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RECONSIDERING DRUG INVOLVEMENT AMONG YOUTH AND YOUNG ADULTS: IMPLICATIONS FOR TARGETED PRIMARY PREVENTION

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The purpose of this paper is to review two dominant social perspectives on the etiology of substance abuse among youths and young adults—the stage and risk factor outlooks—and to discuss them in light of recent demographic and ecological research. The differential demography of drug abuse strongly suggests that the environmental context influences the use and abuse of substances. In an era of great public concern about substance abuse, the use of individually-focused perspectives appears to have resulted in person-centered skills training programs and “say no” media campaigns. Consideration of community-level factors in the etiology of drug abuse permits the identification of high-risk schools and neighborhoods, enabling prevention specialists to target specific blocks, census tracts, and similar localities for more comprehensive intervention.

With the exception of cocaine abuse, there have been no large increases in substance abuse in the United States in the last five years. However, the use and abuse of psychoactive substances by youth and young adults has continued at high levels. Among 12th grade students, for example, the percent of young adults with illicit drug experience rose from 55% in 1975 to 66% in 1982, and since then, it has declined to about 60% (Johnston, Bachman, & O'Malley, 1986: 47). Alarming, by their mid-twenties, “some 75% to 80% of today’s young adults have tried an illicit drug . . . [suggesting] a level of involvement . . . which is greater than can be found in any other industrialized nation in the world” (Johnston et al., 1986,: 20).

Among adolescents and college age youth, chronic alcohol abuse and binge drinking have become major health hazards. More than 92% of high school seniors have used alcohol and 37% report heavy drinking, defined as consuming five or more drinks in a row within the past two weeks (Johnston et al., 1986: 18). Nearly 20% of 14- to 17-year-olds experience serious alcohol-related problems at school, with family and friends, or with the law (National Institute on Alcohol Abuse and Alcoholism, 1983). And, alcohol-related auto accidents are the leading cause of death among teenagers. Despite significant advances both technologically and in the delivery of emergency medical services, the annual death rate for young adults has been higher in the 1980s than it was in the 1950s (National Institute on Alcohol Abuse and Alcoholism, 1983).

In consideration of the significant size of this problem, this paper briefly describes two competing perspectives on adolescent substance abuse and focuses on the demographic correlates of adolescent substance abuse. These correlates are important for they further specify the dimensions of the problem and underpin an emerging concept in drug abuse prevention, "targeted primary prevention." Compared to the psychosocial correlates of drug use, the demographic characteristics of youths who use drugs are often reviewed as less informative (see, e.g., Fraser, 1984; Marsh & Shevell, 1983). However, recent data illuminating the conditions in which substance abuse is likely to occur may be quite helpful in designing prevention programs that target high risk individuals and communities.

THE STAGES OF DRUG INVOLVEMENT PERSPECTIVE

Two social perspectives on the use and abuse of substances by adolescents dominate the field. Both are rooted in etiological research, but adherents to the first view focus upon distinct stages of drug involvement, and adherents to the second focus on identifying risk factors for different kinds of substance abuse. The perspectives are not polar opposites, but they are distinguished by disagreement over the number and nature of pathways that lead youths to drug involvement.

Researchers who have focused on developing an etiological theory of substance abuse based upon stages of drug involvement argue that experimentation usually precedes use and use usually precedes abuse. Moreover, they argue that certain kinds of substances are used before others, i.e., that there is a basic ordering of experimentation with licit and illicit psychoactive substances (see, e.g., Kandel, 1973, 1975, 1976, 1978, 1980, 1982). In a recent study of males and females aged 10–25, Kandel and Yamaguchi (1985) further developed a four stage model in which alcohol use preceded marijuana use, and marijuana acted as a “gateway” to the use of other illicit drugs. On testing, the model “fit” 82% of the males and 79% of the females in the sample. Importantly, while a developmental sequence is proposed, Kandel and Yamaguchi report that most youths who progress to one stage do not progress to the next (Kandel & Yamaguchi, 1985, p. 213). Described below, these stages provide a potentially useful framework for prevention intervention.

Stage One: Experimentation with Licit Drugs

Two patterns of the onset of the use of psychoactive substances characterize most stage research: (1) no drug use which progresses to occasional alcohol use; and (2) no drug use which progresses to regular tobacco use (see, e.g., Brennan, Elliott, & Knowles, 1981). Use of tobacco or occasional experimental use of alcohol appears to constitute a first crude stage of drug involvement that describes many adolescents’ first drug experiences.

Stage Two: Regular Use of Alcohol

The second stage of most drug involvement models is defined by the regular use of alcohol and, for some youths, concomitant regular use of tobacco (Kandel, 1982). Few youths appear to become regular alcohol users without stage-one involvement, but, pivotally, most of the youths who experiment with licit drugs do not progress to the regular use of alcohol or illicit substances.

Stage Three: Use of Marijuana

Use of marijuana in conjunction with nicotine and alcohol characterizes a third stage of drug involvement. It is not clear whether youths who smoke are at greater risk of progression to

this stage. Based on a longitudinal survey of 1,725 youths aged 11 to 17, Brennan et al. (1981) reported that the transitional probabilities for progression from stage two to stage three were significantly higher for smokers (.23) when compared to those of nonsmokers (.04). However, in a separate study in San Francisco, Baumrind (1984) reported approximately equal transition probabilities for smokers and nonsmokers.

Stage Four: Use of Multiple Illicit Drugs

Stage four is defined by the use of multiple illicit drugs. The use of marijuana, alcohol, and tobacco act as gateway substances for progression to this stage (Petersen, 1984: 4). Most youths, however, do not become multi-drug users. In the National Youth Study, Brennan et al. estimated that the probability for moving from marijuana use to polydrug use was only .23. In a study of New York state high school students, Kandel (1980: 122) reported a stage three to stage four transition probability of .26. Thus, drug involvement at each stage is posited as a necessary but insufficient condition for sequential progression to the next stage.

At each stage, social and cognitive factors other than drug use per se are thought to account for sequential progression to the next level of drug involvement. The risks for progression are posited to be different at each stage. Hence, one cannot assume that stage one causes stage two drug involvement or that stage three involvement causes stage four involvement.

Other psychosocial conditions, according to stage theorists, must be present to propel youths deeper into a drug subculture. For example, youths whose parents use alcohol are thought to be at greater risk for experimentation with alcohol (see, e.g., Lawrence & Vellman, 1974; McGlothlin, 1975). Parents are influential behavior models for children and when they use substances, their children appear likely to use them as well. Parental influences have been found to be strongest regarding initiation to alcohol use and progression from marijuana use to the use of illicit substances (Kandel, 1985; Simcha-Fagan, Gersten, & Langner, 1986).

In addition to parental influences, peer and school-based influences have been shown to alter a youth's likelihood of

movement toward a greater level of drug involvement. Peer attitudes and use patterns exert the strongest influences on the frequency of use, particularly use of alcohol and marijuana. In contrast, parental influences appear to be stage-setting in the sense that they influence basic values and aspirations which affect initiation and experimentation (Kandel, 1985: 155–56). Peer factors, on the other hand, appear to be relatively more important in affecting the amount and frequency of use after initiation. Combined peer and parental factors are posited to affect differential drug involvement (Kandel, 1982).

THE RISK FACTOR PERSPECTIVE

Stage theory sheds light on one tortuously complicated path that leads some youths to substance abuse, but many experts oppose the view that there is one dominant pathway to drug involvement. Instead, they argue that there are probably many different routes to drug involvement. Based on this perspective, a risk factor approach similar to that used in epidemiology has been adopted by some researchers.

Without positing a particular causal order or sequence of events, the risk factor perspective provides a clearly useful conceptualization of the multiple causes of different types of substance use and abuse. In 1982, Bry, McKeon, and Pandina, for example, developed a six “risk” factor model for drug involvement that included: (1) low grade point average; (2) lack of religiosity; (3) early use of alcohol; (4) low self-esteem; (5) psychological distress (psychopathology); and (6) poor parent-child relationships. But this model was sharply criticized as failing to differentiate specific risks for specific drugs and failing to capture the “full range of possible causal factors” (Newcomb, Madhahian, & Bentler, 1986: 525).

Building on the work of Bry et al., Newcomb et al. added four additional factors to the model: (1) lack of social conformity (i.e., delinquency and other deviancy); (2) sensation seeking; (3) perceived peer drug use; and (4) perceived adult drug use. Based on data from a longitudinal survey of 994 Los Angeles high school students, each risk factor was correlated with a frequency-of-use measure for five different kinds of substances

(cigarettes, alcohol, cannabis, hard drugs, and nonprescription medications), and the five resultant correlations were averaged to estimate the relative contribution of each to drug involvement. The risk factors were ordered on the basis of these averaged correlations from least to most important as follows:

1. Poor self-esteem ($r = .07$)
2. Psychological distress ($r = .09$)
3. Poor academic achievement ($r = .11$)
4. Low religiosity ($r = .13$)
5. Poor parent-child relationship ($r = .16$)
6. Sensation seeking ($r = .16$)
7. Early alcohol use ($r = .22$)
8. Adult drug use ($r = .30$)
9. Lack of conformity ($r = .31$)
10. Peer drug use ($r = .41$)

Like stage theory, the risk factor perspective is in its infancy and is partially supported at best. When Newcomb et al. attempted to use their risk factors to predict specific categories of substance abuse, they were able to account for only 1% of the variation in subsequent cigarette use, 4% of subsequent alcohol use, 1% of subsequent cannabis use, 2% of subsequent use of nonprescription medications, and 7% of subsequent hard drug use. Thus, the risk factor perspective may be useful in conceptualizing vulnerability to substance abuse, but, at present, it has little predictive accuracy.

PREDICTION AND PREVENTION

Prediction is, in fact, a major empirical problem in the field of drug abuse prevention. Social perspectives on drug involvement have focused on the characteristics of social interactions in the family, peer group, school, workplace, and community (see, e.g., Hawkins, Catalano, & Lishner, 1985; Smith, 1984). These perspectives are important, as they place emphasis on drug-abuse-producing conditions that may be altered by public policies and prevention interventions. Typically, they underscore attachments to others and include such cognitive constructs as social bonds (Hirschi, 1969), stakes in conformity (Toby, 1957), social definitions (Akers et al., 1979), perceptions

of others' values (Newcomb et al., 1986), and personal beliefs or values (Kandel, 1982). These perspectives have sustained encouraging but partial empirical support. To date, it is simply not yet possible to identify with accuracy 1st, 2nd, and 3rd graders who, without intervention, will go on to be substance abusers.

In an era of great public concern about substance abuse and a growing number of public programs that purport to be working with high risk youths, the inability to predict substance abuse at the individual level raises an ethical practice issue. To what extent are youths who would not subsequently become involved in drugs being identified as high risk youth? What is the effect of placing youths in a prevention program? By labeling them as potentially deviant, do we inadvertently increase the risk of substance abuse for them? If so, then we must conclude that, at present, programs which attempt to identify high risk youth and deliver individualized services are ethically questionable.

Another approach to the problem of prediction and prevention is needed. This approach should be empirically based, it should supplement existing broadly-focused primary prevention programs, and it should result in services that do not falsely label youths as potential drug users and abusers. Such a prevention program should not be provided to students who are singled out of a classroom or school as high risk youth. Rather, it should be provided to high risk schools and communities. To undertake school- and community-focused programs, the predictors of substance abuse in higher order ecological units—such as schools and communities—must be identified. Although individual level prediction is fraught with error and ethical dilemmas, prediction at this level is less problematic because once a school or community is designated as high risk, all youths or students receive the same prevention service. Consequently, the labeling effects within a youth's social environment are diminished, as no single student is identified for special treatment.

In identifying at-risk communities and schools, the demographic correlates of substance abuse are informative. These

are reviewed in the next few pages and form the basis for a discussion of targeted primary prevention in the final section.

THE DEMOGRAPHY OF DRUG USE

Age of First Use

Drug involvement is consistently correlated with age, and early use is associated with a greater frequency of involvement as an adolescent and young adult (Kandel, Simcha-Fagan, & Davies, 1986; Raveis & Kandel, 1987). Based on reports from Johnston, O'Malley, and Bachman's survey of the 1985 senior class, many children become involved with substances by the 6th and 7th grades. Close to 10% of the surveyed seniors reported using alcohol by the 6th grade and an additional 23% reported alcohol use by the 7th–8th grades (Johnston et al., 1986: 80). By the 7th–8th grades, a total of 15.5% had experimented with marijuana. Importantly, the proportion of youth who have tried some drug by the 6th grade has been steadily increasing (Johnston et al., 1986: 81). Since earlier involvement in drug use is associated with subsequent use, high school substance abuse may not significantly decrease without early intervention, and primary schools should be targeted for primary prevention services.

Ethnicity and Race

Over the past two decades, large racial differences relative to drug abuse have declined (see, e.g., Blount & Dembo, 1986). In general, racial and ethnic differences are confounded with differences due to class, education, and income. Thus, they are difficult to estimate with precision. Although white youths tend to report higher levels of marijuana, cocaine, and psychotherapeutic drug use (both prescribed and unprescribed), when compared to nonwhite youths, the differences are often only two or three percentage points (see, e.g. Miller, Cisin, Gardner-Keaton, Harrell, Wirtz, Abelson, & Fishburne, 1983). And when differences due to class, and income are controlled, race effects often wash out (see, e.g., Kandel, 1976).

However, there are a growing number of reports of significant differences across sociocultural groups. In essence, inner-city youth appear to differ from rural and suburban youth in both the kinds and the amount of substances used. And within urban areas, there appear to be differences across ethnic groups. Though Jiminez (1980) does not report statistical tests, significant differences by ethnicity appear across a number of characteristics describing white and Puerto Rican former drug users in treatment. These differences included drug and alcohol use patterns, family background, peer support, and the value placed on academic achievement. Guinn's studies (1975, 1978) of 2,324 Mexican-American junior and senior high school students indicate that family influence may be more predictive of drug use among Hispanic youth than among non-Hispanic youth. And in a study of multi-ethnic, urban youth, Polish, Italian, German, Hispanic, and Black youths in four major U.S. cities were reported to experiment with drugs later than Native American Indians and racially mixed youths (Jackson, Carlisi, Greenway, & Zalenick, 1981: 1383). In particular urban American Indian youths were observed to use a variety of drugs (methadone, inhalants, valium, and tobacco) before age thirteen. Thus schools and neighborhoods with large numbers of urban American Indians, as may be found in many western U.S. cities, may be targeted for primary prevention.

Gender

Gender differences in drug involvement are complicated. Compared to females, males are still more likely to use drugs, especially illicit drugs, but the differences have decreased over the past 20 years. Current use of tobacco (half-a-pack-a-day) is about equal for males (12.3%) and females (12.0%), while males' use of alcohol is about 7.7% higher than that of females (Johnston et al., 1986: 68–69). However, males are far more likely to drink heavily. Approximately 43% of male high school seniors reported drinking five or more beers in a row in the two weeks prior to being surveyed. In comparison, only 22% of the female seniors surveyed reported such heavy drinking (John-

ston et al., 1986: 69). In a similar vein, use of PCP, nitrites, inhalants, hallucinogens, and heroin is about two times greater among males (Johnston et al., 1986: 31).

Females' drug use exceeds that of males only in the case of stimulants and this appears to be related to the use of weight loss substances (Johnston et al., 1986: 33). If, as Kandel (1976) suggested, there is a marijuana gateway, then it is not an equal opportunity threshold, for 6.9% of male high school seniors and 2.8% of female seniors used marijuana daily in 1985 (Johnston et al., 1986: 31).

These patterns remain stable for young adults aged 18 to 25 years old. In general, males tend to use drugs more frequently and they tend to use larger quantities of drugs. For example, 7.4% of young male adults reported daily use of marijuana in 1985, while only 3.4% of young women reported use so frequent (Johnston et al., 1986: 151). Johnston et al. (1986: 151) observed similar differences with regard to daily alcohol use (males, 10.4%; females, 3.6%) and heavy drinking of five or more drinks at one time (males, 52%; females, 27%).

There is a paucity of information about the causes of female substance abuse. It does appear, however, that the female children of drug abusers have a much higher risk of substance abuse (Kumpfer & DeMarsh, 1986). The female addict appears to come from a family in which there was parental substance abuse, poverty, adolescent pregnancy, and delinquency (Polit, Nuttal, & Hunter, 1976). She is likely to have had frequent feelings of dysphoria as an adolescent and young adult (Kandel, Simcha-Fagan, & Davies, 1986; Kandel & Davies, 1986). And although drug-addicted mothers are reported to have normal attitudes toward parenting, they perform less skillfully on tests of parenting behavior and their children score lower than nonaddicted mother's children on measures of intelligence, development, and social adaptivity (Bauman & Dougherty, 1983: 291). In sum, the children of drug abusers to be the innocent victims of their parents' drug involvement and, if at the individual level high risk youths are to be identified, the children of drug addicts may be one of the few groups for whom predic-

tion errors would be small (see, e.g. Kumpfer & DeMarsh, 1985, 1986).

Socioeconomic Status

There is little evidence that socioeconomic status (SES) influences drug use in the general population. In the self-report literature, family SES, mother's education, and father's education are often weakly associated with drug use and other forms of deviancy (see, e.g. Jessor, Chase, & Donovan, 1980; Brownfield, 1986). However, these relationships are quite attenuated and are dependent upon the measure of social class used. When communities are divided on the basis of unemployment and welfare status rates, relatively strong correlations between SES and drug abuse/crime are usually found. However, when Marxist conceptions (blue-collar versus white-collar) or measures that combine income and education are used, the correlations weaken (see, e.g. Brownfield, 1986; Hawks, 1974: 55). Even official reports of patients entering drug therapy programs have not indicated that SES is a significant correlate (see, e.g., Curtis & Simpson, 1977). Thus, if income is a risk factor for substance abuse, it is so only at the extreme end of deprivation and poverty.

Education

Youths who are more successful pursuing educational goals are less likely to become involved with drugs (for a review, see Fraser, 1984). Since 1976, the patterns distinguishing college-bound and noncollege-bound youths have remained relatively stable. Youths planning to complete four years of college are consistently 7–10 percentage points below youths planning no college (or less than four years of college) on most measures of drug use. For example, in 1985, 50% of noncollege-bound and 43% of college-bound seniors reported use of marijuana only. Thirty-two percent of noncollege-bound youths reported use of some illicit drug other than marijuana, while 24% of college-bound youths reported other illicit drug use (Johnston et al., 1986: 70).

Comparisons of college students and all age-equivalent young adults per se yield less distinct differences. College students appear to binge drink more often (college, 45%; age band, 41%), however, the two groups do not differ across annual prevalences of alcohol use, marijuana use, and the use of most illicit substances. College students are slightly below the average rate for their age group in their annual usage of LSD, stimulants, barbiturates, tranquilizers, and opiates other than heroin. And, they smoke (half-a-pack-a-day) considerably less than others their age (college, 9.4%; age band, 18.5%) (Johnston et al., 1986: 179–180).

Employment

There is growing evidence that controlled drug abuse is possible and that some illicit drug users can finance their habits on salaries earned in conventional occupations (Apsler, 1979). This is likely possible only among middle and upper income levels where salaries are sufficiently high to purchase expensive drugs. Mandell and Amsel (1976: 382) who systematically sampled patients (N = 1,500) from the Narcotic Addict Rehabilitation Branch of the National Institute of Mental Health from 1967 to 1971 found that “economic self-sufficiency . . . is independent of drug use, indicating that drug users can be gainfully employed.” In short, a high proportion of habitual drug users appear to be able to work while addicted to illicit drugs, including heroin (Bale, 1979: 996; Bale et al., 1980: 183; Bachman, O’Malley, & Johnston, 1984).

Whether drug users and abusers can function in the world of work probably depends upon their level of drug involvement. Recent findings from a longitudinal study of a cohort of men and women age 24–25 indicate that drug users are at greater risk of job termination and unemployment when compared to non-drug users. However, these differences appear to be based on individual choice and in large measure represent life style decisions (Kandel & Yamaguchi, 1987). Drug involvement may be a marker for a group of youths and adults who in their work careers will experience high job mobility. At pre-

sent, it appears that some regular work routines are not affected by experimentation or moderate substance use.

Income-generating Street Crime

The street lifestyle provides alternate income sources for many young drug users who are not prepared (because of academic failure) or able (because of drug-related impairments) to maintain conventional jobs. The abuser who is not successful in conventional employment must develop skills, attachments, and values that maximize his/her chances for a "score." As drug users become more involved in street life, their commitments to conventional activities appear to erode in the face of the need to build relationships that provide access to drug supplies. Such contacts are not made haphazardly, but develop as commitment to a deviant lifestyle increases (Marsh & Shevell, 1983; Pittel, 1974).

There is little doubt that many polydrug users finance expensive habits by forgery, pimping, predatory crimes and prostitution (see, e.g., Bale et al., 1980; Kolb, 1962; Winick, 1967; Blum, 1969; Graham, 1987). Drug abuse is becoming one of the main indicators of career crime. Data collected in 1986 at the Manhattan Central Booking facility in New York showed "that between 59% and 92% of those charged with robbery tested positive for cocaine, as did more than 70% of those charged with burglary" (Graham, 1987: 2). It is simply not possible to consider substance abuse and addiction without concomitantly considering crime.

Historically, many investigators have argued that drug abuse causes criminal involvement (see, e.g., Dai, 1937; Schur, 1962; Lindesmith, 1965). But Blum (1967) and others have contended that the relationship between drug use and criminal behavior is more complex, possibly bidirectional. In their view, criminal earnings may actually stimulate the purchase of drugs (Coate & Goldman, 1980).

Recent data indicate that many youthful drug users are involved in minor delinquent activities well before they become multi-drug abusers (see, e.g., Elliott, Huizinga, & Ageton,

1985; Elliott & Ageton, 1976). For youths who become deeply involved in delinquency, drug use appears to be part and parcel of an overall "deviancy" syndrome (for more on this view, see Jessor, Chase, & Donovan, 1980; Jessor, 1984; Donovan & Jessor, 1985; Jessor, Donovan, & Costa, 1986). This suggests that the drug use of youths who frequently commit illegal acts may have different etiological roots from that of youths who do not commit illegal acts or who engage only in minor delinquencies. Chronic juvenile offenders appear to constitute a special at-risk population (see, e.g., Hawkins, Lishner, Jensen, & Catalano, 1986).

Drug-prone Neighborhoods and Schools

Crime, drug use, adolescent pregnancy, welfare dependency, unemployment, and other social problems do not occur in equal proportions across neighborhoods and schools in the United States. Some communities have higher drug abuse and crime rates than other communities. In examining this phenomenon in 201 census tracts in Baltimore, Nurco, Shaffer, and Cisin (1984) found moderate to high inter-correlations among 12 indicators of social problems, including drug abuse. Upon factor analyzing the indicators, they reported that one underlying dimension accounted for 72.6% of the total variation in "social pathology." This finding tends to support the view that illicit substance abuse may be part of a generalized deviancy syndrome that occurs in greater measure in schools and neighborhoods where conventional opportunities for success are limited and an illegitimate opportunity structure has developed (see, e.g. Clayton & Voss, 1981).

Building on this research and research from the field of criminology (see, e.g., Shaw, Zorbaugh, McKay, & Cottrell, 1929; Shaw & McKay, 1942, 1969; Wolfgang & Ferracuti, 1967; Elliott & Ageton, 1980; Elliott & Huizinga, 1983; Simcha-Fagan & Schwartz, 1986), it is increasingly possible to identify "at-risk" schools and neighborhoods. In a study of 681 junior high school students from inner-city neighborhoods that varied in degree of "toughness," Dembo, Schmeidler, Burgos, and Taylor (1985) recently reported that environmental influences are

critical factors in explaining drug involvement. In particular, neighborhood-setting specific relationships were observed, suggesting that the correlates of drug involvement vary across schools where gang membership and personal toughness are differentially important (see also, Dembo, Allen, Farrow, Schmeidler, & Burgos, 1985). Based on data to date, higher-order ecological units—schools, neighborhoods, census tracts, etc.—that are more likely to experience serious problems with drug involvement appear to be identifiable on the basis of high scores on six common social indicators (Nurco et al., 1984: 446):

1. Illegitimate birth rate
2. Venereal disease rate
3. Percent unmarried
4. Non-drug-related arrest rate
5. Welfare dependency rate
6. Percent of dwellings with average number of persons per room greater than one

In addition, neighborhoods which rate high on these characteristics are more likely to have a higher degree of organized criminal activity, to have a well-articulated youth street culture, and to have relatively low rates of citizen participation in community affairs.

Contextual or ecological effects such as these have been shown to exert separate and significant effects on illegal behavior. Relatively, however, ecological effects may not be as important as individual-level characteristics. There is some evidence that the leverage of the environment is greatly reduced when individual factors are controlled (Simcha-Fagan & Schwartz, 1986: 694–695). On balance, individual socialization—for example, friends' use of marijuana—appears to exert more influence on behavior than aggregate community or school characteristics. Notwithstanding, combined with the individualized view of human behavior, the community-level (generalized social pathology) view of drug abuse and illegal behavior appears to provide a more comprehensive explanation of substance abuse and offers clear guidelines for the specification of schools and neighborhoods that might be targeted for primary prevention interventions.

IMPLICATIONS FOR TARGETED PRIMARY PREVENTION

The demographic and ecological correlates of substance abuse suggest that the stage and risk factor perspectives should be broadened to include the view that the environmental setting—beyond peer and parental influences—operates to condition drug misuse. In particular, the work of Dembo et al. implies that individual psychopathy, family alienation, and personal failure may be less predictive of substance abuse in high toughness neighborhoods and more predictive of substance abuse in low toughness neighborhoods. The use of drugs in high toughness settings appears to be normative, reflecting the values of the local subculture rather than personality deficits.

Targeted Prevention in Conventional Schools and Neighborhoods

Separate targeted primary prevention strategies that depart significantly from existing generic primary prevention approaches must be developed to supplement current prevention efforts. For neighborhoods and schools where significant social problems do not exist, where there is active community participation, and where there is a limited street culture (i.e., low toughness), broadly-focused primary prevention services should be augmented by targeted primary prevention designed for children of substance abusers.

Such services are likely to target those children who are at greatest risk (Kumpfer & DeMarsh, 1986). A three-year experimental study funded by the National Institute of Drug Abuse has shown recently that family-focused intervention provided in conjunction with adult treatment can be quite effective in reducing the risk that children of substance abusers will follow in their parents footsteps (Kumpfer & DeMarsh, 1986; Kumpfer, 1987). The labeling effects of this intervention appear to be reduced by delivering service through local drug treatment programs rather than schools. The approach has been

combined successfully with both adult outpatient and residential services as a family support component of treatment.

At the same time and on a broader level, schools at relatively greater risk must be targeted. Prevention services in schools with comparatively higher incidences of teenage pregnancy, drug use, and other forms of misbehavior (e.g. school vandalism) should be targeted both to change the environmental and individual conditions that produce drug involvement. At the individual level, a variety of skills training programs that have been shown to reduce experimentation with licit drugs are available (see, e.g., Bell & Battjes, 1985). But little attention has been afforded the contextual influences. Targeted prevention programs that alter the school environment to strengthen youths' attachments to people in school, to broaden involvement in conventional activities, and to promote academic achievement are likely to reduce drug involvement (further discussion of these strategies is beyond the scope of this paper, however, for more on these emerging interventions, see, Gottfredson, 1986). Such programs require re-conceptualizing the school as a setting that influences a wide variety of prosocial behaviors. Gottfredson (1986: 720) found that when schools were viewed in such a way and when environmental changes were effected, delinquency, drug involvement, suspensions, and other forms of school punishment were reduced.

Targeted Prevention in Street Subculture Schools and Neighborhoods

In neighborhoods characterized by serious housing, public safety, health, and employment problems, the correlates of drug involvement appear to be different and prevention intervention must be focused on the norms that reinforce drug use and other forms of deviancy. Drug abuse is but one of many problems that contribute to non-conforming behavior in such communities, and it is unlikely that singular school-based prevention strategies will affect these neighborhoods.

A community-based and community-run intervention that addresses housing, health, education, and employment needs

must be designed to reconstruct the battered informal social control mechanisms that once in such communities operated to provide opportunities for success in the conventional society (see Fraser, 1987). School-based programs such as Project PATH that provide new opportunities for success and make use of respected role models to promote anti-drug values have been shown to be promising in combating street values (Gottfredson, 1986). Coordinated interventions should build upon the social and cultural background of the street subculture, and they must empower residents who are committed to conventional lines of action. Such approaches have been shown to affect community crime and drug abuse rates, as well as other indicators of social pathology (see, e.g., Greenberg, Rohe, & Williams, 1985).

SUMMARY AND CONCLUSION

The purpose of this paper was to argue that two dominant social perspectives on the etiology of substance abuse among youths and young adults—the stage and risk factor theories—should be enlarged to include ecological considerations. The differential demography of drug abuse strongly suggests that the community context influences the use and abuse of substances. Although there is a rich literature in criminology on the influence of social disorganization, social strain, cultural deviance, and differential association, the literature on substance abuse is curiously dominated by individual-level psychosocial theories.

In an era of great public concern about substance abuse and many attempts to prevent or delay the use of substances by adolescents, the use of person-centered perspectives appears to have resulted in narrowly focused skills training programs and “say no” media campaigns. Consideration of community-level factors permits the identification of high-risk schools and neighborhoods, enabling prevention specialists to target specific schools, census tracts, and neighborhoods for more concentrated intervention.

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