

A Guide to Understanding
Female Adolescents' Substance Abuse:

Gender and Ethnic Considerations for
Prevention and Treatment Policy

Acknowledgments

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Foreword

We welcome this opportunity to present *A Guide to Understanding Female Adolescents' Substance Abuse: Gender and Ethnic Considerations for Prevention and Treatment Policy*. This report provides important information that will help health care professionals develop effective substance abuse prevention and treatment programs for adolescent females. It focuses on issues such as gender, culture, class, and ethnicity as important factors to consider in the development of effective treatment programs.

The report presents data from three national studies: (1) the National Household Survey on Drug Abuse; (2) the Monitoring the Future study; and (3) the Youth Risk Behavior Survey Study (incorporated into National Adolescent Student Health Survey). The findings in these studies indicate that if we ask salient questions about how issues of gender, culture, class, and ethnicity influence the lives of adolescent females, we can use the answers to develop more comprehensive substance abuse prevention and treatment strategies. This report confirms the validity of considering various perspectives in order to combat the growing problem of drug abuse in our diverse adolescent female population.

Today, the adolescent females of our nation face different and more complex societal, peer, and cultural issues than the females of even 10 years ago. Our report indicates that these variables can and often do play a contributing role in the lives of adolescent females who engage in substance abuse.

The report emphasizes that while we should be careful not to completely discard traditional substance abuse approaches, we must recognize the need to create new theoretical models to use in our prevention and treatment programs. We must seriously examine the information that explains how variables such as gender and culture influence substance abuse among adolescent females. With this knowledge, we will be able to design practicable and pertinent substance abuse prevention and treatment programs that effectively deter adolescent females in our diverse communities from drug abuse.

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Chapter 1

Introduction

Recent psychosocial and cross-cultural research on the development of women stresses the importance of understanding ways in which gender, social status, racial/ethnic background, and social context influence health outcomes across the lifespan. In examining substance abuse among women, researchers have sought to determine how social influences may contribute to patterns of abuse established during adolescence. By linking scientific knowledge about the development of adolescent females with the social construction of their experiences, it should be possible to create and apply more relevant interventions to help reduce the health risks and consequences many young girls face as they mature.

Adolescence is a time of change, a time of transition -- a crossroads from childhood to adulthood. Both girls and boys encounter changes brought about by shifting from elementary school to upper grade levels, cognitive and physical changes that result from increased hormone stimulation, and the pressures of developing new ways of relating to the same and opposite genders.

Some adolescent females make a smooth transition from adolescence to healthy adulthood. For many others, the normal stress of transition is made more difficult by poverty, unsafe schools, and the absence of supportive families. Confronted with these and other difficulties, many adolescent females are ill-prepared to make mature, health-conscious choices when confronted with invitations to use alcohol, cigarettes, and drugs.

This publication is concerned principally with factors of gender and ethnic background as they relate to substance use for female adolescents. It is concerned secondarily with other factors (social class, environmental context) that also may influence substance use and interact with gender and ethnic considerations.

Gender was long thought to shield adolescent females from substance use. For the past 20 years, the rates of use of almost all substances, except cigarettes, have been higher for males than for females (National Institute on Drug Abuse [NIDA], 1998). There is, however, some indication that the disparity observed may have been the result of a later first use by females. Male substance use patterns rose between 1975 and 1978; the female pattern peaked in 1981, almost 5 years later. In 1992, both male and female substance use patterns declined, but began to rise again for all substances to a peak in 1995, declining again to 1992 levels and stabilizing there in 1998 (NIDA, 1998).

Furthermore, since 1993, there has been a shift in gender substance use patterns (Jenson, Howard, & Jaffe, 1995). Specifically, the observed disparity in use between males and females is narrowing. This is especially true among 8th and 10th graders, where there are fewer differences in the use of inhalants, cocaine, and crack between males and females. Among 12th graders (who overall continue to use more substances), females are currently reported to use the same amount of stimulants as their male counterparts, or even slightly more (Johnston, O'Malley, & Bachman, 1995a; Substance Abuse and Mental Health Services Administration [SAMHSA], 2000).

Historically, researchers have documented a consistent difference in ethnic patterns of substance abuse. While males of all ethnic groups generally use more controlled substances than females of those groups, research also has shown differences in usage from one ethnic group to another.

For example, most research has found that African-American adolescent females are less likely to initiate early use of alcohol and cigarette smoking than their Latina¹ or Asian-American counterparts (Centers for Disease Control and Prevention, 1993; Kim, Coletti, Williams, & Hepler, 1995). In addition, the rates of use of any illicit drug are generally lower among African-American and Asian-American adolescent females than among Latina adolescents.

This guide offers increased understanding of gender and ethnic substance use among adolescent females through the following means:

- C examining three surveys that monitor use of controlled substances by youth, providing a summary of their findings and limitations related to gender and ethnicity (two other surveys are briefly reviewed);
- C providing an overview of research literature on gender differences related to substance abuse;
- C providing an overview of research literature on ethnic differences related to substance abuse;
- C offering a rationale for a gender-specific framework for substance use, including an analysis of six existing theoretical frameworks; and
- C suggesting implications for future research, prevention and treatment programs.

The purpose of this publication is to provide an introduction to the epidemiological research on substance abuse and young females, and to suggest new theoretical frameworks for understanding adolescent females' substance use and abuse. It is hoped that this material will facilitate thinking about how gender and cultural influences might contribute to new theoretical models that can be used in the design and implementation of prevention and treatment/intervention policies and programs for adolescent females.

¹The terms "Latina" and "Hispanic" are used interchangeably in this manuscript.

Chapter 2

Findings from National Surveys

Three major surveys of American youth provide data on national substance use prevalence rates and trends. The National Household Survey on Drug Abuse (NHSDA), and the Monitoring the Future Study (MTF) are conducted annually. The Youth Risk Behavior Surveillance - United States was last conducted in 1999. Overall trends and prevalence rates of substance use among adolescents for these three surveys are presented below, as a means of improving context and understanding for the data relevant to gender and ethnic differences that follow.

National Household Survey on Drug Abuse NHSDA is conducted annually by the Division of Population Surveys, OAS, SAMHSA, and the Research Triangle Institute (RTI), Research Triangle Park, North Carolina, under funding support from SAMHSA (SAMHSA, 2000). It is designed to measure both national and regional prevalence of alcohol, tobacco and drug use in the United States. Interviews are conducted on a representative sample of civilian noninstitutional population ages 12 and above.

Prior to 1999, the NHSDA was conducted as a paper-and-pencil interview, lasting about an hour. In 1999, the national sample was interviewed using a computer-assisted interview. The survey used a combination of computer-assisted personal interview conducted by the interviewer and a computer-assisted self-interview.

Limitations of NHSDA NHSDA has several limitations. For example, the sample size for the 12 to 17 age groups has historically remained relatively small. This was improved in 1999 when the overall sample size was expanded almost fourfold from previous years. Data are now based on information obtained from nearly 70,000 persons, making the findings more useful in monitoring trends over time.

The NHSDA researchers caution against interpreting any changes between prior years and the most recent year initiation rates for youth of the more stigmatized drugs, since there is a large disparity in sample size. In addition to a larger sampling of youth, the response rate from 12- to-17- year- olds was 78.1 percent, higher than that for any other age group.

Ethnic and gender differences are treated only in a limited way in NHSDA. Cross comparisons between gender and ethnicity are not generally provided by NHSDA, and some of the data regarding specific ethnic groups are missing. For example, there are no data documenting substance use trends and prevalence rates for Asian-American adolescents in general, or specifically for Asian-American adolescent females. Prevalence rates and trend data for Latinos are limited because the umbrella category of “Hispanic” was used, resulting in aggregate data that present Hispanics as a homogeneous group. Despite these limitations, however, the NHSDA results can be used in conjunction with other national surveys, such as Monitoring the Future (MTF), to provide an overall data source for understanding drug abuse prevalence rates in the United States.

Overview of Findings NHSDA findings are presented in four categories:

- C prevalence data on the use of illicit drugs, alcohol, and tobacco for the surveyed population as a whole and specifically for four age groups: 12 to 17, 18 to 25, 26 to 34, and 35 and older;
- C trend analyses between 1979 and 1999 concerning substance use prevalence for the surveyed populations;
- C demographic correlates of substance use among the surveyed populations; and
- C data on patterns of drug use regarding problems arising from substance use; perceptions of risk of use; treatment history; and substance use among special populations.

Overall Use of Illicit Drugs by Adolescents Data from the 1995 through 1996 NHSDA indicated that the use of illicit drugs among youth aged 12 to 17 declined for the first time since 1992 from 10.9 percent in 1995 to 9.9 percent in 1998. In 1999, however, 10.9 percent of youths reported current use of illicit drugs. Marijuana continued to be the major illicit drug used by this group. Data specific to six drugs of abuse follow.

Marijuana

- C 7.7 percent of youths were current users of marijuana in 1999.
- C The 1999 NHSDA data showed no significant differences between race/ethnicity and gender among adolescents for marijuana use.

Cocaine

- C In 1999, an estimated 1.5 million Americans were current cocaine users (representing 0.7 percent of the population age 12 and older).
- C The estimated number of current crack users was 413,000 in 1999.
- C The rate of cocaine use for youths age 12-17 years was 0.5 percent.

Hallucinogens

- C Hallucinogen use among adolescents aged 12 to 17 peaked at 5.3 percent in 1998, but declined sharply to 1.1 percent in 1999.
- C More than 80 percent of hallucinogen users in 1999 were under age 26.

Heroin

- C There were an estimated 149,000 new heroin users in 1998, not statistically different than the 189,000 new users in 1997 or the 132,000 new users in 1994.
- C Most new heroin users (89%) were living in metropolitan areas.
- C A large proportion of recent heroin initiates are young and are smoking, sniffing, or snorting heroin.
- C Among the estimated 471,000 persons who used heroin for the first time during 1996 through 1998, 25% were under age 18.

Alcohol

- C In 1999, 105 million Americans age 12 and older reported current alcohol use.
- C 10.4 million current drinkers were age 12-20 in 1999.

- C Of this group, 6.8 million engaged in binge drinking, including 2.1 million who would be classified as “heavy drinkers.”
- C Rates of current alcohol, binge alcohol and heavy alcohol use remained unchanged from 1998 to 1999, for all ages 12 and older.
- C For youths age 12 to 17, males and females had comparable rates of current alcohol use (19.2 percent of males and 18.1 percent of females).
- C Overall, white non-Hispanic girls ages 12 to 17 reported the greatest levels of lifetime, past year, and current use when compared with African-American and Hispanic girls; African-American girls reported the lowest levels of alcohol use.

Tobacco

- C An estimated 66.8 million Americans reported current use of a tobacco product in 1999.
- C Current cigarette smoking rates increase steadily by year of age, from 2.2 percent at age 12 to 43.5 percent at age 20.
- C An estimated 1.6 million people began smoking cigarettes daily in 1998, half of whom were younger than age 18.
- C Overall, 14.9 percent of youths age 12 to 17 years in 1999 smoked cigarettes currently, with 2,000 new regular smokers being added to these numbers daily.
- C For youth age 12 to 17, males and females generally were equally likely to report past month use of cigarettes (about 15 percent for both).
- C African-American males age 12 to 17 were more likely to report current cigarette use than their female peers (10.3 percent compared to 6.9 percent).
- C Youths age 12 to 17 who currently smoked cigarettes were seven times more likely to use illicit drugs than youths who didn’t smoke.

Perception of Risk Other key NHSDA data related to substance use among 12-to-17-year-olds concerns the perception of risk. Among the group surveyed:

- C only 37.2 percent believed that there was a great risk of harm if they smoked marijuana once a month;
- C 49.8 percent reported perceiving a risk in trying cocaine;
- C 48.2 percent reported perceiving a risk in trying crack;
- C approximately 50 percent reported trying PCP or heroin once or twice; and,
- C 42.2 percent of the youths also perceived great risk of harm in consuming five or more drinks once or twice a week, or in smoking one or more packs of cigarettes a day.

Because the NHSDA has historically had a smaller sample of 12-to-17-year-olds than the MTF, statistically significant changes in drug use among this group in NHSDA are rarely seen from one year to the next. However, because the MTF (see below) focused exclusively on youth, its sample sizes are larger, yielding a finding of statistically significant increases in drug use among 8th, 10th and 12th graders.

Ease of Obtaining Substances NHSDA data also reports on the ease of obtaining specific substances. For example,

- C 56.5 percent of youths age 12-17 reported marijuana was “easy to obtain” in 1999;
- C 15.6 percent of those 12 to 17 years of age had been approached during the past 30 days by someone offering to sell them drugs; and,
- C African Americans and Latinos were more likely than their European-American counterparts to report having observed drugs being sold in their neighborhood.

These rates have remained steady since 1990. An important caveat to these general patterns comes from research that suggests that African Americans tend to significantly underreport cocaine use (Fendrich & Vaughn, 1994). Potential underreporting by African-American respondents has important implications for the racial/ethnic comparisons described here (Research Triangle Institute, 1993).

Associated Behaviors

- C 4.8 percent of youth had stolen or tried to steal something worth more than \$50 in the last year,
- C 3.8 percent had sold illegal drugs at least once in the past year, and
- C 3.6 percent had carried a handgun in the last year.

Dependence

- C The percent of youth age 12 to 17 dependent on illicit drugs was the same for males and females (3.3 percent for both);
- C the rate for alcohol dependence was essentially the same for adolescent males and females (3.3 percent for males and 3.9 percent for females);
- C the rate for alcohol or illicit drug dependence was essentially the same for adolescent males and females (5.6 percent for males and 5.8 percent for females);
- C among European Americans age 12-17, the percent dependent on illicit drugs was significantly higher for females than for males (3.9 percent compared to 2.8 percent);
- C among African-American adolescents age 12 to 17 the rate was significantly higher for males than for females (3.2 percent compared to 1.7 percent); and
- C among Hispanics adolescents, the rate for males was higher than for females (4.9 percent vs. 3.0 percent).

Special Study of Racial and Ethnic Subgroups A special study, the “Prevalence of Substance Use Among Racial and Ethnic Subgroups in the United States” (SAMHSA, 1995) is an overview of the NHSDA specifically centered on the 1991 to 1993 surveys. In contrast with earlier and more recent NHSDA surveys, data collected in the 1991, 1992 and 1993 greatly increased minority group representation, presenting data from more than 87,000 respondents in 11 ethnic/racial groups in six metropolitan areas. Information about alcohol abuse and dependence, tobacco use, and need for treatment for illicit drug abuse for Asian/Pacific Islanders, Native Americans, Caribbean Americans, Central Americans, Cuban Americans, Mexican Americans, Puerto Ricans, South Americans, other Hispanic Americans, African Americans and Caucasians was provided in greater detail than is normally available.

The study concluded that in all ethnic groups:

- C male adolescents are more likely than female adolescents to be past or present substance users;

- C males in each of the ethnic subgroups were more likely than females in the same subgroup to use substances, to be dependent on alcohol, and to need treatment for illicit drug abuse;
- C for cigarettes and marijuana, the gender difference is more pronounced among African Americans than among Hispanics or whites;
- C the percentage of African-American males aged 12 to 17 reporting past-year marijuana use was 15%, while the percentage of African-American females 12 to 17 reporting past-year marijuana use was 8%;
- C among Hispanics, comparable figures are 14% and 13%;
- C among whites comparable figures are 16% and 14% respectively;
- C across all ethnic subgroups, there was a clear gender difference in alcohol use:
- C Asian/Pacific Islanders had the widest difference (20 percent);
- C non-Hispanic whites showed the least difference (7 percent); and
- C cocaine showed a similar pattern across genders.

Age patterns of substance use, dependence on alcohol, and need for illicit drug abuse treatment were generally similar across racial/ethnic subgroups. Each of the measures analyzed showed peak prevalence among 18-to-25-year-olds, and then declines, except for heavy cigarette use which peaks in the 26-to-34 age group.

Current Data on Racial and Ethnic Subgroups The 1999 NHSDA data also showed that overall rates for dependence on all illicit drugs varied by race/ethnicity. The rate was:

- C 4.7 percent among American Indians or Alaska Natives;
- C 2.6 percent for persons reporting multiple race;
- C 2.3 percent for African Americans;
- C 1.9 percent for Hispanics;
- C 1.5 percent for Caucasians; and,
- C 0.8 percent for Asian Americans and Pacific Islanders.

Comparison with Earlier Findings Because of differences in methodology and impact of the new survey design on data collection, only limited comparisons can be made between data from the 1999 survey and data from surveys prior to 1999. The following comparisons are based upon data from a separate supplemental sample of 13,000 respondents in 1999 who used the paper questionnaire used in prior surveys. Thus, 1999 estimates discussed below may vary somewhat from data presented elsewhere in this document, and from NHSDA data collected using the new methodology (SAMHSA, 2000).

The 1999 NHSDA data showed the following trends:

- C Among youths age 12 to 17 years, rates of use were generally similar across major demographic and geographic subgroups.
- C As in prior years, men (8.7 percent) continued to have a higher rate of current illicit drug use than women (4.9 percent).
- C Among youths aged 12-17 years, the rate of current illicit drug use was slightly higher for boys (11.3 percent) than for girls (10.5 percent).

- C There were no significant changes in the rate of past month illicit drug use in any of the age groups, including 12-17 and 18-25 years between 1998 and 1999, however rate of use was lower in 1999 than in 1997 for 12-17 year olds, and there appears to be a consistent downward trend (11.4 percent in 1997, 9.9 percent in 1998 and 9.0 percent in 1999).
- C Trends for marijuana use for 12-17 year olds have been decreasing since 1997 (9.4 percent in 1997, 8.3 percent in 1998 and 7.0 percent in 1999); in spite of these decreases, however, marijuana remained the most commonly used illicit drug.
- C Use of inhalants and hallucinogens in the adolescent age group was highest among American Indian/Alaskan Natives (3.7 percent) and lowest among African Americans (0.2 percent).
- C In the 12 to 17 age group, girls (3.2 percent) were more likely than boys (2.6 percent) to use nonmedical psychotherapeutic drugs.
- C Among people 12 to 20 years of age, past month alcohol use rates ranged from 20.8 percent for Asians and 21.2 percent for blacks to 32.1 percent for whites; approximately 10.4 million people 12-20 years of age reported drinking alcohol in the month prior to the 1999 survey interview. Whites and Hispanics continue to be more likely than any other ethnic group to report current use of alcohol.
- C Among youths age 12 to 17, white males were more likely to have smoked in the past year than black males; white females were more likely than both African Americans and Hispanics to have smoked cigarettes in the past year and past month, and Hispanic adolescent females were more likely to have used cigarettes in the past year and in the past month than African-American females. American Indians/Alaskan Natives were more likely than any other ethnic group to report use of tobacco products; lowest current tobacco use rates were observed for Asians.

Monitoring the Future MTF is a long-term study of American adolescents, college students, and young adults. It is conducted by the University of Michigan's Institute for Social Research and is supported by grants from the National Institute on Drug Abuse.

The 2000 survey of 8th, 10th and 12th grade students has an emphasis on recent trends in use of licit and illicit drugs. It also shows trends in the levels of perceived risk and personal disapproval associated with each drug.

Overall Findings Results from the MTF survey (Johnston, O'Malley, & Bachman, 2001) indicate that:

- C After one or two years of decline, *overall* illicit drug use among teens has remained steady over the past year in all three grades.
- C Use of a number of drugs held steady in 2000, while use of certain other drugs increased, and use of still others decreased.
- C Use of marijuana, amphetamines, hallucinogens other than LSD, tranquilizers, barbiturates and alcohol remained steady.
- C Increases were seen in use of MDMA ("ecstasy"), steroids and heroin, while decreases in use were seen in inhalants, LSD, crystal methamphetamine and Rohypnol.

Softening attitudes and beliefs about marijuana, crack and cocaine preceded increased use rates in this and other age groups. However, over the past three years there has been a clear trend toward disapproval for marijuana use in the 8th grade, but not yet much among 10th and 12th graders.

As previous MTF results have indicated, changes in perceived risk and disapproval have been important precursors of potential shifts in both increased and decreased use. In the survey:

- C 22 percent of 8th graders reported drinking an alcoholic beverage in the 30-day period prior to the survey and 25.1% reported already having been drunk at least once.
- C 40.5 percent of 8th graders said they had tried cigarettes; 7.4 percent report daily use of cigarettes.
- C One in five (20.3 percent) of 8th graders have tried marijuana or hashish; 9.1 percent reported use within the 30 days prior to the survey.
- C Although relatively few 8th graders reported having tried most other illicit drugs, the percentage of 8th graders who had some experience with them is not inconsequential: tranquilizers (4.4 percent), LSD (3.9 percent), other hallucinogens (2.3 percent), crack (3.1 percent), other cocaine (3.5 percent), heroin (1.9 percent), and steroids (3.0 percent).
- C Overall rates of drug use by 8th graders peaked in 1996, and a year later in upper grades.
- C In 1975 (when the MTF study began), 55 percent of young people had used an illicit drug by the time they left high school. This figure rose to 66 percent by 1981, before a long and gradual decline to 41 percent by 1991; today the proportion is back to 54 percent after a period of considerable rise in the 1990s (Johnston, O'Malley & Bachman, 2001).

A significant societal finding in the 1998 MFT survey was that among cigarette brands smoked by American teens, one brand predominated, with three brands accounting for nearly all teen-age smoking. As early as 8th grade, the majority of youngsters who smoke (approximately 90 percent) can name a usual brand. Philip Morris, the maker of Marlboro, clearly dominates the white and Hispanic underage markets, and therefore the youth market as a whole (Johnson, O'Malley & Bachman, 1999b).

Findings for Racial and Ethnic Subgroups Examination of drug use among 8th, 10th and 12th graders found that at all three grade levels, African-American youngsters have substantially lower rates of use of most licit and illicit drugs than do European Americans. Hispanics have the highest reported rates of crack and ecstasy use in the 12th grade, and their level of heroin use is equivalent to that of whites. But in the 8th grade they tend to come out highest of the three racial/ethnic groups on nearly all classes of drugs, including alcohol (amphetamines being the major exception).

It is generally agreed that one of the MTF's limitations is the underestimation of prevalence trends among adolescents generally, and in particular among adolescents of color. This limitation stems from the fact that the MTF is a school-based survey and thereby misses youth who drop out of school or who are chronically absent, among whom youth of color are over-represented. Further, the overall numbers of adolescents of color surveyed are too small to derive reliable estimates of drug use and for meaningful generalization. As is true with NHSDA, umbrella categories for both African Americans and Hispanics assumes that both subgroups are homogeneous in nature.

Findings Concerning Club Drugs There are a number of “club drugs,” so labeled because they are popular at night clubs and all-night dance parties called “raves.” This informal category includes LSD, MDMA (“ecstasy”), Rohypnol, methamphetamine, ketamine (“Special K”), and GHB. Rohypnol and GHB have been labeled “date rape drugs” because both can induce amnesia of events that occurred while under the influence of the drug and have been used in connection with rapes or seductions. Since the user is often unaware of having used the drugs, use is likely underreported.

Questions about the use of Rohypnol were added to the MTF survey in 1996. They revealed low levels of use at that time, rose for a year or two, then fell back to its original level in 1999, with further decline in 2000. Questions about MDMA were added to the survey for college students and young adults in 1991, and added to the questionnaires for secondary students in 1996. Use of MDMA has risen sharply in the past two years, bringing annual prevalence up to 5.4 percent among 10th graders and 8.2 percent among 12th graders. In 2000, use also rose among 8th graders to 3.1 percent. Rates for other “club drugs” have not yet been added to MTF.

The Youth Risk Behavior Surveillance - United States 1999 In 1999, as part of the Youth Risk Behavior Surveillance System (YRBSS), the Centers for Disease Control and Prevention conducted a national school-based Youth Risk Behavior Survey that resulted in 15,349 questionnaires completed by students in 144 schools (Centers for Disease Control and Prevention, 2000).

Overall Findings According to this survey, significantly more students in the lower grades (Grades 9 and below) were likely to have tried tobacco, alcohol and marijuana below the age of 13 than those in the upper grades (10 through 12).

- C Students in grades 9 (27.0 percent) and 10 (28.5 percent) were significantly more likely than students in grades 11 (21.1 percent) and 12 (20.7 percent) to have smoked a whole cigarette before 13 years of age.
- C Students in grade 9 (40.4 percent) were significantly more likely than students in grades 10 (35.6 percent), 11 (26.2 percent), and 12 (24.3 percent) to have drunk alcohol before 13 years of age.
- C Students in grade 9 (12.7 percent) were significantly more likely than students in grades 11 (9.5 percent) and 12 (9.5) percent to have tried marijuana before 13 years of age.

Findings Related to Gender Gender differences were marked over all usage groups.

- C Male students (27.3 percent) were significantly more likely than female students (22.1 percent) to have smoked a whole cigarette before 13 years of age.
- C Male students (37.4 percent) were significantly more likely than female students (26.8 percent) to have drunk alcohol before 13 years of age.
- C Male students (14.5 percent) were significantly more likely than female students (8 percent) to have tried marijuana before 13 years of age.

Youth Risk Behavior Survey Study A fourth survey, the Youth Risk Behavior Survey Study, on youth aged 12 to 21, was incorporated as a supplement in *The National Adolescent Student Health Survey: A Report on the Health of America's Youth* in 1989, but has not been repeated or updated since that time.

Briefly, its findings were as follows: Hispanic males aged 15 and younger reported the highest lifetime and past-month use of all drugs. Specifically, one-half of Hispanic males reported lifetime use of alcohol by age 15 (47.8 percent) compared with 44.5 percent for European-American males and 39.2 percent for African-American males.

Hispanic females' rates of use were closer to their European-American counterparts in most categories except in lifetime rates of cocaine and crack-cocaine use among females aged 16 to 17, where Hispanic females surpassed both their European-American and African-American counterparts. Because umbrella categories were used in this study, its contribution to understanding of possible intra-ethnic differences is limited.

Commonwealth Fund Survey In 1996, The Commonwealth Fund commissioned Louis Harris and Associates, Inc., to conduct a survey of the health of adolescent girls. This survey is unique in that it focused on gender differences. Unfortunately, it is also limited in that it used broad ethnic/racial categories and compared genders only in terms of physical characteristics.

Completed in June 1996, the survey found alarmingly high rates of reported abuse, depressive symptoms and behaviors that can put health at risk and have potential for lifelong consequences. The survey also found that the gender gap between smoking, drinking and using drugs has closed, with similar rates of high school girls and boys engaging in these behaviors. Fourteen percent of girls and 15 percent of boys in grades nine through twelve reported frequent drinking; 18 percent of girls and 20 percent of boys in these same grades reported using drugs in the past month. Thirty percent of girls and 33 percent of boys in high school reported either smoking, drinking or using drugs. Fifteen percent of high school girls were engaged in at least two of these behaviors.

Summary of Trends From National Surveys The three major national surveys indicate the following overall trends (as of 2000) with respect to substance use among adolescents aged 12 to 17:

- C After one or two years of decline, overall illicit drug use among teens remained steady, particularly use of marijuana, amphetamines, hallucinogens other than LSD, tranquilizers, barbiturates and alcohol (Johnson, O'Malley, & Bachman, 2001).
- C Drugs increasing in use include MDMA ("ecstasy"), steroids and heroin (Johnson, O'Malley, & Bachman, 2001).
- C Drugs decreasing in use include inhalants, LSD, crystal methamphetamine and rohypnol (Johnson, O'Malley, & Bachman, 2001).

- C Youth tend to be trying various substances at an earlier age, with significantly more youth under 13 being likely to have tried tobacco, alcohol and marijuana (Centers for Disease Control and Prevention, 1999).
- C While male students in the general population tend to use all substances at an earlier age than females, the margin is narrowing; at the same time, both males and females in older grades are significantly more likely to have tried all substances than are students in lower grades, and females are using substances in about equal numbers and amounts with males, and in a few cases at slightly higher rates (Centers for Disease Control and Prevention, 1999; Johnston, O'Malley, & Bachman, 2001; SAMHSA, 2000).
- C Ethnicity plays a role in determining the likelihood of use of various substances by adolescents, with black students being the least likely subgroup to have tried substances (SAMHSA, 2000; Centers for Disease Control and Prevention, 1999).
- C Perceptions concerning the relative risks of using various controlled substances tend to be determined by whether respondents have used any within the previous 12-month period. Generally, those who have used substances within the past 12 months are less likely to perceive a negative risk from using the substances than those who have not been users (SAMHSA, 2000).

Youth in both the NHSDA and MTF surveys reported less perceived risk associated with drug use and a more positive attitude toward drugs than in past years. In addition, both surveys found that drugs are more easily accessible to young people, in particular to minority youth (U.S. Department of Health and Human Services, 1995). It is clear, then, that the early initiation of drugs by youth ages 12 to 17 should signal to public healthcare providers and researchers that the existing intervention strategies are not effectively reaching this age group.

Chapter 3

Findings from Research on Gender Differences

The word “gender” comes from the Latin word “genus,” which means any group of similar things, kinds, or classes. It is also defined as the possession of certain common structural characteristics distinct from those of any other group (American Heritage Dictionary, 1985). The use of “gender” in contexts other than grammatical emerged as researchers became interested in studying the differences between males and females.

Unfortunately, the term has been used interchangeably with the term “sex” to describe the origin of male and female characteristics. To use these terms interchangeably is to suggest that differences in the traits and behaviors associated with males and females are a direct consequence of their biological differences. In fact, the differences are more related to the influence of ethnicity, culture, and environment (Udry, 1988).

It is important to differentiate between gender and sex. Sex refers to the biological differences in genetic composition and in reproductive anatomy and function (Flax, 1995; Unger, 1981). Gender is viewed as a social category that is shaped by the interaction of gender relations and other social relations such as class, race, and ethnicity. Therefore, gender is not a fixed, but rather a process that is integrally related to and influenced by cultural and ethnic prescriptions, regulations, or arrangements (Flax, 1995).

One of the limitations of many survey findings is that gender-comparison findings are limited to male and female physical characteristics without any consideration for social construction or expectation associated with gender. Most of the available gender-comparison research findings are unclear or inconsistent, particularly in the case of social behaviors such as initiation of substance use. Although some reviews of cognitive skills, personality traits, social behaviors, mathematical performances, and brain organization (Henley, 1985) and role-related behaviors in vocational, social, and marital settings (Spence, Pred, & Helmreich, 1989) have found gender differences, the unequal distribution of males and females across social institutions has led to an inability to match the sample to a host of factors. Moreover, when differences are found, they generally account for less than 5 percent of the variation (Deaux, 1995).

Limitations of Studies on Gender Differences Although the number of studies that have examined gender differences has increased, the majority of these studies have focused on comparing incidence and prevalence rates of substance use. Consistently, these studies have indicated that males have higher and more frequent rates of substance use and more delinquent behaviors (such as fighting, truancy, and stealing) associated with substance use than their female counterparts. These studies have also been more concerned with whether the antecedents or influencing factors related to the initiation of substance use held true for both males and females than with identifying which factors were specifically unique to adolescent female use and why.

Gender Differences in Substance Use Since the late 1970s, gender differences in alcohol use among adolescents has lessened. For example, fewer females now abstain from drinking (Ferenca, 1980);

Weschler & McFadden, 1976). While the rates for adolescent females remain somewhat lower than for their male counterparts, substance use remains a significant but under-researched problem among many young females. For example, according to the survey of Youth Risk Behavior Surveillance - United States, 1999, 41 percent of female students in grade 9, 46.8 percent of female students in grade 10, and 56.9 percent of female students in grade 12 reported current alcohol use; 8 percent of female students had tried marijuana before age 13.

Female students who reported current use of inhalants were likely to report this use at younger grade levels (7.2 percent in grade 9 as opposed to 2.4 percent in grade 11 and 1.6 percent in grade 12). Some researchers found that women reported beginning to use alcohol at a younger age than did men (Lex, Rhoades, Teoh, & Mendelson, 1994), while others found evidence to the contrary (Mezzich, Moss, Tarter, & Wolfenstein, 1994).

The interval between alcohol abuse and diagnosis is shorter for women than for men. Young women reported more severe withdrawal symptoms from alcohol and other psychoactive drugs than their male counterparts (Brown, 1991). Males, however, continue to drink more heavily and to experience more alcohol-related problems than their female counterparts (Barnes & Welte, 1986; Lex, 1991).

Psychosocial Predictors/Determinants of Substance Use/Abuse As previously mentioned, the majority of studies that examine gender differences view gender only as a biological rather than a social construct. This view has limited the understanding of how and when gender is a protective or risk factor associated with adolescent female initiation and substance use. The few studies that examine the biological dimensions of gender differences focus on either alcohol or cigarette use, and only to a lesser degree on other substances.

For example, Clayton (1991) examined differences in psychological determinants of adolescent smoking. His findings indicated similarities in these determinants for both males and females (external factors such as less success in school, less interest in school, parents who smoke, siblings who smoke, low parental supportiveness, low expectation for success by parents, and peers who smoke, and internal factors such as willingness to take risks, low self-esteem, and low educational aspirations).

However, some differences have been noted. Chassin, Piesson, Sherman, Montello, and McGrew (1986) found that the number of friends who smoke is a significant predictor for girls at younger ages and for boys at older ages. When parental smoking is used as a predictor of smoking, it was more likely to be significant for females (Chassin et al., 1986; Murry, Swan, Johnson & Bewley, 1983; Williams & Kornblum, 1985). Further, these studies suggested that parental smoking influences girls' smoking, whereas for boys, it was only among those who had begun to experiment that parental smoking was related to a faster adoption of higher smoking levels (Chassin et al., 1986; Murray et al., 1983).

Also, male and female smokers tend to smoke for different reasons. For example, males reported using smoking as a mechanism to cope with social insecurity, while females reported smoking because it made

them feel more self-confident, rebellious, socially advanced, and sexually experienced than nonsmoking peers (Yankelovich, Skelly, & White, Inc., 1977).

Alcohol and cigarette use associated with frequency of dieting, a history of binge eating, poor body image, and lower connectedness to others (French, Story, Downes, & Resnick, 1995) is more likely for adolescent females than males. Further, females are more likely to have experimented with nonprescription diet pills and caffeine than their male counterparts (Mezzich et al., 1994). Negative perceptions of personal attractiveness are similarly associated with increased substance use (Page, 1993). Adolescent females (in particular younger females) are more likely than males to be influenced by parental norms. Peer norms, in contrast to personal beliefs, significantly influenced females' smoking and alcohol use (Webster, Hunter, & Keats, 1994).

Heavy emphasis has been given to the effects of drugs on women's reproductive functions and the fetus (Blume 1990). To focus on drug use during pregnancy as the primary concern with women's drug use reinforces the "other than self" role of females, which further reinforces female drug use as "deviant." While pregnancy is often a main reason females refrain from drug use, the social stereotypical expectation that they will become mothers can also reinforce their "other than self" role and therefore impact drug use. It is noteworthy that pregnancy has been found to motivate long-term change in substance use by young females (McCallum, 1998).

Mental health problems place girls at increased risk for substance use. Survey findings indicate that high rates of abuse are linked to depressive symptoms and eating disorders, risky behaviors, and lack of access to care and support (Schoen et al., 1997). Girls are more likely to experience physical and sexual abuse than boys, and this abuse can lead to increased risk for substance use (Cole & Putnam, 1992; Sarigiani et al., 1999). Eating disorders (anorexia nervosa, bulimia, etc.), suicidal ideation, prostitution and sexual dysfunction are among the problems which may contribute to female adolescent substance use/abuse (Schoen et al., 1997; Cole & Putman, 1992; Sarigiani et al., 1999; Katon, Kleinman, & Rosen, 1982; Petersen, et al., 1993; Grunberg, 1998; Wetherington & Roman, 1999).

Gender Role Identity as a Predictor/Determinant of Substance Use/Abuse How society and culture define roles, expectations and appropriate behaviors for females and males shapes how they view themselves, how others view them and how opportunities will be given or denied to them based on biological genders and the meanings ascribed to them. To the extent that cultural factors determine risk and protective factors for alcohol, tobacco and other drug use, and to the extent that gender is defined by such cultural factors, it is relevant to explore how gender is related to risk and protective factors (Amaro, Black, Schwarz, & Flinchbaugh, in press; Blake, Amaro, Schwartz, & Flinchbaugh, in press).

Chomak and Collins (1987) posited that gender-role identity may help explain disparities in alcohol consumption between boys and girls. One of the few studies that examined how the social construct of gender influenced or mediated substance use among adolescents found that gender-role attitudes were predictors of drinking, particularly among adolescent males. Conventional attitudes (such as expressive and instrumental attributes) account for a unique portion of variance in drinking outcomes after control for

gender-linked personality attributes. Further, “feminine” expressivity was negatively related to alcohol use and abuse, and the “masculine” trait of emotional control was positively associated with alcohol consumption. Conversely, positively valued “masculine” instrumental traits were unrelated to alcohol use and negatively related to drinking problems (Horwitz & White, 1987; Koch-Hattem & Denman, 1987; Snell, Belk, & Hawkins, 1987).

Psychological and Behavioral Predictors/Determinants of Substance Use/Abuse Other studies that have examined gender suggest that some different psychosocial and behavioral processes are involved in leading males and females to substance use and abuse. For example, Ensminger, Brown, and Kellam (1982) found that early aggressive or shy/aggressive behavior was predictive of later heavy substance use for males. Family bonds, on the other hand, were found to be the most significant predictor of substance use for females.

Similarly, Windle, Barnes, and Welte (1989) found gender differences in psychological factors such as depression, and parental and peer influences on substance use. Even though gender roles are changing toward greater equality, there are still important social and cultural differences between males and females that may result in different pathways to substance use and abuse. As a result, it is important to examine how the various substance-related theoretical models address and value gender differences (see following section on a gender-specific framework).

Gender differences in the rates of psychopathology have been well established for a long time. Young men are significantly more likely to report a conduct disorder than are young women (Blumberg & Izard, 1985). Young females are more likely to be depressed (Gove & Herb, 1974; Kandel & Davies, 1982; Petersen, Compas, Brooks-Gunn, & Stemmler, 1993; Peterson, Sarigiani, & Kennedy, 1991). Other studies of gender differences in psychopathology show that depression, abuse and victimization are linked to differences in coping styles such as rumination versus distraction (Nolen-Hoeksema, 1987), less active coping styles (Leadbeater, Blatt, & Quinlan, 1995), gender role socialization (Petersen, et al., 1993), biological changes associated with puberty (Petersen, et al., 1991), parental divorce in early adolescence (Petersen, et al., 1991), and interpersonal caring (Gore, Aseltine, & Colten, 1993).

Depression and substance use have been significantly correlated (Gjerde & Block, 1991; Kandel, Raveis, & Davies, 1991). Young females with eating disorders are more likely than young females without eating disorders to be depressed and to use alcohol and other substances (Katon, Kleinman, & Rosen, 1982; Petersen, et al., 1993). The relationship between psychopathology and substance use varies by gender, and those differences also vary significantly by ethnic group (Flores-Ortiz, 1994). However, few studies have fully explored this differential expression among and within various ethnic groups, specifically whether African-American females’ expression of depression differs from that of Asian-American, Latina, Native American or European-American females. Further, the expression of depression related to the likelihood of initiating substance use among ethnically diverse adolescent females is significantly under-researched.

Co-occurring patterns of substance use, delinquency, gang participation, and violent acts have also been noted among adolescent females. Sommers and Baskin (1994), for instance, found that early initiation of

females into violent crimes was accompanied by their participation in a wide variety of other deviant behaviors. In addition, females' involvement in gangs was associated with substantially increased levels of delinquency and substance use. They also found that females who experienced a later onset of violent offending did so within the context of a criminal career that, up to the point of substance abuse, was more specialized and focused on typically nonviolent, gender-congruent activities such as prostitution and shoplifting.

The most salient factor associated with females' gang membership was lack of school success (Bjerregaard & Smith, 1993). A study of 123 urban female high school students found that violent dating incidents were preceded by drug use by both the victim (14 percent) and the victim's dating partner (27 percent), and that one-third of the incidents were preceded by alcohol use (Burcky, Reuterman, & Kopsky, 1988).

Although the cited studies indicate a covarying pattern of substance use and depression, violence, and delinquency, the extent of these relationships has not been fully explored. Future research is needed to examine what role ethnic socialization plays in the initiation of females into gangs and whether there are ethnic differences in the covariance of substance use and gang-related activities among various ethnic adolescent females.

Biological and Physiological Predictors/Determinants of Substance Use/Abuse Research on understanding genetic factors associated with drug abuse indicate that these factors are affected by gender and may not be identical for males and females. Animal studies have shown, for example, that female rats are more sensitive to the neurochemical and neurobehavioral effects of intrauterine exposure to cocaine, a stimulant like nicotine (NIDA, 2000).

Wetherington (2001) identifies six behavioral models that have been studied in animal research, and summarizes current research findings in each area:

1 - activity response to psychostimulant drugs - increased activity under psychostimulant drugs is greater for female animals than males, and greater during the estrus phase of the estrus cycle (for both cocaine and methamphetamine)

2 - amount of drug self-administered - females, compared to males, self-administer more of a range of substances (alcohol, caffeine, cocaine, fenatyl, heroin, and morphine)

3 - reinforcing effectiveness - females show a greater responsiveness to the reinforcing qualities of drugs like cocaine

4 - speed of acquisition and self-administration - females show a higher speed of acquisition than males for cocaine and heroin

5 - prevalence of self-administration - females acquire self-administering behavior for cocaine more often than males (70% vs 30% in one study), but are essentially the same for heroin

6-relapse (reinstatement following extinction) - females exhibit greater reinstatement of extinguished responding and relapse with a lower dose than males.

These findings are based upon a relatively small but growing number of animal studies. And, there are limitations in transferability of animal model findings to humans. In studies with human subjects, females seem to evidence more severe problems from drinking and stronger addiction and withdrawal symptoms from substance use (Brown, 1991). Girls with a diagnosis of alcohol abuse or dependence are more likely to relapse than their male counterparts (Lewinsohn, Rohde, & Seeley, 1996.) Differences in body weight and in metabolism of alcohol cause greater intoxication at lower levels of consumption in females than in males (Chatham, 1990).

Women's absorption rates and blood alcohol levels are more variable than males and are affected by progesterone levels that fluctuate across the menstrual cycle (Lex, 1991). Studies have also shown that other biological variables, such as amounts of fat tissue in females, affect the metabolism of different drugs. This may be related to the greater amount of lipid tissue in the female body, which can store and gradually release certain substances, such as cannabis and benzodiazepines (Blume, 1990). Females are generally thought to be at an increased risk of adverse health effects from most drugs than their male counterparts because of differences in metabolism (Blume, 1990).

Wetherington (2001) offers the following conclusions from these studies at both the animal and human levels:

- C Neither epidemiological data nor animal models data support the notion that males are more vulnerable to drug use or dependence than females.
- C Menstrual cycle phase is a determinant of the drug response. Its role in treatment is largely unexplored.
- C Some predictors of drug use and abuse are gender-sensitive or gender specific, but questions remain, such as whether these gender-based predictors affect prevention and treatment outcomes, and whether prevention and treatment outcomes for both males and females can be improved by addressing these differences.

Too often, human research on drug abuse includes female subjects, but fails to conduct gender analyses. Similarly, animal research rarely includes females or analysis by gender.

Opportunity to Use Drugs As reported earlier, the NHSDA survey shows that males are more likely than females to abuse drugs. Van Etten and Anthony (1999) report that these gender differences in drug abuse have their foundation in the very first stage of drug involvement - the opportunity to use drugs. These findings are consistent for marijuana, cocaine, hallucinogens and heroin. Once presented with an opportunity to use drugs, 44.2 percent of males and 42.0 percent of females began using marijuana within one year; 37.7 percent of males and 33.2 percent of females began using cocaine; 50.5 percent of males and 50.0 percent of females began using hallucinogens; and 14.6 percent of males and 22.1 percent of

females began using heroin. Understanding the differences in opportunities to use drugs may help shape future prevention efforts (Zickler, 1999).

Research by Moon and Hecht, reported by NIDA (1999), confirmed that boys are more at risk than girls for offers at a younger age. The social settings and nature of drug offers also differ by gender, the researchers say, and strategies used to resist drug offers appear to have gender-based influences. Moon concludes: "Understanding the different ways in which boys and girls experience and refuse offers of drugs is crucial to the design of more effective intervention or prevention programs" (NIDA, 1999, p. 1).

Adolescent Female Subgroups The following subgroups of adolescent females are at particularly high risk for substance use: parents (Amaro, Zuckerman & Cabral, 1989; Amaro & Zuckerman, 1990,1991), runaways (Flores-Ortiz, 1994; Koopman, Rosario, & Rotheram-Borus, 1994; Rotheram-Borus, 1993), and victims of physical or sexual abuse (Covington, 1982; Williams, Finkelhor, & Kendall-Tackett, 1993). The latter consistently report substance use at much higher rates than females who have not been physically or sexually abused. Those who have been sexually abused are more likely to come from families where alcohol and drugs were common (Bean, 1992).

Sexual and physical assault (Berenson, San Miguel, & Wilkinson, 1992), high threat appraisal, and avoidance coping (Nyamathi, Stein, & Brecht, 1995) are associated with drug use among Latinas. Latino youth who are runaways or rejected by dysfunctional families had the highest rates of drug use relative to other runaways (Koopman et al., 1994). Young homeless females are likely to provide for their drug habit by trading sexual favors for drugs and money (Rotheram-Borus, 1993). Correlations among substance use, mental health problems, and school problems are significantly higher among young females in high-risk groups than among males (Rotheram-Borus, Mahler, & Rosario, 1995). Other groups at risk include girls in correctional settings, adolescent Lesbians and adolescent females with physical disabilities.

Adolescent Females in Correctional Settings In 1993, United States law enforcement agencies arrested an estimated 2.4 million people under the age of 18, and nearly 25 percent (570,100) were female juveniles (Prescott, 1997). Four percent of all adolescent females come into contact with the juvenile justice system annually, a disproportionate number for such offenses as running away and truancy. Risk factors include difficulty in school, substance abuse, sexual or physical abuse and a history of being a victim of violence.

Research suggests that the needs of adolescent females and perhaps even the etiologies of their involvement in the justice system differ drastically from those of their male counterparts (Girls Inc, 1996). Gender specific programming initiatives that take into consideration all of the inter-related needs of girls and women in correctional settings are needed (Kelly et al., 1997).

Adolescent Lesbians Sexual orientation is often associated with increased substance use (Rotheram-Borus, 1993). Typically, almost all adolescent studies have focused on young males, but emerging data indicate that young lesbians also are at increased risk for substance use. Young females are far less likely to self-identify as lesbians during adolescence (Rotheram-Borus & Fernandez, 1995), and those who do

are at even greater risk than their male counterparts who self-identify as gay. Substance use among young lesbians is particularly likely among those in the early stages of “coming out” (Rotheram-Borus, Rosario, Meyer-Bahlburg, & Koopman, 1994).

Adolescent Females with Physical Disabilities There is little research on the incidence and prevalence rates of substance use among adolescent females with physical disabilities, and no studies have focused exclusively on this subgroup. Kessler and Klein (1995) reviewed more than 80 studies examining the correlation of psychosocial aspects of alcohol and drugs and youth, but none of these included information on youth with disabilities. In fact, several researchers have posited that adolescents with disabilities are generally excluded from studies on alcohol and drugs.

One of the few drug-related studies that did include adolescents with physical disabilities was a longitudinal study examining alcohol and drug use among physically disabled adolescents during an 11-year period, compared with use among a group of youth not physically disabled; it was therefore a prospective account of substance use by the disabled youth (Kawaguchi & Butler, 1982). Results indicated that while youth with physical disabilities had lower levels of drinking than the comparison group, they had a higher rate of problems related to alcohol use than did the comparison group.

In addition, physically challenged adolescents had a higher rate of drug use than the controls. They reported the highest use of marijuana and hallucinogens and had the highest percentage of problems with drugs.

A more recent study that also compared self-identified physically disabled adolescents with non-physically disabled adolescents found that the rate of use for alcohol, tobacco, marijuana, and LSD among the general population of junior high students was lower than among the self-identified physically disabled students. Further, the physically disabled students had higher rates of using inhalants, hard drugs, and other drugs (Kessler and Klein, 1995).

These studies need to be replicated to determine if the same trends of alcohol and drug use are present in other samples of physically challenged adolescents. In addition, both studies failed to examine whether there were gender differences. And finally, a longitudinal replication study would provide insight not only into incidence and prevalence rates but into correlates of drug use among this vulnerable subpopulation of adolescents.

Chapter 4

Findings from Research on Ethnic Differences

Historically, researchers have documented a consistent difference in ethnic patterns of substance abuse. *Blackwell's Dictionary of 20th Century Social Thought* refers to ethnicity “as one of the principal socially relevant characteristics of human beings and states that to understand it we must show how it is to be distinguished from race, class and status. It is important to distinguish ethnicity from racial differentiation, whereas the latter is in terms of physical differences thought to be biologically inherited, ethnic differentiation is in terms of cultural differences which have to be learned” (Outhwaite & Bottomore, Eds., 1994, p. 204).

The Center for Substance Abuse Prevention defines culture as “the shared values, traditions, norms, customs, arts, history, folklore, and institutions of a people.” Culture may help to determine how people feel about such things as substance abuse, and how they might respond to different prevention strategies and treatment protocols (Backer, Howard & Koone, 2000). Ethnic identity refers to one’s sense of belonging to a specific group and to the thoughts, feelings and behaviors that are a result of this perceived affiliation. Thus, ethnic identity is a multidimensional construct that involves ethnic feelings, attitudes, knowledge, and behaviors (Phinney, 1996), and should not be confused with racial differentiation.

Regional and Local Studies of the Patterns of Substance Use/Abuse for Adolescent Females

National studies do not yield an entirely clear picture of the patterns of alcohol, tobacco, and drug use for female adolescents. It is, therefore, important to examine regional and local studies to obtain a better understanding of both unique and similar factors related to patterns of substance use among African-American, Latina, Native American, and Asian-American adolescent females.

More research has been published related to substance use patterns among African-American and Latino youth than among Native American or Asian-American youth. Overall, much remains unknown about factors related to substance use among ethnic adolescent females. Although findings from selective regional and local studies cannot be generalized, the findings may help to explain different ethnic and gender trends related to substance use.

The majority of the studies used broad umbrella categories, such as Hispanic or Asian, and as such do not provide information on subgroup within group differences for Hispanics (i.e., South American, Mexican, Cuban, etc.) or Asian Americans (i.e., Chinese, Vietnamese, Pacific Islander, etc.). As a result, it is often not possible to conduct analyses to identify if any intra-ethnic gender differences exist.

In a study that examined alcohol use among Asian-American, African-American, Native American, Latino, and European-American adolescents, Welte and Barnes (1987) consistently found that in every ethnic group, males drank more than their female counterparts. Specifically, Asian-American adolescent males had a per-drinker consumption of 2.48 ounces of absolute alcohol (five drinks per day), while Asian-American adolescent females drank much less (.14 ounces per day). The average male/female ratios for

alcohol consumption by African Americans, Latinos, and Native Americans ranged from 2:4 to 5. For European Americans, the ratio was 1:5.

Drinking patterns of European-American adolescent females are closest to those of their male counterparts. Despite their low percentage rate of alcohol use, African-American adolescent females have a higher average number of problems per ounce of alcohol consumed than their European-American counterparts.

Rates of substance use have risen more significantly among Native Americans and European Americans than among African Americans, Latinos, and Asian Americans in the past 5 years (Jenson et al., 1995). These findings can be compared with those of the national surveys reported in Chapter 2.

Factors Related to Use of Alcohol, Cigarettes, and Drugs There are ethnic and gender differences in the determinants of substance use and factors associated with it. For instance, the initiation of drug use by a boyfriend, participation in unsafe sex (Lowry, Holtzman, Truman, & Kann, 1994), and rates of cocaine-related emergency room admissions are higher for female African-American and Latina adolescents than for their European-American counterparts (SAMHSA, 1996; U.S. DHHS, 1995).

Further, drug-using female African-American and Latina adolescents have friends who are more likely to be from the same neighborhood (Krohn & Thornberry, 1993), and their use of marijuana is more likely to proceed from marijuana use to cocaine/crack and heroin use, often accompanied by heavy alcohol misuse (Austin & Gilbert, 1989). African-American females are less likely than their European-American and Latina counterparts to use smoking to control weight (Camp, Klesges, & Relyea, 1993).

It is useful when discussing ethnic differences with respect to substance use to take into consideration ecological factors (individual vs. family/peer vs community/society levels) that may be relevant to those differences (Levine and Perkins, 1987). In addition, each ecological level can be further described in terms of its proximal or distal influence on drug use (Petraitis, Flay, & Miller, 1995).

A survey of literature shows that many factors are positively related to or associated with drug use at each ecological level. The chart on page 22 presents some of these variables. The specific references are noted below the chart.

Chart
RESEARCH ON ECOLOGICAL LEVELS
ASSOCIATED WITH DRUG USE

Individual	Family/Peer	Community/Society
low conventionality (1, 2, 3)	family-related factors (18, 19, 20, 21)	availability of drugs (28, 29, 30)
low educational achievement and aspirations (4, 5, 6)	parental drug use (22, 23, 24)	drug use legislation (31, 32)
emotional distress (7, 8, 9)	peer influences (25, 26, 27)	poverty (33, 34)
childhood sexual abuse (10, 11, 12)		neighborhood disintegration (35, 36, 37)
stressful life events (13)		
low self-esteem (14, 15)		
health belief and coping style (16, 17)		

Sources: Low conventionality (¹Cloninger, Sigvardsson, & Bohman, 1988; ²Jessor, Donovan, & Costa, 1991; ³Newcomb, Maddahian, & Bentler, 1986), low educational achievement and aspirations (⁴Friedman & Humphrey, 1985; ⁵Gottfredson, 1988; ⁶Johnston, O'Malley, & Bachman, 1989), emotional distress (⁷Newcomb & Harlow, 1986; ⁸Newcomb, Maddahian, Skager, & Bentler, 1987; ⁹Shedler & Block, 1990), childhood sexual abuse (¹⁰Harrison, Hoffmann, & Edwall, 1989; ¹¹National Institute of Drug Abuse, 1998, ¹²Singer & Petchers, 1989); stressful life events (¹³Barrera, Li, & Chassin, 1993), low self-esteem (¹⁴Dielman, Campanelli, Shope, & Butchart, 1987; ¹⁵Kaplan, 1980), health beliefs, and coping style (¹⁶Chassin & Barrera, 1993; ¹⁷Kandel & Yamaguchi, 1985).

Both psychobehavioral and biogenetic variables operate at the individual (or interpersonal) level. While biogenetic variables help account for an individual's potential for drug use, psychobehavioral variables are defined as most important in initiation and maintenance of drug use (Newcomb, 1995). However, Link and Phelan (1995) posited that while the identification of factors at all three ecological levels has helped to pinpoint how one or two variables related to a greater likelihood of adolescent initiation, continuation, and progression of drug use, the focus has remained on individual traits and behavior instead of on the reciprocal nature of individual and environment. This set of factors collectively also fails to explain what causes ethnic adolescent females to be at risk for substance use.

Regional and local studies may provide some guidance. Although national prevalence rates provide some insight into the rates of use among African Americans, Hispanics, Native Americans, and Asian Americans, these rates may be distorted. The sample pool tends to be based disproportionately on suburban in-school samples (Oetting & Beauvais, 1990).

Further, prevalence rates do not directly inform researchers about the intensity of drug use or the widespread availability of drugs within ethnic neighborhoods. Thus, the high numbers of drug-related problems generally associated with ethnic populations' drug use may be the result of the quantity and the preferred type of drug, as well as the extensive availability of drugs within specific urban environments.

Regional and local studies on African Americans, Latinas, Asian Americans, and Native Americans may provide researchers with a better understanding of the determinants and correlation of drug use among ethnic adolescents generally, and ethnic adolescent females in particular. Although the sample sizes may not reflect the population at large, and the broad categories of Latinos, African Americans, Native Americans, and Asian Americans still do not take into consideration any intra-ethnic differences, a salient review of these studies can provide a baseline profile of existing and emerging trends. A few of the relevant studies are discussed here.

Research shows that experimentation with certain substances may vary by ethnicity and geographical region (Barnes & Welte, 1986; Castro, Maddahian, Newcomb, & Bentler, 1987; Maddahian, Newcomb, & Bentler, 1988; Welte & Barnes, 1987). In one regional study, Welte and Barnes (1987) found the highest rate of cigarette use among European-American adolescents in New York State, compared with African Americans and Hispanics. Maddahian et al. (1988) found the highest rate of smoking among African-American adolescents, compared with European-American and Latino adolescents, in California.

In general, the alcohol use rate for European-American adolescents is higher than for African-American and Latino youths. However, the findings of Barnes and Welte (1986) in New York State suggest that while fewer Latino than European-American adolescents in their sample used alcohol, Latinos who did drink were heavy users, and the Latino adolescent group as a whole reported as many alcohol-related problems as their European-American counterparts.

Studies examining ethnic group differences in rates and types of substance use initiation have found differences in the types of substances with which various ethnic adolescents experiment and the correlation of experimentation with other factors in their lives. Specifically, Kaplan, Martin, Johnson, and Robbins

(1986) found that African American and Latino adolescents were less likely to become regular marijuana users, and that they also experienced less psychological distress around the time of first experimentation than European-American adolescents. They also found that African Americans and Latinos were less likely to experiment because of peer influences. Maddahian et al. (1988) found weaker relationships among California Latinos' intent to use alcohol, cigarettes, and marijuana than among other ethnic groups over the course of adolescence.

Latinos/Latinas As reported in the 1999 NHSDA survey, overall rate of illicit drug use for Hispanics was 6.8 percent. The youth rate of use was 11.4 percent. Young Hispanics (i.e., 8th grade) tend to come out highest of Caucasians, African Americans and Hispanics on nearly all classes of drugs, including alcohol (amphetamines being the major exception), but tend to fall between the other two groups by the 12th grade. Hispanics in the 12th grade, however, do have the highest reported rates of use for crack and ecstasy (SAMHSA, 2000; Johnston, O'Malley & Bachman, 2001).

Several studies have suggested that there are different drug use patterns among Latino subgroups. For example, Puerto Ricans have the highest prevalence rates for illegal drug use (other than inhalants), and the lowest use is among Mexican Americans (Amaro, Whitaker, Coffman & Hereen, 1990; De La Rosa, Khalsa, & Rouse, 1990). When Mexican Americans use alcohol, however, they are more likely to become intoxicated (Gilbert & Cervantes, 1986).

Several researchers have found higher prevalence rates of drug use among U.S. Latinos than among their foreign-born counterparts (Amaro, Whitaker, Coffman & Hereen, 1990; Boles, Casas, Furlong, & Gonzalez, 1994; Vega, Gil, & Zimmerman, 1993), while other studies suggest no difference between U.S. and foreign-born Latinos (Canino, Anthony, Freeman, Shrout, & Rubio-Stipec, 1993). Further, some evidence suggests that highly acculturated Latinos who are also poor have the highest rate of illicit drug use (Amaro, Whitaker, Coffman & Hereen, 1990). Latino adolescents in particular have a high prevalence of inhalant abuse (Carlini-Cotrim & Carlini, 1988; Felix-Ortiz, Velazquez, Medina-Mora, & Newcomb, 1996; Simpson & Barrett, 1991).

One of the few intra-ethnic studies that compared U.S.-Mexican border communities found that drug use among border Mexicans is closer to patterns in the United States than to those in southern parts of Mexico (Castro, Rojas, Garcia, & De La Sema, 1986). Mexican Americans living in border communities reported less drug use than Mexican Americans living farther north of the border (Harrison & Kennedy, 1994). A specific type of intergenerational discrepancy where the family is traditionally Latino and the female adolescent in the family is American-oriented – was associated with increased frequency of cigarette and alcohol use (SAMHSA, 1998).

There are some differences between Latino males and females in prevalence rates of alcohol, tobacco, and drug use. Mexican-American immigrant females are more likely to abstain from drinking than are Mexican-American males; four times as many island Puerto Rican females as males abstain from drinking (Canino, Burnam, & Caetano, 1992). Patterns of alcohol use also vary across Latina subgroups (Amaro, Whitaker, Coffman & Hereen, 1990). Most Latinas tend to abstain from alcohol use (Canino, 1994). Mexican

immigrant females are more abstinent than Puerto Rican females (44 percent to 32 percent) (Canino et al., 1992) and more abstinent than Mexican-American females (Caetano, 1985). Among Puerto Rican females there are fewer abstainers, while Mexican Americans are heavier drinkers (Caetano, 1986).

Several researchers (Markides, Ray, Stroup-Benham, & Trevino, 1990) found that among younger Mexican-American females, acculturation is positively associated with frequency of consumption. Some researchers believe that acculturated females are likely to have more liberal attitudes toward drinking than do immigrant females (Caetano & Medina-Mora, 1988; Gilbert, 1993) and are more likely to be drinkers (Black & Markides, 1993; Caetano, 1986; Stroup-Benham, Trevino, & Trevino, 1990) and smokers (Smith & McGraw, 1993).

Similarly, Haynes, Harvey, Montes, Nickens, and Cohen (1990) found that acculturation was associated with cigarette smoking in females of Mexican descent, increasing from 19 percent among Mexican-oriented females to 28 percent among U.S.-oriented females. Also, Puerto Rican youth who migrate to the United States are more vulnerable to drug use than their counterparts still in Puerto Rico (Velez & Ungemack, 1989).

Higher education, higher income, and being single increase a Latina's likelihood of drinking (Alaniz, 1994; Caetano, 1994; Gilbert, Mora, & Ferguson, 1994) and smoking (Smith & McGraw, 1993). Latinas have the highest past-year analgesics use relative to European-American and African-American females (Robbins & Clayton, 1989). Latino adolescents tend to use inhalants, alcohol, marijuana, and PCP, while Latina adolescents use tranquilizers and heroin (Hunsaker, 1985).

Native Americans American Indians/Native Alaskans have the highest rate of lifetime use of any illicit drug (51.0 percent). American Indians/Native Alaskans have the second highest rate of current use of any illicit drug (10.6 percent). American Indian/Native Alaskan youth age 12 to 17 have the highest rate of lifetime use of any illicit drug (46.5 percent), and the highest rate of current use of any illicit drug (19.6 percent) (SAMHSA, 2000).

The studies on alcohol use among American Indian youth found that males had a drinking rate of 42 percent compared with 34 percent for European-American males the same age. By age 11, almost one-third of all American Indian adolescents had tried alcohol. Beauvais, Oetting, Wolf, and Edwards (1989) found that alcohol and the more commonly used drugs (marijuana and inhalants) sharply increased in use between 1975 and 1981. The interval from 1981 to 1985 was part of a general decline in the lifetime prevalence for most commonly used drugs. In particular, marijuana use decreased from 74 percent to 57 percent during this period.

It should be noted that from 1986 through 1987, Native American 12th graders had higher rates for six drugs (marijuana, inhalants, stimulants, sedatives, heroin, and psychedelics) than their non-Native American counterparts. In particular, among Native American 12th graders, there were higher rates of lifetime prevalence and past-month use of marijuana. Native American 12th graders also smoked more cigarettes than their non-Native American counterparts. In 1988, the slight rise in patterns of drug use among Native

Americans was similar to the pattern noted in non-Native American youth. Although it is well documented that prevalence rates for alcohol and drug use are high among Native Americans, there is little scientific research that seeks an explanation for these behaviors (Oetting & Beauvais, 1990).

Among Native Americans, 34 percent of adolescent females use smokeless tobacco and have initiated use before the age of 10 (Schinke, Schilling, Gilchrist, Ashby, & Kitajima, 1987). Native American adolescent females who abuse substances are more likely to come from broken families, to have felt less family caring, to have had fewer family sanctions on drug use, to have poorer school adjustments, to have reported less hope for the future, and to have had friends who encouraged drug use (Oetting, Beauvais, & Edwards, 1988).

Native American females have a much higher rate of alcohol consumption than women in the general population (LaFromboise, Berman, & Sohi, 1994). The death rates of young Native American females 15 to 24 years of age from alcohol and other substance abuse exceed those of Native American males within the same age range (Indian Health Service, 1991). Because rates vary from tribe to tribe, those tribes that are more vulnerable need to be identified

Asian Americans Alcohol and drug use among Asian/Pacific Islander Americans is not as well documented as it is for other ethnic subgroups. In fact, most of the information comes from isolated, ad hoc, and nonrandom snowball (respondents provide names of other peers) referral surveys (local-, community-, or campus-based) or from statewide agencies.

The 1991 to 1993 NHSDA surveys reported data on Asian American groups, but did not report on Asian Americans again until the 1999 NHSDA survey (MTF does not report data on Asian Americans/Pacific Islanders). In this survey, it was reported that Asian Americans had the lowest overall current illicit drug use (3.2 percent), and that Asian youths age 12 to 17 had the lowest current illicit drug use in their age group (8.4 percent). Asian Americans reported the lowest current drinking rate (31.9 percent), as well as the lowest current tobacco use rate (18.6 percent). Asian Americans had the lowest rates for illicit drug dependence (0.8 percent), and for alcohol dependence (2.2 percent) (SAMHSA, 2000).

Most of the available data on Asian Americans have been generated by a few researchers at the national level and in the states of Hawaii (Murakami, 1989) and California (Skager, Fisher, & Maddahian, 1986; Skager, Frith, & Maddahian, 1989). These reports suggest that more stable patterns of alcohol and drug use exist among Asian Americans. Stable patterns of use cannot be generalized; there are significant intra-ethnic differences related to country of origin, socioeconomic status, place of birth, age, family structure, marital status, and generation and immigrant history (Kim et al., 1995).

Asian-American adolescents are believed to have the lowest use rate among major ethnic groups in the United States. According to Bachman et al. (1991), drug use among African-American youth was almost as low as that of Asian Americans. (see also Wallace & Bachman, 1991). A longitudinal survey among Los Angeles adolescents found that European-American youth had the highest rate of use, followed by Latinos, Asian Americans, and African Americans (Newcomb & Bentler, 1986).

Studies have found shifting patterns in drug use among Asian Americans. For instance, Kim and Shantizis (1989) found that among Asian-American adolescents living in Mecklenburg County, North Carolina, there was a significant increase in drug use from 1986 to 1989, while other minority adolescents' drug use was decreasing. Findings from this study also indicated that the highest alcohol, tobacco, and drug use was among Chicanos/Mexican Americans, followed by Puerto Ricans/Latin Americans, Native Americans, European Americans, Asian Americans, and African Americans.

Among younger adolescents (5th-grade students) who initiate substance use, there is a smaller percentage of Asian Americans than other ethnic groups in the United States (Gillmore, Catalano, Morrison, & Wells, 1990). In terms of heavy drinking, Asian-American youth are far less likely to be casual drinkers than their African-American, Latin-American, or Native American counterparts; they are more likely to resemble their European-American counterparts (Kim et al., 1995).

What is less clear is whether there are different intra-ethnic substance use patterns that would indicate the necessity for a longitudinal study similar to the NHSDA 1991 to 1993 report, this time focusing on the different Asian/Pacific Islander ethnicities (more than 23 source cultures). Heroin, for example, is mainly produced in Southwest and Southeast Asia, and its import points into the United States are centered on communities that are largely ethnic Asian (Chicago, Los Angeles, and New York City). Recent studies in China reveal that heroin usage, once confined to Southeastern provinces, is now widespread. The incident of gang violence among Southeast Asian Americans is largely drug related (Drug Enforcement Administration, 1996).

While it is believed that Asian-American adolescent females drink less than European-American adolescent females, the changing attitudes of Asian-American adolescent females away from their traditional roles and stereotypes as demure, docile, passive, and humble persons toward more individualism and independence and higher self-esteem, an upward shift in substance use patterns is likely to follow.

African Americans The NHSDA (2000) reports that at ages 12 and older—including adults, African Americans generally report lower rates of illicit drug use than American Indian/Alaskan Native and Multiple Race subgroups, but higher rates than white, Asian-American and Hispanic subgroups. The sub-group of African-American youth age 12 to 17, however, reported lower rates of illicit drug use than all other subgroups except for Asian-American youth. Rates are higher among boys than girls (12.6 percent compared with 8.7 percent).

Although African Americans ages 12 and older were less likely to use illicit drugs than were their European American, Asian American and Hispanic counterparts, they reported higher rates of dependency on illicit drugs than those reported by European Americans, and they were not more likely to be dependent on alcohol than European Americans. In 1999, 2.3 percent of all African Americans were dependent on illicit drugs, compared to 1.5 percent of all European Americans; and 3.8 percent of all European Americans compared with 3.1 percent of all African Americans were dependent on alcohol. With respect to marijuana use, NHSDA (SAMHSA, 2000) 1999 national survey data indicates that African-American

females in the 24 to 36 age group reported higher rates of past-year use than Hispanic females but the same rate of use as European-American females.

Some recent studies indicate a shift may be taking place in prevalence rates of illicit drug use among African Americans. National studies of adolescents age 12 to 17 indicate that prevalence rate differences between African Americans and European Americans have begun to narrow (SAMHSA 2000; U. S. DHHS, 1995). The higher rates of current use of marijuana, cocaine/crack, and heroin among older groups of African Americans may be spreading to the younger group. However, the NHSDA report on 1998 survey data indicates that use of any illicit drug went down for all age groups from 1997 through 1998, and this decrease may be another factor contributing to the narrowing of usage rates among ethnic groups. Further research into reasons for the shifting trends is warranted.

Because African Americans may have less control over sources of stress in their lives (such as racism, violence or poverty), instrumentality may be less functional and emotional control may be more functional among African Americans than among European Americans. Because of societal issues such as racism, sexism and classism, African Americans are more likely than other ethnic subgroups to live below the poverty level. As a result, they may tend to encounter more every day stress associated with societal inequalities related to living conditions, health, resources and opportunities (Kreiger, et al, 1993; Williams & Collins, 1995).

Furthermore, female gender stereotypes regarding cultural values of modesty, virginity, and respect (the double standard) may increase the likelihood of young females' use of substances as pharmaceutical responses to feelings of hopelessness. This, in turn, may lead to lower inhibitions to negotiate safer sex or to discuss matters of concern with relatives.

Most research has found that African-American adolescent females are less likely to initiate early use of alcohol and cigarette smoking than are Latina and Asian-American adolescent females (Centers for Disease Control and Prevention, 1993; Kim et al., 1995). Guthrie (1990), however, found that social context was a key reason for alcohol use among African-American adolescents. In fact, African-American females were more likely to drink when in situations such as teen parties and while going steady with older boys. Although African-American females initiate drinking at an older age than any of their peers, the consequences of heavy drinking and drinking-related problems (such as unprotected sex, truancy, and use of illicit drugs) are disproportionately higher for African-American adolescent females (Castro et al., 1987; Welte & Barnes, 1987).

Among African-American adolescent females, use of marijuana has remained steady over the past decade (Botvin, Schinke, & Orlandi, 1995; U.S. DHHS, 1995). However, in some urban areas, there has been an increased use of marijuana among 8th-grade African-American adolescent females (U.S. DHHS, 1995).

Discrimination, or the perception of discrimination, may play a crucial role in the health behaviors of African-American adolescent girls. The relation between perceptions of discrimination and health behaviors, such as substance use, is an unexplored area of study, but a study by Guthrie et al., (under

review) indicates that not only do African-American adolescent girls perceive high levels of discrimination, but that discrimination has negative implications for their health behaviors, such as smoking.

Chapter 5.

Creating a Gender-Specific Framework for Substance Use

It is important to include the constructs of gender, ethnicity, and social class within theoretical frameworks for substance use, and to operationalize these constructs in research. The social implications of class, gender, and ethnicity can place adolescent females in a socially marginalized position that facilitates neither a public nor a private awareness of their experiences, strengths, and knowledge. In order to begin to reverse the upward trend of use of alcohol, cigarettes, and drugs among adolescent females in general and among ethnically diverse adolescent females in particular, new and expansive gender-specific frameworks must be developed.

Elements of the Framework To explain the rationale for proposing that gender, ethnicity and social class become central constructs within any substance use framework, the constructs of gender, gender socialization, ethnicity and social class are presented below.

Gender Viewing gender as a social construct within a basic substance use theoretical framework redefines gender away from a variable or a property of an individual (see also discussion in Chapter 3). It moves the concept toward a principle of social organization that is influenced by and situated across race, ethnicity, and class.

The relation of class to gender is based on the fact that along with one's class comes social power. Social power refers to the control of resources and status. Sherif (1982) posited that social power is neither a perfectly correlated attribute of gender nor a personal attribute. As a result, reference groups and categories serve as tools to trace the links between gender in a social context.

A theory-based approach to gender moves researchers closer to understanding the historical, sociocultural, and structural influence on the "gendered" process. It further focuses on gender as a social relation that is negotiated along changing axes of race, ethnicity, and class. This gendered process is the way males and females define and learn the expectations of being male or female and specific cultural and ethnic norms of masculinity and femininity.

Gender Socialization Gender socialization is the process of becoming aware of the importance of acquiring specific ethno-culturally normed and accepted attributes and characteristics associated with gender-related behaviors (Mishler, 1986). A female learns not just how to be a woman but how to be a certain kind of woman within the context of a specific race/ethnicity and social class. Within this process, a young female becomes increasingly aware of the fact that she is rewarded for certain behaviors and punished for others.

The idea that gender socialization is influenced by culture, class, and ethnicity challenges the notion of a single-gender linear model of human development. The single-gender linear view of human development can be traced back to Erikson (1950) and Piaget (1955). These theorists, working from the single view of Caucasian male development, postulated that growth from one stage to the next represented movement to more complex tasks and more complex understandings of self.

One of the first scholars to offer an alternative developmental process for females was Miller (1976, 1986). She theorized that a female's sense of self is built around her ability to make and maintain relationships. The early work of Chodorow (1978) suggested differentiating stages of male and female development based on the fact that women were primarily responsible for early child care. As a result, females were more likely to experience similarities between themselves and their mothers, leading to fusion of their experience with attachment to their development of identity. Conversely, male children envisioned themselves as different from their mothers and found separation as the key to developing a masculine identity.

Schaefer (1989) saw the female developmental process from a sociological perspective that viewed females' environment, cultures, and ways of dealing with the world as different from those of Caucasian males. She posited that environmental systems (families, schools, and communities) create these socializing realities. For female development, these environmental systems continually reinforce the value of intimacy and responsibility for caring for others within the context of relationships.

Thus, females learn early that they should value intimacy, caring, and relationships, while males learn that they should value separation and differentiation. Instead of the linear, incremental movement toward more independence and autonomy, the female developmental process is more a continuously spiraling process of self-definition within the context of establishing and maintaining important relationships.

It is important to note that neither developmental process is superior; they are simply different. And the different developmental processes do not suggest opposites; rather, they imply that males and females experience somewhat differing developmental processes (Tolman, 1991).

Furthermore, this differentiating process is shaped by race, ethnicity, and social class. Since gender socialization is largely a matter of social definition and socially constructed meanings, there is a cultural variation in expected gender roles for females generally and ethnic adolescent females in particular (Gonet, 1994).

Therefore, in examining ethnic adolescent females, it is important to understand not only the universal context of adolescence, but also the influence of diverse ethnic groups. Inherent in the contextualization are ethnic differences and traditions, cultural expectations, and negative stereotypes and portrayals of ethnic females in American society and popular culture. These indirectly or directly influence an adolescent female's perception of herself as well as how she is perceived by others.

Ethnicity As the terms "ethnicity" and "race" are often used interchangeably, the exchangeability of these two terms has been called into question. According to several scholars (Hirschfeld, 1996; Williams, 1991), race is not real or natural. Rather, it is a socially designated construct with no biological basis. Race as a biological trait implies that presumed genetic differences underlie observed racial differences. The idea that race is a socially designated construct encompasses beliefs about the very nature of differences.

More specifically, it refers to someone making a judgment about that which is not obvious. This perspective plays a pivotal role in predicting political power differential and access to resources. Hence, race does not explain disadvantage so much as it explains away disadvantage by distorting perception of other material

relations (Winant, 1994). Race legitimizes and misrepresents the way power is wielded and opportunity is apportioned. Hirschfeld (1996) further posits that race is a closed system of practice and thought, while racial thinking serves as a rationalization for inequitable distribution associated with the arbitrary status of race.

Hence, race is an ideological analysis of social relationships, not a category of the biological world. As such, race is not a discovery about the structure of nature but rather an invention inscribed onto nature. Thus, race is more an artifact of human culture that seeks to marginalize certain groups according to a distorted perception of what is normal and abnormal or superior and inferior.

Unless researchers clarify their conceptualization of race, research questions and interpretations for findings will continue to be obscure determinants of observed variation in general research, and in substance use research in particular. Instead of racial categories, self-defining ethnic categories should be considered. Although ethnic identity is also a social construct, unlike the term "race" it allows individual self-identification with a specific group.

Ethnicity and ethnic identity are manifestations of interactions with a specific group as well as the transmission and assimilation of the group's values, beliefs, and attitudes. Specifically, ethnic identity refers to one's sense of belonging to a specific group and to the thoughts, feelings, and behaviors that are a result of this perceived affiliation. Inherent in one's ethnic identity are such things as ethnic awareness, ethnic self-identification, ethnic attitudes, choice of reference group, and ethnic-related behavior (Rotheram & Phinney, 1987).

Thus, ethnic identity is a multidimensional construct that involves ethnic feelings, attitudes, knowledge, and behaviors (Phinney, 1996). Several researchers (Phinney, 1996; Walters & Simoni, 1993) have indicated a gender difference in the process of identifying with and committing oneself to one's ethnic identity. Recent research findings have provided evidence of the importance of social influences on the development of adolescent ethnic identity (Salett & Koslow, 1994).

The most common ethnic social identities are identification with the mainstream, strong ethnic identification, and bicultural identification. Identification with the mainstream refers to identification with European-American or Anglo-Saxon Protestant cultural norms and identification. Strong ethnic identification is to align oneself with a country or culture of family origin and to retain traditional values, norms, and behavior patterns.

Bicultural identification refers to identification with two distinct cultures within one society and has been hypothesized to reflect the stress of being caught between two cultures (Stonequist, 1935). It can imply, however, the acquisition or acceptance of cultural norms, attitudes, and behaviors of both one's own ethnic group and another ethnic group. Biculturalism is thought to reflect a cognitive and behavioral flexibility (Ramirez, Castaneda, & Herold, 1974), a strength that could protect or benefit an adolescent generally and an ethnic adolescent female in particular. Some evidence suggests that ethnic adolescents who report a strong ethnic identity accompanied by a positive mainstream orientation are likely to have higher self-esteem

than those who self-identity as mainstream or bicultural (Rotheram-Borus, Dopkins, Sabate, & Lightfoot, 1996).

Social Class The final social construct integral to theoretical frameworks of substance use is class. Unfortunately, there is no consensus on what class means and how it should be measured. Class is defined as a social stratum whose members share similar economic, political, and cultural characteristics (American Heritage Dictionary, 1985). In research and in literature, the term “socio-economic class” is widely used as a proxy for social class. The generally preferred term “SES”(socioeconomic status) reflects the Weberian notion of stratification of income, education, occupation, and ownership of property.

Further, SES has been proven robust in elucidating complexities of social and historical processes, as well as in predicting variations within and between social groups in living conditions, life chances, skill levels, material resources, relative power, and privilege. SES also is a reliable marker for health and health status. However, because SES is conceptualized and measured in many different ways, its overall effectiveness and reliability have been called into question.

Krieger (1990) posited that more attention should be given to a theoretically driven measure of social class. She found that the relational measure of social class (which emphasized social class based on one’s relationship to others and to property through employment) was more strongly related to women’s reproductive history outcome and sense of well-being than it was a measure of household poverty. Instead of categorizing people as upper, middle, and lower class, Krieger suggested such terms as “working class,” “not working class,” and “other class.” She further suggested that social class should be conceptualized as involving property assets, skill assets, and organizational assets.

Fee and Krieger (1993) suggested that social class be defined and measured at the level of the individual, the household, and the neighborhood. For example, at the individual level, occupation might be measured; at the household level, standard of living (times moved in last year or home ownership) and cultural patterns (number of people living within one apartment or house) might be measured; and at the neighborhood level, neighborhood-related conditions (availability of drugs, crime rate, number of vacant homes) might be measured.

Existing Theory-Based Frameworks for Substance Use Six theoretical frameworks for examining substance use are discussed here: Interactional, Social Milieu, Stage, Strain/Stress, Gender-Based, and Culturally Relevant. These categories reflect a grouping of similar perspectives into broader categories. For example, interactional theories underlie works that examine the interactive nature of the individual and the environment, and stage theories focus on development, initiation, and progression of substance use among adolescents. Literature related to studies that have made use of the theoretical frameworks is reviewed below.

Interactional Theories Interactional theories suggest that complex relationships exist between aspects of ecological groups in a community, and across levels of these groups. In some early work on this subject, Jessor and Jessor (1977) posited a strong relationship among adolescents’ involvement in drug use,

engaging in sexual intercourse, and delinquent behavior. They incorporated these behaviors into an overall syndrome of problem or deviant behaviors.

Under the resulting “problem behavior theory,” adolescent problem behaviors are defined according to age-specific societal norms, and represent functionally similar social behaviors that share a common etiology. The underlying assumption is that all behavior results from the interaction between person and environment, hence the term “interactional theory.”

Donovan and Jessor (1985) examined the extent to which these various problem behaviors could be represented by a single common factor using two separate samples (regional and national). Their findings, based upon a factor analysis, suggested that relationships they observed among various problem behaviors were due to an underlying construct (the single common factor) they called *unconventionality* in adolescent behavior. Their results also indicated that such deviant behaviors as problem drinking, marijuana use, delinquent behavior and precocious sexual intercourse may constitute a “syndrome” of problem behavior in adolescents.

Specifically, alcohol use, cigarette smoking, marijuana use and the use of other illicit drugs were shown to be correlated with other problem behaviors among adolescents. In addition, Donovan and Jessor found fairly low, but statistically significant, negative correlations between problem behavior and conventional behaviors such as church attendance and school performance. Donovan, Jessor, and Costa’s (1988) replication of this study with a sample of 11th- and 12th-grade students revealed similar results.

A more recent study (Farrell, Danish, & Howard, 1992) with younger and urban adolescents further supported these two earlier studies. That is, frequency of cigarette use, alcohol use, marijuana use, delinquency, and sexual intercourse were positively correlated with each other and negatively correlated with measures of conventional behaviors such as school attendance and grade point average.

These findings were consistent across both gender and age. However, unlike the previous studies, this one found that the correlation of problem behaviors with church attendance was not significant. Although several research findings support the existence of common risk factors for some adolescent problem or deviant behaviors, they were not always highly correlated.

For example, drug use, delinquent behavior, and sexual involvement were not highly correlated, which suggests the contribution of unique risk factors as well as common ones (Brook, Balka, Abernathy, & Hamberg, 1993). Rebelliousness against family and community, however, was correlated with drug use and deviant behavior (Brook, Whiteman, & Cohen, 1995).

One of the limitations of this model is that it accounts only for general problem behavior rather than specifically outlining how drug use is initiated, how it progresses to drug abuse, and how it is maintained. In particular, this theory underscores the importance of determining co-occurring problem behavioral patterns, but falls short in identifying the stages and transitions that lead to these covarying patterns.

This perspective also does not identify if, when, and why there might be different co-occurring problems among adolescent females in general and among ethnically diverse adolescent females in particular. Another limitation is that although this perspective was developed with diverse ethnic samples, no effort was made to explore the personal and cultural meaning of these individual behaviors.

For example, Stanton et al. (1993) found that although there was co-variation among some problem behaviors (substance use, school truancy, and drug trafficking), sexual intercourse was not found to co-vary with these problem behaviors among African-American adolescents. This finding provides support for the idea that the definition of problem behaviors, along with the antecedents and determinants associated with specific activities, varies among individual ethnic groups of youth.

Family interactional theory focuses on the role of the mother-child relationship within the family (Brook, et al., 1990). Family variables are considered protective factors that interact with broader social influences. Additional domains are adolescent personality characteristics, peer factors, ecological variables, acculturation measures, and drug context variables.

This theory has been used to examine drug use among Puerto Ricans (Brook, 1993). Among Puerto Rican families, personality and drug context had direct effects on drug use (Brook, 1993; Brook, Whiteman, Balka, & Hamburg, 1992). The mother-child and father-child bond were important, but there were no effects of peers, acculturation, or ecological variables on drug use. The limitation of this theoretical approach is that it views acculturation as a one-dimensional measure, but a more differentiated conceptualization may be needed.

Social Milieu Theories Social milieu theories examine how family functioning or deviant peers influence drug use. Like interactional theory, it is inclusive in nature, but it does not include reciprocal influences between variables.

Hawkins, Lishner, Catalano, and Howard (1986) and Hawkins and Weis (1985) stated that healthy adolescent functioning includes attachment to conventional and individual goals and activities, perceived opportunities, a sense of skillfulness, positive feeling about oneself, and perceived rewards for attachment to conventionality. Oetting and Beauvais (1987) proposed the Peer Cluster Theory, which hypothesized that drug use was a part of peer group culture, which could be a powerful shaper of behavior. When the family becomes ineffective in providing role models, support, coping skills, and education, and when social structural variables create risky conditions, then peer clusters gain greater importance and can be powerful determinants of behavior. This suggests that family and social influences are distal in their influence of drug-using behaviors, whereas peer clusters are proximal and ultimately shape the behavior.

Castro, Sharp, Barrington, Walton, and Rawson (1991) developed a social milieu model of drug use that also incorporated ethnic pride as a major protective factor. It also focused on the importance of the group defining its identity. Drug-use identity is conceptualized as a social role opposing social role responsibility and Mexican-American ethnic pride (as there is a cultural stigma against drug use and excessive alcohol use). This identity is reinforced by the adolescent's nonconformity as well as by a nonconformist peer group

or subcultural group. This theory was expanded by Castro, Harmon, Coe, and Tafoya-Barraza (1994). They highlighted the importance of identification with a group.

Similarly, Morales' (1984) social milieu theory included structural environmental determinants that traced Latino substance abuse to poor housing, education, and discriminatory criminal justice structures. Morales further contended that Latinos are more likely than European Americans to be arrested for drinking-related offenses. Morales felt this was related to the fact that more police patrol Latino neighborhoods, which leads to more arrests for drinking-related offenses. Latino offenders were also more likely to receive jail time rather than substance abuse treatment. A limitation of this approach was the fact that despite the broad concepts of peer clusters, operationalization of peer clusters was limited to peer-related variables rather than to a larger group's influence on drug-using behavior.

Stage Theories Kandel (1978) proposed culturally determined developmental stages of drug use. According to Kandel, drug use begins with beer or wine and progresses to use of cigarettes, hard liquor, or both. Generally, marijuana follows the cigarettes or hard liquor and is often viewed as the gateway drug to illicit drug use. During the early stages, peers have more influence than parents on the initial stages of hard liquor and marijuana use.

Conversely, parental influence is a stronger buffer against initiation of other illicit drug use. Other researchers (Newcomb & Bentler, 1989; Newcomb & Felix-Ortiz, 1992), however, have not found consistent stages of drug use. They also questioned whether one stage of drug use sequentially followed another.

Ellickson, Hays, & Bell (1992) and Newcomb & Bentler (1989) found that patterns of use of smokable substances tend to cluster. Specifically, smokable illicit drug use patterns may influence each other; also, heavy alcohol use can occur subsequent to marijuana use.

Other research (McLaughlin, Bauer, Burnside, & Pokorny, 1985; Reeves, 1984) found that drug use covaries with many environmental variables such as parental style and availability of the substance (Rabow & Watts, 1989). The limitation of the developmental drug use stage is that fewer studies have examined the stages of drug use with large, ethnically diverse adolescent samples.

Two exceptions are studies conducted by Ellickson et al. (1992) and Simpson & Barrett (1991). These researchers found that weekly cigarette and inhalant use by Latinos co-occurs with, or immediately precedes, hard drug use, while pills did not seem to figure significantly (Welte & Barnes, 1985). Another limitation of stage theories is that they don't account for the use of more than one drug at a time, nor provide an explanation as to why adolescents initiate a second type of drug use while continuing to use the first drug.

Strain/Stress Theories This theoretical perspective proposes that drug use is the result of stress or strain that can be found at a variety of levels and intensities. Rhodes and Jason (1990) proposed that drugs are used to cope with stress when prosocial supportive networks, social competencies, community resources, role models, and opportunities are insufficient relative to the demands of a crisis or an event.

Brunswick, Lewis, and Messeri (1992) defined “stress” as shorthand for “stressors,” which denoted events or conditions that are external to the adolescents. Strain is interchangeable with “psychological distress,” to denote perceived discomfort in response to an external event or condition.

The likelihood of initiating drug use is a function of the stress level and the extent to which it is offset by stress moderators and social networks. Although attachment to support and prosocial models figures prominently in both theories, stress and strain are at the beginning of what is considered a causal chain of events.

Research has demonstrated a robust association among stressful life circumstances; symptoms of anxiety and depression; poor parental support; and the use of alcohol, cigarettes, and marijuana (Anda et al., 1990; Brown, 1989; Climent, De-Aragon, & Plutchik, 1989; Schweitzer & Lawton, 1989; Walter, Vaughan, & Cohall, 1991), which is congruent with the self-medication hypothesis (Khantzian, 1985).

Attempts to identify and understand antecedents and correlates of use of alcohol and drugs among Native Americans has centered on three different stress and strain-related areas: life stress (Bruns & Geist, 1984; King & Thayer, 1993; Labouvie, 1986), social support (Aneshensel & Huba, 1984; King & Thayer, 1993; Oetting et al., 1988; Wills & Vaughan, 1989; Zucker & Gomberg, 1986), and peer cluster (King & Thayer, 1993; Oetting & Beauvais, 1987). These constructs have been examined as individual predictors or moderating factors of substance use among Native Americans.

More recently, these factors have also been combined into a multifactor model. Results from such approaches have indicated that life stress, social support, and peer clusters have major influences on substance use by Native Americans. However, research so far suggests that these models account for only a small portion of the total variance. In addition, gender differences overall have been neither addressed nor examined in relation to life stress, social support, and/or peer cluster models.

With a sample of urban African-American adolescents aged 18 to 23 and 26 to 31, Brunswick et al. (1992) examined the opposing functions (cause of distress and buffering agent to reduce strain/distress). Specifically, enduring unemployment was formulated as the predictor stressor, and three levels of drug use (drinking, smoking cigarettes, and using marijuana) were tested for direct versus multiplicative effects on strain.

The findings, however, did not support the buffering or stress-relief hypothesis. In addition, the findings suggested strong gender-differentiated processes related to unemployment-drug-distress relationships. For men, unemployment strain increased under the condition of moderate to heavy drug use (an interactive or multiplicative relationship), while for females, moderate to heavy drug use increased strain independently of unemployment (addictive effect).

However, light (less than weekly) use exacerbated strain for women under the condition of regular employment, although it showed no effect for women who were unemployed (Brunswick et al., 1992). Several researchers (Brown, 1989; Schweitzer & Lawton, 1989) have substantiated the positive

association between stressful life circumstances, poor parental support, and substance use among adolescents.

Although the stress/strain model has identified some gender differences, it has not been tested with ethnically diverse adolescent female samples. This perspective also has not sufficiently examined gender differences across and within several ethnic groups and subgroups. Another limitation is that the direction of association has not been clarified, and thus requires further exploration with the various ethnically diverse adolescent female groups (Walter et al., 1991).

Gender-Based Theories Two theories specifically focus on explanations for gender differences in alcohol and other substance use. Horwitz and White (1987) proposed that differing substance use patterns between genders are related to gender-specific styles of pathology. For example, females' conformity is related to internalization of distress such as depression, anxiety, or psychosocial symptoms (withdrawal, helplessness, submissiveness). In contrast, males' conformity is related more to acting-out behaviors such as aggression, fighting, and antisocial behaviors.

These researchers concluded that females and males who identify with traditional/conventional gender roles are more likely to exhibit disorders involving subjective distress (females) and acting-out behaviors (males). Thus, this particular perspective distinguishes between males and females based on their respective vulnerability to adverse external behavior (that is, aggressive behavior) or internalization of distress (depression). Horwitz and White further posited that to the extent that gender identities are related to styles of pathology, males with a tendency toward feminine identity are likely to develop internalized styles of distress, and females with a tendency toward masculine identity are likely to engage in aggressive behaviors.

Robbins and Clayton (1989) expanded gender-related theory to include female vulnerability in three specific areas: physical vulnerability, social control and labeling, and internalized sex role norms. Specifically, physical vulnerability refers to the fact that a lower ratio of water to total body weight in women causes them to metabolize alcohol and drugs differently from men. Even when body weight is controlled, women reach significantly higher peak blood alcohol concentration in a shorter span of time than men (Mello, 1986).

Further, drugs like marijuana that are deposited in body fat may be slower to clear in women than in men (Braude & Ludford, 1984). Robbins and Clayton concluded that because the behavioral manifestations of these biological differences are not fully understood, they could only surmise that perhaps these biological differences may lead to girls and women being more vulnerable to intoxication, dependence, and associated problems. The physical differences in the dose-effect relationship also could influence females to drink less and to take smaller drug doses.

In references to social roles, alcohol and substance use are believed to carry more negative stigma for females than for males. This double standard extends to simple intoxication, which elicits stronger social disapproval for females than for males. Intoxication is strongly disapproved for females, because it often results in sexual disinhibitions or inability to fend off sexual advances.

Similarly, female drug addiction is more stigmatized than male drug addiction because of drug addiction's strong association with female prostitution. The taboos against female drunkenness and use of substances are grounded in two focal concerns: females' sexual virtue and their nurturant role obligations. For example, a female's nurturant role obligation tends to demand more consistent sobriety than do male sex roles. Because of the sex role norms and the stigmas and taboos linked to these norms, females who use and abuse alcohol and substances are more likely to experience problems in role functioning and interpersonal relations than are their male counterparts.

Although these two perspectives provide a plausible explanation of potential gender differences in patterns and consequences of substance use, they have not been widely researched. As stated earlier, more recent gender-focused discussions on alcohol and substance use and their consequences have emphasized gender as an aggregate of individual biological differences. As a result, differences in gender roles and interactional patterns between genders are often brought in as potential explanations of patterns found, but explicit analysis of the interplay of alcohol and substance use and abuse with gender roles and interaction is rarely operationalized and empirically examined.

Culturally Relevant Theories Unlike gender-based theories of drug use, abundant theoretical approaches have been used to understand and explain alcohol and drug use among ethnic groups that have immigrated to the United States or are first-generation Americans. There are two broad categories: *cultural content and cultural interactions*. The cultural content approach examines how cultural background and norms may influence and govern alcohol, tobacco, and other drug use styles among ethnically diverse adolescent groups (Room, 1976).

One of the limitations of the cultural content approach is that it views ethnic groups as culturally homogeneous. Thus, there is little effort to differentiate within and between the various ethnic subgroups according to country of origin. The cultural interaction approach focuses on the differentiating processes of acculturation (a single continuum for cultural identification) and orthogonal cultural identification (multiple dimensions of cultural identification).

Findings from the acculturation approach are inconsistent. Some researchers have found that as Latinos, Asian Americans, Native Americans, and African Americans increasingly adapt to European-American culture, their alcohol, tobacco, and other substance use patterns begin to mirror the European-American pattern (Chi, Lubben, & Kitano, 1989; Kitano, Hatanaka, Yeung, & Sue, 1985; Sue, Zane, & Ito, 1979; Yuen & Johnson, 1986; SAMHSA, 1998).

Conversely, other research (Kitano & Chi, 1985; Kitano, Chi, Law, Lubben, & Rhee, 1988) has refuted the degree to which acculturation is an absolute significant predictor of drinking by ethnic group. Instead, it asserts that numerous other mediating variables exist between the logical chain of acculturation itself and the actual drinking behavior among these subpopulations. Community, family, receptiveness by the dominant cultural community, and life experience were found to be correlated to ethnically diverse adolescent drinking patterns.

Orthogonal cultural identification (Oetting & Beauvais, 1990) refers to the idea that a person's cultural identification is not placed along a single continuum but rather has numerous dimensions of identification that are independent of each other. Specifically, identification with the dominant culture and identification with one's own culture coexist and function as two essentially equal sources of personal and social strength.

This is called biculturalism and refers to an individual's ability to gain competence within two cultures without losing his or her cultural identity or having to choose one culture over the other (LaFromboise et al., 1994). For example, an Asian American's identification with Asian culture does not entail a loss or a decreasing level of identification with the European-American culture.

Oetting and Beauvais (1990) further posited that higher cultural identification is related to positive psychosocial characteristics such as higher self-esteem and stronger socialization links among youth who are bicultural than among their counterparts who are anomic (having a low level of identification with both cultures). Hence, youths with strong bicultural identification are expected to have the lowest rate of substance use because they simply have a greater adaptability than those who have weaker bicultural identification and feelings of anomie.

Many ethnically diverse adolescent youth experience alienation. This is usually related to a sense of not belonging in the mainstream society. In particular, many ethnically diverse adolescents face the threat of discrimination, racism, and even violence in their daily lives. These feelings are often accompanied by loneliness, a sense of not belonging, helplessness, powerlessness, low self-esteem, and (for some) a loss of a sense of life's meaning. All of these factors may be associated with use of alcohol, tobacco, and drugs.

The culturally relevant frameworks reflect a movement away from the homogeneous perspective of the adolescent population toward a heterogeneous perspective. These frameworks, however, have not provided explicit differentiation intra-ethnically and between males and females.

Another limitation is that few of the culturally relevant theories examine the differences between ethnic groups that have immigrated to the United States versus ethnic groups (like African Americans) whose entry into the United States was involuntary. Ogbu (1981) states that these differences result in different developmental trajectories, which include adaptive strategies for dealing with the larger societal pressures and stress. The inability of some African Americans to navigate effectively between two cultures may lead some to use substances.

Summary of Existing Theory-Based Frameworks of Drug Use The review of substance use incidence and prevalence rates provides some understanding of the difference in substance use by gender and among various ethnic groups. We know that substance use among female adolescents has increased; we know that the rate of increase is greater than that among male adolescents; and we know that the use of certain substances (i.e., inhalants, methamphetamines, etc.) is greater among females than among males.

What remains unexplained are the origin of these differences; the specific determinants related to initiation, progression, and maintenance of substance use by adolescent females; and, most important, the interrelationship of gender, ethnicity, and substance use. None of the six types of theory presented here

satisfactorily deal with these factors in all their complexity. Part of the reason may be that extant substance use theories often do not include one or more of the following areas: (1) describing the relevance of theory for ethnically diverse adolescent females; (2) differentiating groups intra-ethnically; (3) taking developmental factors into full account; and (4) including broad societal influences such as poverty, racism, and sexism.

Rationale for a Gender-Specific Framework Although adolescence is known to be a time during which many important developmental changes take place, researchers are only beginning to understand the unique ways in which these changes affect females. Researchers have begun to pay closer attention to the female adolescent experience.

As a direct consequence, a “gender-specific” approach to the study of adolescent development, health, and well-being is beginning to emerge, and when further refined, may offer a valuable alternative to the theories discussed above. Why is a gender-specific approach useful? From a research standpoint, differentiating between developmental issues that girls and boys face has several advantages.

First, a gender-specific approach can help uncover distinct ways in which girls and boys see the world, and the ways in which the world views them. For instance, Gilligan, Lyons, and Hanmer (1990), from the Harvard University Project on the Psychology of Women and the Development of Girls, have argued that moral reasoning is gender-specific. Gilligan et al. asserted that for boys, morality revolves around issues of fairness and justice, whereas for females, a concern for the well-being of others appears to be paramount. Building on this, theorists have pointed out that morality based on communal concerns stems from an awareness of the “extent to which one’s sense of self is comprised of relations with others” (Cross & Markus, 1991, p. 597).

Jean Baker Miller and her colleagues at the Wellesley College Stone Center, in their work on the therapeutic implications of a relational perspective, suggested that a sense of connection to others rather than separation is the hallmark of healthy identity development for women and girls (Jordon, Kaplan, Miller, Stiver, & Surrey, 1991). Consequently, one of the major developmental tasks that girls encounter is how to participate in mutual relationships -- that is, relationships in which they feel both active and effective. Currently, researchers are investigating the association between various kinds of relationship challenges and psychological problems that girls from diverse backgrounds may experience during adolescence, such as low self-esteem, depression, anxiety, eating disorders, sexual abuse, substance abuse, school dropout, and violence

Gender-specific studies have shed light on the many inequalities that girls and women have historically faced throughout the world. In the United States, for example, teenage girls are often socialized to believe that they are “not good” at science and math.

According to a study by the American Association of University Women (1992), this kind of socialization short-changes girls. Girls are likely to feel less effective than boys in math and science and are less likely to consider careers in these fields. Equity studies suggest that many girls may be trapped in a negative self-fulfilling prophecy, that their interactions with others convey the message that they are not capable. Ultimately, girls may find themselves acting in self-limiting and disingenuous ways. By addressing these

inequities, parents, family members, teachers, and community advocates can begin to take active steps toward empowering adolescent girls. This may also have many implications for substance abuse prevention and treatment.

A gender-specific developmental approach can foster a better understanding of the ways in which girls with varying sociocultural backgrounds and physical abilities differ from each other. Certainly all girls are not the same, nor do they perceive the world and their relationships identically. Acknowledging and working with diversity is important because it minimizes the potential for describing girls in biased and stereotypical ways.

For instance, although both Puerto Rican and Cuban teenage girls can be correctly described as Latina, their family histories suggest important differences in their experiences. Similarly, the challenges that poor and working-class girls face differ from those of girls with greater financial resources. Racial, ethnic, economic, and physical differences affect girls' sense of empowerment and their ability to interact with others in equitable and growth-promoting ways.

Thus, a gender-specific developmental approach may be key in helping communities to design more effective treatment services and programs for the prevention of girls' psychological and behavioral problems. Just as one example, Amaro (1995) argued that gender, women's social status, and women's roles affect their sexual behavior and their ability to reduce the risk of HIV infection. In keeping with a relational perspective, Amaro suggested that HIV treatment services and health education programs for women and adolescent girls would be more effective if providers placed a greater emphasis on the degree to which women's high-risk behaviors take place in the context of romantic or sexual relationships. Given the threat of losing a male partner, women find it difficult to stop using drugs and to practice safe sex. Treatment and prevention programs for adolescent girls would clearly benefit from strategies that empower them to explore how the status of women affects them, to question the quality of their relationships with male and female peers, and to affirm their developing relational capacities.

Chapter 6.

Implications for Future Research, Prevention and Treatment Programs

Implications for Future Research Although it is impossible to create an all-inclusive or perfect theoretical model, shifting patterns of early initiation of substance use, increased use, and preferred substance (tranquilizers, inhalants) among adolescent females provide substantial validation that researchers need to refine, rework, and reframe traditional theoretical approaches. Researchers must also develop innovative theories that can be used to guide substance-related research with adolescent females in general and with ethnically diverse adolescent females in particular.

One such approach begins with the idea that ethnicity and gender are not independent variables to be controlled for during analysis. Instead, ethnicity and gender are essential constructs. The inclusion of ethnicity and gender as theoretical constructs validates the importance of putting behavior in context rather than viewing it as solely biological in nature or as a set of isolated actions. Ethnicity and gender then become central constructs that must be defined within the framework and operationalized within the research design.

Several questions arise from the analysis in this publication that researchers in the area of adolescent substance use need to pose to ensure that prevention, treatment, and research design are gender-specific, ethnically relevant, and age/developmentally appropriate. For example, when considering race and ethnicity in research design, the following questions should be posed: Are race and ethnicity viewed as biological constructs or social constructs? Are these two terms viewed as interchangeable or synonymous? Are they conceptualized within the proposed framework? Are they independent variables?

The answers to these questions will help frame the design, the expected outcomes, and the potential to advance scientific knowledge. For example, to view race and ethnicity as separate, yet interdependent, social constructs that are conceptualized within the framework helps to expand scientific knowledge related to race and ethnicity.

Further, the way these constructs are conceptualized within the framework is important because it provides the basis from which to interpret the results. If, for example, race is viewed from the biological perspective -- that is, based on visible characteristics such as skin color and facial features -- then the results support the perspective that they are presumed genetic differences.

The genetic difference perspective attempts to explain away a person's disadvantage or lack of opportunity by a distorted perception of superiority, which in turn leads to marginalization of the person and the specific racial group. If race is viewed instead as an ideological analysis of social relationships rather than a category of the biological world, race becomes a predictor of political power differentials and limited access to resources and opportunities.

The conceptualization of ethnicity also is important. Specifically, is ethnicity viewed as a broad umbrella category that is static in nature, or does the conceptualization reflect a complex multidimensional construct

that explores at least three dimensions: cultural norms and attitudes; the strengths, salience, and meaning of individuals' ethnic identity (sense of belonging); and the individuals' experience as a minority and the consequences (Phinney, 1996)?

Another key point to consider in developing a gender-specific framework for substance use research is the idea that adolescent females as a group cannot be viewed as at risk. Taylor, Gilligan, and Sullivan (1995), however, have raised the questions of “precisely what they are at risk for; and of equal importance, what strengths, skills, and strategies have they developed along with these risks” (p. 23).

Hence, it is important to focus attention away from the risk being “within” the adolescent female and focus on the social conditions and environments that increase adolescent females' vulnerability. The framework should focus on explicating health-related outcomes. Additionally, the framework should include the construct of health, behaviors that enhance health (protective factors), and behaviors that compromise health.

Implications for Prevention and Treatment Programs The utility of developing a gender-specific framework is widely debated among many researchers, academicians, and practitioners. The debate has generally centered on whether the gender-specific approach is unrealistic because it is too costly to develop separate frameworks and whether a gender-specific approach would become similar to the male-dominant view.

However, as in the argument above about research, the usefulness of a gender-specific framework and the need to develop one to guide substance use prevention programs for adolescent females have been substantiated by the shifting trend in substance use among adolescent females, as well as the decrease in disparity in prevalence rates between male and females, especially among adolescents between the ages of 12 and 17. These factors, coupled with the more frequent and intense health-related consequences of substance use for adolescent females, especially for ethnically diverse females, signal the need for not only gender-specific but also ethnically and culturally relevant prevention, and treatment programs.

Future programs must have a clear understanding of: (1) how race, class, ethnicity, and environment intersect and influence the gender process; (2) how the gender process directly or indirectly is experienced by adolescents in general and by ethnically diverse adolescent females in particular; (3) how the consequence of gender socialization affects female adolescents' perception of global and domain-specific self-efficacy; (4) the extent to which lesbian and disabled females may be at risk for substance use; and (5) how perception of capabilities influences adolescent females' likelihood of engaging in health-related or health-compromising behaviors.

Fully exploring these areas when designing or enhancing prevention or treatment programs has far-reaching potential for offsetting the increase in incidence and prevalence rates among ethnically diverse adolescent females.

Overview and Conclusions Because of the many physical, emotional, and social changes youth must undergo in adolescence, there is no question that it is a time of great stress and difficulty. “With the exception of infancy, no time of life compresses more physical, intellectual, social, emotional, and moral development into so brief a span.” (Carnegie Council on Adolescent Development, 1992, p. 9).

Interdisciplinary scientific approaches, as well as knowledge derived from the understandings by adolescent females themselves of their strengths, problems, and community resources, need to be incorporated into research priorities and policy initiatives for the prevention and treatment of substance use and abuse among female adolescents.

By applying a developmental perspective to the creation of programs, services, and interventions for women, we begin with a grounding in adolescent females’ development. This framework embraces the concept of continuous growth and must address the fundamental concern of how race, ethnicity, class, and environment intersect to enhance protective or health-compromising influences on girls.

A significant body of human behavioral, substance-related research on adolescents may be inherently biased in that there is little or no accounting for gender or ethnic differences. Hence, the purpose of this guide has been to posit that adolescents are a diverse group, and that ethnicity and gender are key multidimensional and intense forces within American society that have the potential not only to influence but also to enhance both practitioners’ and researchers’ understanding of adolescents generally and, in particular, of the initiation, continuation, and consequences associated with substance use among adolescent females.

If we are to stop the spiraling use of alcohol and drugs among adolescent females, prevention, intervention, and tobacco treatment programs must begin to acknowledge, to value, and to respond to the diverse backgrounds of adolescent females by ensuring that their programs address ethnicity and gender.

Before that can occur, however, there must be improvements in data collection and reporting. Key to effective program development are up-to-date and accurate data on female adolescents’ substance use patterns. It is critical that national data currently being gathered are analyzed and reported by gender and ethnicity. Moreover, it is necessary to improve collection of gender- and ethnic-specific data and to assess the interaction of gender and ethnicity on substance use among female adolescents. Armed with these data, program developers can be more confident that their programs are relevant and appropriate for their female adolescent target populations.

For example, a program that focuses on adolescent females should be based on an understanding of relational struggles and concerns associated with substance use and abuse. More specifically, it should reflect how relational expression of emotions and stress influence substance use, and how young girls in balancing autonomy and relatedness may experience a crisis in their connections that may manifest itself in the use of substances.

In addition, such programs should be geared toward initiating interventions before or at the beginning of the first decade (10 years of age), because this is when young girls are likely to lose their voice in order to

maintain relatedness. Finally, the programs should focus on developing healthy ties with peers, family, mothers or “other mothers,” and mentors. Then these programs would foster safe environments in which adolescent females speaking and listening to each other would be valued and encouraged. Such programs also might focus on assertiveness in communication, resiliency, and facilitating skills that can be practiced within safe and supportive environments.

Another example might be a gender-specific smoking prevention program that would include a baseline assessment of such influencing factors as mother’s smoking patterns, girl’s sense of attachment to mother, and parental supervisory patterns and their relationship to young females’ social activities patterns. In addition, the initial assessment would include questions on whether the female is concerned about her weight and on her usual pattern of coping with feelings of sadness and fear (Guthrie, 1997).

Finally, practitioners should refine, evaluate, or develop future programs by involving youth in the development of the programs. This does not mean the quick and easy use of focus groups but rather the incorporation of a youth board to provide ongoing consultation. Programs should be designed in light of the specific community’s general infrastructure, focusing on building bridges with the community and other community-based agencies that provide services to adolescents (Guthrie, 1997).

In conclusion, substance abuse prevention and treatment programs should articulate the specific details of the programs in terms of educational and behavioral outcomes and anticipated benefits (short-term, long-term, or delayed). The intended population should be described in detail, and baseline measurements should be taken and reported on all participants.

It is important to include a detailed description of the attrition pattern and its impact on all participants. All outcomes should be reported for all groups, not just those groups that are reaching statistical significance.

The programs also should focus on balancing strengths and problems, community resources, developmental tasks and transitions, and everyday “isms” such as racism, sexism, and classism and how these interplay among and are influenced by ethnicity, gender, and environmental contexts. Such an integration provides a more holistic approach to substance use prevention and therefore has the potential to have long-term efficacy.

The purpose of this publication was to present the epidemiological research, suggest new theoretical frameworks for understanding female adolescent substance use, and to make recommendations for further research, as well as for the design and implementation of prevention strategies and treatment protocols. This material is intended for use by substance abuse and mental health professionals involved in the design and/or implementation of intervention and treatment programs, and may help users to create new theoretical models to use in those programs.

It is hoped that the knowledge of gender and ethnic considerations may contribute to the design of practicable and pertinent substance abuse prevention and treatment programs that will effectively deter adolescent females in our diverse communities from substance abuse.

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