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NATIONAL EVALUATION DATA SERVICES

**PATTERNS OF SUBSTANCE USE AMONG MINORITY  
YOUTH AND ADULTS IN THE UNITED STATES:  
AN OVERVIEW AND SYNTHESIS OF NATIONAL  
SURVEY FINDINGS**

**March 2002**



**CSAT**  
Center for Substance  
Abuse Treatment  
*SAMHSA*

**CALIBER**  
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## **PATTERNS OF SUBSTANCE USE AMONG MINORITY YOUTH AND ADULTS IN THE UNITED STATES: AN OVERVIEW AND SYNTHESIS OF NATIONAL SURVEY FINDINGS**

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**March 2002**

This document was supported by the Center for Substance Abuse Treatment, Department of Health and Human Services, Caliber/NEDS Contract No. 270-97-7016.

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## FOREWORD

The Center for Substance Abuse Treatment (CSAT), Office of Evaluation, Scientific Analysis, and Synthesis (OESAS), established the original National Evaluation Data Services (NEDS) contract (No. 270-97-7016) in 1997 to support the CSAT mission by increasing knowledge of the effectiveness of substance abuse treatment and promoting access to treatment evaluation and analysis data and findings. NEDS furnished that support by supplying data management, scientific analysis, and technical support services.

In 2000, through a new contract (Contract No. 270-00-7078), OESAS both continued and expanded the scope of NEDS in three major areas: treatment data infrastructure, secondary analysis of treatment data including Government Performance and Results Act support, and Web-based treatment data tools for states. NEDS is designed to give the Center the capability to strategically target, and access existing data from CSAT and the other data sources, to generate new treatment information over time through analyses of the available data, and to provide access to this new treatment information to diverse audiences through multiple product lines and avenues. All of these activities are aided throughout by the active participation of a preeminent panel of experts representing diverse constituencies from the field of substance abuse treatment.

This report addresses the important policy issue of the patterns of substance use and abuse among three race/ethnic sub-groups: Whites, African Americans, and Hispanics. The analyses had two purposes: to explore adolescent substance use over time (1991-1997) and to determine the effect of age on moderating race/ethnic differences. The approach included descriptive comparisons of three national surveys: Youth Risk Behavior Survey; Monitoring the Future; and National Household Survey on Drug Abuse. Also included are descriptive comparisons at one point in time for all age groups (NHSDA, 1998). Our analyses indicated that there are measurable differences among the three race/ethnic groups, with Whites having the highest use rate in younger years, but with an “age cross-over effect” among African Americans and Hispanics in later years. The findings from the descriptive comparisons together with a comprehensive literature review support specific recommendations for future research, policy development, and practice.

Sharon Bishop  
Project Director  
National Evaluation Data Services

## **ACKNOWLEDGMENTS**

We wish to acknowledge our reliance upon the guidance and direction of Dr. Ron Smith, Office of Evaluation, Scientific Analysis and Synthesis, the Government Project Officer for the NEDS contract. We also wish to thank Dr. Raul Caetano for his careful review of the first draft and thoughtful suggestions to strengthen the scientific analyses and presentation of results. We also gratefully acknowledge staff from the Substance Abuse and Mental Health Services Administration (SAMHSA) for their comments and feedback on this report.

Caliber Associates is the prime contractor for NEDS in partnership with Battelle, The Lewin Group, and the National Opinion Research Center (NORC). Many individuals within the Caliber/NEDS team contributed significantly to this report. Marie Ragghianti and Patricia Devine provided invaluable additions to the literature review and to editing the text. Thanks also go to Iris Mensing and Caliber's Project Services for editing and formatting.

## EXECUTIVE SUMMARY

The identification of existing and emerging patterns of substance use among racial and ethnic minorities is a priority area for numerous Federal, State, and local public health initiatives. Rates of past and current substance use among population sub-groups are used by many policymakers as a reliable indicator of current and future needs for prevention and treatment services.

### 1. INTRODUCTION

The availability of culturally-appropriate treatment services is frequently based on the observed patterns of substance use among these groups. The Center for Substance Abuse Treatment (CSAT), for example, has specifically identified the narrowing of the treatment gap for minority populations as a priority under the *National Treatment Plan Initiative*. Other Federal agencies, such as the Center for Disease Control (CDC), conduct regular surveys on the health risk behaviors of U.S. citizens, including a focus on minority population sub-groups.

Identifying and describing patterns of alcohol and drug use among ethnic and racial sub-groups in the United States during the past decade is the focus of this report. The report provides comparisons of substance use rates among White, African American, and Hispanic youth and adults by simultaneously examining results from the following three national surveys: Youth Risk Behavior Survey (YRBS), Monitoring the Future (MTF), and the National Household Survey of Drug Abuse (NHSDA). The information presented in this report is intended to provide policymakers, practitioners, and others with information to better plan and implement substance abuse treatment services. Specifically, the analytic questions addressed in this report are:

- # What shifts in the patterns of past-month use of substances among adolescents have occurred over the past decade as indicated by the results of the three national surveys?
- # How do the rates of past-month, past-year, and lifetime use of substances vary by race/ethnic group and by age, as indicated by the results of the 1998 NHSDA? What moderating effect does age have on these rates?

A third analytic objective was to determine the comparability of results from three national surveys that focus on or include adolescent populations.

### 2. RESULTS

The analysis found that, overall, use of alcohol and drugs during adolescence and young adulthood was higher for Whites than for African Americans, but that by the age of 35, rates of

African American use had either matched or overtaken rates of White use, the so-called age “cross-over” effect. For the most part, Hispanic rates were intermediate between the two, except for adolescent cocaine use, which, for Hispanics, was often highest of all. According to the literature summarized in this report, race/ethnic acculturation differences were likely factors in the occurrence of differences in rates of substance use and abuse. Key findings from the analysis include:

- # Rates of past-month marijuana use increased strikingly from 1991 through 1997 for all racial and ethnic groups.
- # Rates of past-month alcohol use and binge drinking were stable across the same time period.
- # Overall, African American adolescents consistently demonstrated the lowest rates of cocaine and crack cocaine use, while Hispanic and White adolescents demonstrated higher rates of cocaine use.

Prevalence findings for substance use among adolescents and adults were consistent with the literature. Key patterns included:

- # Rates for past-month, past-year, and lifetime use of alcohol were consistently higher among Whites than African Americans and Hispanics.
- # Differences in the prevalence rates for the use of certain illicit substances “crossed-over” with increased age for African Americans and Whites.
- # Although Hispanics aged 35 and older demonstrated the lowest lifetime rates of use for any illicit substance, including marijuana and cocaine, the rates of substance use among adolescent Hispanics were consistently higher than those for either African American or White adolescents.

### **3. IMPLICATIONS FOR RESEARCH, POLICY AND PRACTICE**

Results from the review of the literature, together with the results from the comparative analyses, suggested key implications for future research, policy, and substance abuse treatment practice. Implications for research included:

- # Additional research on the influence of survey methods on prevalence rates in adolescence is needed
- # Larger samples of Hispanic and African American sub-groups are needed because of the heterogeneity of Hispanic and Black populations in the United States

- # More research is needed on the moderating variables affecting racial/ethnic patterns of substance use
- # Improved instruments to measure acculturation factors and differences among racial/ethnic populations are needed
- # Research into ways to reinforce positive cultural differences in African American adolescent attitudes towards parents and peers has the potential to make important contributions to the literature on risk and protective factors in substance use
- # The need for increased research in Asian American and Native American substance use patterns and risk factors can no longer be postponed.

Implications for policy included:

- # Federally-funded literature on minority substance use issues should be expanded and disseminated to researchers and practitioners
- # The development and implementation of Federal prevention and treatment efforts should focus increasingly on substance use and abuse among minority populations.

Implications for practice included:

- # Interventions should be tailored to racial and ethnic sub-group needs
- # School- and college-based interventions should be more readily accessible and available to all adolescents and young adults
- # More training in cultural differences is needed for treatment practitioners
- # Practitioners should strive to implement enhanced, culturally-appropriate treatment modalities for racial/ethnic sub-groups
- # Even more emphasis should be placed on achieving diversity in treatment program staffing patterns.

The analysis and literature review findings demonstrated the importance of understanding culturally protective factors for substance use and abuse. Increased research in this area, combined with improved training for treatment practitioners and educators, may hold the key to reducing future substance abuse among race/ethnic populations in the United States.

## **I. INTRODUCTION**

## **I. INTRODUCTION**

The problems associated with substance abuse are myriad. Homelessness, child and spouse abuse and neglect, high school drop-outs and school failures, unemployment, crime and juvenile delinquency, health disorders, and mental health disorders all are commonly associated with the abuse of alcohol and illicit substances. This realization has generated billions of dollars of public funding to reduce the impact of substance abuse on the American society.

While the abuse of substances is not limited to a specific population, there is an increasing concern about race/ethnic minorities, who often are over-represented among the economically disadvantaged and/or urban residents. Rates of substance use among race/ethnic groups vary by substances used and by patterns of use. These differences and the underlying causal factors must be better understood so as to target culturally-appropriate treatment. As knowledge about the race/ethnicity differences in substance use grows, there is an increasing need for racially and culturally sensitive substance abuse treatment.

The Center for Substance Abuse Treatment (CSAT) recognizes the growing body of literature that explains the differences in substance abuse among race/ethnic groups and the need to gain more knowledge to better inform treatment policy and practice. As a contribution to this process, the CSAT National Evaluation Data Services (NEDS) conducted secondary analyses of national surveys to substantiate existing knowledge and provide additional insight to the race/ethnic differences in substance abuse.

This report summarizes information about patterns of alcohol and drug use among race/ethnic populations. It provides comparisons of use rates among White, African American, and Hispanic youth and adults by simultaneously examining three national surveys. The purpose of these comparisons is to assess substance abuse trends among race/ethnic populations, over time, and within a given year. The remainder of this chapter focuses on the relevant research literature, the approach used for this current analysis, and the organization of the report.

### **1. LITERATURE ON RACE/ETHNIC SUBSTANCE USE DIFFERENCES**

Substance abuse researchers, policymakers, and practitioners recognize that effective treatment must address cultural differences among substance abusing populations. The challenge has been in designing and implementing treatment services that successfully meet the unique needs of race/ethnic populations. There has been considerable examination and theoretical speculation about the differences and underlying factors that contribute to these differences. The

purpose of this section is to summarize the literature by reviewing historical patterns of use, identifying the substance abuse risk and protective factors within race/ethnic populations, and the role of acculturation for African American and Hispanic youth who do and do not use substances. The section concludes by identifying theoretical and methodological factors for further analytic consideration.

### **1.1 Historical Patterns of Substance Use Among Minority Populations**

Historically, the highest rates of use for almost all drugs and alcohol have been observed among Whites. This pattern is particularly pronounced during adolescence (Caetano et al., 1995; Grant, 1997; Kandel, 1995; Kandel et al., 1997; Warheit et al., 1995; Biafora, 1998; Lillie-Blanton et al., 1993; Hoffman et al., 2000; Dawson, 1998). The exception to this general pattern is that Hispanics as a group have been found to use cocaine more often than Whites or African Americans (Kandel, 1995; Kandel et al., 1997) and to have the highest levels of frequent heavy drinking (Caetano, 1997; Caetano et al., 1998; Caetano et al., 1995; Kandel et al., 1997; Wallace, 1999; Warheit et al., 1995; Neilsen, 2000). African American adolescents and young adults consistently have the lowest rates of substance use until after 35 years of age. After age 35, rates of marijuana, cocaine, heroin, and crack use among African Americans become higher than those observed among Whites and Hispanics.

Several authors have examined longitudinal trends in drug and alcohol use. Nationally, the use of all substances appears to have dropped during the 1990s from the high rates observed across the 1980s (Caetano et al., 1998; Hoffman et al., 2000; Caetano et al., 1999). These apparent reductions in overall use, however, may have been simply a function of reductions in use among Whites (Caetano et al., 1995). Researchers have found that the stability and persistence of use (i.e., a lack of change over time in the quantity of substances consumed by individuals) among African Americans and Hispanics are higher than for Whites (Caetano, 1997; Caetano et al., 1998; Caetano et al., 1995).

In an effort to explain the changing race/ethnic patterns of substance abuse over time, several researchers refer to the "age crossover" effects. "Age crossover" refers to the findings that although African American youth use alcohol and drugs at a consistently lower rate than Whites, by the age of 35, a "cross-over" effect has been noted. Kandel (1995) reports that with cocaine use in particular the relative positions of the three major ethnic groups change after age 35: White lifetime cocaine use is then lowest, African American use is highest, and Hispanic use is mid-way between the two.

## **1.2 Risk and Protective Factors Associated With Substance Abuse**

Researchers today recognize that substance use and related problems have numerous and interrelated causes. Understanding the causes is complicated in that the factors that increase or decrease the probability that youth will use alcohol or other drugs are found at all levels of society: the individual, the family, the peer group, and the community, including environmental factors such as media, drug availability, and the drug itself (Linney & Wandersman, 1991). The following paragraphs provide some recent insights into the roles of risk and protective factors gleaned from the current literature.

### **Risk and Protective Factors: The Family**

Several researchers have suggested that distinct components of African American culture may be protective against adolescent drug use. That is, while African American youth live under their parents' roof, they use substances less than Whites (Lillie-Blanton et al, 1993). The assertion that African American adolescents experience more rigid norms against substance use while in their parents' homes might also be an explanation for race differences in the reporting of substance use in household-based surveys. Specifically, African American teenagers might be more reluctant than Whites to disclose substance use with adults in the home at the time of the survey (Lillie-Blanton et al., 1993).

Explicit references to the exact mechanisms responsible for protective effects of African American and Hispanic cultures are rare in the literature. Potential mechanisms include a more integrated role of religion in the cultural life of African Americans and Hispanics (Vega et al., 1999; Resnicow et al., 2000), greater involvement of extended kinship networks, and less availability of disposable income to be spent on drugs or alcohol (Herd, 1994). These potential mechanisms have not been fully explored. However, one study suggests that religion may play a weaker protective role in limiting alcohol use among African Americans compared to Whites (Herd, 1994). Herd described findings showing that differences in alcohol use between religious and non-religious Whites were greater than differences between religious and non-religious African Americans.

Biafora and Zimmerman (1998) have written extensively on the protective mechanisms that benefit African American youth during the adolescent years. In a review of protective factors, as well as risk factors, they shed light on potential explanations for the ironic fact that although African American youth use substances at a consistently lower rate than Whites throughout youth, they are found in disproportionately greater numbers in treatment programs,

jails, and prisons by adulthood. Some of the protective factors Biafora and Zimmerman have identified include the stronger emphasis on religion within African American families; a stronger emphasis on familial communication; and familial emphasis on good school grades. Also, African American youth who did not like being alone, who did not smoke or drink alcohol, and who did not perceive their peers as approving of smoking or drinking, were found to be insulated, or "protected," from the likelihood of substance use.

The same research identifies the factors found to be associated with a greater likelihood of substance use: low parental education level; single-parent family; familial substance abuse; neighborhood violence; perceptions of unequal opportunities; low self-esteem; high parent or teacher derogation; failing grades; lack of friends' support; low peer involvement; perceived peer approval of marijuana.

Some researchers suggest that as minority adolescents with disproportionately poorer education and fewer work opportunities mature and begin to support themselves, the cultural protections against substance use are weakened over time. As their substance use increases, they are increasingly more likely to end up in institutions responsible for handling and reporting the negative consequences of use, such as emergency rooms, drug detoxification centers, and the criminal justice system (Jones-Webb et al., 1997; Biafora & Zimmerman, 1998).

Meanwhile, many White adolescents, who often are the beneficiaries of better educational and occupational opportunities, move into adulthood with fewer disadvantages than those encountered by U.S. minorities. Whites are, therefore, likely to use fewer substances as they mature, and are less likely to suffer the full range of negative consequences that can be associated with substance abuse (Jones-Webb et al., 1997). In contrast, research suggests that the cultural protective factors that African Americans may enjoy during their youth begin to dissipate with maturity (Lillie-Blanton et al., 1993), leaving them vulnerable not only to the likelihood of increased use of substances but to the negative consequences associated with substance abuse (Jones-Webb et al., 1997; Lillie-Blanton et al., 1993).

### **Risk and Protective Factors: Peer Groups**

One striking difference described by some researchers is the importance of peer versus parent influence on African American and White adolescents. Many African American youth are different from Whites in their attitudes toward both peers and parents, in that they do not place as great an emphasis on peer approval as White youth, but instead value parent approval more (Wallace, 1999). Indeed, extensive research has documented that the likelihood of adolescent

drug and alcohol use closely parallels peer drug/alcohol use for Whites. Research evidence demonstrates that White drug use (higher) is more closely tied to peer drug use (higher) than is African American drug use (which is lower) (Barnes and Farrell, 1994; Wallace, 1991).

### **Risk and Protective Factors: The Community**

Some researchers suggest that the greater importance of the community and cultural environment is a primary explanatory mechanism for the greater negative consequences of substance abuse (e.g., persistent dependence, criminal justice involvement, poor health outcomes, and violence) sustained by African Americans and Hispanics (Caetano, 1997; Caetano et al., 1998; Caetano et al., 1995; Cunradi et al., 2000).

Most statisticians conducting analyses of substance use rates among minorities typically control for education and income, or some other combination of variables, as markers for socioeconomic status (SES) (Caetano et al., 1999). Biafora and Zimmerman (1998) suggest that simply controlling for SES is not enough to correct for differential communities. African Americans and Hispanics frequently live in communities that are markedly different from White communities. Individual communities convey distinct normative influences and risk/protective factors, and may influence substance use patterns in ways not captured by traditional measures of SES (Lillie-Blanton et al., 1993). For example, differential rates of alcohol and tobacco advertising, drug and alcohol availability, density of poverty and underemployment and heavier policing and incidence of violence all contribute to differential community social pressures affecting drug and alcohol use of African Americans and Hispanics (Wallace, 1999).

Differences in the rates of use by African Americans and Whites as well as differences in negative consequences of substance use may be entirely explained by differences in communities. In fact, studies that have controlled for community-based factors in alcohol use (Jones-Webb et al., 1997) and crack cocaine smoking (Lillie-Blanton et al., 1993) have reported that racial/ethnic group differences disappeared or were substantially reduced.

### **1.3 Role of Acculturation**

The concept of acculturation has only recently been applied to race/ethnic populations within the United States. One group of researchers defines acculturation as "the process of adjustment that a person from another culture usually goes through as they learn about the host society's cultural values and lifestyle" (De La Rosa et al., 2000). Acculturation is described also

as a continuum which ranges from "traditional" to "biculturalized" to "acculturated" (Biafora and Zimmerman, 1998).

### **African American Acculturation**

The traditional African American would be one who has maintained cultural beliefs and attitudes, and the fully acculturated African American would be one who has relinquished traditional attitudes (or who was never exposed to them) in favor of the dominant (U.S.) culture, or White society. According to this line of thought, the "traditionalist" might be less likely to engage in deviant behavior (e.g., substance use) than the fully acculturated youth or adult. A body of literature and standardized instruments to measure these concepts are not yet well developed and tested, but Biafora and Zimmerman report the growth of "a general belief and emerging literature" in the concept of African American acculturation.

### **Hispanic Acculturation**

Although substance use among Hispanics has not been studied as extensively as African American and White substance use, there is an emerging literature. Hispanics represent a wide diversity of cultures and countries of origin, all with varying levels of acculturation (De La Rosa et al., 2000; Vega et al., 1999). Several studies have attempted to quantify the effect of acculturation on substance use rates of Hispanics (De La Rosa et al., 2000; Vega et al., 1999), with sometimes conflicting results. In general, U.S.-born Hispanics tend to have drug and alcohol use rates similar to those for Whites (Warheit et al., 1998). A notable exception to this was a 1992 NIDA report that showed Hispanic adolescents as having substantially higher rates of cocaine use than African Americans or Whites.

De La Rosa and colleagues (2000) reported that low acculturation among U.S.-born Hispanics was likely to be associated with high rates of drug use and related negative consequences. One group of researchers (Vega et al., 1998) hypothesized that this might result from language difficulties, as well as perceived discrimination. Foreign-born Hispanics (e.g., Miami Cubans), however, remaining close to their cultural (illicit drug-discouraging) roots, demonstrated lower rates of substance use.

Another finding on Hispanic drug/alcohol use was that this group tended toward the extremes on the continuum of drug use; they were more likely (than African Americans or Whites) to abstain from the use of any substance, but they were also more likely to report persistent heavy use or dependence (particularly with alcohol) (Caetano et al., 1998; Grant,

1997). Hispanic use was often gender-specific, with women reporting high rates of abstention, and men reporting high rates of frequent heavy use (Caetano et al., 1998). Social consequences of drug and alcohol use by Hispanic women were more severe than they were for White women or Hispanic men (Caetano, 1997). These gender-specific trends tended to disappear with increased SES and increased acculturation (De La Rosa et al., 2000).

Country of origin for immigrants, and/or ethnicity (for first generation and after), have consistently demonstrated a strong effect on Hispanic substance use patterns (Nielsen, 2000). Cuban-Americans, for instance, use substances the least (Nielsen, 2000) of all Hispanic sub-groups. Mexican-Americans report the highest rates of alcohol use, and Puerto Ricans often exhibit the highest rates of illicit drug use (Nielsen, 2000). Smaller groups, such as Salvadorans, Nicaraguans, and Hondurans are rarely measured separately; their culture-specific patterns are therefore difficult to know at this time. In general, however, researchers report that Hispanics are often protected from substance use by family-centered cultures imported from their countries of origin, with their accompanying strong influence of religion and stricter norms against drug and alcohol use (Vega et al., 1999; Resnicow et al., 2000).

#### **1.4 Other Theoretical and Methodological Factors**

In the quest to understand the different patterns of substance abuse among different race/ethnic populations, several researchers have considered factors that are more associated with the research methods than with the research findings. Examples of these methodological explanations are summarized below.

##### **The Invalidity Hypothesis**

Many surveys assessing the sensitive issues of substance use and abuse, particularly school-based surveys, have relied on self-administered instruments or phone interview procedures, particularly at follow-up, a process that has been criticized by some investigators. Mensch and Kandel (1988) suggested that African Americans and Hispanics might be less likely than Whites to report deviant behavior to the research establishment. One author proposed that for this reason, face-to-face interviews would be more likely to produce accurate reporting among African American respondents (Brunswick, 1999).

Wallace and his colleagues (1995) concluded, however, that the "evidence . . . suggests that the self-report data are generally valid. Accordingly, the invalidity hypothesis does not seem sufficient to account for racial/ethnic differences in self-reported use, at least not among high

school seniors." Several additional theories have been posited in the literature that purport to explain the substance use and abuse differences among different race/ethnic groups. The following paragraphs summarize these theories.

### **Drop-out Hypothesis**

Some authors have suggested that school-based surveys showing consistently greater use by Whites (compared to African Americans) are fundamentally biased, because African American adolescents who become involved in drug use are disproportionately more likely to drop out of school than are their White counterparts (Kandel, 1995). Wallace and his colleagues (1995) however reported that by age twenty, 43 percent of Hispanic youth had dropped out of school, compared to 18 percent of African Americans, and 14 percent of Whites.

Several studies have attempted methodological corrections for alleged biases by simulating rates for African Americans that "correct" for the effect of school drop-out. These studies offered conflicting results, however. One study reported higher rates for African Americans and Hispanics, once drop-out rates were controlled (Swaim et al., 1997), while another study reported higher rates of use among Whites even after applying corrections for the drop-out effect (Kandel, 1995).

Wallace and his colleagues examined racial/ethnic differences in drug use by grade level, and found that patterns of drug use among 8th, 10th, and 12th graders were not consistent with the dropout hypothesis for African American students. For Hispanics, however, they found the data to be "fairly consistent" with the hypothesis.

## **2. FOUNDATION FOR FURTHER ANALYSES**

The literature review summarized above demonstrates that there are numerous factors that may be contributing to differences in substance use and abuse among race/ethnic populations. While considerable analytic attention has been devoted to this important question, additional knowledge and/or insights are needed if CSAT and other agencies are going to be able to tailor treatment services to the specific cultural needs of race/ethnic groups.

Two critical resources are essential to further the analytic work of assessing substance abuse among race/ethnic populations and the extent to which use of illicit substances differ from the majority (White) populations: (1) data collected systematically, such as via national surveys, and (2) data on the specific substance use characteristics of race/ethnic sub-groups within the

total population. The following paragraphs discuss the need for these data and their current availability.

## **2.1 National Data Sources**

Many Federal agencies, such as the Centers for Disease Control and Prevention (CDC), conduct regular monitoring surveys on the health risk behaviors of minority population sub-groups. These surveys seek to improve the prediction and understanding of patterns of disease (morbidity) and death (mortality) that affect vulnerable populations. As one of the leading causal factors in premature death among teenagers and young adults, substance use and abuse are monitored routinely in these national surveys.

Other agencies maintain databases on drug use among specific populations. These include, for example, NIDA's Drug Abuse Warning Network (DAWN) system, which records morbidity and mortality data obtained from emergency room admissions and medical examiners' offices, as well as the National Institute of Justice (NIJ) Drug Use Forecasting (DUF) and Arrestee Drug Abuse Monitoring (ADAM) programs.

This report provides secondary analysis of three national surveys that are available in the public domain. The report is therefore limited in its scope due to limited data sources and limited data on all race/ethnic sub-groups. Although cultural sensitivity demands that the needs of all sub-groups be identified and served accordingly, statistical research capabilities have only recently begun to match that need. In this report, the numbers of many minority groups within the three national surveys were too small to achieve adequate power for reliable statistical techniques. The report, therefore, is limited to the existing findings on White, African American, and Hispanic populations from the three national surveys, which include: (1) the Youth Risk Behavior Survey (YRBS); (2) the Monitoring the Future survey (MTF), and (3) the National Household Survey on Drug Abuse (NHSDA). A brief description of each is presented below.

### **Overview of the Youth Risk Behavior Survey (YRBS)**

The Youth Risk Behavior Surveillance System (YRBSS) is an epidemiological surveillance system that was established by the Center for Disease Control (CDC) to monitor the prevalence of youth behaviors that influence health. The National School-based Youth Risk Behavior Survey (YRBS), which began in 1990, is a biannual survey that focuses on health risk behaviors that result in significant mortality, morbidity, disability, and social problems during youth and adulthood. The survey is administered in the classroom by trained data collectors.

Students record responses on computer scanning answer sheets. Parental consent is obtained prior to survey administration. Sampling weights are applied to each student to adjust for non-response and for the varying probability of selection.

### **Overview of the Monitoring the Future (MTF) Study**

Monitoring the Future: A Continuing Study of American Youth (MTF) is a series of large annual surveys that began in 1975 to study changes in the beliefs, attitudes and behaviors of young people in the United States. One of the major purposes of the MTF series is to develop an accurate picture of current drug use and trends among youth. This study is conducted by the University of Michigan's Institute for Social Research and funded by NIDA. The MTF survey consists of nationally representative samples of students in public and private high schools and middle schools in the coterminous United States. (We know, therefore, that two significant minority populations are omitted: Hawaii's Asian/Pacific Islanders, and Native Alaskans). Beginning in 1991, the study was expanded to include samples of 8th and 10th grade students.

### **Overview of the National Household Survey on Drug Abuse (NHSDA)**

The National Household Survey on Drug Abuse (NHSDA) is an annual survey designed to measure the prevalence and correlates of drug use in the United States and to monitor drug use trends over time. The NHSDA began in 1971 under the auspices of the National Commission on Marijuana and Drug Abuse. Responsibility for conducting the NHSDA shifted to the National Institute on Drug Abuse (NIDA) from 1974 to 1991. In October 1992, the Office of Applied Studies (OAS) within the Substance Abuse and Mental Health Services Administration (SAMHSA) took the lead in conducting the NHSDA.

The NHSDA sample consists of civilian, non-institutionalized individuals aged 12 and older living in the United States. Persons excluded from the survey include homeless people (who are not residents of shelters), active military personnel, and residents of institutional group quarters (e.g., jails and hospitals). In 1991, Alaska and Hawaii were included for the first time, as were civilians living on military bases, and in college dormitories, rooming houses, and homeless shelters.

## **2.2 Need for Data On Specific Substances Used Per Population Group**

The identification of emerging patterns of substance use and abuse among race/ethnic groups is a priority for CSAT and other Federal and state agencies, particularly those associated

with public health. Emerging rates of substance use among population sub-groups are used by policymakers as an indicator of current and future needs for prevention and treatment services. The development of prevention and treatment efforts is often based on observed patterns of substance use among specific populations, and their corresponding projected needs. CSAT, for example, in its National Treatment Plan Initiative, has identified the need for improved treatment for minority populations, as well as the need to reduce the gap in services for these sub-groups. To that end, CSAT funds numerous grants and cooperative agreements targeting improved outreach and treatment services to minority groups. CSAT's parent agency, SAMHSA, distributes approximately \$2 million in grants to provide mental health and substance abuse prevention, treatment, and mental health services to minority populations.

Both SAMHSA and CSAT have an interest in developing a better understanding of the substance use patterns and substances of choice among different race/ethnic groups within the total population. There currently are no appropriate data bases in the public domain that could be used analytically to develop further understandings and gain further insights about specific drug use pattern differences among race/ethnic groups. The lack of these publicly available data has imposed a limitation on the analysis reflected in this report. The lack of this information does, however, highlight the critical needs for more specialized data collection activities, particularly among race/ethnic sub-groups. Once this information is available, racially and ethnically diverse groups can be more effectively targeted for access to services. CSAT and other agencies are sensitive to the ever-increasing diversity of the populations they serve, and aware of the challenges in providing services to a broad range of cultural sub-groups.

### **3. ANALYTIC PURPOSE AND QUESTIONS**

The three surveys used in this analysis provide information on substance use trends among White, African American, and Hispanic adolescents, and the NHSDA provides annual snapshots across all age groups for these three race/ethnic groups. None of the existing public use data sets, however, support a more in-depth analysis of the substance use characteristics of specific race/ethnic sub-groups within the total population.

Therefore, the purpose and objectives of this analytic effort are, of necessity, modest and limited to a re-examination of use rates and trends among White, African American, and Hispanic populations. Although limited in scope, the analysis serves three critically important functions; the analysis:

- # Demonstrates the relative alcohol and drug use rates among three adolescent race/ethnic groups from 1991 through 1997, thereby replicating findings from previously reported research
- # Assesses the relative comparability of the three national surveys by comparing the findings from each and, as a result, determining the ability to use these essential measurement tools interchangeably
- # Assesses the prevalence of alcohol and drug use rates among three race/ethnic groups, by age, for one point in time (1998).

In addition, the analysis provides, where possible, the empirical evidence that supports previous theories and hypotheses.

The analytic questions addressed in the report are:

- # What shifts in the patterns of past-month use of substances among young people occurred from 1991-1997, as indicated by the results of national surveys?
- # How do the findings from the three national surveys that include adolescents and questions of substance use compare?
- # How did the 1998 rates of lifetime, past-year, and past-month use vary by race? What moderating effects did age have on these rates?

The findings are intended to provide policymakers, researchers, and others with information to design and implement substance abuse treatment services. In addition, the analyses reflect and integrate the literature on prevalence of substance use among African Americans and Hispanics, where possible. Finally, the report identifies and discusses the social and cultural factors, based on the research literature, that appear to influence rates of substance use among minority groups.

#### **4. ORGANIZATION OF THE REPORT**

The report is organized within four chapters. The first chapter provides the introduction and is designed to provide background information as well as a context for the analyses. Chapter II, Methods, describes the databases used, the comparisons made, and the sampling schemes employed by the authors of the three national surveys. Chapter III, Findings, describes the analytic results and links the results, where possible, to the research literature on race/ethnic substance use differences and/or on the methodological factors that affect the analyses. Chapter IV provides a summary of the analytic findings and ties these findings to implications for further research, policy analysis, and substance abuse treatment practice.

There are two appendices to this report. Appendix A provides a detailed summary of all of the research articles cited in Chapter I. Appendix B provides the actual wording of the questions used across the three national surveys that were used as the measures in the analysis reported here.

## **II. METHODS**

## II. METHODS

This chapter describes the statistical and analytic procedures employed to assess current and past rates of substance use by different race/ethnic groups, including, White, African American, and Hispanic populations. Brief descriptions of sampling procedures used by and typical response rates obtained from each of the three national surveys are provided. The surveys used include: the Youth Risk Behavior Survey (YRBS); the Monitoring the Future (MTF) survey; and the National Household Survey on Drug Abuse (NHSDA). Issues encountered when attempting to define categories of racial (minority) status also are described.

### 1. ANALYTIC APPROACHES

Two analytic approaches were employed. First, trends in adolescent substance use across recent administrations of three national surveys of youth behaviors and attitudes during the years 1991-1997 were compared. For these descriptive analyses, youth who were on average aged 17 to 18 years or who were high school seniors were selected.

Second, overall rates of use among adolescent and adult race/ethnic groups were examined by extracting the data from previously published NHSDA reports. The data were from the 1998 administration of the NHSDA, which sampled 25,500 persons aged 12 and older.

#### 1.1 Rationale for Selecting the Three National Surveys

These three surveys were selected for several reasons. First, they were comparable in terms of frequency, being administered either annually (NHSDA and MTF), or biannually (YRBS). Second, they were all national surveys. Further, these surveys either focused exclusively on adolescents or contained a sufficiently large sub-sample of adolescents for analysis by race/ethnic group.

Comparable items from each survey were selected using the following categories of substance use:

- # Alcohol
- # Binge drinking
- # Marijuana
- # Cocaine (powder and crack).

(Heroin and other substances were used at such low rates (e.g., >0.1%) that comparisons were not meaningful.)

Analyzing the rates of cocaine and crack cocaine use were difficult because the YRBS survey measure combined cocaine and crack in one question, whereas the MTF and NHSDA surveys asked separate questions about cocaine and crack use. (See Appendix B for a detailed description of the wording for each question .) For purposes of this analysis, the YRBS data were included with cocaine use, since powder cocaine usage should not be included with the crack cocaine analysis. As a result, the crack cocaine analysis reflects only the MTF and NHSDA data trends.

Within categories of substance use prevalence, each survey employed slightly different item wordings. In general, however, these item wordings were sufficiently consistent to be used in cross-survey comparisons. The analysis results make note of the item wording differences as a possible contaminant to the analytic findings. (The specific item wordings in each survey can be found in Appendix B.)

## **1.2 Analysis of Trends in Adolescent Substance Use**

To compare the trends in substance use by adolescents of different race/ethnic groups during the years 1991-1997, race/ethnic-specific rates for each type of substance use were extracted from the three national surveys. To maximize the number of comparable data points across surveys, we selected and compared the sub-group of adolescents from each survey who were in the 12th grade (YRBS and MTF) or who were aged 17 to 18 years (NHSDA). Rates of substance use within this age range of the NHSDA sample were used as the best proxy for a true 12th grade sample. Adult rates of use (by specific substances) could not be presented in this analysis because two of the three surveys (i.e., MTF and YRBS) did not sample adult respondents.

For each type of substance, the national surveys assess three categories of use (i.e., prevalence):

- # Lifetime use
- # Past-year use
- # Past-month ("current") use.

Not all of the surveys included questions addressing each category of substance use prevalence. A decision was made to select categories of substance use prevalence that were included in at least two of the three surveys. The majority of items that were consistent across surveys fell into the past-month and lifetime use categories. Therefore, we made a decision to present trend data

for the past-month substance use category, since these rates were likely to be the most informative to policymakers and planners in assessing current treatment need. We realized that the use of past-month data for trends analysis might be misleading since patterns of substance use may vary month-to-month (especially among adolescents). In the final analysis, however, it seemed most prudent to use “past-month use” since past-month use over a seven-year period would provide a more effective “barometer” than “lifetime use” for trend analysis.

### **1.3 Prevalence Race/Ethnic Groups by Age Category**

Single-year, age-specific prevalence comparisons among race and age sub-groups were conducted using data from the 1998 NHSDA. The scientists who collected and compiled the NHSDA data weighted the samples according to the inverses of the probabilities of selection of sample respondents. These probabilities were calculated according to U.S. census figures. If a respondent had a small chance of being selected for interview, that respondent was weighted to a greater degree in the calculation of estimates that reflect the target population of the United States. In addition, the sampling weights were adjusted to be consistent with household and individual non-response rates. The estimates of substance use prevalence, therefore, are unbiased estimates for the U.S. civilian, non-institutionalized population aged 12 and older (Prevalence of Substance Use Among Racial and Ethnic Sub-groups in the United States, 1991-1993, p. A-1; Office of Applied Studies, SAMHSA, DHHS, 1998).

The comparison of substance use prevalence rates among race/ethnicity groups used the age categories reported in the NHSDA data reports and included:

- # 12-17 years old
- # 18-25 years old
- # 26-34 years old
- # 35 years and older.

Because no other samples were used in these comparisons, the entire youth-adolescent population of 12 to 17 year olds was used.

For each age category, tests of significance were applied to the African American group and the Hispanic group while using the White group as the reference group. To test the statistical significance of race group membership on substance use prevalence, a t-test of the null hypothesis that White substance use rates are the same as African American and Hispanic use

rates was calculated. In a few cases, sample prevalence rates were so low (either zero or very near zero) than an effect and associated p-value were mathematically impossible to calculate.

## **2. NATIONAL SURVEY DATA SAMPLING METHODS**

This section describes the sampling methodology used by the YRBS, MTF, and NHSDA scientists for selecting prospective survey respondents and the response rates obtained. (In these three national surveys, sample sizes were not large enough to disaggregate Asian American or Native American sub-group populations.)

### **2.1 Description of YRBS Sampling Methods**

The YRBS employed a 3-stage cluster sample design to produce a nationally representative sample of students in grades 9 through 12. The target population was all public, Catholic and other private schools in the 50 States and the District of Columbia.

The first stage sampling frame contained primary sampling units (PSUs) consisting of large counties or groups of smaller adjacent counties. Strata were then formed according to the degree of urbanization and the relative percentage of African American and Hispanic students in the PSU. The PSUs were selected with probability proportional to school size enrollment. Schools with higher African American and Hispanic enrollment were sampled at higher rates than all other schools.

As previously described, the YRBS was administered in classrooms by trained data collectors; sampling weights were applied to each student to adjust for failure to respond and for the varying probability of selection. In 1997, the school response rate was 79.1 percent, and the student response rate was 87.2 percent. The overall response rate was 68.9 percent.

### **2.2 Description of MTF Survey Sampling Methods**

A multistage random sampling procedure was used to recruit respondents. First, the geographic area was chosen. Next, one or more schools within each area was selected with probability proportional to size. Finally, classes were selected within each school. Within each school, up to 350 students could participate. In schools with lower enrollments, all students were surveyed. In larger schools, a subset of students was selected either by random sampling entire classrooms, or by another unbiased random sampling method. Students completed

self-administered questionnaires during regular class periods in the spring of each year, in the presence of University of Michigan staff. The student response rate in 1998 was 82 percent, 87 percent, and 88 percent for seniors, 10th and 8th graders, respectively.

### **2.3 Description of NHSDA Sampling Methods**

The National Household Survey on Drug Abuse (NHSDA) sample was selected using a deeply stratified, multistage area probability sample design that over-sampled African Americans, Hispanics, younger respondents, and current smokers. The survey was conducted in person by an interviewer in the respondent's home, and took about an hour to complete. Self-administered answer sheets were used for the most sensitive aspects of the interview to increase the reliability of self-reported data. Individuals were interviewed once and not followed up for subsequent interviews. Sampling weights were applied to adjust for varying probabilities of selection. Response rates for household screening and for interviewing in 1998 were 93 percent and 77 percent, respectively.

## **3. DEFINITIONS OF RACE AND ETHNIC CATEGORIES**

In 1977, the Office of Management and Budget (OMB) issued the first Federal government standards for the collection and presentation of data on race and ethnicity. This standard was known as OMB Circular A-46. In 1978, the name was changed to "Statistical Policy Directive No. 15: Race and Ethnicity Standards for Federal Statistics and Administrative Reporting."

Despite the existence of a Federal standard for data collection, the actual categories of racial/ethnic identification and membership used shifted somewhat over the years the three national surveys were administered. In the mid-1990s, OMB (and a number of other Federal agencies) began to re-examine issues that have plagued the collection of data on race and ethnicity for years. Among the specific problems identified were:

- # How to gather data from persons of "mixed" or multiple heritages
- # How to cross-classify racial categories with the identification of Hispanic heritage (i.e., should "Hispanic" be a response option for race?)
- # How to classify Native Hawaiians (i.e., should they continue to be placed in the "Asian or Pacific Islander" category?)

These issues exemplify the complexity of creating and maintaining reliable rules for classifying individuals according to race and ethnicity.

For the purpose of the analyses in this report, our approach to the presentation of race/ethnic status is consistent with the data collection and reporting practices for each of the three surveys (and numerous other large-scale investigations of substance use among minorities). The categories we use are White (non-Hispanic), African American (non-Hispanic), and Hispanic.

Collapsing many race/ethnic identities into these three broad groups has obvious limitations. The rates of distinct sub-groups in each category may be "diluted." This problem is particularly acute for the minority groups that self-report as African American or Hispanic. Self-reported African Americans may include not only African Americans, but also African immigrants, West Indians, and others. Self-reported Hispanics include a variety of distinct cultures (the largest of which are Mexican-American, Puerto Rican and Cuban-American), with substance use patterns unique to either their group in the United States or their country of origin.

### **III. RESULTS**

### III. RESULTS

A primary purpose of the analyses provided in this report is to determine relative trends in substances used across time among three race/ethnicity groups: Whites, African Americans, and Hispanics. A second purpose is to examine relative substance use rates across race/ethnicity and age groups for one point in time (1998). These analyses were limited to the types of national data on substance use available through the public domain and, as previously described, were limited to the previously published findings from these data bases that included: the Youth Risk Behavior Survey (YRBS), the Monitoring the Future (MTF) survey, and the National Household Survey on Drug Abuse (NHSDA). Therefore, a third purpose is to determine the comparability of three survey instruments and the resultant survey findings.

The products of the analyses and the resultant comparisons were two-fold:

- # To validate, through replication, the findings on substance abuse patterns among race/ethnic groups, and age groups, as reported in the literature
- # To assess the relative comparability of three national surveys that were designed to determine substance use rates among adolescents (YRBS, MTF) and the total population (NHSDA).

The results of the analyses are organized within three sections. First, the trends in adolescent substance use, over time, are presented for White, African American, and Hispanic youth. The second section assesses the similarities and differences among the three national surveys. Third, the findings from the 1998 NHSDA survey for the three race/ethnic groups, are presented by age.

#### 1. TREND ANALYSIS

In this section, trends in substance use among adolescent race/ethnic groups are compared. The comparisons are of findings from three national surveys: (1) YRBS, (2) MTF, and (3) NHSDA. These surveys were conducted either annually or bi-annually. The years examined were 1991 through 1997. To maximize comparability among the surveys, a trend analysis was performed for YRBS respondents who were 17 years or older, 12th grade MTF respondents, and 17 to 18 year old NHSDA respondents. Since the YRBS uses a school-based survey, the 17 years and older age group is comparable to the MTF 12th grade students but may include some 11th grade students, as well.

## **1.1 Rates and Trends in Alcohol Use**

Among the three surveys, the following questions were posed to determine rates of past 30-day alcohol use:

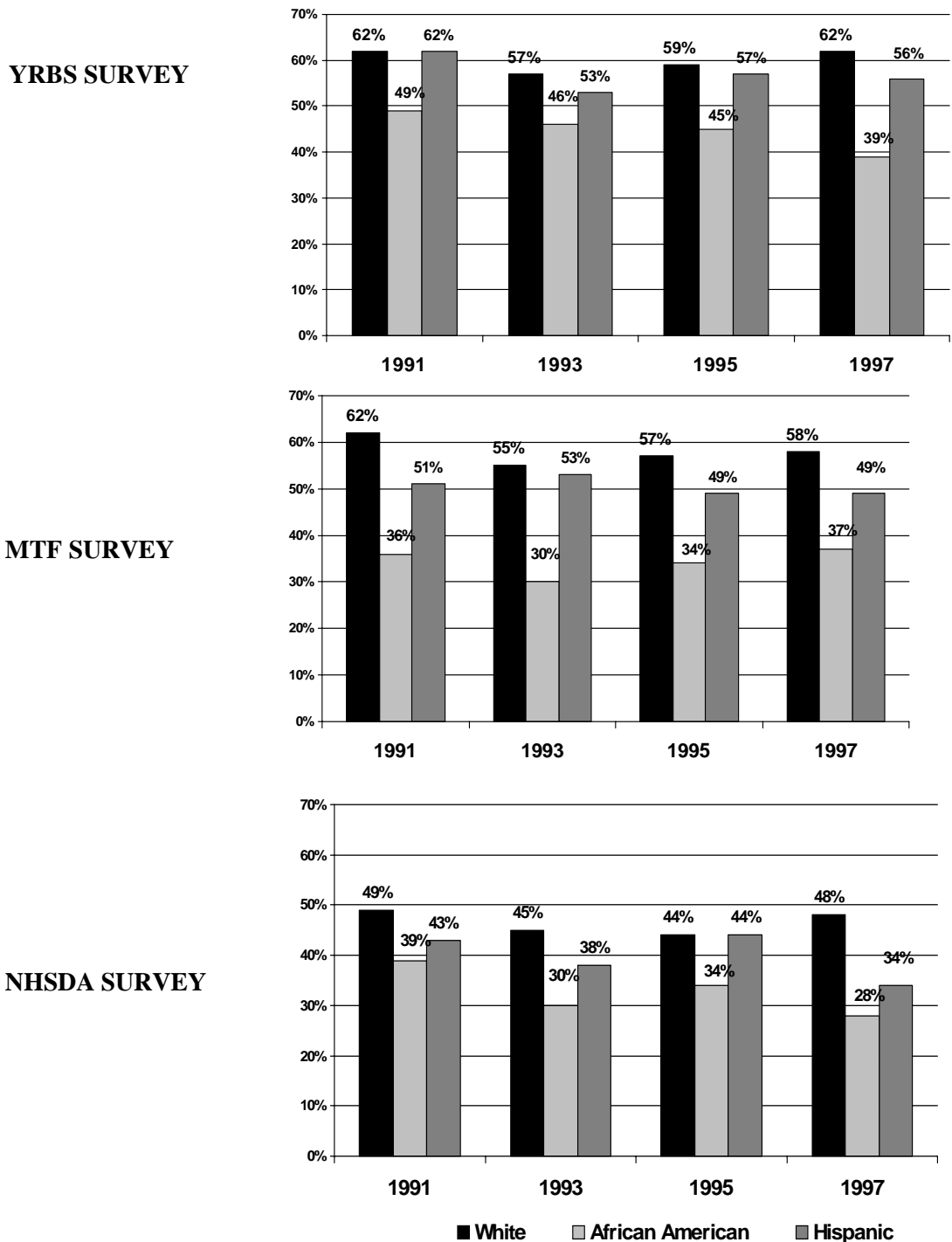
- # During the past 30 days, on how many days did you have at least one drink of alcohol? (YRBS)
- # On how many occasions have you had alcoholic beverages to drink - more than just a few sips - during the past 30 days? (MTF)
- # During the past 30 days, on how many days did you drink one or more drinks of alcoholic beverages? (NHSDA)

As shown, the YRBS and NHSDA alcohol use items were expressed similarly while the MTF item is phrased to count "occasions" instead of days. A respondent may have consumed alcohol on more than one occasion during a given day. This difference in wording could result in higher proportions of positive responses on the MTF survey as compared to the YRBS and the NHSDA surveys. A review of the data, presented in Exhibit III-1, demonstrates that the data do not support this potential bias since the YRBS survey yielded the highest proportion of positive responses to the past 30-day alcohol question.

Despite phrasing differences in the items, the trends reflected in the findings from the three surveys among White, African American, and Hispanic adolescents were very similar. In all surveys, for all years, White adolescents reported the highest rate of past 30-day alcohol use and African American youth reported the lowest use rates. Hispanic youth use rates were similar to or slightly below the White adolescent reported use rates. Past 30-day use rates fluctuated from a high of 62 percent for White teens in 1991 (YRBS and MTF), Hispanic teens in 1991 (YRBS) and 1997 (YRBS) to a low of approximately 30 percent for African American teens in 1993 (MTF and NHSDA).

The data suggest a slight decrease during the mid-1990s in alcohol use, but the rates returned to their earlier level by 1997. Consistent with the single year, age-specific NHSDA data reported in Section 3, African American adolescents had lower rates of past-month alcohol use than the other two groups. In fact, the YRBS data suggest that alcohol use may have declined among African American adolescents from 1991 to 1997. These findings are consistent with the African American alcohol use rates reported in the literature, which reflected that African American youth have lower rates of alcohol and drug use than White and Hispanic youth.

### EXHIBIT III-1 TRENDS IN PAST 30-DAY ALCOHOL USE BY RACE/ETHNICITY



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## 1.2 Rates and Trends in Binge Drinking

The NHSDA survey started including items about binge-drinking in 1995. The YRBS and the MTF surveys, however, had complete data for the 1991-1997 time period. As with the alcohol past 30-day use items, the binge drinking items differed in the wording, as shown below:

- # During the pas 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours? (YRBS)
- # Think back over the last two weeks. How many times have you had five or more drinks in a row? (A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink.) (MTF)
- # During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours? (NHSDA)

Once again, the wording of the MTF binge drinking item is different; namely, it reflects past 2 week binge drinking instead of past 30-day binge drinking as reflected in the YRBS and NHSDA surveys. Again, this may introduce some bias or differences since the reference period is different. Apparently, the MTF wording of the question did not influence the results, however, since the MTF data, as demonstrated in Exhibit III-2, reflect the same patterns as the other two surveys.

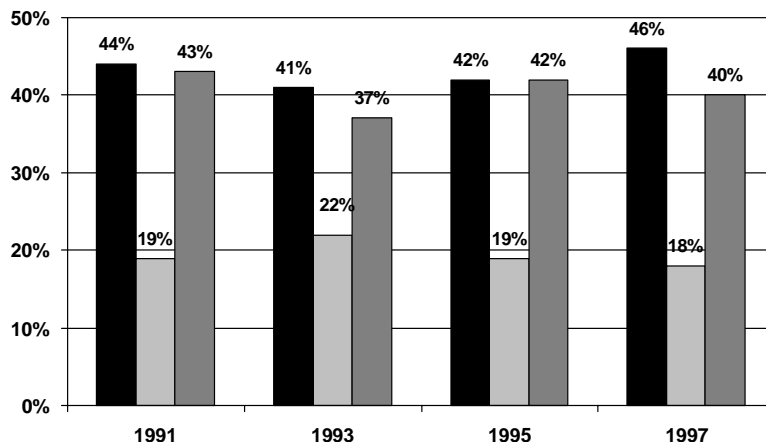
Past-month binge drinking trends among Hispanic adolescents were similar to the trends for White adolescents, on the YRBS survey, reflecting generally stable rates across time. For both groups, the YRBS and the MTF data suggested a slight decrease in prevalence mid-decade, but the rates returned to their former levels by the end of the study period.

African American adolescents reported, in all three surveys, rates of binge drinking that were consistently about half the rates for Whites and Hispanics. This difference was constant throughout the study period. The YRBS and MTF data suggested a very slight decrease in binge drinking over time for African American adolescents, although these trends were not supported by the NHSDA data. The YRBS and MTF decreases were so slight, however, that no serious inference could be made that they be would be maintained over time.

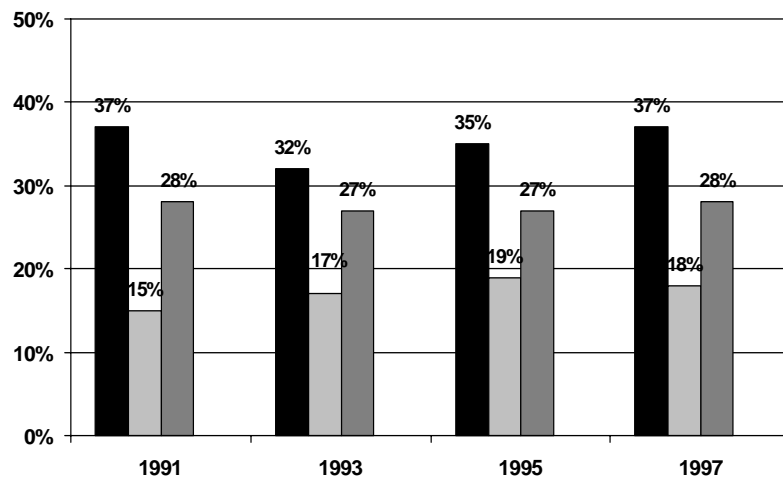
Again, the YRBS binge-drinking rates were the highest for all three race/ethnic groups, and across times, while the MTF rates were the next highest. The NHSDA data produced the lowest rates consistently across time and race/ethnic groups.

### EXHIBIT III-2 TRENDS IN PAST 30-DAY BINGE DRINKING BY RACE/ETHNICITY

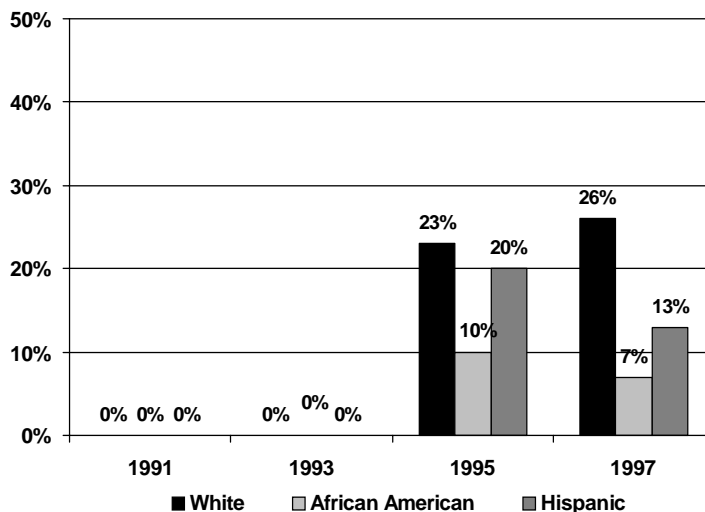
YRBS SURVEY



MTF SURVEY



NHSDA SURVEY



### **1.3 Rates and Trends in Marijuana Use**

The second most frequently used substance among adolescents who responded to the three surveys was marijuana. The questions posed by the three surveys on past 30-day marijuana use included:

- # During the past 30 days, how many times did you use marijuana? (YBRS)
- # On how many occasions (if any) have you used marijuana (grass, pot) or hashish (hash, hash oil) during the past 30 days? (MTF)
- # During the past 30 days, on how many days did you use marijuana or hashish? (NHSDA)

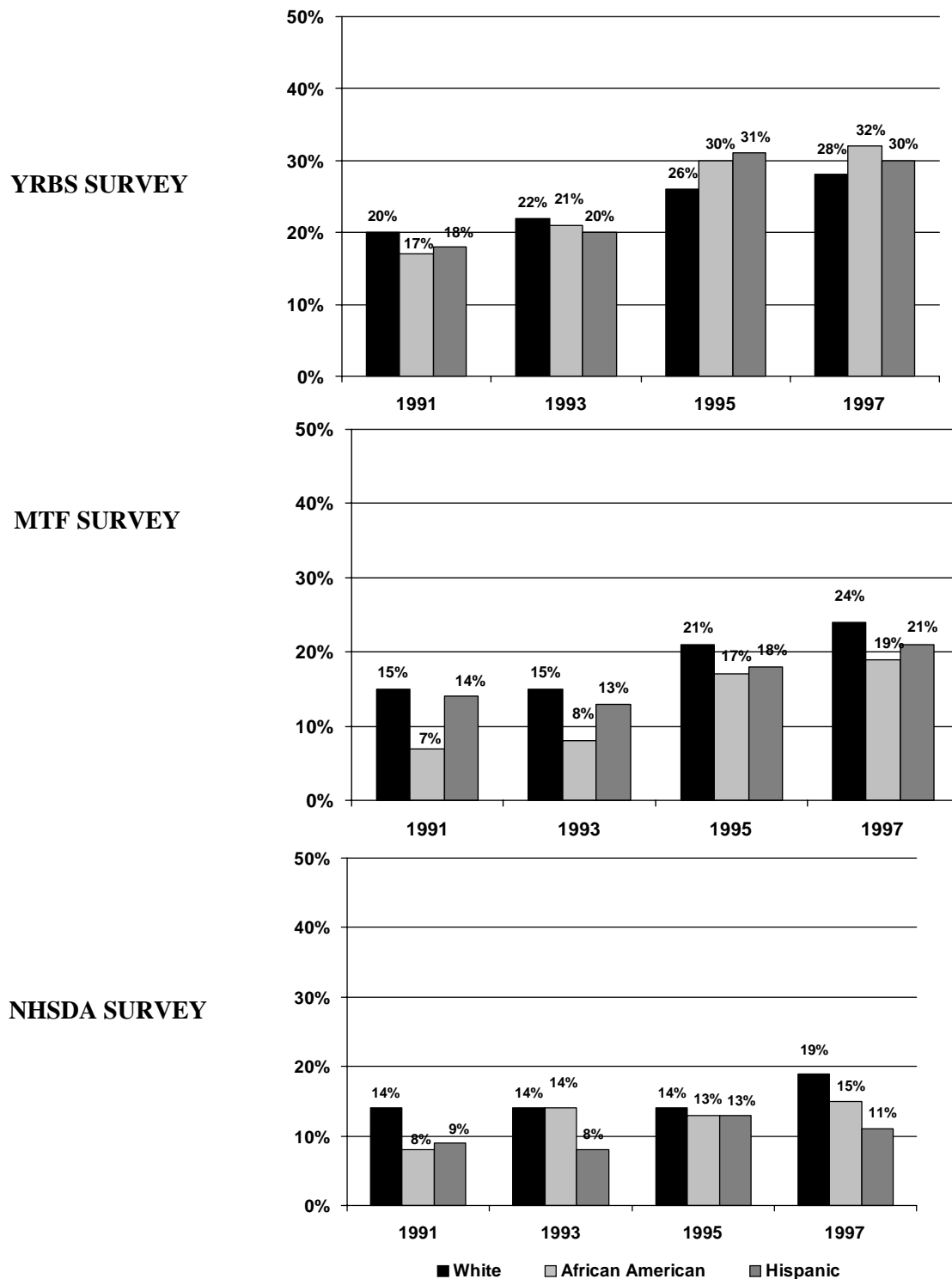
While there are slight differences in the wording of the questions, the data, presented in Exhibit III-3, suggest the same patterns, over time.

Marijuana use rates among the three race/ethnic groups reached a high point of approximately 30 percent (YRBS) in 1997 and the use rates were lowest in 1991 for all race/ethnic groups in all three surveys. African American youth reported use rates of 7 to 8 percent (MTF) in 1991 and 1993 and Hispanic youth reported less than 10 percent use rates (NHSDA) during this same time period.

Otherwise, the trends for past month marijuana use among adolescents were similar among the three race/ethnic groups. In general, rates for all three groups at the beginning of the decade began at approximately 20 percent for White youth and just under 20 percent for African American and Hispanic youth, and steadily increased throughout the study period. NHSDA rates demonstrated the most modest increases for all African American and Hispanic youth while the White adolescent use rates, as reported on the NHSDA survey, rose from approximately 14 percent to just under 20 percent.

Unlike trends in the other substances, the increase in marijuana use that was sharpest (mid-decade) did not return to the previous lower levels, but continued to increase. As data become available from more recent years, it will be important to continue to monitor this trend to determine if increasingly widespread marijuana use among adolescents continues.

### EXHIBIT III-3 TRENDS IN PAST 30-DAY MARIJUANA USE BY RACE ETHNICITY



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## 1.4 Rates and Trends in Cocaine and Crack Cocaine Use

Overall, adolescent use of cocaine and crack cocaine from 1991 through 1997 was minimal. One of the three national surveys (the YRBS), however, combined past 30-day cocaine use and crack use within one survey question. The questions posed by the three surveys to determine the rate and trend in cocaine and crack cocaine use included:

- # During the past 30 days, how many times did you use any form of cocaine, including powder, crack, or freebase? (YBRS)
- # On how many occasions (if any) have you used cocaine during the last 30 days? On how many occasions (if any) have you taken crack (cocaine in chunk or rock form) during the last 30 days? (MTF)
- # During the past 30 days, on how many days did you use cocaine? During the past 30 days, on how many days did you use "crack?" (NHSDA)

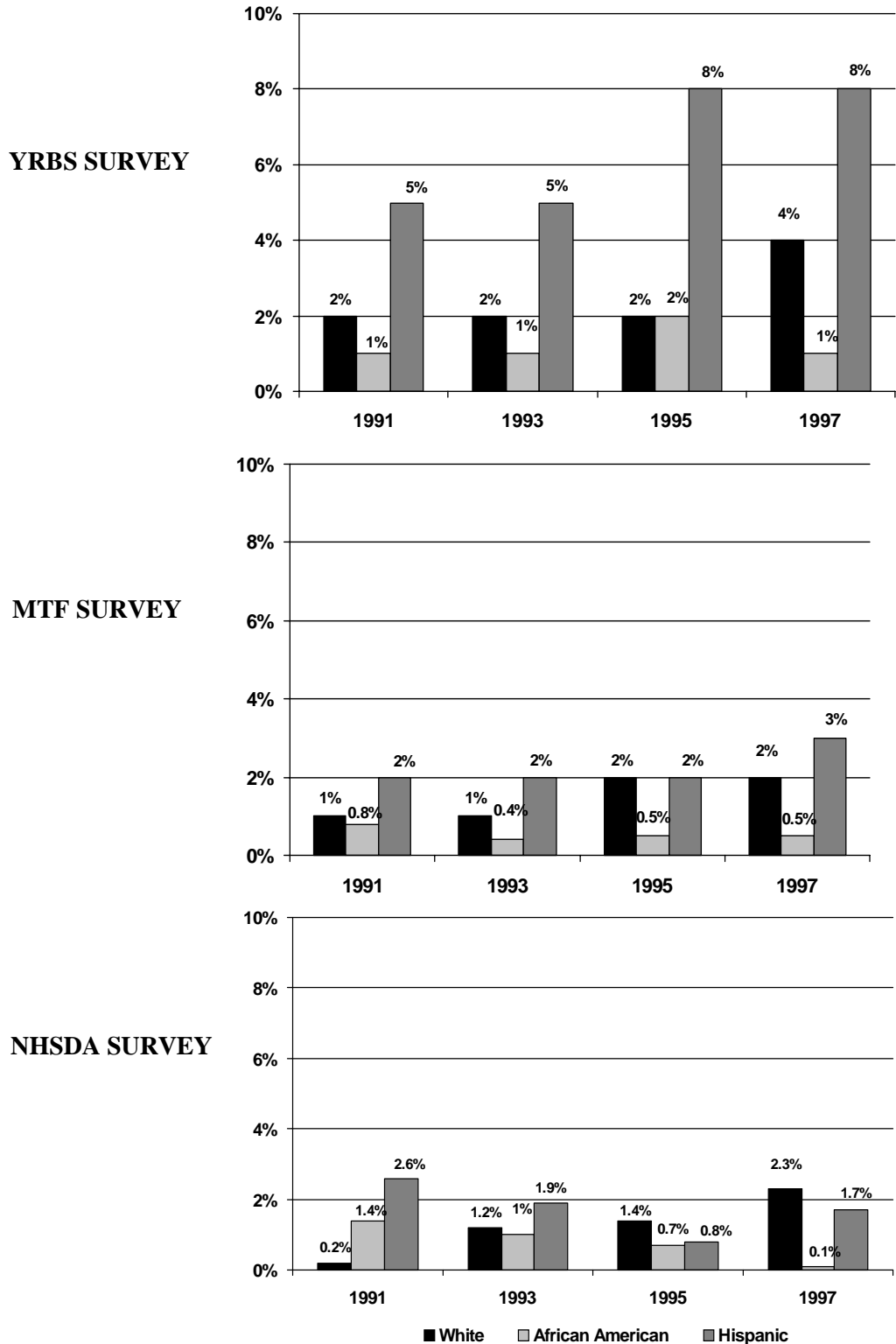
The YRBS question to respondents inquired about the use of powder cocaine and crack cocaine for its item on cocaine usage. For purposes of this analysis, the YRBS data on cocaine and crack-cocaine were included in the "cocaine" analysis. The rationale is, that whereas "crack" is a form of cocaine, powder cocaine is not crack and the YRBS item (since it includes both powder and crack cocaine) could not be included in a "crack only" analysis. Therefore, the YRBS cocaine/crack data were excluded from the MTF and the NHSDA trend comparisons for crack cocaine, but included it with the MTF and NHSDA data in the trend comparisons for cocaine.

Again, the difference in the wording of the cocaine (and crack cocaine) questions could have contributed to slightly ambiguous responses on rates of cocaine use for YRBS and MTF respondents. The NHSDA question about cocaine asked how many days the respondent used cocaine, while the YRBS question asked how many times the respondent used it. Again, too, the MTF question inquired as to how many occasions the respondent used cocaine. Having noted these potentially confounding factors, the findings on past 30-day cocaine use from the three surveys and past 30-day crack use from two surveys are described below.

### Past 30-Day Cocaine Use

Adolescents have been experimenting with cocaine and crack cocaine, to a slight extent, according to the three national surveys. The data on rates and trends in cocaine use are presented in Exhibit III-4. It must be noted that since the use rates were extremely low, the graphic scale ranges from "0" to "3" percent on the MTF and NHSDA graphics, and from "0" to "10" percent on the YRBS graphic.

### EXHIBIT III-4 TRENDS IN PAST 30-DAY COCAINE USE BY RACE/ETHNICITY



Several aspects of the cocaine rates for Whites, African Americans, and Hispanics and were striking. First, for African Americans, the rates of cocaine use over time on the YRBS and MTF surveys reflected very little change. Although the NHSDA rates were slightly higher than the YRBS and MTF rates, the differences were minimal, and consistent with the literature on African American adolescent cocaine use.

Second, for Hispanics, the YRBS rates were substantially higher than MTF and NHSDA rates. This extreme difference may be due to the fact that the apparently higher YRBS rates of cocaine use were partially accounted for by the difference in the wording of the questions.

Finally, the Hispanic cocaine use rates were higher than those of Whites and African Americans. The literature review revealed that Hispanic adolescents had higher rates of cocaine use than Whites and African Americans, and the findings from this analysis appear to reflect the research findings. The literature (Wallace and Bachman, 1993; Wallace et al., 1995) showed that Hispanic high school seniors were more likely to report having been exposed to cocaine more "often" than were White and African American adolescents. And, in 1991-92, Hispanic adolescents demonstrated consistently higher rates (than Whites and African Americans) of cocaine prevalence in grades 8, 10, and 12--rates that were still increasing in 1992. Also, Hispanic age at first use was earlier than that of Whites and African Americans.

Unlike the rates for alcohol use and binge drinking, the MTF and the NHSDA data were quite comparable for cocaine use. For White and Hispanic adolescents, past-month cocaine use increased during the 1990s from just below or around two percent to nearly three percent for Whites and even higher for Hispanic NHSDA respondents. The most dramatic increase was seen between 1995 and 1997.

African American adolescents, consistent with the single-year, age-specific NHSDA analysis described below, reported the lowest rates of recent cocaine use. This difference was constant throughout the 1990s (from 1991 to 1997). Apart from a slight increase in use reflected in the NHSDA data early in the decade (but not in the MTF data), the rate of past-month cocaine use was one percent or lower for African American adolescents from 1991 to 1997.

### **Past 30-day Crack Cocaine Use**

The questions inquiring about past 30-day crack cocaine use in the MTF and the NHSDA surveys included:

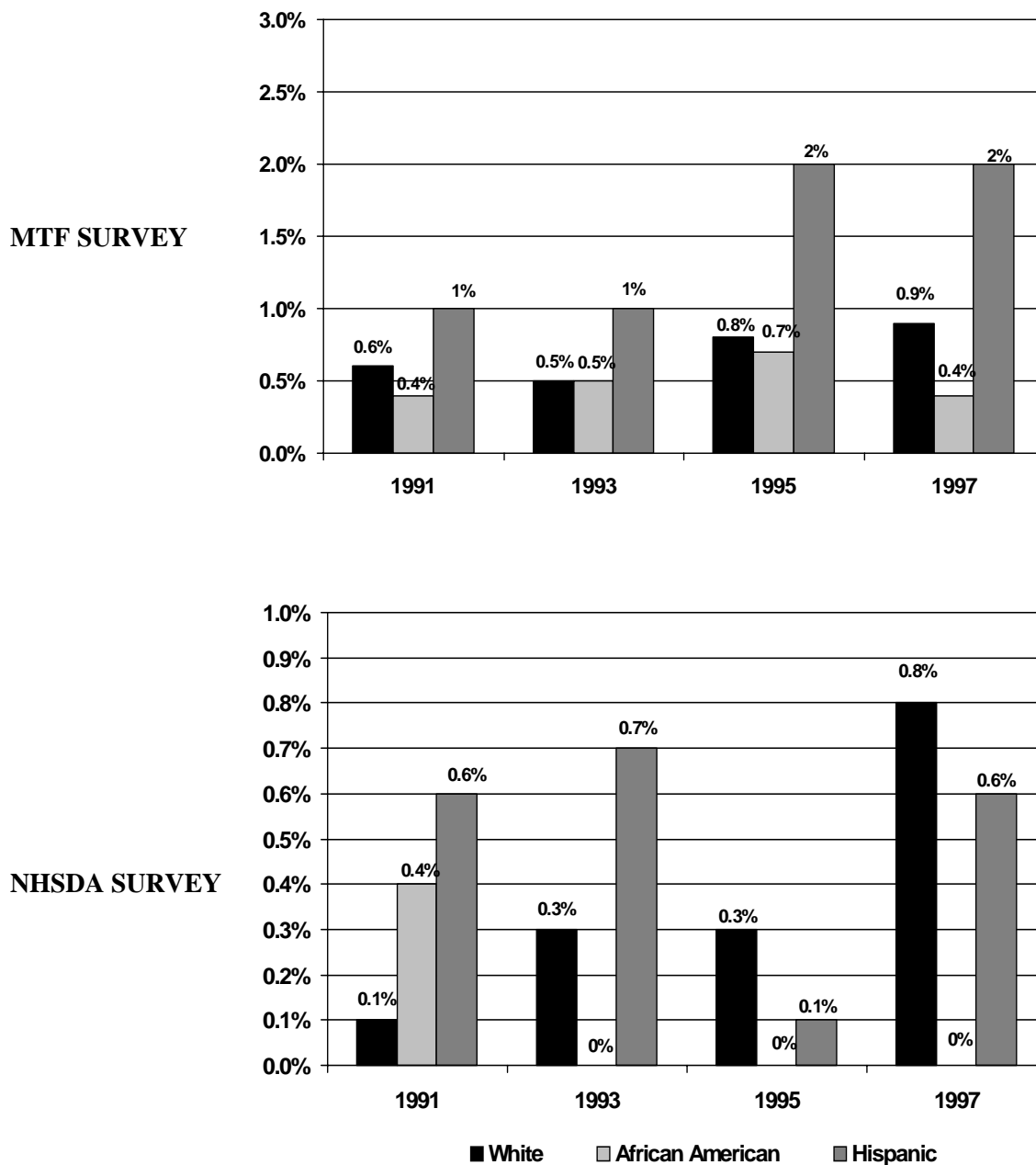
- # On how many occasions (if any) have you taken crack (cocaine in chunk or rock form) during the last 30 days? (MTF)
- # During the past 30 days, on how many days did you use "crack?" (NHSDA)

The data obtained from this question for the two surveys are presented in Exhibit III-5.

For the most part, the rates from the MTF were slightly higher than NHSDA rates for both White and Hispanic respondents than they were for African American respondents. Again, Hispanic adolescents had comparable but higher rates of crack cocaine use than their African American counterparts. The MTF survey reflected rates of less than one percent for African Americans, slightly above one percent for Hispanics, and almost exactly one percent for Whites. By 1997, the NHSDA survey reflected rates of zero for African American adolescent crack cocaine use, compared to nearly one percent for Hispanics and for Whites.

White and Hispanic adolescents (but not African Americans) demonstrated a slight increase in prevalence of past-month adolescent crack use mid-decade. For both Whites and Hispanics, the increase occurred prior to 1997, and appeared to remain higher, at least among MTF respondents. It should be noted that African American adolescent cocaine and crack cocaine use rates were similar for all three surveys, although, as always, the YRBS rates were slightly higher than MTF and NHSDA rates.

**EXHIBIT III-5  
TRENDS IN CRACK USE BY RACE/ETHNICITY FOR TWO NATIONAL SURVEYS:  
MTF AND NHSDA**



## **1.5 Summary of Findings from the Trend Analysis**

Rates of past-month alcohol use among Whites, African Americans, and Hispanics were generally stable over the time period investigated. Whites and Hispanics had generally similar rates, whereas African American teens demonstrated consistently lower rates at this age. This was consistent with the literature, which frequently reported African American youth had lower rates of alcohol use than either Whites or Hispanics and that Whites and Hispanics exhibited similar rates of alcohol use. These findings suggest that the protective effects of strong parental influences may be evident among African American youth.

Rates of past-month binge drinking among Whites, African Americans, and Hispanics were also stable across the years examined. Whites had the highest rates, Hispanics somewhat lower rates, and African Americans demonstrated the lowest rates of binge drinking. Again, these findings were consistent with the literature, and suggested that African American protective factors remained strong, even in these years that are often regarded as most vulnerable to peer "pressures."

Rates of past-month marijuana use increased strikingly from 1991 through 1997 for all racial and ethnic groups. The YRBS rates demonstrated the largest increases over time, whereas the NHSDA rates reflected more modest increases. Rates for African Americans, which were lower at the beginning of the decade, gradually increased to match those of Hispanics and Whites by 1997. This trend was not projected by our literature review, however, all three survey trends appeared to be on the verge of stabilizing or, at a minimum, the direction of the trends did not appear to indicate continuing increases.

Rates of past-month cocaine use were somewhat difficult to interpret, given that the YRBS survey included the use of both powder and crack cocaine in their question to respondents, while the NHSDA and MTF surveys asked separate (cocaine and crack) questions about use. The YRBS data demonstrated a somewhat larger increase in the use of cocaine by Hispanics, and also indicated that White cocaine use was beginning a comparable increase. (It must be remembered that YRBS rates were consistently higher than NHSDA and MTF rates in virtually every comparison.) NHSDA and MTF data reflected a smaller increase of 1 to 2 percentage points for Hispanic and White adolescents, while African American adolescents consistently demonstrated the lowest rates of use. Once again, our findings reflected what we expected after our literature review.

## **2. COMPARISON OF THREE NATIONAL SURVEYS**

In general, the results of the three surveys were similar. Throughout almost all of the comparisons, however, the YRBS results reflected the highest rates of use, the NHSDA results reflected the lowest rates of use, and the MTF results were typically equal to the YRBS rates or in between the YRBS and the NSHDA results.

A comparison of the three survey findings for past 30-day alcohol use is presented on Exhibit III-6. As shown, for White adolescents who reported past 30-day alcohol use, the results from the YRBS and the MTF surveys are the same or very similar. The results from the NHSDA survey for White adolescent past 30-day alcohol use are consistently lower than the rates reported by the YRBS and MTF surveys. And, the differences across the years remains relatively consistent. This suggests that for White teens the surveys are capturing the same or very similar trends, however, the use rates are different.

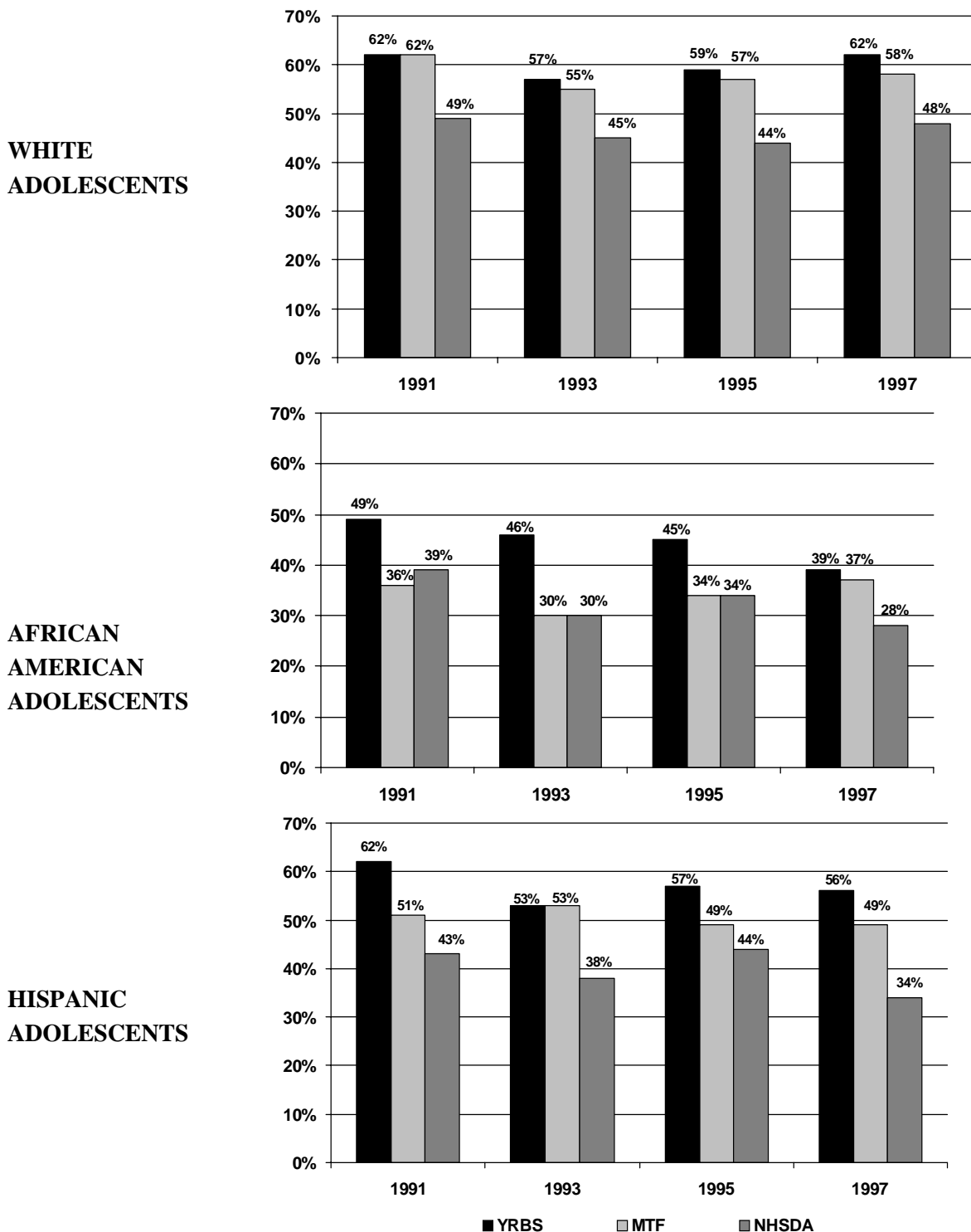
For African American teens, the patterns of YRBS, MTF, and NHSDA results are more variable. While the YRBS survey consistently reports the highest use rates among African Americans across time, the results from the MTF and the NHSDA provide a less consistent pattern. For example, the past 30-day use rate among African American teens in 1991 was found to be 49 percent by the YRBS, 36 percent by the MTF, and 39 percent by the NHSDA. Then, there were no differences between the MTF and the NHSDA findings for 1993 and 1995; by 1997, the use rate pattern among the three surveys was similar to the White adolescents.

The results from the three surveys that reflected Hispanic past 30-day alcohol use rates were similar to the patterns demonstrated by the results for the White teens. Specifically, the YRBS reported the highest use rate among the three surveys, the MTF reported use rates equal to or lower than the YRBS rates, and the NHSDA rates were consistently lower than the other two surveys.

A comparison of the of the three survey findings for past 30-day marijuana use is presented on Exhibit III-7 (following Exhibit III-6) . The pattern described earlier holds true for White adolescents and for Hispanic adolescents. For each reported result, for each year, the YRBS reported the highest use rates, the NHSDA reported the lowest use rates, and the MTF reported use rates that were between the other two surveys.

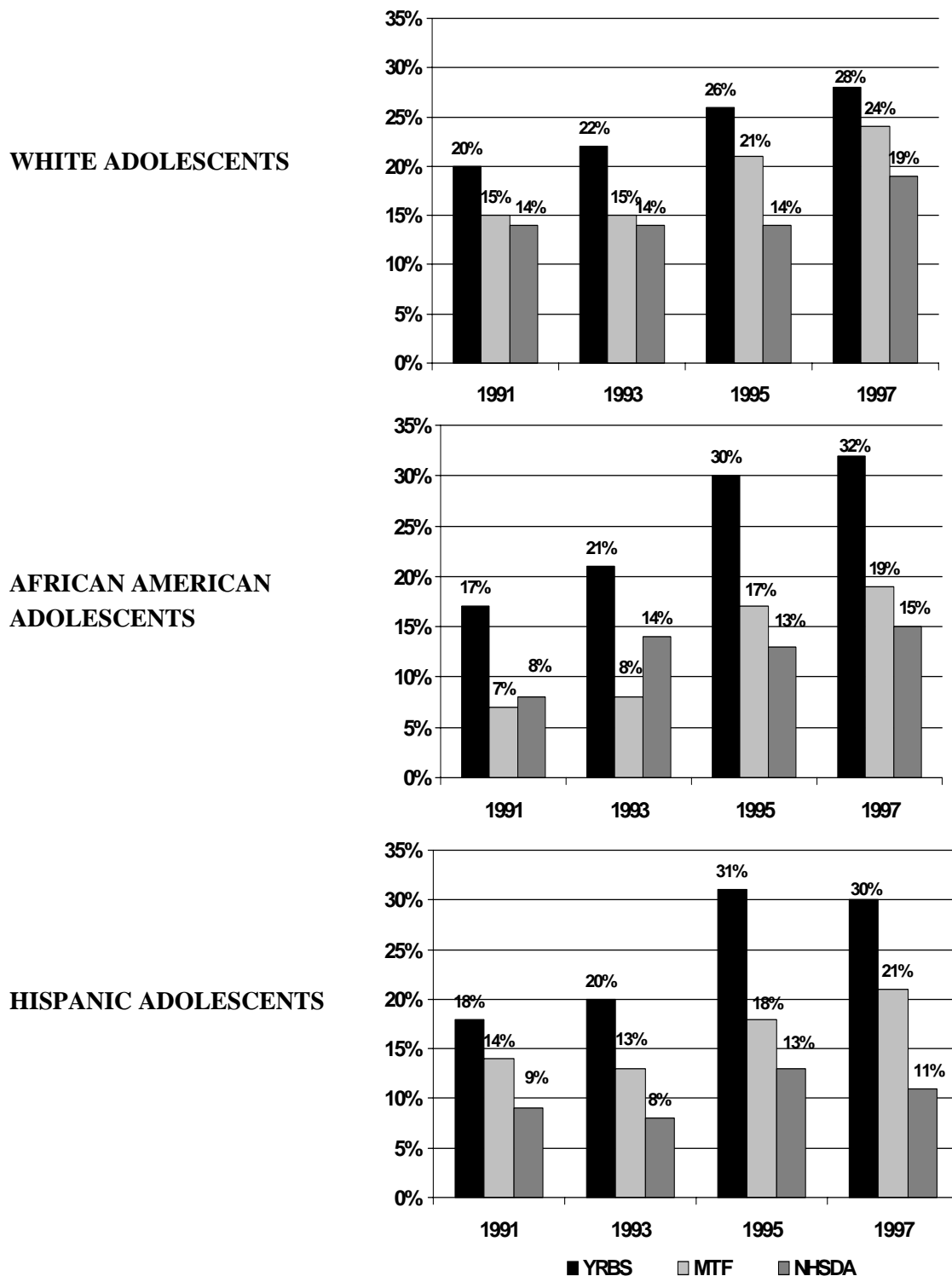
**EXHIBIT III-6**

**TRENDS IN PAST 30-DAY ALCOHOL USE BY SURVEY: YRBS, MTF, NHSDA**



**EXHIBIT III-7**

**TRENDS IN PAST 30-DAY MARIJUANA USE BY SURVEY: YRBS, MTF, NHSDA**



This pattern was not evident among the past 30-day marijuana use rates for African American teens, however. The findings from the YRBS survey continued to reflect the highest use rates. The MTF and NHSDA rates were similar in 1991 and the NHSDA rates exceeded the MTF rates in 1993. By 1995, the use rate pattern described for the White and Hispanic adolescents was established.

While the three surveys were never proposed to measure the same phenomena in the same way, the earlier comparisons of White, African American, and Hispanic substance use rates over time appeared to follow similar patterns despite the lack of similar results. The disparities among the YRBS, MTF, and NSHDA reported use rates for African American past 30-day marijuana use clearly dispute the notion that the results from the three surveys are in anyway comparable.

A detailed comparison of the three surveys demonstrates multiple explanations for the difference in adolescent substance use rates as reported by the surveys. First the purpose of the three surveys is quite different and the purposes have evolved over time and across different sponsoring organizations. The specific purposes for the three surveys are stated below:

- # YRBS is an epidemiological survey designed to monitor the prevalence of youth behaviors that influence health.
- # MTF is designed to examine change in adolescent beliefs, attitudes and behaviors for a broad range of societal conditions.
- # NHSDA is specifically designed to measure the correlates of drug use in the U.S. and to monitor drug use trends, over time.

More important than the purposes of the surveys is the sampling design and mode of administration. Both the YRBS and the MTF sample schools and administer the survey within the school setting. The NHSDA sample is the closest approximation of a true national survey and administers the survey instrument within peoples' homes. One essential group of adolescents who are not included in the YRBS and the MTF surveys is youth who are out of school. Clearly, more information is needed on the proportion of race/ethnic adolescents who comprise the out-of-school youth. Also, research is currently underway to assess the substance using patterns of out-of-school youth as compared with in-school youth.

A comparison of the purpose, design, and sampling for the three national surveys is summarized in Exhibit III-8. As shown, not only are the sampling designs very different, the methods used to adjust the samples so as to most closely represent the population being surveyed are very different.

<b>EXHIBIT III-8</b>			
<b>COMPARISON OF PURPOSE, DESIGN , AND SAMPLING FOR THREE NATIONAL SURVEYS</b>			
	<b>Youth Risk Behavior Survey (YRBS)</b>	<b>Monitoring the Future (MTF)</b>	<b>National Household Survey on Drug Abuse</b>
<b>Purpose</b>	Youth Risk Behavior Surveillance System = monitor prevalence of youth behaviors that most influence health. The school-based YRBS is one component of YRBSS.	MTF designed to study changes in adolescent beliefs, attitudes, and behavior toward government, gender roles, environment, substance use and abuse; inform policy and support meeting Federal goals.	The NHSDA is designed to measure the prevalence and correlates of drug use in the U.S. and to monitor drug use trends over time.
<b>Design</b>	The YRBS focuses on priority youth health-risk behaviors that result in significant mortality, morbidity, disability, and social problems.	MTF is a series of surveys administered to same groups, over time. Design looks at developmental, class cohorts; environmental changes.	The NHSDA represents a national surveillance system for monitoring substance abuse in the U.S.; established in 1971 to provide this tool.
<b>Sampling</b>	<p>Three stage cluster sample design to produce national sample of students in grades 9 through 12. All schools in 50 States and DC.</p> <ul style="list-style-type: none"> <li># 1-Primary sampling units of counties</li> <li># 2-Stratification according to urban/rural; and relative percentage race/ethnic</li> <li># 3-Probability assigned to proportion of school size, and race/ethnic population.</li> </ul> <p>Sampling weights applied to adjust for non-response and selection probability.</p>	<p>Approximately 50,000 students in 420 public and private high schools; data collected during Spring; multi-stage random sampling for conterminous 48 states.</p> <ul style="list-style-type: none"> <li># 1-Selection of geographic areas</li> <li># 2-Selection of one or more schools per area</li> <li># 3-Selection of classes within each school.</li> </ul> <p>Sampling weights are used to correct for unequal probabilities of selection at any stage of sampling.</p>	<p>NHSDA employed stratified multistage area probability sample; there were 25,000 interviews.</p> <ul style="list-style-type: none"> <li># 1-137 primary sampling units selected</li> <li># 2-Within each PSU, area segments selected (city blocks, districts)</li> <li># 3-Composite size measure methodology.</li> </ul> <p>Sample weights constructed to reflect sample stages; sample weights adjusted for non-response; ranking procedure based on regression; weights post-stratified to U.S. Bureau of Census projections.</p>

A separate, independent review of the three surveys found, in general, that the overall methodology of the surveys is strong. The reviewers suggest that the observed differences on prevalence estimates are not the result of flaws or serious weaknesses in survey design. The reviewers disagreed on several issues, such as the higher prevalence estimates indicating more valid reporting of substance use. The overall findings, however, from a policy perspective, suggest that, taken together, the three surveys provide a solid evidence base to assist policymakers in tracking trends in youth substance use (Hennessy et al., 2001).

### **3. SUBSTANCE USE PREVALENCE BY AGE CATEGORIES**

To assess the prevalence of use among race/ethnic groups, single-year, age-specific prevalence comparisons among race/ethnicity, age, and intensity sub-groups were conducted using data from the 1998 National Household Survey of Drug and Alcohol (NHSDA) survey. First, the total respondent sample was divided into four age groups, including:

- # 12 to 17 years (adolescent)
- # 18 to 25 years (young adults)
- # 26 to 34 years (adults)
- # 35 plus years (older adults).

These age ranges correspond to the age range conventions used in prevalence research and evaluations, including the published NHSDA survey findings. Global differences in substance use generally, and specific substances used, tend to cluster according to adolescent, young adult, adult, and older adult age groups.

The age groups were then sub-divided into the three race/ethnicity groups that were included in this analysis: Whites, African Americans, and Hispanics. Finally, using the NHSDA indicators of use frequency, the age and race/ethnic data were examined according to three indicators of frequency: (1) past month (30-day) use; (2) past year use; and (3) lifetime use. This three-pronged analytic approach enabled comparisons of substance use prevalence across age groups and within and across race/ethnic groups. The findings from these comparisons are presented below.

#### **3.1 Alcohol and Cigarette Use**

The first substances examined by this comparison were alcohol and cigarettes. These two substances are legal for adult consumption, but, when used by adolescents, are considered “gateway” drugs for illicit substance abuse. Therefore, an initial examination of alcohol and cigarette

use provides a broader context for comparisons of illicit drug use. To assess the age and race/ethnic differences in past month, past year, and lifetime use, prevalence rates were compared across age and race/ethnic groups. The data described below are presented in Exhibit III-9.

Overall, four-fifths (81.3%) of the total NHSDA sample had used alcohol within his or her lifetime. These rates ranged from one in three (37.3%) among adolescents to almost nine-tenths (88.2%) among young adults (age 26 to 34 years). Past year alcohol use rates were similar with less than one-third of adolescents, three-fourths of the adults age 18 to 34 years, and two-thirds of the older adults (age 35+) using alcohol. Past month use was considerably less; while one in two consumed alcohol, overall, one-fifth of adolescents, and three-fifths of the young adults consumed alcohol within the past month.

A comparison of prevalence rates among race/ethnic groups shows that alcohol use for all groups peaked during young adulthood (age 18-34 years). For each category of use (past month, past year, and lifetime) African American and Hispanic use rates were significantly lower than use rates among Whites. Alcohol use rates for African American adults 18 years and older were consistently 10 to 20 percent lower than rates for Whites. Hispanic adult rates of alcohol use also were consistently 8 to 15 percent lower than rates for Whites. The differences between White and Hispanic adolescents, however, were smaller and were not statistically significant.

Cigarette smoking prevalence rates appear to follow similar patterns. The overall lifetime cigarette smoking rate was approximately 70 percent and ranged from over one-third of the adolescents (age 12 to 17 years); over two-thirds of young adults (age 18 to 34 years); to three-fourths of older adults (age 35 years and older).

A comparison of the prevalence rates of cigarette smoking among race/ethnic groups showed that African Americans and Hispanics smoked cigarettes at a significantly lower rate than Whites from age 12 through 34 years. This trend shifted among older adults (age 35 +) whereas African American past month (32.2%) and past year (33.3%) use and Hispanic past month (27%) and past year (29.3%) use exceeded the cigarette consumption rates among Whites, age 35 and older (24.1% and 25.7%, respectively).

<b>EXHIBIT III-9</b>						
<b>RACE AND AGE-SPECIFIC PREVALENCE: ALCOHOL AND CIGARETTES</b>						
<b>GROUP</b>	<b>Percent who reported alcohol use in:</b>			<b>Percent who reported cigarette use in:</b>		
	<b>Past month %</b>	<b>Past year %</b>	<b>Lifetime %</b>	<b>Past month %</b>	<b>Past year %</b>	<b>Lifetime %</b>
<b>Age 12 - 17 (Totals)</b>	<b>19.1</b>	<b>31.8</b>	<b>37.3</b>	<b>18.2</b>	<b>23.8</b>	<b>35.8</b>
White (n=3,091)	20.9	35.1	40.4	20.5	26.9	39.7
Black (n=1,374)	13.1***	22.3***	26.7***	13.7	16.2	26.1
Hispanic (n=1,869)	18.9	29.4**	36.4*	15.1	20.4	32.3
<b>Age 18 - 25 (Totals)</b>	<b>60.0</b>	<b>74.2</b>	<b>83.2</b>	<b>41.6</b>	<b>47.1</b>	<b>68.8</b>
White (n=2,926)	65.0	79.0	87.9	46.9	52.7	74.9
Black (n=1,798)	50.3***	64.2***	74.2***	30.7	34.3	54.1
Hispanic ((n=2,187)	50.8***	56.2***	74.4***	31.5	37.7	60.0
<b>Age 26 - 34 (Totals)</b>	<b>60.9</b>	<b>74.5</b>	<b>88.2</b>	<b>32.5</b>	<b>36.6</b>	<b>71.8</b>
White (n=1,890)	65.2	79.0	92.8	34.1	38.4	76.8
Black (n=1,053)	54.8***	66.0***	81.9***	31.5	33.1	63.5
Hispanic (n=1,432)	53.1***	66.2***	78.3***	25.4	29.4	60.7
<b>Age 35 + (Totals)</b>	<b>53.1</b>	<b>64.6</b>	<b>86.6</b>	<b>25.1</b>	<b>26.7</b>	<b>75.2</b>
White (n=3,802)	56.2	68.0	89.4	24.1	25.7	77.6
Black (n=1,590)	38.3***	48.1***	78.6***	32.2	33.3	71.5
Hispanic (n=1,307)	47.7**	60.7**	76.2***	27.0	29.3	64.5
<b>TOTALS</b>	<b>51.7</b>	<b>64.0</b>	<b>81.3</b>	<b>27.7</b>	<b>30.6</b>	<b>69.7</b>

\* p < .05 (when compared to Whites)

\*\* p < .001 (when compared to Whites)

\*\*\* p < .0001 (when compared to Whites)

† One or more cells contained too few respondents to calculate a p-value

## **3.2 Illicit Drug Use**

The following paragraphs present findings on comparisons of illicit drug use by age and race/ethnicity. The first section examines illicit drug use, in general. This section is followed by comparisons of marijuana use and cocaine/crack cocaine use.

### **Any Illicit Drug Use**

The race/ethnicity and age-specific prevalence of any illicit drug use are presented in Exhibit III-10. As shown, for the sample population as a whole, approximately one in twenty (6.2%) had used any illicit substance in the past month, while one in ten (10.6%) had used illicit substances in the past year and over one third (35.8%) had ever used illicit substances in their lifetime.

The age group with the highest proportion of illicit drug users was the young adults age 18 to 25 years; use rates for this age group ranged from over 15 percent for past month use to almost one-half for lifetime use. The age group with the lowest past month use (3.3%) and past year use (5.5) of any illicit substances was the older adults, age 35 and older.

The race/ethnicity group comparisons of illicit substance use focused on Whites, African Americans, and Hispanics. Among the adolescents (age 12 to 17 years), there were no significant differences in past month use among the three race/ethnic groups. For past year and lifetime use among adolescents, Hispanic use (17.4%,  $p < .001$ ) was significantly higher and African American use (14%,  $p < .05$ ) was significantly lower than the use rates among White teens. Among young adults (age 18 to 25 years) there were few differences in illicit drug use among Whites, African Americans, and Hispanics. Among the adult population (age 26 to 34 years), there were significant differences in lifetime use rates among Whites (57%) as compared to African Americans (45.3%) and Hispanics (29.7%).

<b>EXHIBIT III-10</b>			
<b>RACE- AND AGE-SPECIFIC PREVALENCE: USE OF ANY ILLICIT DRUG</b>			
<b>Group</b>	<b>Past-month Use %</b>	<b>Past-year Use %</b>	<b>Lifetime Use %</b>
<b>Age 12-17 years (Total)</b>	9.9	16.4	21.3
White (n=3,091)	10.3	16.9	21.7
Black (n=1,374)	9.9	14.0*	19.3***
Hispanic (n=1,869)	9.9	17.4***	23.0***
<b>Age 18-25 years (Total)</b>	<b>16.1</b>	<b>27.4</b>	<b>48.1</b>
White (n=2,926)	17.6	30.4	54.2
Black (n=1,798)	17.1	26.2	41.0
Hispanic (n=2,187)	11.1	19.0	34.6
<b>Age 26-34 years (Total)</b>	<b>7.0</b>	<b>12.7</b>	<b>50.6</b>
White (n=1,890)	7.1	13.4	57.0
Black (n=1,053)	9.4	14.9	45.3***
Hispanic (n=1,432)	5.4	9.1*	29.7***
<b>Age 35+ years (Total)</b>	<b>3.3</b>	<b>5.5</b>	<b>31.8</b>
White (n=3,802)	3.2	5.2	33.4
Black (n=1,590)	4.8*	8.2*	30.2
Hispanic (n=1,307)	3.5	6.0	23.2***
<b>TOTALS</b>	<b>6.2</b>	<b>10.6</b>	<b>35.8</b>

\* p < .05 (when compared to Whites)

\*\* p < .001 (when compared to Whites)

\*\*\* p < .0001 (when compared to Whites)

Although lifetime illicit drug use rates between Whites and African Americans in the oldest age group were comparable, older African Americans had higher rates of past-month (4.8 %, p < .05) and past-year (8.2%, p < .05) use of any illicit drug than did Whites. This finding supports the age-related cross-over effects for race/ethnic substance use. Overall, however, the oldest respondents in all three race/ethnic groups reported lower rates of past-month and past-year use of any illicit drug than their younger counterparts, confirming the fact that illicit drug use decreased with age (as suggested in the literature).

## Marijuana Use

A comparison of race/ethnic and age-specific prevalence of marijuana use are presented in Exhibit III-11. Among adolescents, there were no statistically significant differences between racial/ethnic groups in prevalence of any type of marijuana use (past-month, past-year, lifetime). Among young adults aged 18-25, however, Whites consistently reported all types of marijuana use more often than Hispanics ( $p < .0001$ ). This difference among all three race/ethnic groups was most pronounced for lifetime use, where approximately one-half of the Whites aged 18 to 25 years reported lifetime marijuana use, compared to slightly more than one-third of the African Americans and less than one-third of the Hispanics. Past-month and past-year use decreased with age for all groups, though some racial/ethnic differences remained.

<b>EXHIBIT III-11</b>			
<b>RACE- AND AGE-SPECIFIC PREVALENCE: MARIJUANA USE</b>			
<b>Group</b>	<b>Past-month Use %</b>	<b>Past-year Use %</b>	<b>Lifetime Use %</b>
<b>Age 12-17 years (Total)</b>	<b>8.3</b>	<b>14.1</b>	<b>17.0</b>
White (n=3,091)	8.7	14.6	17.3
Black (n=1,374)	8.3	12.1	14.9
Hispanic (n=1,869)	7.6	14.4	18.5
<b>Age 18-25 years (Total)</b>	<b>13.8</b>	<b>24.1</b>	<b>44.6</b>
White (n=2,926)	14.9	26.5	50.6
Black (n=1,798)	15.2	24.4	37.5***
Hispanic (n=2,187)	9.0***	16.6***	30.9***
<b>Age 26-34 years (Total)</b>	<b>5.5</b>	<b>9.7</b>	<b>47.9</b>
White (n=1,890)	5.7	10.3	54.7
Black (n=1,053)	7.4	11.8	42.1***
Hispanic (n=1,432)	3.2*	6.4*	25.5***
<b>Age 35+ years (Total)</b>	<b>2.5</b>	<b>4.1</b>	<b>29.4</b>
White (n=3,802)	2.5	3.9	31.1
Black (n=1,590)	3.3	5.8*	28.0
Hispanic (n=1,307)	2.4	4.1	20.6***
<b>TOTALS</b>	<b>5.0</b>	<b>8.6</b>	<b>33.0</b>

\* $p < .5$  (when compared to Whites)

\*\*  $p < .001$  (when compared to Whites)

\*\*\*  $p < .0001$  (when compared to Whites)

Hispanics aged 26 to 34 years reported less past-month use (3.2%,  $p < .05$ ), as well as past-year use (6.4%,  $p < .05$ ), than Whites, (5.7% of whom reported past-month and 10.3% past-year use). Hispanics aged 26 to 34 had the lowest prevalence of lifetime marijuana use (25.5%,  $p < .0001$ ), nearly half the rate of Whites (54.7%). African American lifetime use rates also were significantly lower (42.1%,  $p < .0001$ ) than Whites.

Among 35-and-older adults, African Americans reported more past-year marijuana use (5.8%,  $p < .05$ ) than Whites (3.9%). Hispanics reported a lifetime prevalence rate (20.6%,  $p < .0001$ ) only two-thirds of that of Whites (31.1%).

### **Cocaine and Crack Cocaine Use**

We analyzed cocaine powder separately from crack cocaine. The results of the comparisons on cocaine use are presented in Exhibit III-12.

Because African American adolescents reported so little cocaine use, it was not possible to test the differences in their prevalence rates of past-month and past-year cocaine use compared to Whites. What is noteworthy, however, is that African American adolescents reported lifetime use much less often than Whites (0.1% compared to 2.4% for Whites,  $p < .0001$ ). Young African American adults aged 18 to 25 continued using cocaine less than their White and Hispanic counterparts in all three categories of use: past month 0.6 percent,  $p < .05$ ; past year 1.4 percent,  $p < .0001$ ; and lifetime 3.5 percent,  $p < .0001$ . (Hispanic and White 18-25 year old rates of cocaine use were strikingly similar.) African Americans aged 26 to 34, however, began to use cocaine at a rate nearly three times that of Whites (2.7% compared to 1.0% for Whites,  $p < .05$ ) in the past-month use category.

These results suggested that, although African Americans had used cocaine much less than Whites when they were young, a "cross-over" effect occurred in their late twenties, when African Americans started using more cocaine than Whites. This phenomenon has been well documented in the literature. African American (10.7%,  $p < .0001$ ) and Hispanic (12.7%,  $p < .001$ ) lifetime cocaine use prevalence rates for the 26 to 34 year age group, however, were still close to half the lifetime rate of Whites (19.6%). Among 35-and-older adults, Hispanic lifetime cocaine use rates (8.0%,  $p < .05$ ) dropped below African Americans (11.2%) and Whites (10.9%).

<b>EXHIBIT III-12</b>			
<b>RACE- AND AGE-SPECIFIC PREVALENCE: COCAINE USE</b>			
<b>Group</b>	<b>Past-month Use %</b>	<b>Past-year Use %</b>	<b>Lifetime Use %</b>
<b>Age 12-17 years (Total)</b>	<b>0.8</b>	<b>1.7</b>	<b>2.2</b>
White (n=3,091)	0.9	1.9	2.4
Black (n=1,374)	< 0.1 (sample = 0) <sup>†</sup>	< 0.1 (sample = 0) <sup>†</sup>	0.1***
Hispanic (n=1,869)	1.4 <sup>†</sup>	2.5	3.3
<b>Age 18-25 years (Total)</b>	<b>2.0</b>	<b>4.7</b>	<b>10.0</b>
White (n=2,926)	2.2	5.5	11.7
Black (n=1,798)	0.6*	1.4***	3.5***
Hispanic (n=2,187)	2.7	5.1	11.0
<b>Age 26-34 years (Total)</b>	<b>1.2</b>	<b>2.7</b>	<b>17.1</b>
White (n=1,890)	1.0	2.9	19.6
Black (n=1,053)	2.7*	3.4	10.7***
Hispanic (n=1,432)	1.1	1.9	12.7**
<b>Age 35+ years (Total)</b>	<b>0.5</b>	<b>0.9</b>	<b>10.4</b>
White (n=3,802)	0.3	0.7	10.9
Black (n=1,590)	1.3*	2.0**	11.2
Hispanic (n=1,307)	0.9*	1.3	8.0*
<b>TOTALS</b>	<b>0.8</b>	<b>1.7</b>	<b>10.6</b>

\*p < .05 (when compared to Whites)

\*\*p < .001 (when compared to Whites)

\*\*\*p < .0001 (when compared to Whites)

† one or more cells contained too few respondents to calculate a p-value

Hispanic adolescents reported the highest rates of all types of cocaine use (past-month, past-year, lifetime) although the differences were not statistically significant. Although still higher than the rate for Whites (0.3%), Hispanic past-month rates (0.9%,  $p < .05$ ) were lower than African American past-month cocaine use rates (1.3%,  $p < .05$ ) among those aged 35 years and older. That fact, combined with the past-year cocaine use rates for African Americans (2.0%,  $p < .001$ ), demonstrated that cocaine use among 35-and-older adults was significantly higher for African Americans than for Whites.

Adolescent African Americans' prevalence rates of crack use were less than 0.1 percent for all use types (past-month, past-year, lifetime); these use rates were substantially less than the

White and Hispanic rates. (Because African American rates were so low, it was not possible to calculate the statistical significance of the differences.) These low rates continued for young adults, with African Americans aged 18-25 reporting a rate of lifetime crack use (1.4%,  $p < .05$ ) significantly less than Whites (3.2%).

The age-related "cross-over" phenomenon seen for cocaine use prevalence for African Americans, however, was magnified for crack use. By age 26-34 years, past-month (1.4%,  $p < .001$ ), past year (2.3%,  $p < .001$ ), and lifetime (6.3%,  $p < .05$ ) use rates were higher than Whites, as well as Hispanics, demonstrating that a critical change had occurred. The difference between African American and White use rates increased in magnitude for the 35 and older group (5.4%,  $p < .0001$ , compared to 1.2%).

Hispanics did not differ significantly from Whites in terms of their rates of crack use, regardless of age group. For example, Hispanics in the age group 18 to 25 years used crack more than African Americans but less than Whites, but the difference was not significant.

### **3.3 Summary of Findings for Prevalence by Age Categories**

The results from the comparisons of substance use prevalence among minority populations and age groups indicated a number of consistent patterns with regard to race/ethnicity, and the strong moderating influence of age on substance consumption patterns. These results were entirely consistent with patterns previously cited in the research literature.

Rates for past-month, past-year, and lifetime use of alcohol were higher among Whites compared to African Americans and Hispanics. The finding of higher alcohol use among Whites was consistently demonstrated. This pattern was observed even among the youngest, adolescent group (aged 12 to 17 years) of individuals, where the rates of use for illicit substances often failed to show significant between-group difference by racial/ethnic minority status.

Differences in the lifetime prevalence rates for the use of cocaine, crack, or heroin "crossed-over" with increased age for African Americans. For these substances, African Americans consistently demonstrated the lowest rates as adolescents or young adults, compared to Whites and Hispanics. As chronological age increased, however, the rates of use of all three substances among African Americans either matched or exceeded the rates observed for Whites and Hispanics, to confirm the age "cross-over" effect.

Rates of substance use among Hispanics for specific substances were sometimes the lowest, or were intermediate to the rates observed for African Americans and Whites, as our literature review suggested. Hispanics showed rates of drug and alcohol use that were frequently lower than those of Whites, but higher than those of African Americans. This was true for past-month and past-year use of alcohol, and past-month use of cocaine among individuals aged 35 years and older. Hispanics aged 35 and older demonstrated the lowest lifetime rates of use for any illicit substance, marijuana, and cocaine. Rates of lifetime substance use among adolescent Hispanics, however, were consistently higher than those of African Americans and Whites for any illicit drug, marijuana, and cocaine. Again, this was consistent with the literature.

These findings, entirely predictable by the literature, again reinforce the urgency of unraveling the sometimes inconsistent and often conflicting differences in Hispanic sub-group cultures. Without a better understanding of individual Hispanic countries of origin and patterns of substance use, for example, we cannot make meaningful inferences from the data. Other issues to consider include levels of acculturation: are respondents recent immigrants? Second generation? Residing in a heterogeneous community or neighborhood? Do they speak English, or are they bilingual? The Hispanic population is not monolithic, and must be more fully understood, if needed services are to be effectively provided.

## **IV. SUMMARY AND IMPLICATIONS**

## IV. SUMMARY AND IMPLICATIONS

This chapter contains two sections. First, findings from the comparisons of race/ethnic differences in substance use patterns are summarized. Second, the implications of the analyses for substance abuse treatment research, policy, and practice, suggested by both the comparisons summarized below and the review of the literature, are presented.

### 1. SUMMARY OF ANALYTIC FINDINGS

The comparisons of race/ethnic differences in patterns of substance use was developed using two approaches. First, the trends in adolescent substance use across three national surveys (from 1991-1997) among youth who were in the 12th grade (or age 17 or 18) were compared. The national surveys used were the Youth Risk Behavior Survey (YRBS), the Monitoring the Future (MTF) survey, and the National Household Survey of Drug Abuse (NHSDA). Second, the overall rates of use among adolescent and adult race/ethnic groups were compared using data from the 1998 administration of the NHSDA. The main findings from each of these comparative approaches are summarized below.

#### 1.1 Trends in Substance Use Among Adolescents: 1991 to 1997

Rates of past-month alcohol use among White, African American, and Hispanic adolescents were generally stable over the time period investigated. Whites and Hispanics had generally similar rates, while African American adolescents demonstrated consistently lower rates at this age. These findings were consistent with the literature, which frequently revealed that African American youth had lower rates of alcohol use than either Whites or Hispanics, and that Whites and Hispanics exhibited similar rates of alcohol use. These findings suggest that the protective effects of strong parental influences may temper African American adolescent consumption of alcohol.

Rates of past-month binge drinking among Whites, African Americans, and Hispanics were also stable across the years examined. Whites had the highest rates, Hispanics somewhat lower rates, and African Americans demonstrated the lowest rates of binge drinking. Again, these findings were consistent with the literature.

Rates of past-month marijuana use increased strikingly from 1991 through 1997 for all racial and ethnic groups. The YRBS rates demonstrated the largest increases over time, whereas the NHSDA rates reflected more modest increases. Rates for African Americans, which were lower at the beginning of the decade, gradually increased to match and then exceed those of

Whites and Hispanics by 1997. All three survey trends, however, appeared to be on the verge of stabilizing; at a minimum, the direction of the trends did not appear to indicate continuing increases.

Rates of past-month cocaine use were somewhat difficult to interpret, given the fact that the YRBS included the use of both powder and crack cocaine in their question to respondents, while the MTF and NHSDA surveys asked separate questions about cocaine and crack use. The YRBS data demonstrated a somewhat larger increase in the use of cocaine by Hispanics, and also indicated that White cocaine users were beginning a comparable increase. (It must be remembered that YRBS rates were consistently higher than MTF and NHSDA rates in virtually every comparison.) NHSDA and MTF data reflected a smaller increase of 1 to 2 percentage points for White and Hispanic adolescents, while African American adolescents consistently demonstrated the lowest rates of use.

## **1.2 Prevalence of Substance Use: General Patterns in 1998**

The results from comparisons of substance use prevalence among race/ethnic populations for different age ranges indicated a number of consistent patterns with regard to race/ethnicity, and the strong moderating influence of age on substance consumption patterns. These results were entirely consistent with patterns previously cited in the research literature. Specifically, major patterns that emerged from these analyses are described below.

Rates for past-month, past-year, and lifetime use of alcohol were higher among Whites compared to African Americans and Hispanics. The finding of higher alcohol use among Whites was consistently demonstrated. This pattern was observed even among the youngest group (aged 12 to 17 years), where the rates of use for illicit substances often failed to show significant between-group difference by racial/ethnic status.

Differences in the lifetime prevalence rates for the use of cocaine and/or crack "crossed-over" with increased age for African Americans. For these substances, African Americans consistently demonstrated the lowest rates as adolescents or young adults, compared to Whites and Hispanics. As chronological age increased, however, the rates of use of these substances among African Americans either matched or exceeded the rates observed for Whites and Hispanics, thereby confirming the age "cross-over" effect.

Rates of substance use among Hispanics for specific substances were sometimes the lowest, or were intermediate to the rates observed for Whites and African Americans, as the literature review suggested. Hispanics showed rates of drug and alcohol use that were frequently lower than those of Whites, but higher than those of African Americans. This was true for past-month and past-year use of alcohol, and past-month use of cocaine among individuals aged 35 years and older. Hispanics aged 35 and older, however, demonstrated the lowest lifetime rates of use for any illicit substance, marijuana, and cocaine. Rates of lifetime substance use among adolescent Hispanics, however, were consistently higher than those of Whites and African Americans for any illicit drug, and for marijuana and cocaine.

## **2. IMPLICATIONS FOR RESEARCH, POLICY, AND PRACTICE**

This section presents the main implications of the comparative analysis for future research, policy, and practice.

### **2.1 Implications for Research**

The implications of the reported comparative analyses for researchers are numerous and include the need for continuing additional research on the influence of survey methods on prevalence rates in adolescence; the need for larger samples of Hispanic sub-groups; the need for more research on moderating variables that affect racial/ethnic patterns of substance use; the need for improved instruments to measure acculturation; the need to explore ways to reinforce positive cultural norms among racial/ethnic sub-groups; and the need for increasing the number of surveys that disaggregate additional minority populations, particularly Asian Americans and Native Americans.

#### **Continuing Research of Survey Methods on Prevalence Rates in Adolescence**

In general, our analysis showed that the patterns and trends for adolescent substance use were fairly consistent across three national surveys of school-aged youth. There were systematic differences in the magnitude of rates obtained by the three surveys. Additional research should continue to be directed toward understanding the substance use patterns of out-of-school youth, that portion of the adolescent population that was not included in the YRBS or the MTF school-based surveys.

A separate, independent study of the three national surveys was conducted for methodologies and results including the trends in the reported substance use from 1993 to 1997.

Many discrepancies were found among the results from the three surveys and are likely due to several factors, including different sample sizes and frames, policies regarding sample substitution, question wording, and data collection protocols. Discussion of these factors underscores the need for more research dedicated to methodology (Fowler et al., 2001).

According to a second study of the three surveys, a comprehensive coverage study should be conducted that would require three groups to list out the target populations of most import and consider the frame coverage separately from non-response. Such a study could determine the tradeoffs involved in each stage of weighting. A coordinated effort that examined the three surveys with this approach would be beneficial in terms of knowing who is targeted, who is covered, and what assumptions have been made (Cowan, 2001).

### **Larger Samples of Hispanic Sub-groups**

Despite the fact that national survey efforts have frequently over-sampled race/ethnic sub-groups so as to better represent the true proportion of these sub-groups in the total population, gaps remain in our understanding of patterns of substance use among certain minority groups. For example, the identification of individuals reporting an Hispanic ethnic background is only a partial first step to studying the effects of ethnicity in the substance abuse research context. Significant heterogeneity exists within the Hispanic population. As previously described, Cuban-American, Puerto Rican, and Mexican-American sub-groups each demonstrate unique patterns of substance use and risk for substance abuse. To be of optimal use to researchers, future data collection efforts should obtain samples of Hispanic sub-groups of sufficient number to assess their individual patterns of substance use. Recent indications are that researchers are already moving in this direction. It is a direction to be encouraged and maintained.

### **Moderating Variables Affecting Racial/Ethnic Patterns of Substance Use**

Relatively little is known about the variables that explain major differences among race/ethnic minorities in their patterns of substance use and abuse. Continued research is needed to identify the key social and cultural factors (e.g., immigrant status, importance of religion) that influence an individual's decision to use alcohol or drugs. Differences in acculturation to the host (U.S.) culture contribute to differences in substance use patterns. Additional research is needed to better understand how socio-cultural variables vary among racial/ethnic sub-groups, and how they predict substance use rates individually and collectively. More specifically, research models are needed to help us understand the variables that predict individual risk for substance use at

various transitional points along the use/abuse continuum. It is likely that the major risk and protective factors for continuing substance use at each point along the continuum are influenced by cultural factors.

### **Instruments to Measure Acculturation Factors Among Racial/Ethnic Populations**

Our review of the literature reveals a lack of adequate instruments to measure the effects of acculturation on substance abuse behaviors across race/ethnic sub-groups. In light of recent findings regarding the importance of cultural protective factors in risk for substance abuse, this is a need that should be addressed. Additionally, cultural differences may prove to be crucial for implementing effective prevention and treatment services. Intergenerational cultural differences need to be better understood, as well.

## **2.2 Implications for Policy**

This section identifies implications for future policy formation. Included is the need to make Federally-funded information on minority substance use more available to researchers and practitioners; the need for Federal agencies to promote improved identification and understanding of race/ethnic sub-group acculturation issues; and the continuing need to increase treatment efforts that focus on the contexts of substance use among race/ethnic youth.

### **Expand and Increase Dissemination of Information on Minority Substance Use Issues**

The Federal government currently directs significant resources toward the provision of culturally relevant services to minorities and other under-served populations. These services include targeted community outreach efforts, the provision of integrated "wrap-around" treatment services, and minority training grants. These efforts will likely yield important scientific and policy-relevant knowledge products for the field. It is important that the knowledge gained through these efforts be made available to practitioners and the research community so that the information obtained can be applied to improving the quality and appropriateness of treatment services to vulnerable populations. Treatment providers can benefit from greater access to treatment protocols and practice guidelines that take into account the client's racial/ethnic identification and cultural background. Researchers can benefit from greater access to data resources that capture information relevant to culture, race, and ethnicity, in the context of prevention, treatment services and outcomes.

## **Promote Improved Understanding of Race/Ethnic Sub-group Acculturation Issues**

The Substance Abuse and Mental Health Services Administration (SAMHSA), already a leader in its emphasis on racial and ethnic population prevention and treatment needs, should consider increasing its funding of research designed to explore acculturation differences in African American and Hispanic populations as well as Asian American and Native American populations. Such research may be expected to facilitate improved prevention and treatment outcomes. In view of projected increases in the Hispanic adolescent population in the near future, and obvious extrapolations relating to increased prevention and treatment needs, SAMHSA funding could provide crucial support where it is likely to be most urgently needed.

## **Continue Treatment Focus on the Substance Use Among Racial/Ethnic Youth**

The development and implementation of Federal prevention and treatment efforts should focus increasingly on the unique contexts of substance use and abuse among minority youth populations. Prevention and treatment interventions should be adapted to the specific contexts for alcohol and drug use among various racial/ethnic groups. Increasing the implementation of culturally appropriate prevention and treatment strategies for race/ethnic youth can begin to address some of the disparate patterns of use and abuse that are associated currently with minority status in this country. For example, our review of the literature highlighted the disproportionate representation of African Americans and Hispanics in treatment programs and prisons. Federal objectives should be to reduce this pattern.

### **2.3 Implications for Practice**

The findings from the comparative analyses presented in this report have implications for the way practitioners might more effectively work with minority groups. Interventions should be tailored to sub-group needs. School- and college-based interventions should be readily accessible and available to adolescents and young adults, and practitioners and educators can encourage the development and implementation of enhanced, culturally appropriate treatment modalities for race/ethnic sub-groups.

### **Interventions Tailored to Race/Ethnic Needs**

Substance abuse treatment efforts should be designed with the needs of both race/ethnic and age-specific sub-groups in mind. Despite the fact that African American and Hispanic adolescents report lower rates than Whites for the use of most substances, the literature

demonstrates that African Americans and Hispanics experience more severe and enduring consequences of their substance use later in life. In particular, the "cross-over" effect needs to be more closely investigated and addressed. Finally, Asian American and Native American populations must be better served.

### **School- and College-based Interventions Should be Readily Accessible**

Resources should be directed toward earlier identification of at-risk youth, as well as intervention efforts to assist youth who already use substances. These programs should target elementary and middle school students in order to reach the high numbers of 12 to 17 year olds who report using substances. Of particular importance is the implementation of programs to prevent marijuana use, and to treat users of marijuana, since the use of marijuana has long been known to be a "gateway" drug for other illicit substances among adolescents during the years 1991 to 1997. The initial investment in youth interventions has the potential to confer enormous benefits in terms of cost savings in public health, not to mention crime prevention. This is especially true, given the projected increase in numbers of minority youth (e.g., Hispanics) over the next few decades.

### **Develop and Implement Enhanced, Culturally Appropriate Treatment Modalities**

Our analysis and literature review findings demonstrate the importance of understanding culturally protective factors for substance use and abuse. Increased research in this area, combined with improved training for practitioners and educators in culturally relevant treatment, may hold the key for reducing future substance abuse among racial/ethnic populations in the United States. And, although practitioners have been increasingly sensitive to the needs of diverse cultural and gender populations, that need is greater than ever and growing.

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**APPENDIX A**  
**LITERATURE REVIEW TABLE**

## APPENDIX A. LITERATURE REVIEW TABLE

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
<p>Heroin, Alcohol Whites, Chicano (Mexican-American)</p>	<p>Almog, Y.J., Anglin, M.D., &amp; Fisher, D.G. (1993). Alcohol and heroin use patterns of narcotics addicts: gender and ethnic differences. <i>American Journal of Drug and Alcohol Abuse</i>, 19(2), 219-238.</p>	<p>1. Is there an inverse relationship between heroin and alcohol use among methadone program participants in both White and Chicano groups?</p> <p>2. What are the prevalences of use for alcohol and heroin during each of the five stages of addiction?</p>	<p>Methadone clients were sampled and asked by interview the prevalence of use for each of five stages of addiction: pre-narcotic use, experimentation (less than daily use), addiction (daily use), treatment, post-discharge.</p> <p>Statistics = MANOVA</p>	<p>(from literature review section) “Ethnic differences are also reported for age-related patterns of alcohol use. For male Whites, the heaviest use of alcohol occurs between the ages of 18 and 29 and decreases rapidly thereafter, while Chicano men exhibit heaviest use between ages 30 and 39.”</p> <p>Alcohol use is highest during pre-narcotic use, and is lowest during heroin addiction phase. While in treatment for heroin addiction, alcohol use increases again. However, after treatment is over, heroin use increases but alcohol use does not decrease, indicating that participants are now increasing abuse of both heroin and alcohol.</p> <p>There were no racial differences in use patterns except that among Chicano men, pre-addiction alcohol use was higher than post-treatment use. Conversely, whites’s pre-addiction alcohol use was lower than their post-treatment use.</p> <p>White women used alcohol more frequently while using heroin daily than when they were not using heroin, unlike the other groups (confirms other studies of poly-drug use).</p>

<b>Drug &amp; Pops</b>	<b>Article</b>	<b>Hypothesis(es)/Research Questions</b>	<b>Design Issues</b>	<b>Findings</b>
Alcohol  African Americans	Barthwell, A.G. (1995). Alcoholism in the family: A multicultural exploration. <i>Recent Developments in Alcohol,</i> <i>12, 387-407.</i>	1. What are the sociocultural, generational, and gender- related influences on an African-American woman?  2. What is the role of alcohol in the social processes defining race and culture, particularly among the increasingly large population of people with multi-racial identities? 2	Theoretical review of sociological history of African Americans and American Indians.  Case study of a particular multiracial genetic lineage for one African-American woman. Alcoholism among African Americans and American Indians is a big problem that can be viewed as a logical result of various cultural interruptions and oppression.  The choices of African-American women around alcohol-related issues are shaped by generational and gender influences.	

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
All African Americans	Biafora, F., & Zimmerman, R.S. (1998). Developmental patterns of African American adolescent drug use. In Vega, W.A., Gil, A.G. (Eds.), <i>Drug Use and Ethnicity in Early Adolescence</i> (pp.149-176). New York: Plenum Press.	1. What are the differences in drug use between blacks and whites?  2. What factors explain these differences?	Literature Review with some data analysis.  Bivariate analysis of several risk factors between blacks and whites, chi-square tests.  No analysis linking these factors to substance use.	Black adolescents consistently use drugs less than whites.  The first two possible explanations offered by Kandel are discussed and refuted.  The last (that the race – SA relationship is spurious) is supported by racial differences in potential confounding factors.

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
All  African Americans	Brunswick, A.F. (1999). Structural strain: An ecological paradigm for studying African American drug use. <i>Drugs &amp; Society</i> , 14(1/2), 5-19.	1. Does structural strain theory explain differences in drug use between African Americans and other groups?	Literature review/ theoretical overview, and some data analysis.	<p>The following methodological issues are identified:</p> <p>Drug use and minority populations are unevenly distributed throughout the United States, and it is important to weight/adjust means/proportions and other estimates.</p> <p>Intra-group heterogeneity is too often neglected (e.g., relationship between SES and SA is not the same for rural blacks v. urban blacks)</p> <p>Heterogeneity on response styles/cognitive processing (i.e, asking the same question of all respondents regardless of race/ethnicity may not be processed the same way).</p> <p>Protocol bias: African Americans respond differently when surveyed by phone or self-administered questionnaire compared to an interview than whites do. Less trust with these media may lead to more underreporting in a non-interview setting.</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol  Blacks, Whites, Hispanics	Caetano, R. (1997). Prevalence, incidence and stability of drinking problems among Whites, Blacks and Hispanics: 1984-1992. <i>Journal on Studies on Alcohol</i> , 58, 565-572.	<p>1. What is the prevalence of dependence-related problems and social consequences of drinking at baseline and follow-up?</p> <p>2. What is the stability (the long-term maintenance of status) of dependence-related problems and social consequences over the follow-up period?</p> <p>3. What is the incidence of dependence-related problems and social consequences during the follow-up period.</p>	<p>Household survey, contiguous U.S. in 1984. All self-reported "heavy drinkers" from 1984 were selected for follow-up in 1992, as well as a probabilistic sub-sample.</p> <p>Statistics = simple tests of proportions</p>	<p>Prevalence of a number of alcohol-related problems, the stability and incidence of dependence-related problems, and the incidence of social consequences of drinking are higher among Hispanic men than white men.</p> <p>Dependence-related problems are more stable among black men than white men.</p> <p>Black women have a greater incidence of dependence-related problems than white women.</p> <p>Hispanic women have a greater incidence of social consequences than white women.</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol  Blacks, Whites, Hispanics	Caetano, R., & Clark, C.L. (1999). Trends in situational norms and attitudes toward drinking among whites, blacks, and Hispanics: 1984-1995. <i>Drug and Alcohol Dependence</i> , 54(1), 45-56.	1. Are there trends (1984-1995) in the relationship between situational norms and attitudes, and drinking patterns among ethnic groups?	Survey of household, pop-based U.S. samples in 1984 and 1995. Data collected by interview.  Statistics = pairwise comparisons, multivariate logistic regressions	Blacks generally became more conservative toward drinking during the study period.  Whites and Hispanics showed some trends toward more conservative norms/attitudes and some more liberal norms/attitudes.  There were no broadly identifiable secular trends in norms/ attitudes toward drinking.  Both blacks and Hispanics were less likely to be current drinkers throughout the study period than whites.  There was some evidence that people were more likely to be current drinkers in 1984 than in 1995.  Black men aged 30 to 39 with some college education were more likely to be current drinkers than younger or less educated people.  Among all ethnic groups, those with higher SES, and fewer relational ties to marriage or partner (except Hispanic males), had higher rates of current drinking.

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol  Blacks, Whites, Hispanics	Caetano, R., & Clark, C. L. (1998). Trends in alcohol consumption patterns among whites, blacks and Hispanics: 1984 and 1995. <i>Journal of Studies on Alcohol</i> , 59(6), 659-668.	<p>1. What are the trends in drinking prevalence among racial and socioeconomic status (SES) groups in 1984 and 1995?</p> <p>2. What is the relationship between sociodemographic variables and drinking behaviors; did that relationship change over time?</p>	<p>Household survey, cross-sectional at two time periods.</p> <p>“Subjects were selected through a multistage area probability procedure from among individuals living in households in the 48 contiguous States both in 1984 and in 1995.”</p> <p>Statistics = Chi-square tests of drinking categories by demographic variables.</p> <p>Logistic regression to</p>	<p>Rates of abstention remained stable among whites but increased among blacks and Hispanics.</p> <p>Rates of frequent heavy drinking dropped among whites, remained stable among blacks and Hispanics (both men and women).</p> <p>White men and women were twice as likely to be frequent heavy drinkers in 1984 than 1995.</p> <p>Strongest predictor of current drinking (independent of ethnicity) is importance of religion.</p> <p>Current drinking is more common among younger men and more educated men (independent of ethnicity).</p> <p>Higher education, younger age, higher income and being single are associated with higher rates of current drinking.</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol  Blacks, Whites, Hispanics	Caetano, R., & Kaskutas, L.A., (1995). Changes in drinking patterns among whites, blacks, and Hispanics, 1984-1992. <i>Journal of Studies on Alcohol</i> , 56, 558-565.	<ol style="list-style-type: none"> <li>1. What are the differences in drinking patterns over an 8-year span between ethnic groups?</li> <li>2. What predicts stability of frequent heavy drinking during the study period?</li> <li>3. What predicts incidence of frequent heavy drinking during the study period?</li> </ol>	<p>Household survey, contiguous U.S. in 1984. All self-reported “heavy drinkers” from 1984 were selected for follow-up in 1992, as well as a probabilistic subsample.</p> <p>Statistics = chi squares, multiple logistic regression, tests of proportions.</p>	<p>Reductions in drinking among whites was not seen for blacks and Hispanics.</p> <p>Stability, incidence, and prevalence of frequent heavy drinking are higher for blacks and Hispanics possibly explaining poorer long-term health outcomes in these populations.</p>
Alcohol,  Black, White, Hispanic	Cunradi, C.B., Caetano, R., Clark, C.L., & Schafer, J. (1999). Alcohol-related problems and intimate partner violence among white, black, and Hispanic couples in the U.S. <i>Alcohol Clinical and Experimental Research</i> , 23(9), 1492-1501.	<ol style="list-style-type: none"> <li>1. Are there racial differences in the relationships between drinking or drinking-related problems, and intimate partner violence (either male to female or female to male)?</li> </ol>	<p>Using the 1995 National Alcohol Survey, authors performed bivariate analyses with chi-square tests and t-tests, and multivariate analyses with logistic regressions.</p> <p>Statistics = chi-square tests, t-tests, logistic regression</p>	<p>Black and Hispanic men have more alcohol-related problems than white men.</p> <p>After controlling for numerous sociodemographic and psychosocial covariates, the relationship between male alcohol-related problems and male-to-female partner violence was not significant for whites or Hispanics, though it was a strong relationship among blacks.</p> <p>Analyses suggest that drinking problems, not drinking itself, is the relevant factor in the association between alcohol and partner violence, as alcohol consumption alone was not statistically related to violence.</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol  All	Dawson, D.A. (1998). Beyond black, white and Hispanic: Race, ethnic origin and drinking patterns in the United States. <i>Journal of Substance Abuse, 10</i> (4), 321-339.	<ol style="list-style-type: none"> <li>1. Are there ethnic differences in drinking between races when broken down into country of origin?</li> <li>2. Are there differences within race between groups from different countries of origin?</li> </ol>	<p>1992 NLAES surveyed 42,862 U.S. adults, including 18,352 past year drinkers.</p> <p>Statistics = pairwise comparisons and multivariate linear and logistic regression controlling for demographic and SES-related factors.</p>	<p>Whites were most likely to drink, but blacks had the highest volume of intake and frequency of heavy drinking.</p> <p>Hispanics and Native Americans were less likely to drink than European whites, but consumed more alcohol on days when they drank.</p> <p>In multivariate analysis, black/white differences in volume of intake and frequency of heavy drinking disappeared.</p> <p>Most ethnic differences remained, though in lesser magnitude, in the multivariate analysis.</p>
All substances  Latino Adolescents  African American Adolescents	De La Rosa, M., Vega, R., & Radisch, M.A. (2000). The role of acculturation in the substance abuse behavior of African-American and Latino adolescents: Advances, issues, and recommendations. <i>Journal of Psycho-active Drugs, 32</i> (1), 33-41.	<ol style="list-style-type: none"> <li>1. What is the relationship between acculturation of Latino and African American adolescents to European-American cultural values and their substance abusing behaviors?</li> </ol>	Literature review.	<p>Foreign born Latinos with low acculturation abuse substances less.</p> <p>U.S.-born Latinos with low acculturation abuse substances more (the combination of U.S.-born with low acculturation may be a marker for low SES, which may be influencing substance abuse).</p> <p>Traditional African American values support alcohol use less than traditional European American values.</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol  Whites, Hispanics, Blacks	Grant, B.F. (1997). Prevalence and correlates of alcohol use and DSM- IV alcohol dependence in the United States: Results of the National Longitudinal Alcohol Epidemiologic Survey. <i>Journal of Studies on Alcohol</i> , 58, 464-473.	1. What is the prevalence of alcohol use and DSM-IV alcohol dependence in the U.S.?  2. What are the correlates of alcohol use and dependence in the U.S.?	Population-based sample (N=42,862) of U.S. aged 18 and older National Longitudinal Alcohol Epidemiologic Survey (NLAES).	Blacks and Hispanics have lower lifetime use than whites.  Blacks have lower (ever) lifetime dependence than whites.  Both blacks and Hispanics have higher rates of 12- month dependence (i.e., persistent dependence) than whites.
All  Blacks, non- Blacks	Grant, B.F., & Dawson, D.A. (1996). Alcohol and drug use, abuse, and dependence among welfare recipients. <i>American Journal of Public Health</i> , 86(10), 1450-1454.	1. Are there differences in last- year alcohol use, last-year drug use, last-year alcohol dependence, and last-year drug dependence between black and non-black recipients of AFDC, WIC, SSI, Medicaid, and Food Stamp benefits?	Prevalences were estimated and compared. Because no relationships were significant, no mention is made anywhere of the statistics used.	There are no significant differences between black and non-black beneficiaries of the five welfare programs in terms of last-year drug use or abuse, and alcohol use and abuse. Though all rates are generally higher for non- blacks, statistical significance was not found in this study. In addition, there is no difference between these prevalences and those of the general U.S. population or the non-welfare receiving U.S. population.

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol Blacks, Whites	Herd, D. (1994). The effects of parental influences and respondents' norms and attitudes on black and white adult drinking patterns. <i>Journal of Substance Abuse</i> , 6(2), 137-145.	<ol style="list-style-type: none"> <li>1. Is the influence of religion on drinking mediated by drinking attitudes and norms, social contexts, social networks and the integration of alcohol use in the home?</li> <li>2. Are the relationships between these factors and drinking behaviors different between blacks and whites?</li> </ol>	<p>1984 survey, U.S. population-based sample was surveyed on a variety of religious and sociocultural factors, as well as drinking behaviors.</p> <p>Statistics = generalized least-squares multigroup structural equation model.</p>	<p>There are racial differences in how religion influences intervening variables, but few racial differences exist in how intervening variables predict drinking.</p> <p>More proscriptive (prohibitive) religions led to less drinking in both blacks and whites.</p> <p>Being Baptist reduced drinking less in blacks than whites, probably due to more heterogeneity among black Baptist churches.</p> <p>Religion influenced certain social factors, and those in turn, influenced drinking patterns, rather than any direct religion-drinking relationship.</p> <p>Alcohol was less integrated in the home for blacks than whites, perhaps explaining why alcohol in the home increased heavy drinking for blacks but reduced it for whites.</p> <p>Bar attendance increased heavy drinking among whites more than among blacks.</p> <p>Heavier drinking is not explained well by religious factors, particularly for blacks.</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
<p>Alcohol &amp; Marijuana, Alcohol &amp; Cocaine</p> <p>Blacks, Whites, Hispanics, Asians, Native Americans</p>	<p>Hoffman, J.H., Barnes, G.M., Welte, J.W., &amp; Dintcheff, B.A. (2000). Trends in combinational use of alcohol and illicit drugs among minority adolescents, 1983-1994. <i>American Journal of Drug and Alcohol Abuse</i>, 26(2), 311-324.</p>	<ol style="list-style-type: none"> <li>1. What are the trends in prevalence of adolescent combinational use of alcohol and illicit drugs over a decade?</li> <li>2. Are there significant differences in these trends among ethnic groups?</li> <li>3. Is the prevalence of combinational use really a function of prevalence of use of individual substances?</li> </ol>	<p>Authors used three large, cross-sectional surveys of 7<sup>th</sup>-8<sup>th</sup>, 9<sup>th</sup>-10<sup>th</sup>, 11<sup>th</sup>-12<sup>th</sup> graders in New York State in 1983, 1990, 1994.</p> <p>Statistics = logistic regression</p>	<p>Prevalence of alcohol and marijuana use dropped by half for all ethnic groups from 1983-1990, but increased again to 1983 rates by 1994.</p> <p>Native Americans had highest rates at about 34%-26%-33%. Whites were next highest, starting at 26% and ending at about 22%. Hispanics had slightly higher rates.</p> <p>Blacks and Asians had the lowest rates.</p> <p>Alcohol and cocaine use rates halved in 1990 as well, but did not increase again in 1994.</p> <p>For alcohol and cocaine rates: Native American &gt; Hispanic &gt; white &gt; black/Asian (same prevalence) in 1983, but by 1994, only the rate for Native Americans had remained high, whereas the rates for all the other groups dropped sharply to 1 or 2% in 1990 and stayed there in 1994.</p> <p>There were no combinational effects, that is, the prevalence of combinational use was not statistically independent of the prevalence in the use of the individual drugs.</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol  Black, White, Hispanic (Men only)	Jones-Webb, R., Snowden, L., Herd, D., Short, B., & Hannan, P. (1997). Alcohol-related problems among black, Hispanic and white men: the contribution of neighborhood poverty. <i>Journal of Studies on Alcohol</i> , 58(5), 539-545.	1. Do black and Hispanic men living in impoverished neighborhoods report more alcohol-related problems than comparable white men?	GLM regression analysis, based on 1992 National Alcohol Follow-up Survey.	Neighborhood poverty had a greater effect on alcohol-related problems in black than in white men.  Black men living in more impoverished neighborhoods reported greater numbers of alcohol-related problems than comparable white men.  There were no race differences among affluent men.  Neighborhood poverty had little effect on alcohol-related problems in Hispanic men.

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
All  All	Kandel, D. (1995). Ethnic differences in drug use: Patterns and paradoxes. In Botvin, G.J., Schinke, S., & Orlandi, M.A., (Eds.), <i>Drug Abuse Prevention with Multiethnic Youth</i> (pp.81-104). Thousand Oaks, CA, SAGE Publications, Inc.	<p>1. What are the potential explanations for ethnic differences in drug use (is it differential reporting rates, differential drop out rates in school-based surveys, exclusion of homeless/institutionalized/incarcerated from population-based surveys, or is it that race is a marker for something else?)</p> <p>2. Why is there a difference in use rates among minorities in population-based versus clinical settings?</p>	Literature review and theoretical overview.	<p>American Indians have the highest lifetime use rates.</p> <p>Asians have the lowest lifetime use rates.</p> <p>Other than American Indians, the highest lifetime use is among whites, the lowest is among blacks, except for cocaine, with the highest lifetime use being among Hispanics..</p> <p>Fewer blacks (35.5% fewer) than whites report any lifetime experience with cocaine, whereas once over 35 years old, more blacks (51.5%) than whites report lifetime experience with cocaine.</p> <p>Last year use is lower among blacks among young adults, but higher among those over 26 years old.</p> <p>Black adolescents who use certain types of drugs (heroin, cocaine/crack) may drop out of school more frequently than other groups (relevant for comparisons between school-based and population-based surveys).</p> <p>Under-reporting among blacks may be taking place (explaining lower use rates).</p> <p>Neighborhood characteristics may reduce race/ethnic</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol, Nicotine, Marijuana, Cocaine  Whites, Blacks, Hispanics	Kandel, D., Chen, K., Warner, L.A., Kessler, R.C., & Grant, B. (1997). Prevalence and demographic correlates of symptoms of last year dependence on alcohol, nicotine, marijuana and cocaine in the US population. <i>Drug &amp; Alcohol Dependence</i> , 44, 11-29	1. What is the prevalence of last-year dependence?  2. What are the demographic correlates of last-year dependence?	Aggregated data from three successive years of the National Household Survey on Drug Abuse (NHSDA) (1991-3). Household interview.  Note: NHSDA has not ever reported prevalence by race/sex/age. This article contributes above the NHSDA reports by reporting data by more than one demographic category.	Prevalence:  <b>Alcohol:</b> White men > black men. White women > black or Hispanic women <b>Marijuana:</b> Blacks > Hispanics or whites. White women > Hispanic women <b>Cocaine:</b> Blacks and Hispanics > whites  Dependence:  <b>Alcohol:</b> Blacks and Hispanics (no diff between B and H) > whites <b>Marijuana:</b> No ethnic differences <b>Cocaine:</b> Blacks > Hispanics. Blacks > whites

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Crack  Blacks, Whites, Hispanics	Lillie-Blanton, M., Anthony, J.C., & Schuster, C.R. (1993). Probing the meaning of racial/ethnic group comparisons in crack cocaine smoking. <i>Journal of the American Medical Association</i> , 269(8), 993-997.	1. Do the odds of smoking crack differ between races when social and environmental conditions are controlled?	Using 1988 NHSDA, authors grouped respondents into strata based on local area segments from which they were sampled (aggregates of city blocks or census enumeration districts), and by age. The Office of Management & Budget's definitions of race were used.  Statistics = conditional logistic regression	There was no difference between any races in any age group in the relative odds of smoking crack, when controlling for neighborhood, except among teens aged 15-19.  Among teens, white teens had higher odds of smoking crack than African Americans.  Given similar social conditions, crack cocaine smoking does not depend strongly on race. (so then race is indeed a marker of other factors... so then should we even be studying race???)  Being African American is in fact protective for teens... confirming other literature about the cultural norms against drug use.

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol  Hispanic subgroups	Nielsen, A.L. (2000). Examining drinking patterns and problems among Hispanic groups: results from a national survey. <i>Journal of Studies on Alcohol</i> , 61(2), 301-310.	1. Are there differences in the rates of frequent heavy drinking, drunkenness, and alcohol-related problems among four subgroups of Hispanics?	Using 1993 NHSDA data, author compared rates of drinking and drinking-related problems for Puerto Ricans, Mexican Americans, Cubans and “Other Hispanics” (Central and South Americans).  Statistics = Chi-square	Among men, Mexican Americans report significantly higher frequent heavy drinking, drunkenness, and drinking-related problems, with Cubans having the lowest. Puerto Ricans and other Hispanics fall in between.  Among women, fewer ethnic differences exist. Puerto Ricans and Mexican Americans drink more often and heavily and experience more problems than the other groups.  There are significant age differences between groups.
All  African Americans, Hispanics	Resnicow, K., Soler, R., Braithwaite, R.L., Ahulia, J.S., & Butler, J. (2000). Cultural sensitivity in substance use prevention. <i>Journal of Community Psychology</i> , 28(3), 271-290.	1. What are the “surface structure” and “deep structure” mechanisms of cultural sensitivity?		(From lit review) “Peer influences may exert a greater influence on substance use initiation among White and Hispanic than among African American youth, while parental influences may be stronger among African Americans.”  “African American parents are also more likely than European Americans to set and reinforce rules with their children about other (than tobacco) drug use, to be proactive family managers, to punish unacceptable behavior, and to exert influence over who their children choose as friends, each of which may help explain the lower substance use rates among African American adolescents.”

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Alcohol (intoxicat'n), Marijuana, Inhalants, Stimulants, Cocaine, LSD  Whites, Mexican Americans, Native Americans	Swaim, R.X., Beauvais, F., Chavez, E.L., & Oetting, E.R. (1997). The effect of school dropout rates on estimates of adolescent substance use among three racial/ethnic groups. <i>American Journal of Public Health</i> , 87(1), 51-55.	1. Are rates of use different among school dropouts from different ethnic groups? If so, does correcting for these differences significantly alter school-based prevalence estimates?	Authors compared prevalence of use for three ethnic groups in student versus dropout populations. Using the differential drop-out rates among ethnic groups, authors then “corrected” school-based prevalence of use estimates to incorporate drop-out prevalence rates. The statistical significance of the difference between “corrected” rates and school-based rates was assessed for each of the six drugs.	Rates of use among dropouts were substantially higher than among students: for lifetime use, 1.3-3.0 times higher, for past month use, 1.2-6.4 times higher. There were no statistical ethnic differences among these rates. However, there are ethnic differences in drop-out rates; therefore, when correcting school-based estimates of prevalence of use to include drop-outs, differential changes occur. Since whites have low drop-out rates, their “corrected” rates do not vary greatly from the school-based estimates (though there is a significant change). For Mexican Americans and Native Americans, however, who have much higher drop-out rates, the correction of prevalence estimates to include use by drop-outs changes the corrected rates substantially, such that their rates become higher than rates for whites, (KF-thereby eliminating the “paradox” identified by Kandel of how whites use more, but ethnic minorities suffer more.)

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
Marijuana, Cocaine, Hallucino-gens, Heroin  Black, White, Hispanic, Other	Van Etten M.L., & Anthony, J.C. (1999). Comparative epidemiology of initial drug opportunities and transitions to first use: marijuana, cocaine, hallucinogens, and heroin. <i>Drug and Alcohol Dependence</i> , 54, 117-125.	1. What is the relationship between sex, race/ethnicity and (1) having an opportunity to try a drug and (2) the probability of progressing from having an opportunity to actually using the drug.	NHSDA from 1979-1994  Statistics = simple proportions across groups (no statistical comparisons of proportions)	The probability of making a transition to the use of cocaine once given the opportunity was 79% for Other Race, whereas it was 44-49% for other groups.  For hallucinogens, the probability of making a transition to the use of hallucinogens was 89.5% for Other compared to 55-69% for other groups.  Whites (not Hispanic) were less likely (16.5%) to make the transition to heroin once given the opportunity than the other three groups (31-38%).
All  Hispanic Adolescents	Vega, W.A., & Gil, A.G. (1999). A model for explaining drug use behavior among Hispanic adolescents. In De La Rosa, M., Segal, B., & Lopez, R. (Eds.). <i>Conducting Drug Abuse Research with Minority Populations: Advances and Issues</i> (pp.57-74). New York: The Haworth Press.	1. What factors relating to Hispanic status predict drug use?	Literature review and theoretical discussion.	The protective effect of family-centered culture with respect to drug use among Hispanic adolescents is reaffirmed.  Lengthy discussion of acculturation and immigration issues.

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
All (focus on Alcohol)  White, Hispanic, Black	Wallace, J.M. Jr. (1999). The social ecology of addiction: Race, risk, and resilience. <i>Pediatrics</i> , 103(5 Supplement), 1122-1127.	<ol style="list-style-type: none"> <li>1. What are the key contextual risk factors that elevate blacks and Hispanic Americans likelihood to use substances?</li> <li>2. What are the protective mechanisms that may shield members of these populations against substance use?</li> </ol>	Literature review and theoretical overview.	<p>In school-based studies, alcohol use is higher among Hispanics during the early years until many drop out, causing their rates to look like whites by late high school.</p> <p>The following are a few community factors that tend to be more important in explaining race differences in substance use: higher rates of advertisement in black/Hispanic communities, greater drug/alcohol availability, density of liquor stores, prevalence of public dealing and intoxication, lower employment/income/education.</p> <p>Racial differences in use disappear when controlling for community factors.</p>

Drug & Pops	Article	Hypothesis(es)/Research Questions	Design Issues	Findings
<p>Alcohol, Marijuana, Other drugs</p> <p>White, Black, Foreign-born Hispanics, US born Hispanics</p>	<p>Warheit, G.J., &amp; Gil, A.G. (1998). Substance use and other social deviance. In Vega, W.A., &amp; Gil, A.G. (Eds.), <i>Drug Use and Ethnicity in Early Adolescence</i> (pp.37-70). New York: Plenum Press.</p>	<p>1. What are the rates of use of drugs and alcohol among four ethnic groups in Miami?</p> <p>2. What is the relationship between use of drugs and other forms of deviance?</p>	<p>Public school-based survey of all 6<sup>th</sup> and 7<sup>th</sup> graders, with two follow-up surveys after baseline at one and two years out. (1990, 1991, 1993).</p> <p>Prevalence rates were only high enough in boys to calculate stable rates, so girls were excluded.</p>	<p><b>Lifetime use:</b></p> <p>For all categories of drugs, blacks have lower or equal rates of use as whites at the youngest grades, and at the last follow-up, they have consistently lower rates than all other groups except for marijuana, where they have the same rate as foreign-born Hispanics.</p> <p>At all points except baseline, whites and U.S.-born Hispanics have the same and highest rates of drug use for all drugs.</p> <p>Blacks have consistently lower rates of inhalant use than other groups.</p> <p><b>Past Month Use:</b></p> <p>Whites and U.S.-born Hispanics have the same and the highest rates of alcohol and marijuana use, followed by foreign-born Hispanics, with blacks using the least.</p> <p>The relationship between heavy drug/alcohol use and other deviance is strongest for foreign-born Hispanics, though the relationship is also present for all the groups, with the weakest being for African Americans using alcohol.</p>

**APPENDIX B**  
**“30-DAY” DRUG USE MEASURES IN THREE SURVEY INSTRUMENTS**

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TOPIC	NHSDA <sup>1</sup>	YBRS <sup>2</sup>	MTF <sup>3</sup>
1. Alcohol	During the past 30 days, on how many days did you drink one or more drinks of alcohol beverages?	During the past 30 days, on how many days did you have at least one drink of alcohol	On how many occasions have you had alcoholic beverages to drink - more than just a few sips, during the last 30 days?
2.. Binge drinking	During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?	During the past 30 days, on how many days did you have 5 or more drinks of alcohol in a row, that is, within a couple of hours?	Think back over the LAST TWO WEEKS. How many times have you had five or more drinks in a row? (A “drink” is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink.)
3. Marijuana	During the past 30 days, on how many days did you use marijuana or hashish?	During the past 30 days, how many times did you use marijuana?	On how many occasions (if any) have you used marijuana (grass, pot) of hashish (hash, hash oil) during the last 30 days?
4. Cocaine	During thee past 30 days, on how many days did you use cocaine?	During the past 340 days, how many times did you use any form of cocaine, including powder, crack, or freebase?	On how many occasions (if any) have you used cocaine during the last 30 days?
5. Crack cocaine	During the past 30 days, on how many days did you use “crack”	<i>Question combined with cocaine</i>	On how many occasions (if any) have you taken crack (cocaine in chunk or rock form) during the last 30 days?
6. Heroin	During the past 30 days, on how many days did you use “heroin”?	None	On how many occasions (if any) have you used heroin during the last 30 days?
7. Any illicit drug	<i>Imputed variables from individual drug use</i>		

<sup>1</sup> National Household Survey on Drug Abuse, 1998.

<sup>2</sup> Youth Risk Behavior Survey, 1997.

<sup>3</sup> Monitoring the Future, 1998.

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