The Visibility of Illicit Drugs: Implications for Community-Based Drug Control Strategies

Leonard Saxe, PhD, Charles Kadushin, PhD, Andrew Beveridge, PhD, David Livert, MS, Elizabeth Tighe, PhD, David Rindskopf, PhD, Julie Ford, PhD, and Archie Brodsky, BA

Illicit drugs are associated with a panoply of social, economic, and health problems, and efforts to reduce use have met with mixed success. Despite strict penalties for illicit drug use and sale-part of a "war" against drugs involving an annual cost of \$40 billion¹—use of illicit drugs remains widespread and continues to be a serious health and social problem. Multiple reasons explain the limited effectiveness of substance abuse programs. One is that programs focus on visible manifestations of substance use. In particular, in the framework of prevention efforts, programs focus on illicit drug use in poor and minority communities where drug markets are most visible. Yet visibility of drugs in particular communities does not necessarily imply drug use among residents of those communities. As a result of the conflation of visible drug use with presumed drug use, community-based demand reduction strategies may fall short of their desired impact.

To deal more effectively with illicit substance use, public policy has increasingly emphasized demand reduction. National policy remains heavily focused on law enforcement approaches, but there has been a steady increase in investment in prevention, treatment, and research.² A key thrust of these activities has been to engage communities perceived to be hardest hit by illicit drug use in organizing prevention, treatment, and aftercare initiatives. Public and private agencies have provided resources for communities to develop comprehensive antidrug programs that engage and promote coordination among governments, private organizations, and citizens.3,4 Two assumptions underlie these programs: first, that substance abuse is associated with significant harm to individuals and communities and, second, that communities themselves can shape the behavior and beliefs of individuals.

As noted by Schorr, ^{5(p7)} successful social programs must deal with "families as [a] part

Objectives. This study examined differences between the visibility of drugs and drug use in more than 2100 neighborhoods, challenging an assumption about drug use in poor, minority, and urban communities.

Methods. A telephone survey assessed substance use and attitudes across 41 communities in an evaluation of a national community-based demand reduction program. Three waves of data were collected from more than 42 000 respondents.

Results. Measures of neighborhood disadvantage, population density, and proportion of minority residents explained more than 57% of the variance between census tracts in visibility of drug sales but less than 10% of tract-to-tract variance in drug use. Visible drug sales were 6.3 times more likely to be reported in the most disadvantaged neighborhoods than in the least disadvantaged, while illicit drug use was only 1.3 times more likely.

Conclusions. The most disadvantaged neighborhoods have the most visible drug problems, but drug use is nearly equally distributed across all communities. Thus, efforts to address drug-related problems in poorer areas need to take into account the broader drug market served by these neighborhoods. (Am J Public Health. 2001;91:1987–1994)

of neighborhoods and communities." In the context of substance abuse, the former head of United States drug policy characterized the drug problem as "a series of community drug epidemics."6,7 The etiology of substance abuse is complex, involving individual- and community-level risk factors.4 Thus, solutions turn on the ability to engage community members and neighborhoods. Despite wide recognition of the relationship between social problems and neighborhood characteristics, 8,9 the social processes that explain such relationships remain unexplicated. 10 In the area of substance abuse, prevailing theoretical models have been clinical, focused on changing the behavior of addicted individuals.11,12 Community-based programs have proven popular, 13,14 but we lack evidence of their effectiveness. $^{3,15-18}$

Although public rhetoric emphasizes that substance abuse harms all of us, not only the most disadvantaged, ^{19,20} the predominant focus of social policy experiments has been on those areas where social problems are assumed to concentrate: poor, inner-city neighborhoods, typically inhabited by minority populations. A special issue of the *Journal of*

Community Psychology, for example, described a series of 8 government-sponsored programs. Six of the programs targeted youths in inner-city, disadvantaged neighborhoods. Only 2 programs crossed social and economic boundaries. This bias may be due to the association of crime and violence with the crack-cocaine market. It is assumed that where there is crime, there is drug use, and crime is evident in poor, urban communities.

Public perceptions about where drug problems concentrate are supported by research on individual characteristics. Thus, researchers have found that both abstinence and heavy use of alcohol and drugs occur at high rates among African Americans^{24,25} and Hispanics.26 Moreover, although African Americans are less likely than the general population to initiate substance use in adolescence, those who do so are more likely to continue and to progress to heavy use. 27,28 These results are consistent with findings that African Americans have relatively low rates of lifetime use but high rates of recent use. 29,30 Similarly, Brownsberger³¹ concluded that frequent cocaine use is far more prevalent in low-income urban areas than elsewhere.

Contrary to evidence that drug use is rampant in minority communities and disadvantaged neighborhoods, many who live in these communities see dealers, rather than users, as the primary problem. Ethnographies of African American and poor communities afflicted by drugs indicate that many users drive into those neighborhoods.³² In a study of heroin and cocaine trafficking in 6 cities, Whites were more likely than African Americans to buy drugs outside of their own neighborhoods and to buy them indoors.³³ Thus, visible drug use and sales in a neighborhood may not necessarily imply elevated levels of drug use by residents of that neighborhood.²⁹

That the association of substance abuse with poor, minority communities is a misperception is further suggested by other research, 34–36 including studies demonstrating higher use rates among affluent, suburban, or White youths than among impoverished, non-White, urban youths 37 and studies demonstrating higher rates of substance use among White than non-White populations. 38 African Americans, however, are arrested and incarcerated at rates that are disproportionate to their drug use. 39–42

The distinction between drug use among residents in urban, disadvantaged neighborhoods and the perception of community harms from substance abuse is critical for community-based drug policy. The assumption that substance abuse needs to be attacked primarily in communities most visibly affected by drug sales and related crime^{1,43} has led to civic initiatives such as efforts to reclaim, renovate, and resell "crack houses." These strategies exemplify "fixing broken windows" to reverse deterioration in inner cities by restoring their physical and social infrastructure. 44,45 Although recent research disputes the broken windows theory, 10 coordinated community programs are rarer in middle-class and affluent communities, where substance abuse tends to be understood in terms of individual deviance, psychopathology, or life-skills deficiency. 37,39

Thus, community programs typically confound visible community drug problems with individual drug use. In part, this reflects a failure to distinguish individual outcomes from those attributable to neighborhood characteristics. Few studies employ the multilevel ana-

lytic techniques required to separate these effects. 10,46,47 The present study was designed to test the assumption that neighborhoods with the most visible drug problems are those with the highest rates of substance use. The data were drawn from an evaluation of a national demonstration program, Fighting Back, sponsored by the Robert Wood Johnson Foundation in an attempt to nurture broadbased antidrug coalitions. The foundation originally supported coalitions in 14 US communities⁴⁸ selected according to the extent of their substance abuse problems and capacity to develop coalitions. Fighting Back communities are disproportionately poor, urban, and African American.

The evaluation, designed to assess the impact of demand-reduction strategies across Fighting Back communities, ⁴⁹ included a biennial survey conducted in Fighting Back and comparison communities. The present analyses examined the visibility of the drug problem at the neighborhood level and the relationship between visible drug sales and individual drug use. Three waves of survey data from more than 42 000 respondents were available. The respondents represented "participant observers" who reported on drug sales in their neighborhoods as well as on their own use of drugs.

METHODS

A telephone survey involving random-digitdialed sampling procedures assessed drugand alcohol-related behaviors and attitudes in 41 sites throughout the United States (12 Fighting Back and 29 comparison sites). Each site had a population of 100 000 to 250 000 residents and included whole cities, portions of cities, and sometimes surrounding areas. 50,51 The sampled sites were more $\,$ urban, more African American, and poorer than the United States at large and included a wide range of areas, from Santa Barbara, Calif, to central Newark, NJ. The surveys, conducted in the spring of 1995, 1997, and 1999, consisted of random samples of individuals aged 16 to 44 years.⁵¹

Sample

The Fighting Back and comparison areas consisted of 2104 neighborhoods (defined

as census tracts). The 47 482 respondents included residents of every tract within the 41 sites. In 1995, the sample included approximately 500 respondents per treatment area and matched group of comparison areas (n=12 113). In 1997 and 1999, the sample included up to 1000 respondents in each treatment area and 600 in each group of comparison areas (n=17 900 and n=17 469, respectively). The overall response rate was 76% (interviews/initial contacts).

A sampling firm drew a random sample of telephone numbers based on the zip code incidence of telephone exchanges, and this sample was then matched against listed numbers. Forty-four percent of the sampled numbers matched an address. Interviewers screened respondents to ensure that they lived within the targeted area. Respondents furnished the intersection closest to their residence, and addresses were geocoded.⁵⁰ The current analyses included the respondents who were geocoded and provided full information on all variables used (n=42 650).

Measures

Survey measures assessed alcohol and other drug use, tobacco use, harm associated with use, perceptions of own use, friends' alcohol and other drug use, and perceptions of one's neighborhood. The survey adopted questions from major government-sponsored surveys such as the National Household Survey on Drug Abuse (NHSDA),⁵² Monitoring the Future,⁵³ and the National Comorbidity Survey.²⁵ The average interview length was 22 to 23 minutes.

The 3 dependent variables were illicit drug use, drug dependency, and observations of drug sales. Illicit drug use was measured by a dichotomous variable defined as individuals' reports of their own use of any substances during the previous 12 months (marijuana, cocaine, amphetamines, barbiturates, inhalants, LSD, or heroin). Drug dependency, which indicates severity of use, was defined as in the National Comorbidity Survey. Rate of drug dependency usually is based on those "at risk," but here the rate was instead based on all respondents. Thus, dependency was a proxy for heavy drug use.

Tract-level data derived from the 1990 US census were appended to respondent data to

provide measures of neighborhood context. The 1990 census data are the only extant data that portray poverty status, educational status, family status, and Hispanic and racial status. Although changes in population may have occurred subsequently, these changes were not expected to have much effect on neighborhood-level relationships. Vast amounts of data exist for census tracts, which are widely used as a proxy for neighborhoods. ^{54,55} Our sample included an average of 20 respondents per census tract (range: 1–270).

Using tract-level data, we constructed a neighborhood disadvantage index from 5 neighborhood context indicators. All US census tracts were given percentile scores on frequently used measures of disadvantage: adult population unemployed, high school dropouts, female-headed households, individuals receiving public assistance, and those living in households below the poverty level. For each census tract, the 5 percentile scores were summed to form a 500-point index in which higher numbers indicated greater disadvantage. The index

was divided by 500 to yield a 0 to 1 scale, which was then ranked.

The individuals sampled lived in neighborhoods with an average neighborhood disadvantage rank score of 0.65, as compared with a national average of 0.45. The distribution of disadvantage scores is displayed in Table 1. Overall, consistent with the design of the program, communities were disproportionately disadvantaged, with more than 40% of tracts ranked above 0.80 in disadvantage. All levels of disadvantage, however, were represented in the sample.

Of the respondents, 27.4% lived in neighborhoods in which 50% or more of residents were non-Hispanic African Americans, 30.3% lived in neighborhoods in which 10% to 50% of residents were African Americans, and 42.3% lived in neighborhoods in which fewer than 10% of residents were African Americans. Approximately 10% of the respondents lived in neighborhoods consisting of 50% or more Hispanic residents, and an additional 24.7% lived in neighborhoods consisting of 10% to 50% Hispanic residents. Because extremely disad-

vantaged neighborhoods are predominantly composed of minority residents, ⁵⁶ the proportions of non-Hispanic African American and Hispanic residents were summed to create a "disadvantaged minority" index. This index had a mean of 0.48.

Population density was computed by dividing the number of individuals living in each tract by the area (in square miles) of that tract. The mean density was 8012 individuals per square mile, with the minimum density being about 7 individuals per square mile and the maximum being 76024 individuals per square mile. This variable was a proxy for the "inner-cityness" of an area.

RESULTS

The assumption that drug use and the visibility of drug sales predominate in neighborhoods that are most disadvantaged, have the highest concentrations of minority residents, and are most densely settled was tested with multilevel logistic regression models. Table 1 summarizes the relative distribution of visible sales and individual drug use, by census tract, for each of these neighborhood characteristics. Much higher percentages of respondents in areas with high degrees of neighborhood disadvantage, high proportions of minority residents, and high levels of population density reported that they frequently observed drug sales. There was little relationship between reported drug use and these neighborhood characteristics.

Multilevel models were estimated to distinguish whether these observed differences reflected neighborhood problems and influences or were uniquely determined by individual characteristics. Variance between individuals was modeled at the first level, and variance between neighborhoods was modeled at the second level. In this context, the use of multilevel models allowed determination of (1) how much variance in drug use and other outcomes was accounted for by place (tract) and (2) the extent to which the neighborhood disadvantage index, the proportion of disadvantaged minority residents, or the population density accounted for differences between the tracts.

Although the data could be arrayed in 3 levels (site, tract, person) or even 4 levels (site

TABLE 1—Individual Reports of Drug Sale Visibility and Drug Use, by Characteristics of Census Tract Variables: Fighting Back Evaluation, 1995-1999

	Total, No. (%)	Frequently See Drug Sales (n = 44 998), %	Use of Any Illicit Drug in Last 12 Months (n = 44 998), %		
Neighborhood disadvantage ranking					
0.80-0.99	18 119 (42.5)	40.45	13.51		
0.60-0.79	8 788 (20.6)	18.88	15.34		
0.40-0.59	6 105 (14.5)	11.15	15.03		
0.20-0.39	5 881 (13.8)	6.46	13.83		
0.00-0.19	3 697 (8.7)	3.37	12.68		
Proportion of disadvantaged minority					
residents in tract					
0.80-1.00	10 859 (25.5)	48.45	13.02		
0.60-0.79	4 224 (9.9)	29.13	11.85		
0.40-0.59	6 133 (14.4)	23.17	14.64		
0.20-0.39	7 068 (16.6)	15.93	14.85		
0.00-0.19	14313 (33.6)	8.05	14.98		
Population density (100 000/square mile)					
0.1251-0.7602	8 373 (19.6)	46.52	14.94		
0.0700-0.1250	8 392 (19.7)	29.75	15.14		
0.0431-0.0700	8 668 (20.3)	20.30	14.98		
0.0251-0.0430	7 874 (18.5)	14.28	13.53		
0.0001-0.0250	9 343 (21.9)	10.42	11.93		

TABLE 2—Two-Level Hierarchical Logit Analysis of Indicators of Visible and Other Drug Use: Fighting Back Evaluation, 1995–1999

	Drug Sales				Drug Use			Drug Dependency (All Respondents)		
	Coefficient	SE	Z	Coefficient	SE	Z	Coefficient	SE	Z	
			Model 1: const	ant, level 2 variand	e					
Constant	-1.050	0.030	-35.000	-1.828	0.019	-96.210	-3.489	0.034	-102.618	
Level 2 variance	1.204	0.055	21.890	0.183	0.018	10.167	0.198	0.050	3.960	
		Model 2: co	nstant, level 1 Bl	ack and Hispanic,	level 2 varianc	е				
Constant	-1.581	0.034	-46.500	-1.699	0.025	-67.960	-3.452	0.047	-73.447	
Level 1										
Black	0.878	0.035	25.086	-0.198	0.037	-5.351	-0.088	0.072	-1.222	
Hispanic	0.555	0.038	14.605	-0.333	0.044	-7.568	-0.035	0.082	-0.427	
Level 2 variance	0.889	0.044	20.200	0.143	0.018	7.944	0.196	0.050	3.920	
Model 3: constant, level 1 Bi	ack and Hispanic,	level 2 neighbo	rhood disadvanta	age, proportion of o	disadvantaged	minority resident	s, population dens	ity and varianc	e	
Constant	-1.776	0.032	-55.500	-1.695	0.028	-60.536	-3.469	0.052	-66.712	
Level 1										
Black	0.693	0.039	17.596	-0.205	0.043	-4.741	-0.063	0.087	-0.720	
Hispanic	0.376	0.041	9.200	-0.355	0.046	-7.778	-0.055	0.088	-0.631	
Level 2										
Neighborhood disadvantage	2.081	0.132	15.735	0.309	0.099	3.133	0.730	0.180	4.054	
Minority disadvantage	0.913	0.093	9.772	-0.180	0.084	-2.150	-0.395	0.150	-2.631	
Population density	4.498	0.284	15.854	0.644	0.250	2.577	-0.528	0.473	-1.117	
Level 2 variance	0.381	0.027	14.111	0.131	0.017	7.706	0.188	0.050	3.760	
Change in level 2	0.508			0.012			0.008			
Change in proportion of level 2 variance	0.572			0.085			0.043			
Proportion of level 2 variance explained	0.684			0.285			0.053			

group, site, tract, person), the primary hypothesis concerned between-neighborhood differences. Inclusion of between-site variability did not alter the between-neighborhood findings; thus, we treated the data as consisting of a reasonably representative sample of tracts in the United States. Only the results of the between-neighborhood tests are presented here.

Model 1, reported in Table 2, displays results of the constant term at level 1 and the variance at level 2, which was the tract-to-tract variance in the 3 outcomes. Tests employing the change in log likelihood revealed significant tract-to-tract variance in all 3 outcomes. Examination of the magnitude of tract-to-tract variance across visibility of drug sales, drug use, and drug dependency revealed a striking pattern: visible drug sales had a much higher level 2 variance than did either drug use or drug dependency.

In short, the variation in visible drug sales was in large part a neighborhood characteristic. This pattern makes sense analytically because, in the case of visible drug sales, the respondents were reporting on a neighborhood characteristic. Although we might expect some variation within neighborhoods among respondents in regard to awareness of this characteristic, their responses should be largely similar. Illicit drug use and drug dependency are individual-level behaviors. The difference between the individual- and neighborhood-level variables suggests that analysis of an individual characteristic can lead to conclusions about substance use that are different from conclusions based on analysis of the composition of neighborhoods. To assume that correlations with individual characteristics are replicated at the neighborhood level is to commit the "ecological fallacy." ⁵⁷

Model 2 in Table 2 adds two level 1 dummy-coded race/ethnicity variables: non-Hispanic African American/other and Hispanic/other. African American or Hispanic ethnicity was positively associated with reports of visible drug sales, negatively associ-

ated with drug use, and not related to drug dependency.

Model 3 in Table 2 addresses neighborhood effects. Neighborhood disadvantage, proportion of disadvantaged minority residents, and population density together explained 57% of the remaining variance between tracts (after level 1 variables had been added) in visible drug sales, while they explained only about 9% of the remaining variance in drug use and about 4% of the variance in drug dependency. This model explained roughly two thirds (68%) of the tract-to-tract difference in visible drug sales, whereas it explained just over a quarter (28%) of the variance in drug use and only 4% of the variance in drug dependency.

The parameters for neighborhood disadvantage, proportion of disadvantaged minority residents, and population density indicate that all 3 variables were strongly and positively related to drug visibility. Drug use was positively related to neighborhood disadvantage and population density, whereas it was

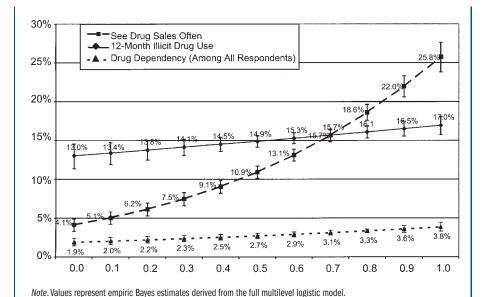


FIGURE 1—Estimated percentages of respondents frequently observing drug sales, using any illicit drugs in the previous month, and meeting dependence criteria, by level of neighborhood disadvantage: Fighting Back Evaluation, 1995–1999.

negatively related to proportion of disadvantaged minority residents. Drug dependency was positively related to neighborhood disadvantage, negatively related to proportion of disadvantaged minority residents, and not significantly related to population density.

Thus, the factors that predicted the reporting of the visibility of drug sales were not necessarily the same as those that predicted drug use or drug dependency. Higher proportions of respondents in tracts with high levels of neighborhood disadvantage and high proportions of disadvantaged minority residents reported visible drug sales. There was some association between higher levels of neighborhood disadvantage and drug use and drug dependency. Living in a minority neighborhood was negatively associated with use and dependency once density and disadvantage had been controlled. There was somewhat more drug use in high-density neighborhoods. The relationships between the neighborhood characteristics (Table 2) for drug use and drug dependency were smaller than for visible drug sales, and the residual variance was also lower for both drug use and drug dependency.

Figure 1 displays the relationships between neighborhood disadvantage and visible sales, individual use, and drug dependency based on model 3 (the equation on which the model is based is available from the first author). The horizontal axis represents neighborhood disadvantage, which ranges from 0 to 1 (the average disadvantage score was 0.65). The reference category represents a White respondent living in a tract with an average percentage of disadvantaged minority residents (34.44%) and an average density (8012 individuals per square mile). Percentages (derived from log odds coefficients) are shown along the vertical axis.

Most notable is the strong relationship between neighborhood disadvantage and drug sales, as compared with the relationships between neighborhood disadvantage and the 2 measures of drug use. The visibility of drug sales increased from 4.1% to 25.6% with neighborhood disadvantage, a factor of about 6. Individual drug use increased by roughly one third, from about 13% to 17%. The rate of drug dependency doubled, from 1.9% to 3.8%.

Although residents of disadvantaged neighborhoods, neighborhoods with high concentrations of minorities, and neighborhoods with high population densities reported much higher levels of visible drug sales, they reported only slightly higher levels of drug use, along with somewhat higher levels of drug dependency. This finding indicates that conflating drug sales with use, so that poor and minority areas are assumed to be the focus of the problem of drug use, is plainly wrong. The finding is based on the data collected across 41 sites, including city and suburban (but not rural) areas in all regions.

For 1993 (and only for that year), the NHSDA public use file includes information on the neighborhood context of its respondents. The NHSDA limits access to these data to maintain confidentiality. The NHSDA questions on drug use and visibility of drug sales were virtually identical to the questions used in the Fighting Back study. There were too few respondents for each neighborhood to perform multilevel analyses; nonetheless, results from the NHSDA were similar to our descriptive findings, taking into account that areas participating in Fighting Back were more likely to have identified drug problems. For example, in tracts where 10% or fewer of the residents were non-Hispanic African Americans, 11.2% of the Fighting Back respondents, but only 3.5% of the NHSDA respondents, reported seeing drug sales. Among tracts in which more than 50% of residents were non-Hispanic African Americans, the corresponding percentages were 45% and 34%.

In short, the direction and strength of the relationship appear very similar to the findings reported here, even though the NHSDA involved a much less "urban" sample and was representative of the United States as a whole. In tracts with 0% to 50% of households in poverty, 5.6% and 2.0% of Fighting Back and NHSDA respondents, respectively, reported seeing drug sales. Among tracts with 84% or more of households in poverty, the corresponding percentages were 35.4% and 22.1%. Level of poverty was directly related to observing drug sales in the neighborhood. With respect to drug use, both the Fighting Back evaluation and the NHSDA showed virtually no differences among tracts.

DISCUSSION

Our results indicate that visible drug sales are significantly more likely in the most disadvantaged neighborhoods than in the least disadvantaged neighborhoods, as well as in the more densely populated neighborhoods. Neighborhood drug use, however, follows a different pattern. Individual use of any illicit drug increases only slightly at higher levels of disadvantage. As a proxy for heavy use, drug dependency rates, with ethnicity and density controlled, doubled from the neighborhoods with the lowest disadvantage to those with the highest, but with a much less steep slope than for visible drug sales.

In addition, important differences in neighborhood drug use and sales are attributable to race, but the findings are more complex once neighborhood is taken into account and population density and disadvantage are controlled. At the individual level, minority residents are more aware of drug sales but are less likely to be users, and there is no relationship between ethnicity and drug dependence. At the neighborhood level, there is a minority effect on visible drug sales, although the effect is less than that for population density or disadvantage. Proportion of minority residents has a small negative effect on use at the neighborhood level. These findings challenge prevailing assumptions about the problems dealt with by community-based substance abuse programs.

In regard to drug policy, those who have focused attention on poor, largely urban areas have assumed that residents of such neighborhoods (disproportionately members of racial minorities) have substantially higher rates of illicit drug use than the general population. The present study offers contrasting evidence that substance use among residents in these communities varies relatively little in comparison with observable harms associated with drug sales.

A key question is how much confidence can be placed in self-report data. There has been substantial research on the reliability and validity of self-report drug surveys, ^{58–60} much of it specifically concerned with adolescents. ^{61–63} For example, Ensminger et al. ²⁹ found that respondents were not reluctant to reveal socially undesirable and even illegal behaviors. Overall, researchers express guarded confidence in the reliability and validity of self-reported drug use. ^{29,35,38} In the present study, the consistent finding that the popular image of widespread sub-

stance abuse in certain population segments is false enhances that confidence. Large- and small-scale studies have not shown the expected disparities in illegal drug use by race, socioeconomic status, or population density. ^{29,30,37,38,61,62,64} When differences have emerged, they have tended to be in a direction opposite to that expected.

Extant research suggests a somewhat greater incidence of heavy drug use in low-income urban communities, but there is no consensus about the extent of this difference or its causes. The present findings support these overall conclusions but should be interpreted cautiously because of unavoidable sampling bias. In particular, heavy users are less likely to be available for a telephone survey. Although heavy drug users are problematic for a community, they represent a very small group relative to the total population of the community.

Consequences of Visible Drug Markets

Despite differences between heavy and overall drug use, the most significant finding from the present study is the difference between drug sales and drug use in terms of their relationships with neighborhood disadvantage and urbanicity. Even if use and dependency are slightly higher in the poorer neighborhoods included in our sample, these differences pale in comparison with the visibility of drug sales. This finding has important policy implications.

The visibility of drug transactions creates the actuality as well as the perception of greater drug-related individual and social problems. African American youths are far more likely than White youths to face arrest and conviction on drug trafficking charges. Already vulnerable to the violence of the drug trade, they are then exposed to the prison drug trade and risk socialization into a criminal subculture. Moreover, they bear a stigma that may further impede their assimilation into mainstream society. Not surprisingly, with fewer resources to overcome these handicaps, minority youths report more problems related to alcohol and other drug use than White youths when quantity used is held constant.63

The visibility of the drug trade in poorer, urban communities also has important impli-

cations for other substance abuse programs. Attempts to decrease drug use and to change attitudes toward use in an environment steeped in the visibility of drugs present challenges beyond streamlining treatment programs for community members. Not only is relapse more likely in contexts in which environmental cues make substance use salient, ³⁴ but economic advantages offered by drug trading are difficult to ignore when disadvantage is high. These indirect consequences of drug use shape societal perceptions.

Visibility itself may also promote a cognitive bias whereby the public falsely equates visible drug use with actual drug use: what we see is what we believe. Gang-oriented, street-centered drug use in inner cities creates disturbing media images. Middle-class substance abuse is more readily concealed and less embodied in images of collective behavior, and thus it is easier to disregard. However, the lower visibility of use in advantaged neighborhoods does not indicate that use is less prevalent.

Ethnographic studies^{32,33} uniformly report that middle-class Whites venture into poor African American neighborhoods to buy drugs. Such findings bolster the present results. Consensus exists among ethnographers, social activists, and police that poor minority neighborhoods are often major hubs for the distribution of drugs among both those inside and those outside such neighborhoods. This consensus has now been verified quantitatively.

Policy Implications

The present findings point to the importance of understanding how the experience of drug use may be different for poor and affluent individuals. Although serious drug use is slightly more prevalent in poor minority neighborhoods than elsewhere, the major problem for disadvantaged neighborhoods is drug distribution. These communities are victims not only of their own drug abuse but also of a criminal drug market that serves the entire society. The market establishes itself in disadvantaged communities in part because of the low social capital in these neighborhoods. 65–67 The drug economy further erodes that social capital.

Thus, community coalitions and mobilizations targeted only at users are likely to have minimal effects in disadvantaged neighborhoods. Only with sustained effort to rebuild the social capital of such neighborhoods can residents acquire the wherewithal to eliminate drug markets. In addition, effective demand-reduction programs must reach all of this market's far-flung consumers.

Substance abuse-both in its visible effects on disadvantaged communities and in its effects on individual users in all sectors of society-is a problem owned by society as a whole. Addressing the root causes of this problem seems essential. That overall rates of substance use do not differ substantially along racial or socioeconomic lines should motivate further understanding of the different forms and patterns of use. One implication is that interventions need to target different groups and attend to specific risk and etiologic factors. Targeting is not a novel idea; for example, Meyer⁶⁸ has suggested that programs with community-level components may be more effective when directed at high-risk youths, whereas programs that emphasize skills training and changing social norms may be more effective with other youths.

Although carefully differentiated approaches are promising, the salient lesson is that we need to go beyond what is most easily and readily visible to understand drug use. Drug markets have made life in disadvantaged communities particularly difficult. However, the data do not sustain a conclusion, on the basis of visibility of sales, that the problems within these communities are strictly a function of high rates of use among residents. Drug markets will continue to thrive in these neighborhoods and elsewhere unless our conception of community is broadened-politically, geographically, and in terms of the resources required to address substance abuse-and the relative viability of local treatment and prevention efforts is understood in the context of the high visibility of drug sales and use and the factors that contribute to this visibility.

A broader sense of community is needed for an understanding of the network of demand that feeds the local drug markets. Local community organization and empowerment may be necessary to mobilize local efforts aimed at both demand and supply reduction and, in so doing, identify consumers in the surrounding areas who continue to contribute to high demand. Success in such efforts, however, requires an understanding of the nature and context of substance abuse that avoids oversimplified conceptions. The differentiation of visibility and sales provides an example of how to understand the nature and context of substance use and how to tease out possible confounds.

About the Authors

Leonard Saxe, Charles Kadushin, Elizabeth Tighe, and Archie Brodsky are with the Heller School for Social Policy and Management, Brandeis University, Waltham, Mass. Andrew Beveridge is with the Sociology Program, Queens College & Graduate School and University Center, City University of New York. David Livert is with the Psychology Program, Graduate School and University Center, City University of New York. David Rindskopf is with the Educational Psychology Program, Graduate School and University Center, City University of New York. Julie Ford is with the National Development and Research Institutes, New York, NY.

Requests for reprints should be sent to Leonard Saxe, PhD, Heller School, MS 035, Brandeis University, PO Box 9110, Waltham, MA 02454-9110 (e-mail: saxe@brandeis.edu).

This article was accepted July 5, 2001.

Contributors

L. Saxe was the principal investigator and was responsible for the overall design of the study, the interpretation of analyses, and the writing and editing of the report. C. Kadushin was the principal coinvestigator and was responsible for the design and analysis of the survey; he was also a key contributor to the conceptualization and the writing. A. Beveridge was responsible for conceptualizing the study design and geocoding the survey, matching the census data to the survey, and writing and editing the final report. D. Livert was responsible for data analysis and contributed to the methods and results sections. E. Tighe contributed to interpretation of results and to the writing. D. Rindskopf developed the data-analytic strategy and supervised the conduct of analyses and write-up of results. J. Ford helped analyze the data and develop the methods section. A. Brodsky contributed to the literature review, the introduction and discussion sections, and overall editing of the manuscript. All authors collaborated in the refinement of the research question and contributed to discussions of the analysis plan, the interpretation of results, and the writing.

Acknowledgments

The support of the Robert Wood Johnson Foundation is acknowledged. Appreciation is also expressed to the editor and anonymous reviewers.

This study was approved by the Institutional Review Boards at Brandeis University and the Graduate Center of the City University of New York, with specific aspects also approved by the Institutional Review Boards of Queens College and SRBI.

References

- 1. Kleiman MAR. An informed approach to substance abuse: drugs and drug policy—the case for a slow fix. *Issues Sci Technol.* 1998;15:45–52.
- 2. Office of National Drug Control Policy. *National Drug Control Strategy: 2001 Annual Report.* Washington, DC: Executive Office of the President of the United States; 2001.
- Aguirre-Molina M, Gorman DM. Communitybased approaches for the prevention of alcohol, tobacco, and other drug use. *Annu Rev Public Health*. 1996:17:337–358.
- 4. Winick C, Larson MJ. 75 community action programs. In: Lowinson JH, Ruiz P, Millman RB, Langrod JG, eds. *Substance Abuse: A Comprehensive Textbook.* 3rd ed. Baltimore, Md: Williams & Wilkins; 1997: 755–764.
- Schorr LB. Common Purpose: Strengthening Families and Neighborhoods to Rebuild America. New York, NY: Anchor Books; 1997.
- 6. Aita J. US aims new drug demand-reduction program at youth. Available at: http://usinfo.state.gov/products/pdq/wfarchive.htm. Accessed March 23, 2000
- 7. Vise DA, Adams L. Study: Local drug "epidemics" plague US. *Washington Post*. December 16, 1999:A25.
- 8. Wandersman A, Nation M. Urban neighborhoods and mental health: psychological contributions to understanding toxicity, resilience, and interventions. *Am Psychol.* 1998;53:647–656.
- Wilson WJ. The Truly Disadvantaged: The Inner City, the Underclass, and Public Policy. Chicago, Ill: University of Chicago Press; 1987.
- 10. Sampson RJ, Raudenbush SW, Earls F. Neighborhoods and violent crime: a multilevel study of collective efficacy. *Science.* 1997;277:918–924.
- 11. Leshner AI. Science-based views of drug addiction and its treatment. *JAMA*. 1999;282:1314–1316.
- 12. Lowinson JH, Ruiz P, Millman RB, Langrod JG, eds. *Substance Abuse: A Comprehensive Textbook.* 3rd ed. Baltimore, Md: Williams & Wilkins; 1997.
- 13. Dryfoos JG. Preventing substance use: rethinking strategies. *Am J Public Health*. 1993;83:793–795.
- 14. Office of National Drug Control Policy. *The National Drug Control Strategy, 1998: A Ten Year Plan.* Washington, DC: Executive Office of the President of the United States; 1998.
- 15. Feinleib M. New directions for community intervention studies [editorial]. *Am J Public Health.* 1996; 86:1696–1698.
- 16. Fishbein M. Great expectations, or do we ask too much from community-level interventions? [editorial]. *Am J Public Health.* 1996;86:1075–1076.
- Kumpfer KL, Turner C, Hopkins R, Librett J.
 Leadership and team effectiveness in community coalitions for the prevention of alcohol and other drug abuse. *Health Educ Res.* 1993;8:359–374.
- 18. Susser M. The tribulations of trials—intervention in communities. *Am J Public Health*. 1995;85:156–158.
- 19. McCaffrey BR. Race and drugs: perception and reality. Washington Times. October 5, 1997:B4.
- 20. Lash S. Mexican methamphetamine in Houston

- spotlights trend. *Houston Chronicle*. December 16, 1999-A2.
- 21. Lorion RP, Ross JG, eds. Programs for change: Office for Substance Abuse Prevention demonstration models. *J Community Psychol.* 1992;75(special issue).
- 22. Gross J, McCaul ME. An evaluation of a psychoeducational and substance abuse risk reduction intervention for children of substance abusers. *J Community Psychol.* 1992;75:75–87.
- 23. Springer JF, Phillips JL, Phillips L, Cannady LP, Kerst-Harris E. CODA: a creative therapy program for children in families affected by abuse of alcohol or other drugs. *J Community Psychol.* 1992;75:55–74.
- 24. Kandel DB. The social demography of drug use. *Milbank Q.* 1991;69:365–414.
- Warner LA, Kessler RC, Hughes M, Anthony JC, Nelson C. Prevalence and correlates of drug use and dependence in the United States: results from the National Comorbidity Survey. *Arch Gen Psychiatry*. 1995; 52:219–229.
- 26. Barnes GM, Welte JW. Patterns and predictors of alcohol use among 7–12th grade students in New York State. *J Stud Alcohol.* 1986;47:53–62.
- 27. Botvin GJ, Batson HW, Witts-Vitale S, Bess V, Baker E, Dusenbury L. A psychosocial approach to smoking prevention for urban black youth. *Public Health Rep.* 1989;104:573–582.
- 28. Kandel DB, Davies M. Cocaine use in a national sample of US youth (NLSY): ethnic patterns, progression, and predictors. In: Schober S, Schade C, eds. *The Epidemiology of Cocaine Use and Abuse.* Rockville, Md: National Institute on Drug Abuse; 1991:151–188.
- 29. Ensminger ME, Anthony JC, McCord J. The inner city and drug use: initial findings from an epidemiological study. *Drug Alcohol Depend.* 1997;48:175–184.
- National Household Survey on Drug Abuse. Rockville, Md: Substance Abuse and Mental Health Services Administration; 1998.
- 31. Brownsberger WN. Prevalence of frequent cocaine use in urban poverty areas. *Contemp Drug Problems.* 1997;24:349–371.
- 32. Williams T. Crackhouse: Notes From the End of the Line. New York, NY: Penguin Books; 1992.
- 33. Riley KJ. Crack, Powder Cocaine, and Heroin: Drug Purchase and Use Patterns in Six US Cities. Washington, DC: National Institute of Justice and Office of National Drug Control Policy; 1997.
- 34. Burston BW, Jones D, Roberson-Saunders P. Drug use and African Americans: myth versus reality. *J Alcohol Drug Educ.* 1995;40:19–39.
- 35. Cole PS, Weissberg RP. Substance use and abuse among urban adolescents. In: Gullotta TP, Adams GR, Montemayor R, eds. *Substance Misuse in Adolescence*. Vol 7. Thousand Oaks, Calif: Sage Publications; 1995: 92, 122
- 36. Falco M. Drug prevention makes a difference. *Global Issues* [serial online]. June 27, 1997;doc 2.
- 37. Luthar S, D'Avanzo K. Contextual factors in substance use: a study of suburban and inner-city adolescents. *Dev Psychopathol.* 1999;11:845–867.
- 38. Erkut S, Szalacha LA, Alarcon O, Coll CG. Stereotyped perceptions of adolescents' health risk behaviors. *Cultural Diversity Ethnic Minority Psychol.* 1999;5: 340–349.

- 39. Covington J. The social construction of the minority drug problem. *Soc Justice*. 1997;24:117–147.
- 40. Harper C. A longitudinal analysis of drug use and youth crime in the US. Paper presented at: Annual Meeting of the Population Association of America, March 1997, Washington, DC.
- 41. Punishment and prejudice: racial disparities in the war on drugs. *Human Rights Watch* [serial online]. May 2000;doc 2(2)(G).
- 42. Tonry M. Malign Neglect: Race, Crime, and Punishment in America. New York, NY: Oxford University Press Inc; 1995.
- 43. Massing M. *The Fix.* New York, NY: Simon & Schuster; 1998.
- 44. Wilson JQ. Drugs and crime. In: Tonry M, Wilson JQ, eds. *Drugs and Crime*. Vol 13. Chicago, Ill: University of Chicago Press; 1990:521–545.
- 45. Kelling GL. Fixing Broken Windows: Restoring Order and Reducing Crime in Our Communities. New York, NY: Simon & Schuster; 1997.
- 46. Bryk AS, Raudenbush SW. Hierarchical Linear Models: Application and Data Analysis Methods. Newbury Park, Calif: Sage Publications; 1992.
- 47. Goldstein H. *Multilevel Statistical Models*. 2nd ed. New York, NY: Halstead Press; 1995.
- 48. Jellinek PS, Hearn RP. Fighting drug abuse at the local level. *Issues Sci Technol.* 1991;7:78–84.
- 49. Saxe L, Reber E, Hallfors D, et al. Think globally, act locally: assessing the impact of community based substance abuse prevention. *Eval Program Plann.* 1997; 20:357–366.
- 50. Beveridge A, Bucuvalas M, Kadushin C, Trippel K, Livert D. Targeting respondents in small defined geographic areas: experiences from a large scale telephone survey. Paper presented at: Annual Meeting of the American Association for Public Opinion Research, May 1997, Norfolk, Va.
- 51. Beveridge A, Kadushin C, Saxe L, Rindskopf D, Livert D. Survey estimates of drug use trends in urban communities: general principles and cautionary examples. *Subst Use Misuse*. 2000;35:85–117.
- 52. National Household Survey on Drug Abuse: Main Findings. Rockville, Md: Substance Abuse and Mental Health Services Administration; 1995.
- 53. Johnston LD, O'Malley PM, Bachman JG. National Survey Results on Drug Use From the Monitoring the Future Study, 1975–1995. Volume I: Secondary School Students. Rockville, Md: National Institute on Drug Abuse; 1996.
- 54. Brooks-Gunn J, Duncan G, Klebanov P, Sealand N. Do neighborhoods influence child and adolescent development? *Am J Sociol.* 1993;99:353–395.
- 55. Hogan DP, Kitagawa EM. The impact of social status, family structure, and neighborhood on the fertility of black adolescents. Am J Sociol. 1985;90: 825–855.
- Rickets E, Sawhill I. Defining and Measuring the Underclass. Washington, DC: Urban Institute Press; 1986.
- 57. Robinson WS. Ecological correlations and the behavior of individuals. *Am Sociol Rev.* 1950;15: 351–357.

- 58. Critchfield TS, Tucker JA, Vuchinich RE. Selfreport methods. In: Lattal KA, Perone M, eds. *Hand-book of Research Methods in Human Operant Behavior*. New York, NY: Plenum Press; 1998:435–470.
- 59. Mensch BS, Kandel DB. Underreporting of substance use in a national longitudinal youth cohort. *Public Opinion Q.* 1988;52:100–124.
- Weist MD, Paskewitz DA, Jackson CY, Jones D. Self-reported delinquent behavior and psychosocial functioning in inner-city teenagers: a brief report. *Child Psychiatry Hum Dev.* 1998;28:241–248.
- 61. Johnston LD, O'Malley PM, Bachman JG. National Survey Results on Drug Use From the Monitoring the Future Study, 1975–1998. Volume I: Secondary School Students. Rockville, Md: National Institute on Drug Abuse: 1999.
- 62. Wallace JM, Bachman JG. Validity of self-reports in student-based studies on minority populations: issues and concerns. In: De La Rosa MR, Recio-Adrados J, eds. *Drug Abuse Among Minority Youth: Advances in Research and Methodology.* Rockville, Md: National Institute on Drug Abuse; 1993:167–200.
- 63. Welte JW, Barnes GM. Alcohol use among adolescent minority groups. *J Stud Alcohol*. 1987;48: 329–336
- 64. Grant BF, Dawson DA. Alcohol and drug use, abuse, and dependence among welfare recipients. *Am J Public Health*. 1996;86:1450–1454.
- 65. Coleman JS. *Foundations of Social Theory*. Cambridge, Mass: Harvard University Press; 1990.
- 66. Loury G. Why should we care about group inequality? *Soc Philos Policy*. 1987;5:249–271.
- 67. Putnam RD. Making Democracy Work: Civic Traditions in Modern Italy. Princeton, NJ: Princeton University Press; 1993.
- 68. Meyer AL. Minimization of substance use: what can be said at this point? In: Gullotta TP, Adams GR, Montemayor R, eds. Substance Misuse in Adolescence. Vol 7. Thousand Oaks, Calif: Sage Publications; 1995: 201–232.