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Perceived Risks and Benefits of Alcohol, Cigarette, and Drug Use Among Urban Low-Income African-American Early Adolescents

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Abstract. *Perceptions about drugs and the social environment may be important influences on cigarette, alcohol and drug use, yet little is known regarding the perspective of early adolescent boys and girls, especially among minority urban youths. Among 351 African-American low-income urban youth, 9 through 15 years of age, completing a community-based computerized questionnaire, 25% acknowledged alcohol, cigarette, and/or illicit drug use in the past 6 months; 19% expected to use one of those substances in the next 6 months. Family exposure to drugs increased the likelihood that youths expected to use drugs by factors of 4.5 (boys) and 2.5 (girls). Other factors (feelings about drugs, community drug use, long-term expectations) distinguished users from nonusers or had different associations with use in boys and girls. Gender-specific perceptions about drugs may have the potential to be modified in drug and substance use prevention programs.*

Adolescent drug use remains an important health and social problem in the United States. Prevention programs are necessary both because of the problems inherent in substance use and because of the relationship between drug use and the AIDS epidemic in young adults.[1] Adult substance users develop their drug habits, for the most part, during their adolescent years.[2] In

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the numerous studies that have identified factors placing youth at risk for involvement in the use of cigarettes, alcohol, marijuana, and other substances, gender differences have been found in several. Male and female adolescents differ in the time of onset and pattern of progression,[2,3] the type and quantity of substances used,[2,4,5] and the correlates or antecedents of drug use.[6–8]

Other demographic characteristics and intrapersonal factors that may protect and/or place an individual at risk have been used to identify youths at greatest risk.[4,7] Despite the utility of predicting and/or explaining substance use, few of these demographic or intrapersonal factors can be readily modified to alter risk level. Perceptions about drug use, however, have the potential for intervention and modification.

Emerging information has established the importance of aspects of the social environment as either risk or protective factors in influencing a variety of behaviors (drug trafficking, sex, violence, etc).[9,10] For adolescents in particular, a wide range of social influences constitute the social environment. The nature of these relations undergoes significant change during adolescence.[11] Parents and other important adults can alter the likelihood of drug-use initiation through their behaviors and attitudes,[12] especially those regarding drinking. Simultaneously, the adolescent's relationship with his/her family may change as outside influences become more important. Peers become important influences among youths. Peer influences, including the belief that one's peers use drugs and peer reaction to such use, are the best predictors of adolescent drug use.[8,13,14]

Beyond these social influences, the personal meaning of risk behavior may vary with cultural context.[12] Most drug-prevention research has been conducted in schools and among white and/or middle-class populations.[4,15] Little is known about the meaning of drug use among minority youths living in poor urban centers, where drugs may be perceived as readily available and drug use as widespread.[16]

Moreover, although there are some data, as noted above, regard-

ing gender differences in drug-related behaviors, there is little information regarding gender-specific attitudes and perceptions that may promote the onset or maintenance of those behaviors. Gender, in addition to culture, may alter the meaning and importance of intrapersonal or interpersonal constructs, and therefore alter an individual's predisposition for involvement in risk behaviors.[16]

This study examined the importance of perceptions in explaining gender differences in drug use among pre- and early adolescent youths residing in high-risk environments (ie, urban low-income neighborhoods). Because of the importance of the proximal measure of *intended* involvement, as well as its potential for change, future intentions also were examined.[14,17] The study employed a cognitive-behavioral model to explore the personal meaning of drugs. The hypotheses tested were: (*a*) drug use and drug use intention correlate with other risk and protective factors and activities; (*b*) perceptions about drugs may distinguish youths with past or intended drug use vs abstinence; and (*c*) perceptions correlate with recent behavior and intention in different ways among boys and girls.

Methods

Subjects

Data were collected during the initial phase of an acquired immune deficiency syndrome (AIDS) risk-reduction intervention, between February and April 1993, in a large Eastern city. A convenience sample of youths, 9 through 15 years of age, was obtained from nine recreation centers serving three public housing developments and other low-income neighborhoods. Written consents were obtained from both the youths and their guardians.

Study Instrument

Each participant completed a risk-assessment questionnaire, the Youth Health Risk Behavioral Inventory (YHRBI), which was administered visually and aurally by a "talking" Macintosh computer. The YHRBI is a multicomponent risk-assessment in-

strument developed over three years. Through the use of ethnographic and other studies involving youths, parents, and community members, the YHRBI is a culturally and developmentally sensitive instrument that assesses risk and protective factors among pre- and early adolescents.[18]

To examine perceptions about drug behaviors as potentially important antecedents of drug use, YHRBI questions were organized around the constructs of a model of behavioral change, Protection Motivation Theory (PMT).[19] The PMT is a social cognitive theory which hypothesizes that environmental and personal factors combine to pose a potential threat. Consideration of a maladaptive response is mediated by a balance between rewards accompanying the behavior, (both *intrinsic* [personal pleasure] and *extrinsic* rewards [social approval]), and the perceived *severity* of and personal *vulnerability* to the threat. An adaptive response is mediated by balancing the *response efficacy* (perceived likelihood that a specific action will reduce the threat) and *self-efficacy* (belief that the individual can complete the adaptive response) with the *response cost* (barriers or inconveniences) of completing the adaptive response. These two appraisal pathways combine to form *protection motivation*—the intent to respond to a potential threat in either an adaptive or maladaptive manner.

Separate subscales of the YHRBI were developed to assess the seven PMT constructs for specific risk behaviors, including drug use.[18,20] Additional questions were asked to assess potentially relevant environmental factors. A social desirability scale was added to determine the effect of a response set.[21] The response pattern of the questions was varied, with items in the form of five-point Likert scales assessing agreement, likelihood, and feelings; numeric assignment (actual number); and multiple choice.

Several measures were added to the YHRBI to assess individual psychological motivators of risk behavior. These social-psychological scales were chosen because the constructs measured have been postulated as covariates of risk behavior, take into account issues of adolescent development, and have adequate psychometric properties among African-American adolescents.[22] Parent-ado-

lescent communication was measured by the 20-item questionnaire of Barnes and Olson.[23] For each of the two subscales (Open Family Communication and Problem Family Communication), internal consistency was good (Cronbach alpha >.78). Sensation-seeking, the level of need of personal stimulation and excitement, was measured by a 40-item scale.[24] Higher scores represent higher levels of arousal; internal consistency was .73. The Parental Monitoring Scale is a 6-item questionnaire that asks youths to report the likelihood that a parent is aware of where they are and what they are doing when not at home.[25] High scores indicate that parents are closely monitoring their child's activities (alpha = .79).

Definitions

Recent drug involvement was defined as any use of alcohol, cigarettes, or illicit drugs (marijuana or other drugs) within the previous 6 months. Similarly, drug-use intention was defined as the intent to engage in drinking, smoking, or use of illicit drugs in the next 6 months. Use of any of the substances was considered positive; frequency and quantity of use were not obtained.

Analysis

To refine the PMT constructs for the purposes of this study, principal component analysis was conducted on each of the seven theoretically driven PMT constructs. For each factor extracted, the items in the factor were assessed for reliability (Cronbach's alpha). An item was deleted from the factor if the reliability estimation could be increased after deletion. This procedure was repeated until no further items could be deleted and the factor loadings of items were obtained.

For group comparisons, analysis of variance (ANOVA) was used to assess similarities and differences between genders and between recent drug use involvement groups (no/yes) and intended drug use groups (unlikely, uncertain, and likely) within each gender.

Forward stepwise logistic regression analysis was conducted to

assess the relative importance of PMT constructs and psychological scales in predicting recent and intended drug use for each group. When analyzing intent to use drugs in the future, youths who were uncertain were excluded, to create a dichotomous outcome. Age and social desirability were controlled in the equations if they had been significant on bivariate analyses. The 95% confidence intervals of the estimated odds ratios were determined for independent variables remaining in the final model.[26]

Results

Gender Differences in Demographic Characteristics, Protective Factors, and Risk Behaviors

The study sample consisted of 383 African-American youths, 9 through 15 years of age, from whom completed baseline data were available on 351 (92%). The median age was 11 years and median grade was six; boys were significantly older than girls (Table I). One half of girls, compared with one third of boys, rated themselves as one of the best in their class. Boys were more likely to report participation in risk behaviors in the past 6 months, such as school suspensions, carrying a weapon, violence-related behaviors, and sexual activities. Although members of both genders acknowledged participation in all these behaviors, drug trafficking was almost exclusively practiced by boys.

One quarter of the youths admitted to some substance use. Alcohol was used by 14%, tobacco by 13%, and an illicit drug (marijuana, cocaine, or other illegal drug) by 8%. Of those with any substance use, 18% had tried substances from any two categories, and an additional 10% acknowledged use in all three categories.

Nineteen percent of the sample expected to drink alcohol, smoke cigarettes, or use marijuana or cocaine in the next 6 months. One third of the youths were uncertain about future drug use, and 48% did not expect to use any substances in the next 6 months.

TABLE I
OVERALL AND GENDER DISTRIBUTION OF STUDY SAMPLE BY DEMOGRAPHIC, PROTECTIVE, AND RISK FACTORS*

	Overall	Male	Female
N	351	194	157
%	100	55	45
Mean age	11.3	11.7	10.9†
Mean social desirability	.43	.42	.44
Protective Factors			
Lives with parents			
One	64	61	68
Both	18	19	17
Religious attendance	44	40	49
One of best in class	44	36	53‡
Risk Behaviors in Past 6 Months			
Suspended	16	23	7†
Hooked	3	4	1
Carried gun	5	6	3
Carried knife	10	8	12
Carried bat	9	13	5‡
In a fight	35	40	28§
Beat up someone	37	47	24†
Sexual intercourse	35	54	12‖
Anal sex	14	21	6†
Drug trafficking	6	11	1†
Smoked cigarettes	13	15	11
Drank liquor	14	17	11
Used illicit drugs	8	9	6
Any recent drug use	25	29	21
Any drug use intention	19	21	17

* Figures given are percentages unless otherwise noted.
† $P < .0001$
‡ $P < .01$
§ $P < .05$
‖ $P < .00001$

Relation between Drug Use Involvement, Drug Use Intention, and Other Protective/Risk Behaviors

Youths with recent drug use differed from their same-sex peers by age (boys) and Social Desirability score (girls) (Table II). Socially desirable reporting was higher among girls who denied recent drug use. There were no significant differences between users and nonusers regarding any of the protective factors (living with parents, religious attendance, perceived school performance). Although a greater percentage of boys than girls had been suspended, suspensions were strongly associated with recent drug use

TABLE II

ASSOCIATION OF DRUG INVOLVEMENT AND INTENTION WITH OTHER RISK BEHAVIORS*

	Drug Use—Past 6 Months				Drug Use Intention—Next 6 Months					
	Male		Female		Male			Female		
	No	Yes	No	Yes	Unlikely	Uncertain	Likely	Unlikely	Uncertain	Likely
N	137	55	123	32	92	61	41	75	55	27
%	71	29	79	21	47	31	21	48	35	17
Mean Age	11.5	12.1†	10.9	10.9	11.7	11.5	12.0	11.2	10.5	10.9†
Mean Social Desirability	.42	.42	.46	.36†	.45	.37	.42†	.48	.38	.42†
Risk Behaviors in Past 6 Months										
Suspended	22	26	3	22‡	28	15	25	7	4	15
Hooked	2	9†	1	3	2	3	7	1	0	4
Carried gun	3	13§	2	9†	6	5	7	3	0	11†
Carried knife	5	16†	10	19	7	7	15	12	7	19
Carried bat	9	24§	2	16‡	11	12	20	4	6	4
In a fight	39	42	24	44†	45	28	44	20	32	44†
Beat up someone	41	62§	18	47‡	43	42	63	23	20	33
Sexual intercourse	49	66†	10	19§	56	47	59	10	15	11†
Anal sex	17	31†	5	9	21	20	24	3	4	19§
Drug trafficking	4	27‖	0	3†	10	5	22†	0	0	4
Smoked cigarette	...	...	...	...	10	13	29†	10	11	15
Drank liquor	...	...	...	...	10	17	32§	5	17	15
Used illicit drugs	...	...	...	...	2	5	29‖	3	7	11

* Figures given are percentages unless otherwise noted.

† $P < .05$

‡ $P < .001$

§ $P < .01$

‖ $P < .00001$

among girls, but not among boys. Boys and girls who admitted to recent drug use were more likely to have been involved in carrying weapons, violence-related behaviors, and sexual activity compared with those who did not.

Fewer associations were found when the sample was divided by intent to use drugs in the next 6 months. Girls who felt that they were unlikely to engage in future drug use tended to be older than those uncertain or likely to use drugs. Socially desirable reporting was higher among youths of both genders who thought it unlikely that they would use drugs in the near future. There were no significant differences among groups on any of the protective factors. Acknowledgment of weapon carrying and sexual behaviors correlated with intent to use drugs among girls. Among boys, such intent was significantly associated with recent drug trafficking, smoking, drinking, and illicit drug use. However, among girls, past experience and future intent did not reach statistical significance.

Factor Structure of PMT Constructs

As shown in Table III, two factors were extracted from each of the PMT "reward" categories. In combination, the two extrinsic reward factors accounted for more than 68% of the variance, with the "peer approval" construct accounting for 43% of the variance and the "popularity" construct accounting for 25%. Similarly, the two factors derived from intrinsic rewards accounted for more than 80% of the total variance in the construct: "feelings about drug use" accounted for 47%; "high on drugs," for 35%. The Cronbach's alpha value for the factors varied between .85 and .43.

The vulnerability construct was partitioned into three factors: "community exposure," "family exposure," and "long-term expectations." Reliability estimates were .77 or greater. Single factors were extracted from each of the four constructs of severity, response efficacy, self-efficacy, and response costs. Reliability estimates were acceptable for the psychological scales.

TABLE III
FACTOR STRUCTURE OF PMT CONSTRUCTS

	Percent of Variance Accounted for By Factor	Alpha	Loadings
Extrinsic Reward			
Peer use/approval	42.9	.78	
Friends smoke marijuana			.80
Friends use cocaine/crack			.87
Friends use drugs with needles			.85
Peer popularity	25.2	.43	
It's important to me that my friends respect me			.81
It's important to me to be popular			.79
Intrinsic Reward			
Feelings about drug use	46.6	.85	
I would feel good if I smoke marijuana			.93
I would feel good if I drink alcohol			.93
High on drugs	34.8	.68	
Troubles don't seem so bad when you are high on drugs			.87
Sex feels better when you are high on drugs			.87
Vulnerability			
Community exposure	38.1	.87	
People living on my block smoke marijuana			.85
People living on my block use crack cocaine			.91
People living on my block use drugs with needles			.88
Family exposure	23.1	.82	
Relatives smoke marijuana			.83
Relatives use crack cocaine			.88
Relatives use drugs with needles			.83
Long-term expectation	16.6	.77	
Likely to get arrested by age of 25			.89
Likely to try marijuana by age of 25			.90
Severity	40.2	.62	
People who use drugs die early			.73
People who use drugs spend all their money on drugs			.70
People who use drugs are not good parents			.56
People who use drugs become addicts			.55
People who use drugs get AIDS			.61
Response Efficacy	61.7	.38	
If I don't sell drugs, I won't use drugs			.79
If my friends take drugs and I don't, they'll think it's ok			.79
Self-Efficacy	82.4	.79	
If all my friends were drinking, I wouldn't have to drink			.91
If my friends start using drugs, I won't hang out with them			.91
Response Cost	73.7	.64	
I would miss an important experience if I never tried drugs			.86
My friends expect me to try drugs			.86

Group Comparisons of PMT Factors

In Table IV, the factors are shown in relation to gender, recent drug use involvement by gender, and drug use intention by gender. Several factors showed overall gender differences. In the peer use/approval construct, girls perceived significantly lower drug use among peers than did boys. Although girls scored higher on "community exposure," they reported less "family exposure" than boys. In addition, "sensation-seeking" was lower and "parental monitoring" was significantly higher among girls.

Differences between recent drug users and nonusers also were detected on several of the PMT factors. Girls with recent drug experience scored significantly higher than those without on the peer use/approval subscale. Boys with recent drug use were more likely to report positive feelings about drugs compared with nonusers, whereas female users were slightly less likely to report positive feelings. The gender by drug use interaction for the "feelings about drugs" factor approached significance ($P = .05$). The community and family exposure factors showed significant gender by drug use interactions ($P < .05$). Community exposure was frequently reported by girls who admitted substance use; boys who reported use were only slightly more likely to report community exposure compared with youths who denied past use. Boys with recent drug use were likely to report family usage, whereas girls with drug use were slightly less likely to acknowledge family use compared with denying youths. Girls with recent drug experience scored significantly higher than those without on the "long-term expectations" scale. Additional factors with group differences were response cost and parent-adolescent communication scale.

Many of the PMT scales also distinguished boys and girls intending to use drugs from those not so intending. Compared with other males, boys who expected to use drugs or other substances were more likely to rate peer use/approval higher, report more positive perceptions about drugs, and perceive more family drug use. Boys unlikely to use drugs in the next 6 months were significantly less likely to see themselves as users in the distant future and less likely to perceive the social costs of drug avoidance.

TABLE IV

DISTRIBUTION OF MEAN SCORES OF PMT FACTORS AND PSYCHOLOGICAL SCALES BY GENDER, DRUG USE INVOLVEMENT, AND DRUG USE INTENTION

	Overall		Drug Use—Past 6 Months				Drug Use Intention—Next 6 Months					
	Male	Female	Male		Female		Male			Female		
N	194	157	No 139	Yes 55	No 125	Yes 32	Unlikely 92	Uncertain 61	Likely 41	Unlikely 75	Uncertain 55	Likely 27
Extrinsic rewards												
Peer use/approval	.11	−.14*	.03	.32	−.21	.15*	−.13	.15	.58†	−.28	−.15	.30*
Peer popularity	.02	−.03	.01	.05	−.03	−.00	.09	−.14	.10	−.03	−.09	.12
Intrinsic rewards												
Feelings about drugs	.01	−.01	−.11	.29†	.00	−.06	−.23	.14	.33†	−.29	−.02	.80‡
High on drugs	.05	−.06	.03	.09	−.11	.16	−.02	.13	.07	−.20	.01	.21
Vulnerability												
Community exposure	−.17	.21§	−.18	−.14	.08	.70†	−.21	−.25	.06	.24	.24	.07
Family exposure	.19	−.24‡	.06	.53†	−.23	−.28	−.02	−.05	1.03‡	−.35	−.31	.20*
Long-term expectations	−.08	.10	−.15	.10	−.01	.52†	−.44	.24	.26‡	−.20	.26	.60§
Severity	.08	−.10	.09	.08	−.11	−.08	.27	−.09	−.07*	−.03	−.13	−.24
Response efficacy	.00	−.00	.04	−.10	.00	−.01	.17	−.06	−.28*	.06	−.16	.13
Self efficacy	−.01	.01	.03	−.09	−.01	.09	.17	−.14	−.20	.03	−.10	.15
Response cost	.02	−.02	−.04	.17	−.14	.42†	−.32	.36	.26§	−.30	.25	.20†
Psychological Scales												
Parent–adolescent communication	63.15	63.65	62.64	65.15*	63.88	63.13	64.90	60.80	63.44†	65.21	61.84	63.40
Sensation-seeking	17.74	14.89‡	17.50	18.07	14.89	15.35	16.77	18.36	18.63*	14.06	15.24	17.05*
Parental monitoring	17.29	20.09‡	17.42	17.10	19.90	21.48	18.63	16.09	16.27*	20.59	20.45	18.25

* $P < .05$
† $P < .01$
‡ $P < .0001$
§ $P < .001$

TABLE V
LOGISTIC REGRESSION RESULTS*

	Odds Ratio	95% Confidence Intervals
Male drug use—past 6 months (N = 146)†		
Feelings about drugs	1.54‡	1.05,2.25
Parent-adolescent communication	1.06‡	1.01,1.13
Female drug use—past 6 months (N = 157)		
Social desirability	0.12‡	0.02,0.97
Community exposure	1.56‡	1.07,2.28
Male drug use intention—next 6 months (N = 96)§		
Family exposure	4.48‖	2.32,8.65
Long-term expectation	2.58¶	1.27,5.24
Response efficacy	0.55‡	0.32,0.94
Female drug use intention—next 6 months (N = 84)†§		
Family exposure	2.50¶	1.35,4.63
Long-term expectation	2.07‡	1.14,3.78

* Sample size for equations was reduced because of missing data on psychological scales. Subjects answering "uncertain" about drug use in next 6 months were excluded.
‡ $P < .05$
† Equations were corrected for age
§ Equations were corrected for social desirability
‖ $P < .0001$
¶ $P < .01$

In addition, they were more likely to perceive negative consequences of use (severity) and effective avoidance responses (response efficacy). Girls claiming that they were likely to use drugs in the near future responded in patterns similar to the boys, with the exception of response efficacy. Parent-adolescent communication scores were lower among uncertain boys compared with scores for the other groups. Higher scores on the parental monitoring scale were protective among the boys, whereas lower scores on sensation-seeking were protective among boys and girls.

Multiple Logistic Regression

Significant correlates of past drug use were apparent among boys and girls (Table V). Whereas positive perceptions about drugs predicted boys' use, drug exposure in the community predicted girls' use. Boys and girls reporting relatives' involvement with drugs were 4.5 and 2.5 times more likely to expect drug involvement in the near future, respectively, compared with youths who did not acknowledge this exposure.

Discussion

One quarter of early adolescent youths from low-income urban communities participating in this study have initiated involvement with cigarettes, alcohol, or illicit drugs. Both boys and girls with early substance use also are involved in other high-risk behaviors. Perceptions about the youths' social environment differ between boys and girls. Perceptions vary between youths with and without past drug involvement and also may vary according to youths' drug-use intentions. The associations between drug use and beliefs about how drugs make one feel, family drug use, and community exposure to drugs provide further insight into the etiology of drug use by young minority adolescents.

This study complements previous work by providing a new understanding about the influence of social context on adolescent drug involvement. The literature has emphasized the importance of peer social factors.[7,8,27] Although the perception that one's peers have engaged in drug behaviors was a strong correlate of past and intended use, the construct did not remain significant in the final logistic regression equations. Clasen and Brown[28] have found that the nature of peer pressures varies by grade level: pressures to conform are high in early adolescence but may be in the direction of pro-social activities. This is supported by the finding that 75% of the present sample was abstaining from any drug use. The desire to conform may discourage participation in drug or substance use.

Pro-social values among the majority of youths also may be reflected in relatively low or neutral overall scores on the "high on drugs" subscale. The general lack of positive feelings about drugs among young adolescents has been shown in other samples.[29] However, a positive perception about drug use was an important indicator of current and intended use.

The strong relationship between exposure to alcohol or drugs through family use and subsequent adolescent use has been known but not fully explained.[15,30,31] Dishion and colleagues[32]

have suggested that the effect may be both direct (through increased availability of drugs and modeling of behaviors) and indirect (through decreased parental monitoring, leading to associations with deviant peers).

Study results agree with the findings of other investigators. The correlation between drug use and other high-risk behaviors among adolescents is supported in the literature.[9,11] Few personality characteristics have been found to predict adolescent substance use.[27] In the present study, only parent-adolescent communication remained in one model with drug use among boys. The odds ratio was nearly one; this factor made only a minor contribution to predicting outcome when other variables were considered.

Strengths and Potential Limitations

Perceptions about drugs, especially among minority youths residing in inner-city communities, have been especially lacking in the literature. The YHRBI is culturally sensitive and developmentally appropriate; reliability has been shown to be good.[18] Use of a community sample eliminates the problems inherent in targeting school-based[15,33] or juvenile services populations.[34] Evidence has accumulated regarding the validity of this self-report instrument; similar results have been obtained regarding other high-risk behaviors in other samples.[10] The emphasis on confidentiality and use of a computerized format allowed youths to report anonymously. Although the use of a convenience sample can produce biased results, similar prevalence rates of high-risk behaviors among young urban African-American populations have been found by other investigators.[35–37]

However, the present study has limitations. Whether the study findings can be generalized in other ethnic or non-urban populations is unknown, largely because the validity of the instrument in other populations has not been established. In addition, correlates of drug use are known to vary by geography and ethnicity.[8,38]

Use of the combined drug-cigarette-alcohol measure was needed because of the low prevalence of drug use. A combined measure has been used by other investigators.[8,39,40] Because more

than one quarter of those who used any one of the substances also admitted to use of another, youths tended to multiple substance use. Also, given low use rates, we did not quantify the amount or frequency of use. The employment of cross-sectional data, although useful for generating hypotheses, does not permit an assessment of causality.

Intervention Implications

Exposure to drug use, both within the family and in the community, was a persistent indicator of risk in this study. The implications for the development of intervention programs are clear: programs must acknowledge the prevalence of drug use in the community, generate strategies for youths to develop alternative behaviors, and identify role models who will lessen the sense that future drug use is inevitable. Families must be involved in prevention programs. In addition, interventions should take into account gender differences in perceptions, targeting different key factors for boys and girls.

The literature suggest that the younger the age at which drug use begins, the more likely an individual is to subsequently use illegal drugs.[3,27] By focusing on pre-adolescence and early adolescence, this study identifies the highest-risk youths (those with previous use) and may help identify those who will be involved shortly (those with drug use intent). Intervention strategies can be targeted accordingly.

Future Research Needs

To use logistic regression procedures, youths who were uncertain about future drug use were not included in the analyses. Further exploration of the meaning of "uncertain," as well as longitudinal follow-up, is needed to understand how to approach these potentially vulnerable youths.

By involving a community sample in a high-risk environment, study results may be useful in the development of intervention strategies that target the perceptions and misperceptions of the at-risk segment. Further study will determine if the perceptions

that indicate early experimentation with abused substances can predict later use. In addition, longitudinal data will determine how alterations in perceptions determine actual behaviors and whether reports of future intentions are reliable.

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