3) over 80% of the households are on public assistance, 4) the average monthly rent for an apartment in these projects is under $90, 5) approximately 10% of the households report no income, and 6) over 90% of the heads of the households are unemployed. Due to the high level of illegal activity and violence, the city police as well as the Knoxville Community Development Corporation (KCDC), the agency operating the housing projects, assign full-time officers to these areas. According to the Knoxville Police Department records the city averages approximately 12,000 calls per month. Approximately 230 of these calls are to dispatch an officer to one of the housing projects and 140 to the other housing project each month.

Method

Approval by the University of Tennessee Human Subjects Committee was given before any testing was done. Each child was given two tests that were developed by the researcher: The Pictorial Drug Knowledge Interview for Young Children (PDKIYC) and The Verbal Drug Knowledge Interview for Young Children (VDKIYC). All 52 children were tested at the Boys and Girls Club or Headstart where they attended. The children were tested individually by a graduate student who was trained in the methodologies and trained to make the child feel at ease. The child was given the PDKIYC, then offered a break and a snack before starting the VDKIYC. All interviews were tape recorded for later scoring. The interview session lasted approximately 40 minutes. Each mother was given two surveys. The first

survey, the Drug Education School Evaluation Instrument (DESEI), was adapted from one developed by Kim, Newman, and Mayo (1985). The second survey, Drug Attitude Scale for Parents (DASP), was developed by the researcher. The likert-type surveys were given to the mothers in their homes and assistance with reading the questions was offered if needed.

Instruments

Pictorial Drug Knowledge Interview With Young Children. Eleven, three by five, black and white photos of different legal and illegal substances were used in the interview. The photos were taken by a faculty member in the Department of Child and Family Studies at the University of Tennessee. The photos were shown to a police narcotics officer and then field tested with two children, ages four and six years old, to confirm the content validity of the photos and develop an appropriate interview method. The pictures included beer, cigarettes, cocaine, cola, glue, liquor, marijuana, prescription pills, spray paint, a syringe, and wine (2). The cola was used to assess the knowledge of caffeine. The syringe was included to assess knowledge of heroin. One of the wine pictures was of a brown paper bag crumpled around a wine bottle. The wine bottle was not visible. Appendix A shows the photographs used in the PDKIYC.

The photos were used four different ways in the PDKIYC. First, the photos were numbered and shown to the child one at a time. The child was asked, "What is the name of this?" and "Can you tell me anything else?".

Second, all of the pictures were spread out in front of the child on the table and

the child was told, "Tell me anything you want about these pictures." The child was instructed that it was permissible to pick up or point to any of the photos. As the child pointed to or talked about the different photos the number was repeated by the interviewer in order to be included on the tape recording for later scoring.

Third, the photos were picked up and laid out in front of the child again. The interviewer asked, "Are any of these pictures of drugs?" The child was instructed to pick up or point to the pictures that were drugs. The interviewer repeated the picture numbers to be included in the tape recording.

Finally, the photos were picked up then laid out in front of the child for the last time. The interviewer asked, "Are any of these bad?". The child was again instructed to pick up the ones that were bad. As the child picked up the pictures, the interviewer then asked, "Why is this bad?" Again, the photo number was repeated.

After all the interviews were conducted, each tape was scored based on the information given during the interview. Each child received a total score along with a score for their knowledge of each substance, as well as their ability to label substances as drugs, describe the method of use of the substances, identify the dangers of use, describe where the substance could be obtained, and provide correct additional information. The scoring sheet and definitions of scoring categories can be seen in Appendix B.

Verbal Drug Knowledge Interview With Young Children. After completing the PDKIYC the children were given a snack and allowed to rest before starting the VDKIYC. The VDKIYC was designed to be similar to the PDKIYC in methodology

with the exception that the children were asked to discuss substances by verbal prompt rather than by looking at pictures. The same substances were discussed one at a time. For each substance the child was asked the same four questions. "What do you know about (interviewer inserts the name of substance)? "Are there other names for this?" What things do people do with ___?" "Is this bad for someone?" If the child indicated that the substance could be harmful additional probing questions were asked concerning how it could hurt someone. The VDKIYC was scored using the same scoring sheet as was used with the PDKIYC. The intercoder reliability was .85 between the developer of the scoring procedure who was also a faculty member in the Department of Child and Family Studies and the graduate student who did the scoring of both the PDKIYC and VDKIYC tapes.

Drug Education School Evaluation Instrument. The DESEI was given to the mothers in their own home by a trained graduate student. The mothers were asked to answer the survey honestly and told to leave any questions blank they did not want to answer. A likert-scale was used to rate their degree of agreement with each question with one equaling strongly agree and five equaling strongly disagree. The rank order was reversed when "strongly agree" corresponds to positive responses. The original DESEI (Kim, Newman, & Mayo, 1985) was a three part survey used to evaluate drug knowledge, attitudes, and intentions. For this study, 22 of the 30 questions from the drug attitude section of the original instrument were used. The goal was to shorten the instrument due to the characteristics of the sample. The theoretical framework behind the development of this instrument is one that incorporates both socialization and

environmental forces with drug involvement and attitudes. The original instrument was field tested with young adults who would be at the same reading level as most of the mothers involved in the current study. Kim, Newman, and Mayo (1985) reported the reliability for the attitude scale was .94. They also reported that when they compared drug attitude scores of individuals who were identified as current drug users, with those who were non-users, the attitude scores for current users were lower than those who were non-users.

The questions used in the present study were ones that pertained to general attitudes about using and selling drugs. Examples of the questions are: "If you sell illegal drugs you ought to go to jail", and "People who sell drugs to children should be punished". The reliability for the 22 question DESEI was .80 for the mothers of the children involved in this research. A copy of the DESEI is contained in Appendix C.

Drug Attitude Scale for Parents. The DASP was given to the mothers after completing the DESEI. The mothers were given the same instructions for completing this survey as they were for the first one. This 12 question survey pertained to attitudes about where and how children learn about drugs. Some examples of these questions are "Children do not need drug education until they are teenagers" and "It is alright for children to see their parents drink." Some of the questions were reversed so that a higher score meant a more acceptable answer. Reliability for the DASP was .61. A copy of the DASP is contained in Appendix C.

Chapter III

Data Analysis

Results

Data were analyzed using paired t-tests, ANOVA and Pearson R Correlations at the .05 level of significance. The results of the study showed that the scores on the PDKIYC and the VDKIYC were significantly correlated ($r=.44$, $p<.01$). However, there was a significant difference in mean scores on the PDKIYC and VDKIYC ($t(41)=8.11$, $p<.01$), 27.41 (SD=9.43) and 16.31 (SD=7.59), respectively.

When the PDKIYC and the VDKIYC were combined several of the drugs were significantly correlated. Table 1 *[1] shows the correlations for the drugs. Scores on "cigarettes" were significantly correlated with "beer", "wine", and "cola". Scores on "whiskey" were significantly correlated with all of the other categories except "glue". Cocaine, heroin, marijuana, and spray paint were not included in the table. Cocaine and heroin were not significantly correlated with any of the other drugs. Marijuana was only correlated with beer ($r=.58$, $p<.05$) and spray paint was only correlated with glue ($r=.66$, $p<.01$). For the other scoring categories "method" was correlated with "label" ($r=.56$, $p<.05$) and "bad" ($r=.47$, $p<.05$). The brown paper bag around the bottle of wine was not included in the scoring because the majority of children thought beer was in the bag and gave the same information they gave for beer.

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[1] * All tables may be found in Appendix D.

The sample was divided into two age groups. Group 1 consisted of 28 three, four, and five year olds, and Group 2 consisted of 24 six, seven, and eight year olds. Analysis of variance was conducted for each category by age group. The sample size was different for each category because of the way the information was scored. If a child gave no information about a substance or the information was incorrect no points were given and, therefore the child was not included in the sample size for that category.

PDKIYC

Table 2 shows age group means for each category on the PDKIYC. Beer, cigarettes, and prescription pills were discussed by 45 of the children with approximately three facts provided about each of the substances. Twenty-six of these were three to five year olds and 19 were six to eight year olds. Glue, and cocaine were discussed by the least number of children with the least amount of information given about glue. Thirty-two children provided an average of one correct fact each about glue. Twenty-eight children provided an average of two correct facts about cocaine. In the other scoring categories "label", "identify", and "bad" had the most information. Forty-six of the children correctly labeled an average of six substances and forty-three children identified an average of six of the substances as drugs. Thirty-seven children identified an average of six of the substances as "bad". The least number of children talked about the "sources" for obtaining the substances and the correct effects, 12 and 10, respectively. They gave only one or two facts about these categories.

Analysis of variance showed a significant age effect for the PDKIYC, $F(1,45)=6.76$, $p<.01$. Group 1 had a mean of 24.56 (SD=2.86) and Group 2 had a mean of 31.47 (SD=4.06). Race and sex were not significant. Cigarettes and cocaine were the only two substances to show a significant age effect, $F(1,44)= 5.89$, $p<.01$ and $F(1,27)=5.51$, $p<.02$, respectively. The mean for cigarettes was 3.04 (SD=1.25) for Group 1 and 3.89 (SD=1.05) for Group 2. For cocaine Group 1 had a mean of 1.73 (SD=1.03) and Group 2 had a mean of 2.77 (SD=1.30). For the other scoring categories "label" had a significant age effect, $F(1,45)=7.92$, $p<.01$. Group 1 had a mean of 6.07 (SD=1.88) and Group 2 had a mean of 7.63 (SD=1.80).

VDKIYC

Table 3 shows age group means for each substance with the VDKIYC. Forty-two of the children discussed beer and cola during the verbal interview (one or two facts given), 23 were 3-5 years old and 19 were 6-8 years old. Forty children discussed prescription pills with an average of 2.8 facts per child. Twenty-two were younger and 18 were older children. Only thirteen children discussed heroin (about one fact per child). For the other scoring categories forty-four children discussed the method of use of approximately 6 substances. The category "effect" was the least mentioned with only eleven children discussing the effects of one of the substances.

For the VDKIYC analysis of variance showed a significant age effect, $F(1,44)=29.22$, $p<.01$. The mean score was 11.85 (SD=4.46) for Group 1 and 22.42 (SD=6.11) for Group 2. No other effects (race, sex) were significant for the VDKIYC. Four substances: 1) prescription pills, 2) cigarettes, 3) glue, and 4) cocaine

showed significant age effects on the VDKIYC. For cigarettes, $F(1,38)=17.17$, $p<.01$, the mean was 1.67 (SD=.73) for Group 1 and 2.78 (SD=.94) for Group 2. For cocaine, a significant age effect was evident also, $F(1,30)=9.74$, $p<.01$. Group 1 had a mean of 1.62 (SD=.76) and Group 2 had a mean of 3.00 (SD=1.45). A significant age effect was revealed for glue, $F(1,35)=5.19$, $p<.05$. The mean for Group 1 was 1.22 (SD=.42) and 1.72 (SD=.82) for Group 2. Finally, prescription pills also had a significant age effect, $F(1,39)=4.98$, $p<.05$. Group 1 had a mean of 2.36 (SD=1.29) and Group 2 had a mean of 3.33 (SD=1.45).

For the other scoring categories on the VDKIYC "method", "bad", and "witness" had significant age effects. For "method", ($F(1,43)=13.71$, $p<.01$) the mean was 5.08 (SD=2.06) for Group 1 and 7.58 (SD=2.29) for Group 2. For "bad", ($F(1,41)=20.19$, $p<.01$). Group 1 had a mean of 3.92 (SD=2.22) and Group 2 had a mean of 7.05 (SD=2.26). And for "witness" ($F(1,14)=6.08$, $p<.03$) the children in Group 1 who responded only told one fact with no variation for this category while Group 2 had a mean of 2.71 (SD=1.97).

Case Example

To illustrate age differences in responses two case examples are presented. Table 4 shows examples of the responses of two children to the first question of the PDKIYC. One Black male was chosen from each age group. Johnny was the name of the five year old boy and Matt was the name of the eight year old (both are fictitious names). Matt had a total score on the PDKIYC of 34 compared to the mean score for his age group of 31. Johnny had a total score of 21 compared to 24 which

was the mean score for his age group. The table shows the difference in the amount of information given by children in the different age groups. Matt was much more descriptive and more knowledgeable about the use of the substances in the pictures than was Johnny. For example, with "cocaine" Johnny said nothing about the picture whereas Matt said it was flour to make pancakes, that it looks like the drug cocaine, and that it is bad because you sniff it up your nose. For the picture of "spray paint" Johnny only identified it as spray. Matt said it was a bag and a can, drug dealers cut the bottom off and put cocaine or weed in it, and that sometimes $100.00 is in it to buy drugs.

DASP and DESEI

The DASP and the DESEI were not significantly correlated. The mean of the mothers' scores on the DASP was 22.38 (SD=4.19) and on the DESEI was 45.96 (9.17). Looking at the relationship between the mother's drug attitudes and the two interviews, only the DASP and the VDKIYC were significantly correlated ($r=.38$, $p<.05$). Higher mothers' scores on the DASP were correlated with higher children's scores on the VDKIYC. The mothers' scores on the DESEI were not significantly correlated with the scores on either of the child's interview. Tables 5 and 6 show the means on each of the questions for these two instruments. From these means it can be seen that for the DESEI mothers have negative attitudes toward drug users, that drug users and sellers should be punished, and that it is foolish to risk using illegal drugs. They were closer to being undecided about drugs giving the family or school a bad name. For the DASP the mothers reported that women should stop using drugs when

they are pregnant, and that people should not use drugs in front of their children. They were not sure about where children learn more about drugs, from their family or the people around them. Likewise they were closer to being undecided about ignoring the people around them who use drugs and whether mothers who use drugs love their children.

Chapter IV

Discussion and Implications

Discussion

The results of this study support previous findings that young children do have knowledge about alcohol and other drugs (Bush & Davidson, 1982; Johoda, Davies & Tagg, 1980). The PDKIYC and the VDKIYC appear to be effective ways to measure young children's drug knowledge. The two tests together allow assessments of both verbal and visual recognition to be conducted which gives a more complete picture of what young children know about drugs than with either method alone. Because of the developmental levels and ages of these children, using both tests proved to be necessary. For example, during the picture interview an eight year old female gave no information when she was shown the picture of cocaine. However, when asked about cocaine in the verbal interview she said it was a drug, people sniff it up their nose, and that it can kill you. Another five year old female said only during the verbal interview that you drink beer, but when she saw the picture of the beer can she identified it as beer, said little kids don't drink it, that it was a drug, and that it was bad for you. Without both of the interviews the full extent of the child's knowledge would not have been known.

Because of the characteristics and size of the sample there are limitations to the

generalizability of the results. The children involved in this study were all living in urban, low-income public housing projects in Knoxville, Tennessee. The results of the study may vary if the children were from other socio-economic levels or lived in different areas. Because of their living environments most of these children are subject to seeing alcohol and other drug use daily. Many of the children can recognize substances and know how they are used without knowing what they are called. For example, during the verbal interview when a six year old girl was asked about cocaine she said "it's a white drug and drug dealers sell it on the corner". Observational learning is occurring and children need to be taught at an early age the harmful effects of these substances.

The results support other studies showing that age has an effect on what young children know about drugs but race and gender do not (Gaines, Brooks, Maisto, Dietrick, & Shagena 1988; Korn, 1978). Because of the developmental levels of children between the ages of three and eight years, the older children were likely to convey more information about drugs. The older children were able to label more of the pictures correctly and talk about witnessing the more substances being used. The six-to eight-year old children could explain the correct method of use of more substances than the three-to five-year olds. The older children also knew that more of the substances were bad than the younger children. Also, when they were asked why the substance was bad, the older children more often gave an example why it is bad, such as "it will make you get cancer and die" and "it can hurt your heart and kill you". The younger children frequently said it was only bad because it was a drug

without given any additional information. In this study race and gender did not affect what the children knew because they all live in close proximity in the same neighborhoods and have observed similar experiences with alcohol and other drugs.

Social learning theory contends that people learn from experiences and exposure in their environment. Therefore, because the older children have had more time to witness drug use and abuse they have more knowledge of alcohol and drugs than the younger children, as shown by the case example of Matt and Johnny. Instructional media researchers report that with age, children become more capable of describing pictures with much more detail (e.g. Travers, 1969). The three to five year old children were less likely than the six to eight year old children to describe what they saw in the pictures and to add additional information they knew about the drug. As with Matt, he added that the needle may have AIDS, that drug dealers cut the bottom out of cans to store their drugs, and that beer can mess you up and make you do bad things to people. Johnny only added that beer can hurt someone because you pass out.

Between the two mother surveys and the two children's interviews, the DASP and the VDKIYC were significantly correlated. The children's scores on the VDKIYC, rather than the PDKIYC, may have been correlated with mothers' drug attitudes because the mothers' drug attitudes about where and how children should learn about drugs are repeated by the children verbally. What they hear or are told is what they say. It was conveyed in the DASP that the mothers were not sure where their children learn more about drugs from their family or other people around them. This reflects the recognition on the part of the mothers that social learning is taking place in their

neighborhoods. The mothers are aware that their children are learning about drugs from their environment as much if not more than they are learning from their families.

For both the picture and the verbal interviews beer was the substance discussed by the most of the children and for which the most information was given. Other substances discussed by most of the children were prescription pills, cigarettes, and cola. The beer was recognized by most of the children because they can see it being consumed every day in the homes and/or neighborhoods where they live. The children talked about the prescription pills and cigarettes with reference to seeing them used in the home. The cola was recognized by most of the children because they drink it themselves as well as see it in their environment, however few knew it contained caffeine. Some children made references to having seen substances on television and billboard signs. The extent of the media influence on what children know about drugs and alcohol is beyond the scope of this study.

For the PDKIYC, cocaine and glue were discussed by the fewest number of children. However, 28 and 32 of the children were able to give some information about the substances, respectively. Cocaine may not be seen around the neighborhoods in the same way it was shown in the picture, therefore, half of the children did not recognize it or give any information about it. In the photo it was loose on a piece of glass mirror. The children might have been more likely to recognize it as it is sold in small bags. The picture of glue was not recognized by the children as a drug, which points to their lack of exposure to substances that are inhaled. It should be noted that the picture of the syringe was used to represent

heroin. Although most of the children talked about the needle, none of them said it was heroin and few said it was used for drugs during the picture interview. For the VDKIYC, heroin and spray paint were discussed by the fewest number of children. Only three of the three to five year old children said anything about heroin. Ten of the older children said something about it but generally only that it was a drug.

Conclusion and Implications

The trend in the past has been to provide drug education to children in middle or high school. However, because of the increase in drug use by children at younger ages the need to educate children about drugs and alcohol must occur before use begins. This study supports the idea that young children are knowledgeable about alcohol and other drugs and have already started to form opinions and attitudes toward drug use before they enter school. Although conducting assessments of young children's drug knowledge is time consuming, it is possible to find out what knowledge they have about drugs and alcohol. One way of doing this is with the PDKIYC and the VDKIYC.

It is recommended that the two tests be used together to obtain the most information from the children about their attitudes toward and knowledge of drugs. The order in which the two interviews were conducted was the same with every child, first the PDKIYC and then the VDKIYC. The testing was conducting in this order so if the child did not know the name of one of the pictures, he or she would not just repeat the names of substances just heard during the VDKIYC. In the future testing the children on different days with each test would be suggested.

The pictures used in this study were culturally appropriate for the sample involved. However, children from other socio-economic levels and living environments may not be familiar with the same set of pictures. It would be important to investigate what substances are most frequently seen, as with some of the Southwestern studies where chewing tobacco is a popular product.

Several of the drugs were significantly correlated so some of the substances could be combined or left out of the two interviews to shorten the interview time. Beer, whiskey and wine are all significantly correlated so having only one of the three substances included in the interview would be enough to find out the children's knowledge about alcohol. However, in order to find out if the child knows the difference between beer and hard alcohol, beer would need to be shown and discussed separately. The spray paint and glue were significantly correlated because very few children knew much about either of the substances. Perhaps young children are not yet familiar with inhalants and therefore these do not need to be included in the interviews. For the additional categories, one reason "method" and "bad" were significantly correlated is that if the children really knew the drug was bad they would refer to it being bad because of the method in which it is used. "Method" and "label" were significantly correlated because if they knew the correct use of the substance they were more knowledgeable about the substance and could label it correctly.

The need exists to educate young children about the harmful effects of alcohol and other drugs. Children are learning attitudes toward these substances as well as how they are used through observations in their homes and neighborhoods. However they

are not being informed of the dangerous and harmful effects these substances can have when they are used or abused. Drug education needs to occur before use begins. There needs to be more interest and support from the federal government in order to offer drug education to young children. Also, research needs to continue with young children so that assessment instruments and methodologies pertaining to young children's drug knowledge can be improved.

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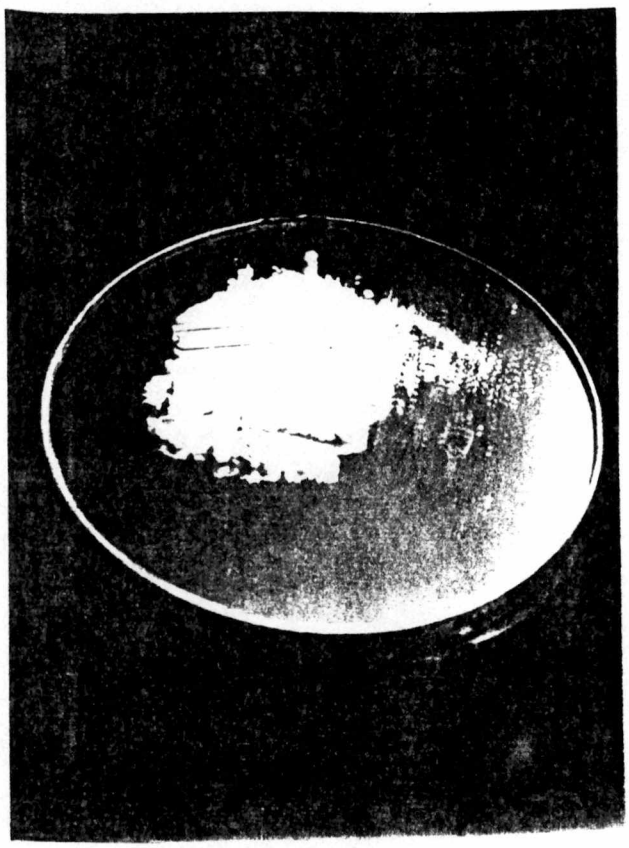
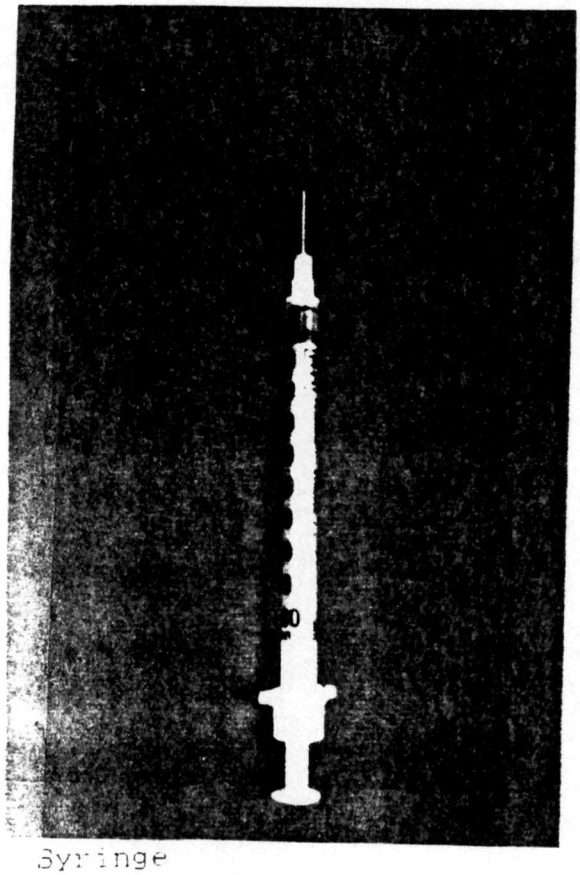
APPENDICES

APPENDIX A

Pictures used for the PDKIYC



Cocaine



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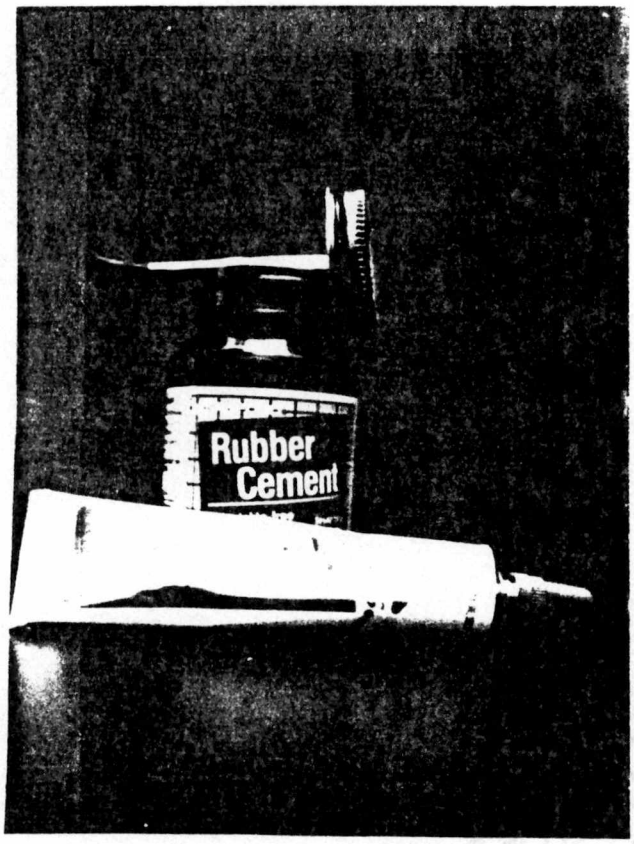

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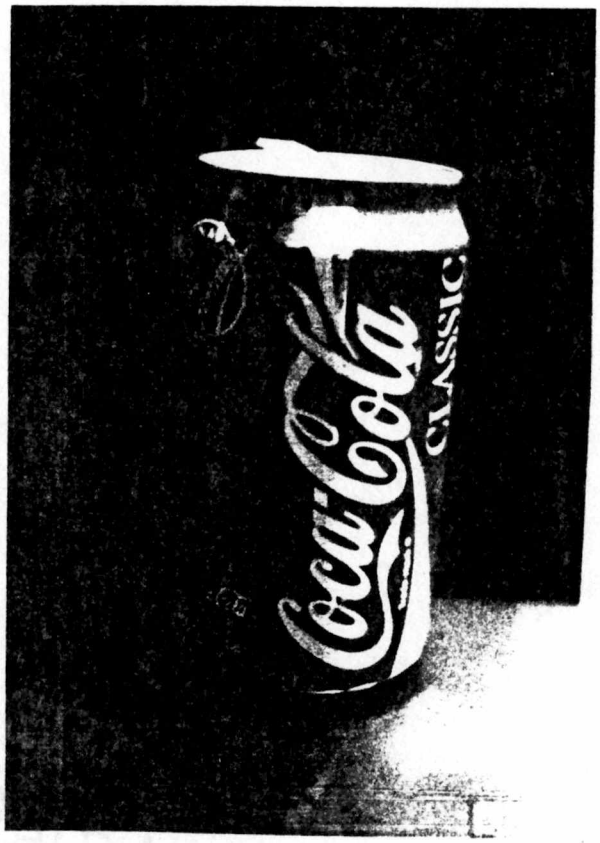

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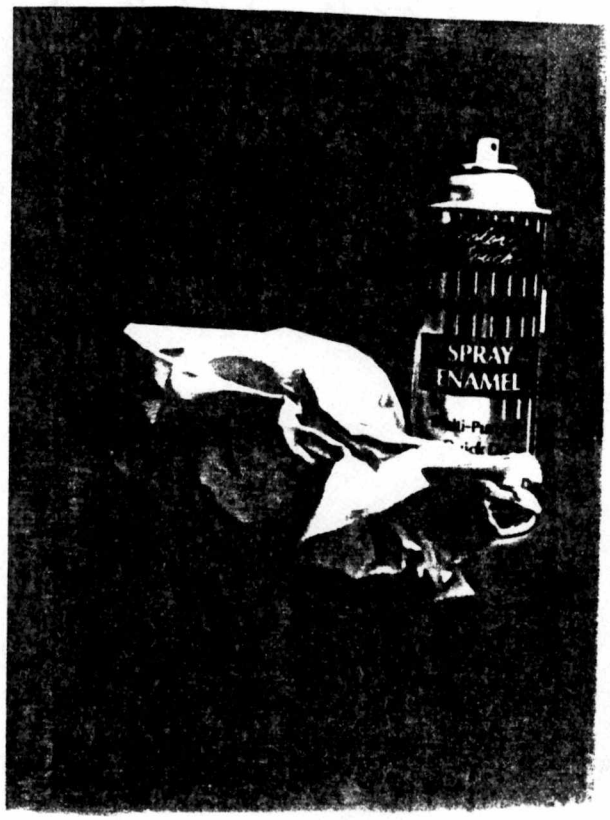
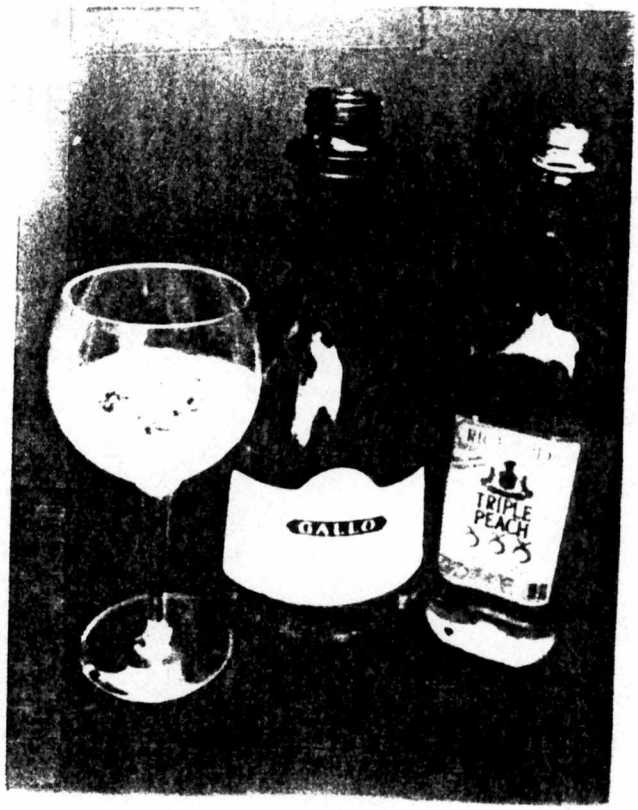


Spray



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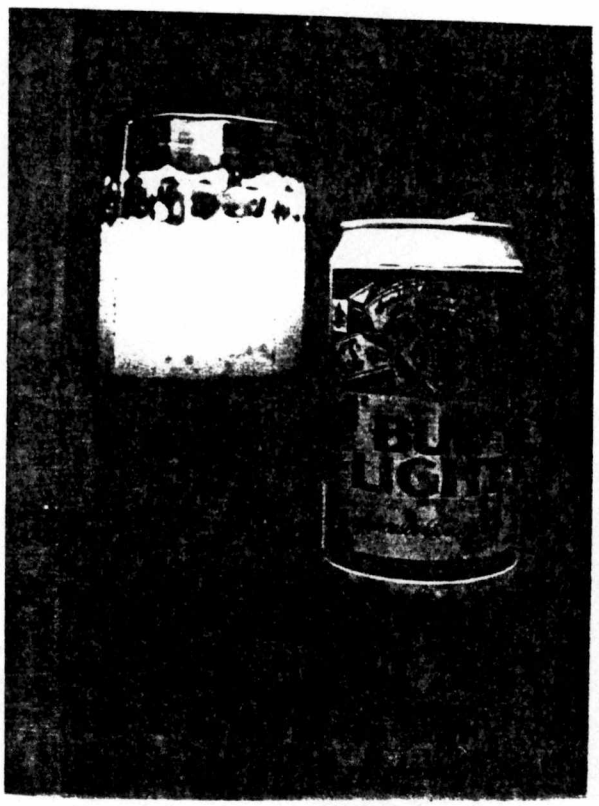
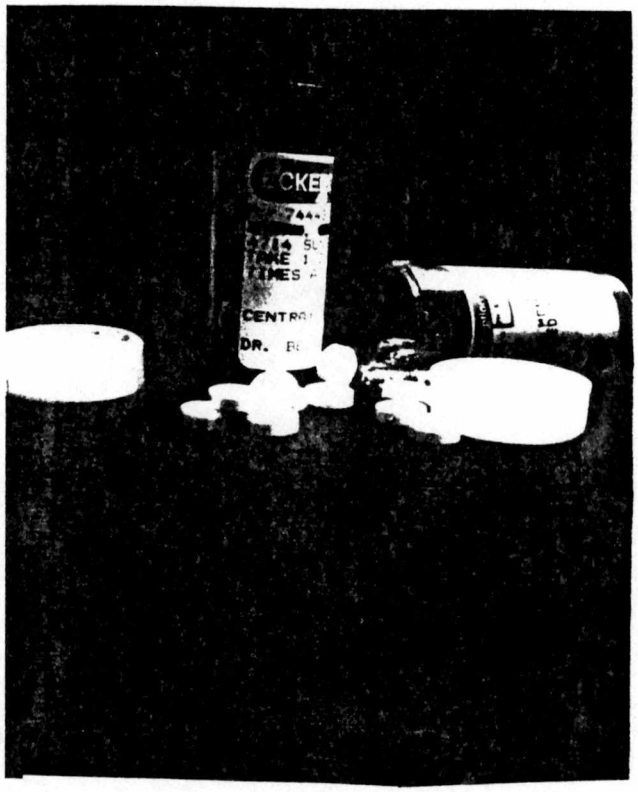
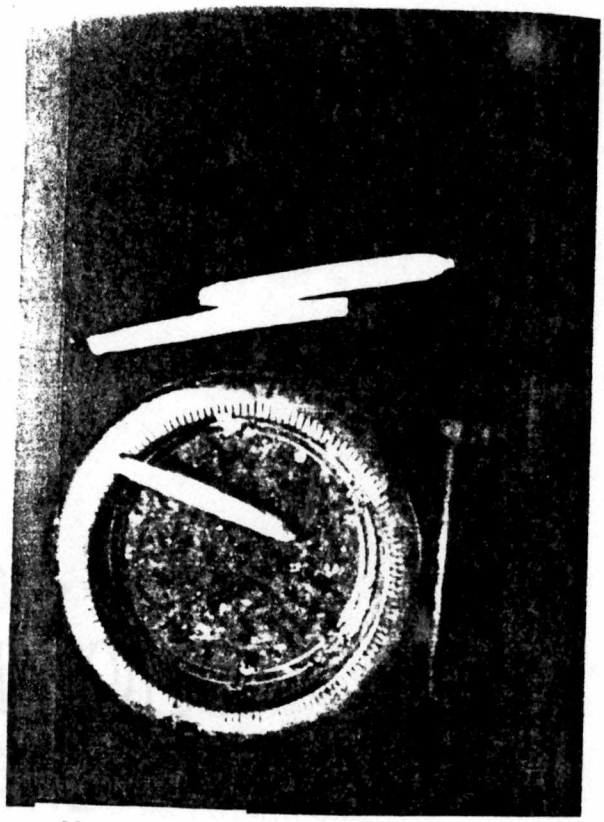


Beer



Prescription Pills

Whiskey



Marijuana

Cigarettes

APPENDIX B

Scoring Sheets and Category Definitions

Scoring Sheet for the Pictorial and Verbal Interviews

	Danger	Effect	Ident.	Label	Method	Source	Witness	Other	Total
Beer									
Cigarettes									
Cocaine									
Cola									
Glue									
Heroin									
Liquor									
Marijuana									
Pre. Pills									
Spray Paint									
Wine									
Totals									

CATEGORY DEFINITIONS FOR SCORING DRUG PICTORIAL AND VERBAL INTERVIEWS

Danger--One point for each correct negative and dangerous effect associated with a drug. These dangers may be legal or physiological. Examples might include: "it can kill you," "it can make you sick" or "the police come and take you away." Multiple points are possible for each drug.

Effects-- One point for each mention of a specific correct physiological or psychological effect. Examples might include: "it makes you feel silly," or "makes you sleepy." Multiple points are possible for each drug. Differentiate this from the "Danger" category below.

Identification--one point for identifying each one as a drug. The maximum score for this category is 11 points.

Labeling--one point for each correct name or nickname for each drug. Multiple points are possible for each drug.

Method of Use--one point for each correct description of how a drug can be used. Multiple points are possible for some drugs.

Source/Cost/Availability--One point for each piece of correct information about how drugs are obtained, where they are obtained or how much they cost. Multiple points are possible for each drug.

Witnessing Drug Use--One point for each drug if the child mentions observing someone using the drug. The maximum score for this category is 11 points.

Other--One point for each additional piece of information about a specific drug that was not previously recorded. These topics may include media influences and phrases learned from watching television or attending drug education classes (e.g. "Just say no") or value judgements about what an individual should or should not do. Multiple points are possible here.

APPENDIX C

Mother's Questionnaires

Drug Education School Evaluation Instrument

1	2	3	4	5
Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree

___ 1. People should be punished for using illegal drugs.

___ 2. People who sell drugs to children should be punished.

___ 3. People who us drugs give their family members a bad name.

___ 4. Using illegal drugs can cause serious harm.

___ 5. Students who use drugs give their school a bad name.

___ 6. Most marijuana users seem to be good people.

___ 7. It is foolish to risk using illegal drugs.

___ 8. People who use illegal drugs are emotionally sick.

___ 9. I have no bad feelings about people who use illegal drugs.

___ 10. Some drugs make you a better person.

___ 11. I am in favor of a law against using drugs.

___ 12. There is nothing wrong with me if I use drugs.

___ 13. We need stricter laws to control drugs.

___ 14. A drug addict is a sick person.

___ 15. It is fun to get high on drugs.

___ 16. It is wrong to take drugs to pep you up.

___ 17. Taking any kind of dope is pretty dumb.

___ 18. If you use illegal drugs you should go to jail.

___ 19. Taking illegal drugs is a sign of weakness.

___ 20. Illegal drugs hurt more people than they help.

___ 21. A drug addict is a better person than an alcoholic.

___ 22. I don't want to be around people who use drugs.

Drug Attitude Scale for Parents

1	2	3	4	5
Strongly Agree	Agree	Not Sure	Disagree	Strongly Disagree

___1. People who use drugs should not do it in front of their children.

___2. Women should stop using drugs when they are pregnant.

___3. Children learn about drugs mainly from their parents.

___4. Children learn more about drugs from the people around them than they do from their family.

___5. Children do not need drug education until they are teenagers.

___6. It is alright for children to see their parents drunk.

___7. Children should be allowed to take small tastes of beer or wine.

___8. It is best to just ignore the people around me who use drugs.

___9. Selling drugs is a good way to make a living.

__10. Having drugs in the house is a good way for children to learn about drug education.

__11. It is alright for fathers to use drugs but not mothers.

__12. Mothers who use drugs do not love their children.

APPENDIX D

Tables

Table 1

Individual Drug Correlations

	Beer	Wine	Cola	Cigar.	Glue	Pre. Pills
Wine	.70** (19)					
Cola	.15 (33)	.02 (17)				
Cigarette	.60** (32)	.59* (16)	.52** (31)			
Glue	.13 (23)	.18 (10)	.03 (22)	.02 (23)		
Pre.Pill	.29 (33)	.17 (17)	.05 (32)	.40* (33)	.49* (24)	
Whisk	.54** (30)	.84** (15)	.42* (27)	.72** (30)	.15 (22)	.39* (30)

( )= sample size

* $p<.05$

** $p<.01$

Table 2

Means by age for each category tested on the PDKIYC

	Age Groups					
	3-8		3-5		6-8	
Substance	n	M (SD)	n	M (SD)	n	M (SD)
Beer	45	**3.47** (1.67)	26	**3.12** (1.62)	19	**4.00** (1.49)
Cigarettes	45	**3.40** (1.23)	26	**3.04** (1.25)	19	**3.89** (1.05)**
Pres. Pills	45	**3.25** (1.67)	26	**2.88** (1.34)	19	**3.79** (1.96)
Cola	44	**2.16** (.81)	25	**2.28** (.84)	19	**2.00** (.75)
Heroin	43	**3.65** (1.44)	24	**3.38** (1.63)	19	**4.00** (1.10)
Liquor	43	**3.09** (1.31)	24	**2.92** (1.21)	19	**3.32** (1.42)
Wine	43	**2.86** (1.30)	24	**2.54** (.93)	19	**3.26** (1.59)
Spr. Paint	38	**1.57** (.83)	20	**1.70** (.92)	18	**1.44** (.71)
Marijuana	36	**2.94** (1.33)	18	**2.78** (1.22)	18	**3.11** (1.45)
Glue	32	**1.47** (.72)	17	**1.42** (.79)	15	**1.52** (.64)
Cocaine	28	**2.21** (1.25)	15	**1.73** (1.03)	13	**2.77** (1.30)*
Label	46	**6.72** (1.99)	27	**6.07** (1.88)	19	**7.63** (1.80)**
Identify	43	**6.76** (2.47)	24	**6.95** (2.92)	19	**6.53** (1.81)
Method	43	**4.65** (2.56)	25	**4.44** (2.27)	18	**4.94** (2.96)
Bad	37	**6.13** (2.95)	19	**6.11** (2.47)	18	**6.16** (2.38)
Other	36	**4.31** (2.65)	19	**4.16** (2.85)	17	**4.47** (2.47)
Witness	15	**2.60** (2.06)	6	**1.66** (1.03)	9	**3.22** (2.38)
Source	12	**1.42** (.90)	6	**1.00** (.00)	6	**1.83** (1.17)
Effect	10	**2.10** (.99)	5	**2.40** (1.24)	5	**1.80** (.84)

* $p<.05$

** $p<.01$

Table 3

Means by age for each category tested on the VDKIYC

	Age Groups					
	3-8		3-5		6-8	
Substances	n	M (SD)	n	M (SD)	n	M (SD)
Beer	42	**2.50** (1.23)	23	**2.30** (1.02)	19	**2.74** (1.45)
Cola	42	**1.76** (.87)	23	**1.78** (.95)	19	**1.74** (.81)
Pres. Pills	40	**2.80** (1.43)	22	**2.36** (1.29)	18	**3.33** (1.45)*
Cigarettes	39	**2.18** (.99)	21	**1.67** (.73)	18	**2.78** (.94)**
Glue	36	**1.47** (.69)	18	**1.22** (.42)	18	**1.72** (.82)*
Liquor	35	**2.20** (1.28)	17	**1.82** (1.18)	18	**2.56** (1.29)
Marijuana	33	**2.91** (1.51)	15	**2.40** (1.29)	18	**3.33** (1.50)
Cocaine	31	**2.42** (1.38)	13	**1.62** (.76)	18	**3.00** (1.45)**
Spray Paint	29	**1.31** (.54)	14	**1.00** (.00)	15	**1.60** (.63)
Heroin	13	**1.76** (1.16)	3	**1.67** (.57)	10	**1.80** (1.32)
Method	44	**6.16** (2.52)	25	**5.08** (2.16)	19	**7.58** (2.29)**
Bad	42	**5.26** (2.72)	24	**3.92** (2.22)	18	**7.05** (2.26)**
Other	35	**5.80** (1.56)	19	**7.42**(20.29)	16	**3.87** (2.50)
Label	23	**1.74** (.92)	9	**1.67** (.86)	14	**1.79** (.98)
Identify	19	**1.89** (1.15)	6	**1.33** (.52)	13	**2.15** (1.28)
Witness	15	**1.80** (1.56)	8	**1.00** (.00)	7	**2.71** (1.97)*
Source	14	**1.57** (1.02)	5	**1.00** (.00)	9	**1.89** (1.17)
Effect	11	**1.09** (.30)	4	**1.00** (.00)	7	**1.43** (.38)

* $p<.05$

** $p<.01$

Table 4

Quotations from the first question on the PDKIYC

Photograph	5 year old	8 year old
Glue	Glue, toothpaste	Toothpaste, cement glue
Needle	(Nothing said)	Needle, they stick you. Drug dealers use them. They are bad because they may have AIDS.
Cocaine	(Nothing said)	Flour to make pancakes Looks like that drug, cocaine. It's bad because you sniff it up your nose.
Cola	Pop, drink it	Coke, drink it. Shoot it.
Cigarette	Cigarettes	Cigarette, smoke them, it's a drug.
Spray Paint	Spray	Bag and can. Drug dealers cut the bottom off and put cocaine or weed in it. Sometimes $100.00 in there to buy drugs.
Pres. Pills	Pills, medicine	If you take too many pills and they could kill you.
Marijuana	French Fries	Looks like cigarettes or a role of cocaine.
Whiskey	Liquor, bad for you	Whiskey they drink it. Cops get the drug dealers
Wine	Beer, bad for you	Whiskey & beer. If you drink don't drive, might crush another car.
Beer	Beer. Can hurt someone because you pass out.	Bud light beer. When they drink it, mess your mind up and do bad things to people.

Table 5

Drug Education School Evaluation Instrument (n=49)

Question	Mean SD
1. People should be punished for using illegal drugs.(-)	4.14 (1.12)
2. People who sell drugs to children should be punished.(-)	4.60 (.99)
3. People who us drugs give their family members a bad name.	2.50 (1.27)
4. Using illegal drugs can cause serious harm.	1.45 (.89)
5. Students who use drugs give their school a bad name.	2.31 (1.14)
6. Most marijuana users seem to be good people.(-)	2.81 (1.14)
7. It is foolish to risk using illegal drugs.	1.45 (.82)
8. People who use illegal drugs are emotionally sick.	2.08 (1.15)
9. I have no bad feelings about people who use illegal drugs. (-)	2.57 (1.10)
10. Some drugs make you a better person.(-)	1.90 (1.14)
11. I am in favor of a law against using drugs.	1.50 (.82)
12.There is nothing wrong with me if I use drugs.(-)	1.92 (1.12)
13. We need stricter laws to control drugs.	1.60 (.97)
14. A drug addict is a sick person.	1.63 (.97)
15. It is fun to get high on drugs.(-)	1.67 (1.03)
16. It is wrong to take drugs to pep you up.	1.80 (1.19)
17. Taking any kind of dope is pretty dumb.	1.47 (.89)
18. If you use illegal drugs you should go to jail.	1.83 (.95)

19. Taking illegal drugs is a sign of weakness.	2.14 (1.04)
20. Illegal drugs hurt more people than they help.	1.45 (.79)
21. A drug addict is a better person than an alcoholic.(-)	1.53 (.68)
22. I don't want to be around people who use drugs.	1.69 (.89)

1= strongly agree
2= strongly disagree

Table 6

Drug Attitude Scale for Parents (n=49)

Questions	Mean SD
1. People who use drugs should not do it in front of their children.	1.30 (.71)
2. Women should stop using drugs when they are pregnant.	1.14 (.61)
3. Children learn about drugs mainly from their parents.	2.77(1.34)
4. Children learn more about drugs from the people around them than they do from their family.(-)	3.84 (1.16)
5. Children do not need drug education until they are teenagers.(-)	1.47 (.65)
6. It is alright for children to see their parents drunk.(-)	1.47 (.79)
7. Children should be allowed to take small tastes of beer or wine.(-)	1.32 (.59)
8. It is best to just ignore the people around me who use drugs.(-)	2.67 (1.39)
9. Selling drugs is a good way to make a living.(-)	1.37 (.78)
10. Having drugs in the house is a good way for children to learn about drug education.(-)	1.49 (.89)
11. It is alright for fathers to use drugs but not mothers.(-)	1.25 (.43)
12. Mothers who use drugs do not love their children.(-)	2.35 (1.23)

1= strongly agree
2= strongly disagree

VITA

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