

Ethnic Differences in Family Factors Related to Early Drug Initiation*

RICHARD F. CATALANO, PH.D., DIANE M. MORRISON, PH.D., ELIZABETH A. WELLS, PH.D., MARY R. GILLMORE, PH.D., BONITA IRITANI, M.A., and J. DAVID HAWKINS, PH.D.

Social Development Research Group, School of Social Work, University of Washington, 146 N. Canal, XD-50, Seattle, Washington 98195

ABSTRACT. The literature on family predictors of substance use for the general population is reviewed and compared to findings for three specific ethnic groups: black, white and Asian Americans. Rates of substance use initiation are examined in a sample of 919 urban 5th-grade students. Ethnic differences on measures of family predictors are examined and significant ethnic differences are found on several of these factors. Finally, separate regressions for black, white and Asian American youths of family factors on the variety of substances

initiated examine ethnic similarities and differences in predictors. The results demonstrate significant differences by ethnicity in family management practices, involvement in family activity, sibling deviance, parental disapproval of children's drinking and family structure. The regression equations identified unique as well as common predictors of the variety of substances initiated by the end of 5th grade. Implications of the results are discussed. (*J. Stud. Alcohol* 53: 208-217, 1992)

MOST STUDIES of drug use report that alcohol and drug use are more prevalent among white than among black or Asian-American adolescents (Bachman et al., 1981; Barnes and Welte, 1986; Byram and Fly, 1984; Gillmore et al., 1990; Harford, 1985; Kandel, 1978; Newcomb and Bentler, 1986; Zabin et al., 1986). Also, several authors have identified family factors as important correlates of adolescent drug use (e.g., Baumrind, 1983; Cotton, 1979; Jessor and Jessor, 1977; Kandel, 1982). Fewer have investigated the impact of these family factors on early substance initiation (see Ahmed et al., 1984, for an exception). This is surprising because, for a significant minority of youth, substance initiation occurs during pre-adolescence when family factors are likely to exert a strong influence. Further, early initiation has been associated with later problems of abuse (Robins and Przybeck, 1985). Even fewer studies have investigated whether these ethnic differences in drug use are due in part to parallel ethnic differences in family factors or whether they are due to ethnic differences in the ability of the identified family factors to predict drug use. This is particularly important since cultural differences among ethnic groups are often rooted in family traditions (Gomez et al., 1974; Harper, 1979) which may enhance or inhibit patterns of drug use (Glassner and Berg, 1980; Mizruchi and Per-

rucci, 1962). In addition, family characteristics such as strong bonds between family members have been shown to mediate the effects of environmental or social disadvantages in studies ranging from examining social support in stressful situations (Paykel et al., 1980; Sandler, 1980) to resilient children in high-risk neighborhoods (Werner and Smith, 1982) and children in single-parent families (Byram and Fly, 1984).

Examination of both ethnic differences in the relationship between identified family risk factors and ethnic differences in the ability of these factors to predict drug use is important for prevention efforts. If ethnic groups are differentially exposed to these family risk factors and the risk factor's ability to predict drug use is the same across ethnic groups, this would suggest that prevention efforts should perhaps concentrate on those groups with the highest exposure to the risk factor. If, instead, some of the family risk factors predict drug use for one group but not for others, this would suggest that prevention efforts should address only those risk factors that are predictive for each group.

This article organizes and summarizes existing literature on family factors associated with adolescent drug use that have been identified using data that include but do not distinguish ethnic groups of color (here referred to as general studies) and compares these findings to those for three ethnic groups of color, black, white and Asian-American youths. This summary is important to give the reader an understanding of the degree to which findings in general studies have or have not been replicated in ethnic-

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specific studies. It extends these existing studies by examining the level of impact these identified family factors have on early substance initiation in a sample of preadolescent black, white and Asian-American 5th-grade subjects. The central question is whether there are ethnic differences in the prediction of early substance initiation by family factors. Throughout, the term substance use will be used generally to describe alcohol and other drug use unless a specific substance was the object of study.

Parental and sibling drug use

Parental and sibling alcoholism (Cotton, 1979; Goodwin, 1971) and the use of illicit drugs (Thorne and DeBlassie, 1985) increase the risk of alcoholism and drug abuse in offspring. Parental substance use is associated with initiation of substance use by adolescents (Johnson et al., 1984; Kandel and Adler, 1982; Kandel et al., 1978; Kim, 1979) as well as with frequency of use (Gfroerer, 1987; Rachal et al., 1982; Zucker, 1979). Consistent correlations between parents' use of alcohol and other legal drugs and adolescent drug abuse have been shown (Bushing and Bromley, 1975; Cotton, 1979; Lawrence and Vellerman, 1974; McGlothlin, 1975). Although there may be a hereditary predisposition to abuse some substances such as alcohol (Goodwin, 1985), parents and siblings who use substances also model the behavior and provide implicit approval and tolerance of substance use. Bush and her colleagues, for example, found that parent and family modeling of substance use positively influences children's expectations to use substances, as well as their actual drug use (Ahmed et al., 1984).

A few studies have examined the impact of parental drinking on alcohol use among ethnic groups of color. Chi et al. (1988) found that among Chinese-American men parent drinking predicted whether the subject drank or not, but did not predict heavy drinking. Harford (1985) found that among both black and nonblack adolescents parent drinking was negatively associated with adolescent abstention. However, parents' drinking predicted the frequency of drinking only among nonblack adolescents.

Positive parental attitudes toward use

Positive parental attitudes toward substance use have been found to predict initiation into substance use (Kandel, 1978, 1982; Kim, 1979; Newcomb et al., 1987) and stage of substance use (Brook et al., 1986). Barnes and Welte (1986) found that adolescent abstainers from alcohol were more likely to have parents who disapprove of drinking. They also found that among drinkers parent approval was a significant predictor of the amount of alcohol consumed.

In a largely Hispanic and black population (46% Hispanic, 41% black, 6% white), Dembo and colleagues

(1982) found that family approval of alcohol use was uncorrelated with the seriousness of drug involvement in neighborhoods with a low "toughness" rating, but was significantly correlated with use in medium ($r = .13$) and high ($r = .23$) toughness areas. In their sample of Chinese men, Chi et al. (1988) found no differences between abstainers and drinkers in the proportion whose parents opposed drinking, but among drinkers those whose parents were opposed to drinking drank less. In contrast, Kitano et al. (1988) found that among adult Japanese Americans parental disapproval of drinking did not distinguish between either abstainers and drinkers, or heavy drinkers and all other drinkers.

Family management problems

Children raised in families with lax supervision or excessively severe or inconsistent disciplinary practices are at risk for later substance abuse (Baumrind, 1985; Penning and Barnes, 1982; Simcha-Fagan and Gersten, 1986). Brook et al. (1986) found that maternal overpermissiveness and inconsistency in control practices were related to a more advanced stage of substance use. We know of no studies that examine the impact of family management practices on the use of substances among ethnic groups of color.

Family involvement and attachment

Parent-child interactions characterized by lack of closeness (Brook et al., 1980; Kandel et al., 1978) and lack of maternal involvement in activities with children (Braucht et al., 1973; Penning and Barnes, 1982) appear to be related to initiation of substance use. Conversely, positive family relationships, involvement and attachment appear to discourage youths' initiation into substance use (Brook et al., 1986; Gorsuch and Butler, 1976; Jessor and Jessor, 1977; Kim, 1979; Norem-Hebeisen et al., 1984; Selnow, 1987).

Hundleby and Mercer (1987) found that adolescents' reports of parental trust, concern and involvement were negatively related to the extent of tobacco, alcohol and marijuana use, explaining between 3% and 8% of the variance. In an earlier study, Mercer and co-workers (1978) found that adolescent reports of parental warmth, support and interest were negatively related to the extent of tobacco and alcohol use by both males and females, but significantly related to marijuana use only for females.

One study (Byram and Fly, 1984) investigated the relationship between closeness to family and the frequency of alcohol use, controlling for whether adolescents lived with both natural parents or in some other living situation, in a sample of white and nonwhite youths. Interestingly, they found that for white youth closeness to family was negatively related to alcohol use only when both natural

parents were present in the home. For nonwhites, on the other hand, the relationship was significant only when children were not living with both natural parents. They also found that nonwhite children who did not live with both natural parents were closer to their families, and their networks contained fewer peers and adults who drank. The categorization nonwhite and lack of information on the ethnic composition of "nonwhites" in this study makes it difficult to draw conclusions for specific nonwhite ethnic groups. However, the results do suggest that the relationship between closeness to family and alcohol use may be affected by race and family structure.

Family structure

In their national probability sample of high school seniors, Bachman et al. (1981) found a small negative relationship between the number of parents in the home and the frequency of cigarette, marijuana and other drug use.

Murray et al. (1987) studied 7th-grade students from four school districts in Minnesota explicitly to examine race and family structure effects on alcohol use. In contrast to the Byram and Fly study cited above, they found no significant effects of either race or of family structure by race interactions, when frequency of monthly drinking or heavy drinking was the dependent variable. However, they did find that family structure alone was a significant predictor of heavy drinking, where mother-only households tended to have a higher percentage of 7th-grade heavy drinkers compared with two-parent households.

Family socioeconomic status

Studies have most frequently examined parental education and income as indicators of family socioeconomic status (SES) although measures such as household overcrowding and dilapidated housing have also been used. Bachman et al. (1981), investigating a national sample of high school seniors, found that parent education produced a slight positive relationship with marijuana use. Similarly, Zucker and Harford (1983) found that adolescents from blue-collar families were less likely to drink than were adolescents from white-collar families. They also found that adolescents in families with parents who had low education were the least likely to be drinkers, and those with parents who were college educated were the most likely to be drinkers. Murray et al. (1987) found that mother's occupation was positively related to monthly alcohol use, heavy alcohol use and marijuana use among 7th-grade students.

A few studies have examined the impact of socioeconomic status on substance use for specific ethnic groups. Kitano and his colleagues (1988) in their study of Japanese men's drinking patterns found that abstainers tended to be more educated than drinkers. They also found that

heavy drinkers tended to have lower incomes than moderate and light drinkers. They found no differences in education between heavy drinkers and moderate and light drinkers. Brunswick (1980) in a study of heroin use among inner-city black adolescents found no relationship between mother's education and heroin use. In Murray et al.'s (1987) examination of complex interactions among sociodemographic variables and substance use, mother's occupation was found to be equally positively related to alcohol use and heavy alcohol use for black and white Americans, but to be more strongly positively related to marijuana use for blacks.

The relationship between socioeconomic status and substance use appears to be complex. When the linear relationship between socioeconomic status and substance use is examined, several studies show a small positive relationship with substance use. In the few studies that have examined these relationships for separate ethnic groups, results have varied depending on the ethnic group and the particular substance examined. For white youth in Murray et al.'s study, positive relationships were found between SES and alcohol and drug use. For blacks, two studies had conflicting results. In Brunswick's study of inner-city blacks no relationship was found, while a positive relationship was found for black 7th-grade students in the Murray study. The contradictory findings for blacks may have resulted from lack of variation in SES in Brunswick's study, or because SES may have different effects on adolescents' alcohol and marijuana use (Murray) compared to heroin use (Brunswick). Finally, for Japanese men, a negative relationship was found with measures of education and income, contrary to most of the findings in the studies reported.

Although there are a number of studies that examine the impact of family factors on adolescent substance use in general populations, few studies have examined these factors within specific ethnic groups or compared results across ethnic groups. The few studies that have examined the relationship between family factors and substance use for specific ethnic groups have produced results that demand further investigation. In addition to examining bivariate relationships between particular family factors and substance use, it is important to examine family factors in a multivariate context to discover if some of the discrepancies in findings are produced because particular factors are not controlled. Finally, it is important to control for factors that often covary with race which, if not controlled, may produce results that spuriously suggest racial differences. This article adds to the literature that examines family predictors of early substance initiation and follows these guidelines for ethnic subgroups of color. Family factors identified in this review are examined for mean differences across urban black, white and Asian-American 5th-grade students. These factors are then simultaneously entered into regression equations for

each group while controlling for SES and single-parent family status.

Method

Data for this study were collected as part of an ongoing longitudinal study guided by the social development model (Catalano and Hawkins, 1986; Hawkins and Weis, 1985-86) to identify the relative contributions of childhood risk factors to the etiology of adolescent drug initiation, regular use and delinquency, and to test the effects of preventive interventions. Data collection began in 1981 with a panel of 568 1st-grade students in eight schools in the Seattle school district. In 1985, when subjects entered 5th grade, the panel was expanded to include all 5th-grade students in 18 Seattle elementary schools. Data for the present study were collected during the fall of 1985 and spring of 1986 when these students were in 5th grade.

Surveys were administered in classrooms by project personnel who read aloud each question and the associated response categories to students. Students had copies of the survey and checked their responses to each question. Students were assured that their answers were completely confidential and only codes, but no names or other identifying information, appeared on the surveys. Students were monitored to ensure that they completed their surveys independently. Surveys took approximately 45 minutes to administer. Surveys were pretested before being administered to test item grouping and wording. Items were adapted from existing instruments used to survey adolescents and preadolescents or constructed when specific concepts were not well measured in existing instruments. Readers may request additional information regarding item sources by writing to the first author.

Of the 1,053 eligible 5th graders in participating schools, 924 completed the fall survey and 919 (87%) produced usable data. In the spring, 778 (74%) of the fall respondents completed usable surveys. These completion rates compare favorably to those obtained by other researchers (Elliott et al., 1989; Kaplan et al., 1984; Newcomb and Bentler, 1986).

Subject characteristics

The 5th-grade panel of 919 students is 46% white, 25% black and 21% Asian American. About 9% are members of other ethnic groups and are excluded from the analyses presented here due to their low numbers. There are about equal numbers of male (52%) and female (48%) students. According to official school district records, 38% of the children qualify for the federally funded free lunch program, an indicator of low family socioeconomic status. The vast majority (83%) of students were either 10 or 11 years old at the time of the fall survey, the typical age range for 5th-grade students.

Measurement

Substance initiation (spring survey). Students were asked about their use of four substances: alcohol, cigarettes, chewing tobacco and marijuana. These substance-initiation measures are scored as dichotomies: never used (0) or ever used (1). For the analyses presented here, chewing tobacco and cigarette smoking are combined into a single indicator of tobacco initiation. A score of zero indicates no initiation of either cigarettes or chewing tobacco, while a score of one indicates initiation of one or both substances. A measure of the variety of substances initiated was also created. This variable is the proportion of these three substances initiated and ranges from 0 (never used tobacco, alcohol or marijuana) to 1 (initiated all three) with intermediate values of .33 (one substance initiated) and .67 (two substances initiated).

Sibling drug use and delinquency (fall survey). Although parental substance use is of importance, no measure of children's reports of parental substance use was included on the student survey. School district officials would not allow us to have students report on this sensitive measure. However, a measure of sibling deviance was included. This measure is a dichotomy that differentiates those who report having a sibling who has used marijuana, been suspended from school or been arrested (scored 1) from those not having a sibling who is deviant in any of those ways (scored 0).

Parental disapproval of child's use of alcohol (fall survey). Parental attitude toward alcohol use is measured by a single item in which students were asked how their parents would feel about them drinking beer, wine or liquor. Responses range from 1 to 3 with higher scores indicating greater perceived disapproval.

Family management practices (fall survey). There are six indices of family management practices, all of which range from 1 to 4. Four indicators are represented by single items in which students checked YES!, Yes, No or NO! to indicate their degree of endorsement. These four single-item measures are: parents decide on child's friends (higher scores indicate greater parental participation), parents agree about punishment (higher scores indicate less disagreement), parents do not revoke privileges for misbehavior (higher scores indicate less tendency to revoke) and parents allow child to misbehave (higher scores indicate greater belief by the respondent that he or she can get away with misbehavior).

The two composite indices are averages of individual items that used the four-point scale described above. Proactive family management has a reliability (Cronbach's alpha) of .66 and attributes higher scores to children in families with greater proactive management. It is comprised of six items asking: Do your parents (1) know who you are with when away from home, (2) make family rules clear, (3) discuss your misbehavior with you, (4)

praise you for school achievements, (5) praise your achievements in general and (6) refrain from putting you down. Restrained punishment ($\alpha = .65$) is an average of three items concerning the extent to which the student's parents use yelling, spanking and slapping/hitting to punish misbehavior. Higher scores on this variable indicate less use of these forms of punishment.

Family involvement (fall survey). Family communication ($\alpha = .68$) ranges from 1 to 4 with higher scores representing better communication. Responses to six items are averaged: how often the parents talk to the child about the child's activities or friends, how often they talk to the child about school, the extent to which they consult with the child before making family decisions, the extent to which they listen to the child when he or she misbehaves, whether or not the parents and child discuss disagreements and whether or not it is easy for the child to discuss problems with his or her parents.

Involvement in family activities. This measure ($\alpha = .62$) is an average of 11 responses transformed to z scores to normalize items with different numbers of response categories before averaging. Higher scores on this measure indicate more family involvement. Items comprising this measure include whether or not the respondent engaged in the following activities with a parent during the previous week: working around the house, cooking, walking or running, doing a recreational activity, attending a performing art, shopping, reading and playing. Additional items include how often the child does household chores, number of meals the family eats together daily and extent to which parents help the child with homework.

Family attachment (fall survey). The measure of family attachment is an average of five items tapping how well family members get along with one another, extent to which the student shares thoughts and feelings with each parent and extent to which the student wants to be like each parent. In single-parent families with no one acting as the second parent, the index was composed of the average of responses to how well family members get along and the two items referring to the present parent. This measure has a reliability of .62 and ranges from 1 (least family attachment) to 4 (greatest family attachment).

Sociodemographic variables. Measures of race, family structure and socioeconomic status were obtained from official school district records. Race included five categories of which three—white, black and Asian American—with adequate numbers of analysis were chosen. The Asian-American category includes students from several different Asian origins including primarily Japanese and Chinese, although there are students with Southeast-Asian heritage as well.

The measure of family composition is dichotomous: student lives with one parent (scored 0) or two parents (scored 1). Children living with a guardian or agency are not included in analyses using this variable. Free lunch

eligibility status (coded 1 = eligible and 2 = not eligible) is entered in all analyses as a control for socioeconomic status (SES). It was chosen over other SES indicators because it is based on both family income and family size and seems likely to be more accurate than student estimates of family income. It is essential to control for socioeconomic status because racial minority groups are disproportionately represented in lower income groups. Failure to control for this variable can lead to spurious results because class differences may be mistaken for racial differences.

Finally, because gender differences have been reported in studies of substance use (Bachman et al., 1981; Barnes and Welte, 1986; Murray et al., 1987; Newcomb et al., 1987), gender is included as a control in all analyses. Gender is coded 0, male; 1, female. Designation of ethnic status for school records is determined by families on an annual basis.

Analysis description

Previous analyses of these data demonstrated that patterns of drug use initiation differ among ethnic groups and between sexes, after controlling for SES. The data are presented in Gillmore et al. (1990) and are summarized in the Results section, below.

Given that there are significant ethnic-group differences in rates of substance initiation, are there parallel group differences in family risk factors for substance initiation? Cross-sectional comparisons of family variables are conducted by ethnic group (white, black and Asian American) and sex. Because these groups differ in SES, analysis of covariance, with SES covaried, was used to compare ethnic groups. These cross-sectional analyses, then, identify ethnic-group and sex differences in family factors that have been demonstrated to be empirically related to early initiation of drug use in general population studies.

Finally, regressions of these family risk factors, measured in the fall of 5th grade, onto self-reported variety of substance initiation measured the following spring are presented to examine ethnic similarities and differences in correlates. Although the data are nominally longitudinal, the short time between the administration of the fall and spring surveys makes the data more correlational than predictive in nature. Three separate regression equations are computed—one for each ethnic group. These analyses answer the questions: (1) Are family composition, deviant siblings, family management practices, family involvement, family attachment and parents' attitudes towards children's use of alcohol associated with the variety of drug initiation for white, black and Asian 5th-grade students? and (2) Do the patterns of association differ among ethnic groups?

The regression equations were constructed in two steps. Where there were multiple measures of a risk factor, ini-

tial analyses were run to reduce the number of measures of the same risk factor to be entered in the final regression. This was done to avoid having too many independent variables and too few cases in the final regression equations. Two risk factors were represented by multiple measures: family management by six measures, and family involvement by two. The initial family management regression, therefore, included the six family management measures, and sex and SES as control variables; the initial family involvement runs included the two involvement measures, and sex and SES as controls. A liberal "cut-off" rule was used to eliminate variables at this stage so that no important variable would be eliminated; all variables whose associated *F*s had probabilities less than .20, for any ethnic group, were retained and included in the final regressions for all ethnic groups. All independent variables were entered simultaneously.

Results

Initiation of drug use by ethnic group and sex

As reported in Gillmore et al. (1990) and briefly summarized here, drug use initiation among 5th-grade students varies by ethnic group, sex and drug type. Tobacco use is highest among white youth (23%) and lowest among Asian-American youth (9%), with black youth (19%) falling between whites and Asian Americans. Male students are also significantly more likely than female to have initiated tobacco use by 5th grade (21% vs 15%). Whites also lead in initiation of alcohol use: almost half (49%) have tried alcohol by 5th grade. Blacks are slightly

less likely (40%) and Asian Americans substantially less likely (17%) to have ever drunk alcohol. The pattern of sex differences in alcohol initiation is more complex: among whites and Asians, more males (57% and 26%, respectively) than females (41% and 8%, respectively) have ever used alcohol, but among blacks, more females than males (43% and 37%, respectively) have used alcohol. Initiation of marijuana is extremely low among 5th graders (less than 5%), and there are no significant differences by sex or ethnic group.

Patterns of family risk factors by ethnic group and sex

Measures of family risk factors were analyzed in a covariance design, as described above. Table 1 shows the means and associated analysis of covariance results for each risk factor measure.

The first six risk factors shown in Table 1 are measures of family management practices. There are significant ethnic differences on four of these: proactive family management, parents use restrained punishment, parents do not revoke privileges for misbehavior and parents decide what friends the child sees. According to their children's reports, black parents are more proactive family managers than are white or Asian-American parents. Asian-American parents are more likely than are white or black parents to revoke privileges for misbehavior. White parents are most likely to use only restrained punishment and least likely to choose their children's friends. There are also sex differences on two family management measures: proactive family management and parents allow child to misbehave. Parents use more proactive management with

TABLE 1. Analysis of covariance for family risk factors by ethnic group and sex

| Risk factors | MEANS | | | | | | F TESTS | | |
|--|-------|--------|-------|--------|----------------|--------|---------------------|--------------------|---------------------|
| | WHITE | | BLACK | | ASIAN AMERICAN | | SOURCE OF VARIATION | | |
| | Male | Female | Male | Female | Male | Female | Ethnic group | Sex | Ethnic group by sex |
| Proactive family management practices | 3.38 | 3.50 | 3.47 | 3.56 | 3.18 | 3.46 | 8.64 [†] | 21.50 [†] | 2.39 |
| Parents use restrained punishment | 3.16 | 3.18 | 3.03 | 2.96 | 2.81 | 3.10 | 5.64 [†] | 1.64 | 2.73 |
| Parents agree about punishment | 2.95 | 2.94 | 2.78 | 2.80 | 2.65 | 2.95 | 1.92 | 1.81 | 1.43 |
| Parents do not revoke privileges | 2.44 | 2.45 | 2.38 | 2.45 | 2.82 | 2.94 | 11.67 [†] | < 1 | < 1 |
| Parents allow child to misbehave | 1.72 | 1.55 | 1.75 | 1.60 | 1.82 | 1.73 | 1.94 | 5.11* | < 1 |
| Parents decide which friends child sees | 2.13 | 2.05 | 2.36 | 2.36 | 2.19 | 2.44 | 4.22* | < 1 | 1.30 |
| Good family communication | 2.85 | 2.95 | 2.86 | 2.95 | 2.63 | 2.77 | 7.92 [†] | 6.17* | < 1 |
| Involvement in family work and play | -0.01 | 0.00 | -0.03 | 0.14 | -0.16 | 0.03 | 2.96 [§] | 11.83 [†] | 2.99 [§] |
| Attachment to parents | 2.95 | 2.97 | 2.89 | 2.95 | 2.85 | 3.02 | < 1 | 2.80 | < 1 |
| Sibling drug use and delinquency | 0.17 | 0.19 | 0.27 | 0.38 | 0.13 | 0.08 | 15.29 [†] | < 1 | 1.98 |
| Child lives with both parents | 0.57 | 0.55 | 0.38 | 0.31 | 0.92 | 0.76 | 71.98 [†] | 6.81 [†] | 1.75 |
| Parents disapproval of child's alcohol use | 2.73 | 2.85 | 2.98 | 2.96 | 2.92 | 2.96 | 9.99 [†] | 1.22 | 1.71 |

Notes: All means are adjusted for free lunch eligibility. Scales are scored such that higher scores represent greater presence of the risk factor. Scores range from 1 to 4 for all measures except sibling drug use and delinquency and child lives with both parents (proportion yes), and involved in family work and play (z scores).

Degrees of freedom for *F* test range from 1 and 689 to 1 and 907 for main effects; 2 and 689 to 2 and 907 for the interactions.

§.050 < *p* < .054. **p* < .05. [†]*p* < .01.

girls than with boys and are less likely to allow girls to misbehave. There are no differences by ethnic group or sex in the extent to which parents disagree about punishment.

The next two variables in Table 1 are family involvement measures, and there are significant or marginally significant differences by race and sex on both measures. White and black children reported better family communication than did Asian-American children, and girls reported better family communication than did boys. Asian-American children also reported the least involvement in family work and recreation, and black children the most (based on a marginally significant F , with $p = .053$). Girls are more involved in family work and recreation than are boys overall, although there is no appreciable sex differences for whites; this is highlighted by the marginally significant ($p = .051$) sex by ethnic group interaction.

The last four rows of Table 1 present analyses for attachment to parents, sibling drug use, family composition and parents' disapproval of child's alcohol use. There are no significant differences in attachment to parents by ethnic group or sex. There are large differences in the proportion of children in each ethnic group who have a deviant sibling, with blacks reporting the highest proportion (37%) and Asian Americans the lowest (11%). Conversely, 84% of Asian-American children live with both of their parents, compared to 56% of white children and only 35% of black children. Interestingly, there is also a significant sex difference in the proportion of children living with both parents: 60% of boys vs 54% of girls. Finally, there are ethnic differences in parents' attitudes toward children's alcohol use. White children report significantly less parental disapproval than do black and Asian-American children.

Regression analyses of the variety of substances initiated

As described above, two initial regressions were run for each ethnic group with (1) the six family management and (2) the two family involvement measures. Only one measure was eliminated in these initial regression runs, parents agree about punishment, which was not significant for any ethnic group after controlling for the other family management measures. The remaining seven family management and involvement measures, along with four others—attachment to parents, presence of a deviant sibling, living with both parents and parental disapproval of child's drinking—were regressed onto the variety of substances initiated for white, black and Asian Americans separately. Sex and SES were also included in each regression as control variables. As noted above, all independent and control variables were entered simultaneously.

The results of the analyses are shown in Table 2. From comparison of the strengths of the overall regressions by ethnic group, it is clear that family factors are most

TABLE 2. Regressions of variety of substances used onto family risk factors by ethnic group and sex

| | White ($n = 300$) | | Black ($n = 113$) | | Asian American ($n = 123$) | |
|--|------------------------|--------|------------------------|-------|------------------------------------|-------|
| | b^a | F | b | F | b | F |
| Eligibility for free lunch program | .046 | 1.33 | .001 | < 1 | .026 | < 1 |
| Child's sex | -.073 | 5.64* | .090 | 2.71 | -.095 | 5.55* |
| Proactive family management practices | -.079 | 3.82* | -.081 | 1.06 | -.054 | 1.40 |
| Parents do not revoke privileges | .032 | 4.27* | .043 | 3.28 | -.007 | < 1 |
| Parents decide which friends child sees | .007 | < 1 | -.056 | 5.95* | -.011 | < 1 |
| Attachment to parents | -.032 | 1.19 | -.135 | 5.69* | .036 | < 1 |
| Sibling drug use and delinquency | .095 | 4.64* | .039 | < 1 | .134 | 4.73* |
| Child lives with both parents | -.025 | < 1 | .039 | < 1 | -.106 | 3.82* |
| Parents disapproval of child's alcohol use | -.087 | 10.62† | .041 | < 1 | -.120 | 5.42* |
| R | .383 | | .481 | | .428 | |
| R^2 | .147 | | .231 | | .184 | |
| Adj. R^2 (all predictors) | .120 | | .164 | | .119 | |

^aUnstandardized regression coefficients.

* $p \leq .05$. † $p < .01$.

strongly associated with the variety of substance use for black youths and least well for white youths (multiple R s .481 for black, .428 for Asian-American and .383 for white youths). For white youths, four family factors are significantly associated with the variety of substances used. Parents revoking privileges, absence of a deviant sibling, proactive family management practices and parents' disapproval of child's alcohol use are associated with less variety in substance use for white youth. Sex is also a significant predictor: white girls have initiated fewer drugs than have white boys. For Asian-American youth, absence of a deviant sibling, living with both parents, parents' disapproval of child's alcohol use and being female are significantly associated with less variety of drugs initiated. For black children, attachment to parents and parents deciding which friends the child sees are associated with less variety of drugs initiated. No other family factors emerged as significant predictors for any ethnic group.

Discussion

Differences in rates of substances initiation have been observed among black, white and Asian-American 5th-grade students in an urban school-based sample which includes a sizable proportion of youths at high risk for substance abuse (Gillmore et al., 1990). The first analyses ask whether these differences are paralleled by differences in empirically identified family risk factors for substance use; that is, does the *level* of risk vary systematically by ethnicity. These analyses show systematic ethnic differences in most of the family risk factors examined, but

not always in a direction that parallels the differences in substance initiation rates that one would predict. For example, white children are more likely to come from two-parent families than are blacks, but also have higher substance initiation rates. This raises the question of whether these risk factors are associated with substance initiation in each ethnic group. The second set of analyses was directed toward this question. In these analyses the family risk factors were regressed on substance initiation, controlling for SES and sex.

The results of these analyses suggest that family factors account for 12% to 16% of the variance in the variety of substances initiated by the end of 5th grade depending on the racial subgroup examined. These factors explained the least variance for white and Asian-American youth and explained the most variance for black youth. For white youth, the family risk factors included in this study that predicted the variety of substance initiation include two family management variables (proactive family management and not revoking privileges for misbehavior), sibling drug use and delinquency, and parents' disapproval of child's alcohol use. Of these factors only one, parents' disapproval of child's alcohol use, had the lowest significantly different mean for whites compared to the other racial groups. It appears to be a salient risk factor for white youths that is also more prevalent for this group.

For black youths, one family management practice (parents decide which friends the child may see) and attachment to parents predicted the variety of substances initiated. One of these factors, parents decide which friends the child may see, had the highest mean of the three racial groups and appears to be a protective factor for black youth. It is important to note that despite the preponderance of single-parent families and deviant siblings among black children these factors do not appear to be significant risk factors for substance initiation among black youths by the end of grade 5. Further, despite black youth having the highest mean score for proactive management and a high mean of parental disapproval of their drinking, these measures were not significant protective factors for blacks, once parents' deciding on friends and attachment to parents had been statistically controlled.

For Asian-American children, none of the family management practices measured here predicted the variety of substances initiated by the end of grade 5. Having deviant siblings, living with both parents and parental disapproval of child's alcohol use were significant predictors of substance initiation among Asians. Two of the three significant predictors had extreme mean scores when compared with the other groups. Sibling drug use and delinquency had a low mean, living with both parents had a high mean, and parental disapproval of child's drinking had a high mean that was only slightly lower than the black mean. All three appear to be protective factors for Asian youth.

Thus, although these groups showed systematic ethnic differences on family risk factors, these differences did not always parallel the differences in substance initiation. Having an extremely high or low mean compared to the other racial groups did not always lead to increased risk for or protection from substance initiation after controlling for other factors. When groups had a significant predictor that was an extremely high or low mean, that may indicate that in addition to being associated with the variety of substance initiation the factor may also be an important one to target for prevention efforts. If it appears to be a risk factor, as the low mean on parental disapproval for white youth, it may be a critical target for reduction. If it appears to be a protective factor, as the high mean on parents deciding which friends a child may see for blacks or parents disapproved of child's drinking for Asian Americans, prevention programs should seek to build on these ethnic strengths. Sibling drug use and delinquency and parent's disapproval of child's drinking were the only two family predictors of the variety of substances initiated shared by more than one group.

There is a possible threat to the validity of these results. It may be that the scales are not equivalent measures across the three racial groups. For example, although the family-bonding measure is composed of the same items for all children, it could be measuring a different underlying construct for children in different ethnic groups. That is, individuals from different ethnic groups may assign different meaning to the items or be reticent to admit to certain feelings. To investigate this issue, separate factor analyses and reliabilities of the attachment to parent scale were computed for each ethnic group. These revealed no significant differences in the scale by ethnic group. Separate examination of other scales by ethnic group produced similar results, reducing the plausibility of this possible threat to the validity of these results.

Three other cautions must be applied to these data. First, the regression analyses were conducted simultaneously. Thus, only direct effects were examined. It is possible that some of these family factors have indirect effects on drug use initiation through direct effects on other family factors. In fact, several theories of drug use hypothesize indirect as well as direct predictors of substance use (Catalano and Hawkins, 1985, 1986; Elliott et al., 1985; Hawkins and Weis, 1985-86; Kaplan et al., 1986).

Second, while the heterogeneity of the Asian-American sample in terms of national heritage and acculturation is perhaps the most evident, it would be incorrect to assume homogeneity of culture or national heritage on the other two groups studied here. For example, blacks living in urban high-risk environments such as those in this study or Brunswick's study (1980) may have different patterns of drug use and perhaps different predictors of drug use than blacks in middle-income communities such as those studied by Murray and his colleagues (1987).

The final caution is that few studies have examined ethnic differences in family factors. These findings need replication in other studies before one can feel relatively certain of these relationships. Broad racial designations such as those used here are only the first level of investigation of social/cultural differences among groups. This article has sought to explain very early initiation. It may be that other family risk factors will become more salient predictors of drug use at older ages. However, since early initiation is itself a risk factor for adolescent substance abuse, discovering family predictors of this behavior is intrinsically important. Before generalizations can be drawn from the results presented here, further replication of the relative power of risk factors for particular ethnic groups at different ages and with adequate controls needs to be completed.

In conclusion, although ethnic differences in substance initiation that were found among preadolescent youths generally parallel those of other studies on older youths—initiation rates are the highest among whites, followed by blacks and lowest among Asian Americans—the influence of family risk factors on these rates appears to be complex and has implications for theory. First, different factors appear predictive of the variety of drug use initiation for different groups in grade 5. This suggests that families and family process may not exert the same influences across these racial groups. To the extent that cultural differences are rooted in family traditions, the differences produced in this study may reflect cultural differences. If these differences in predictors reflect differences in family life circumstances, they may be explained by factors other than race. While the final answer cannot be determined in this article, two of the family life circumstances, SES and family structure, were controlled in these analyses. This suggests that there may well be cultural differences in family processes leading to early variety of substance initiation.

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