

# *GENDER LABELS AND GENDER IDENTITY AS PREDICTORS OF DRUG USE AMONG ETHNICALLY DIVERSE MIDDLE SCHOOL STUDENTS*

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*This article examines the intertwined roles of gender labels (male/female) and gender identity in predicting drug-use behaviors and experiences of middle school students in a large, ethnically diverse, southwestern city. Three dimensions of gender identity are derived through factor analysis, one relating to femininity and nurturance, another relating to masculinity and self-confidence, and a third relating to masculinity and dominance. In bivariate and multivariate tests the authors find that masculine dominance is associated with higher frequency of recent drug use, particularly for boys' use of marijuana and hard drugs, with more drug offers and a greater variety of drugs used over their lifetimes. Gender identity measures do not supersede gender labels in predicting drug outcomes, but they are shown to be more powerful predictors in combination than separately. Possible relationships between gender identity and early adolescents' relationships with their ethnic groups, families, peers, groups of reference, and school environments are discussed.*

**Binary conceptions of gender** are often employed to examine and describe drug-use and drug-resistance patterns. Just as ethnicity has been used as a marker to differentiate drug-use patterns among culturally diverse groups, gender differences have been reported in drug-use prevalence, incidence, and a variety of drug-use determinants. Dichotomous male and female categories, referred to in this article as gender labels, are helpful in identifying broad differences among populations. But these labels may oversimplify the complex nature of gender

identity and mask the role that gendered processes play in drug use (Bartle & Sabatelli, 1989; Jones & Hartmann, 1988; Jones, Hartmann, Grochowski, & Glider, 1989). In the same way that studies of ethnic differences in drug use have been criticized for approaching ethnicity in an “unsophisticated” way that ignores multiple identities and multiple dimensions to ethnic identity (R. Collins, 1995; Trimble, 1995), dichotomous male and female categories may also fail to capture the complex nature of gender identity (Koestner & Aube, 1995; Spence, 1993).

Investigations of drug-use behaviors typically recognize neither heterogeneity within gender groups nor the multiplicity of factors that make up gender identity. Even rarer are studies that look at interactions between gender labels and gender identity and their possible relationship to drug use among ethnically diverse populations. This study utilizes multidimensional gender-identity measures to examine the intertwined roles of gender labels and gender identity in drug use among an ethnically diverse, early adolescent population in a southwestern U.S. city.

#### **GENDER LABEL VERSUS GENDER IDENTITY**

This article uses *gender label* to refer to the dichotomous categories of male and female, the information commonly collected with forced-choice questions that ask respondents to indicate their sex, gender, or simply, Are you male or female? This binary conception of gender reflects a taken-for-granted view of humans as inherently male or female by virtue of their genetic or biological makeup, despite the reality that an appreciable portion of the population has ambiguous primary or secondary sex characteristics (Fausto-Sterling, 1992).

In contrast, the concept of *gender identity* refers to a subjective sense of maleness/masculinity or femaleness/femininity and the constellations of traits, attitudes, and behaviors that make up this aspect of social identity and personality. Although a single model of gender identity has yet to be adopted, the two most common approaches in the literature link gender identity either to personality traits or to culturally defined gender roles. The first approach has distinguished the gender identity of Western men and women by contrasting the degree to which they exhibit a set of instrumental “masculine” traits (e.g. as-

sertiveness, self-confidence) or expressive “feminine” traits (e.g., nurturance, considerateness)(Bem, 1974). The other approach has focused on the distinctive attitudes and behaviors that our society commonly associates with each sex, measuring the extent to which participants legitimize and/or enact these distinctive gender roles (Koestner & Aube, 1995). We blend these two approaches, adopting a concept of gender identity as a fundamental sense of maleness/masculinity or femaleness/femininity that is based both on distinctive traits and behavioral orientations. This concept of gender identity allows for the possibility that men and women may develop identities with both masculine and feminine facets, and that there are multiple ways to formulate these identities. Developments in the conceptualization of gender identity are discussed more fully below.

#### **GENDER LABELS AND DRUG USE**

Gender labels—the binary categories of male and female—have frequently been used to describe differences in an individual’s ability to resist drug offers and to refuse drug use. For example, females at high risk for drug use have been found to be significantly better at verbalizing effective refusals than low-risk females, whereas the opposite abilities characterize male smokers (Clayton, Cattarello, Day, & Walden, 1991). Other research has found gender differences among adolescents from different ethnic groups in the likelihood of experiencing drug offers and the situational context of the offer (Moon, Hecht, & Jackson, 1999). Although adolescent boys and girls appear to face equal peer pressure to accept an initial offer (Alberts, Hecht, Miller-Rassulo, & Krizeck, 1992), females in general receive more pressure to use drugs when they initially resist (Hecht, Alberts, & Miller-Rassulo, 1992; Moon et. al., 1999).

Gender labels have also emerged as important predictors in epidemiological studies of drug prevalence and incidence. By the time they are high school seniors, males use more types of drugs than females do, and they use them more frequently (Johnston, O’Malley, & Bachman 1994). There is an especially pronounced gender gap in the same direction for marijuana use (Mayer & Ligman, 1989; Newcomb & Bentler, 1986). Although 8th-grade girls report using greater amounts of inhalants, stimulants, and tranquilizers than their male counter-

parts, the boys equal the girls' use of these substances by 10th grade (Johnston et al., 1994). Females begin smoking earlier than males (Chassin, Presson, Montello, Sherman, & McGrew, 1986), but males reportedly experiment earlier with harder drugs (Hser, Anglin, & McGlothlin, 1987). Boys and girls appear to develop different patterns of drug use and drug-use disorders (Griesler & Kandel, 1998; Warner, Kessler, Hughes, Anthony, & Nelson, 1995). Motivations for using drugs also appear to differ somewhat by gender, with males more likely than females to use drugs to enhance mood and creativity (Newcomb, Chou, Bentler, & Huba, 1988). In addition, parental influences on drug use affect boys and girls differentially. For example, cigarette smoking among mothers influences their daughters' smoking behavior more than their sons' (Kandel & Wu, 1995).

#### **GENDER IDENTITY AND DRUG USE**

Gender identity has not attracted a large degree of attention in drug research, certainly not in comparison to examinations of differences by gender label. When gender identity has been examined, however, the findings have alternated between the provocative and the equivocal. For example, both male and female youngsters who adopt flexible, less sex-typed behaviors appear more resilient to early onset of drug use (Werner, Smith, & Garmezy, 1982). More recent research has found that a masculine identity contributes to alcohol problems (D. McCreary, Newcomb, & Sadava, 1999). Masculinity has been associated with alcohol use for males but not for females, whereas femininity has been linked to less drinking for both genders (Chomak & Collins, 1987). Similar research has reported that both men and women with more masculine and fewer feminine traits are more likely to engage in drinking behavior (Ricciardelli, Williams, & Kiernan, 1998; Williams & Ricciardelli, 1999), although previous research found few relationships between gender identity and alcohol consumption for women (Zucker, Battistich, & Langer, 1981). Differences have also been found among drug offers and refusals for males and females who adhere strongly to social norms regarding how to think and act in ways that are consistent with gender roles (Deutsch, Zalenski, & Clark, 1986; Hecht, Trost, Bator, & MacKinnon, 1997).

Studies that have defined gender identity using sets of desirable and undesirable masculine and feminine traits have found that high scores on undesirable masculine traits are related to greater alcohol dependence and disinhibition (Ricciardelli et al., 1998; Williams & Ricciardelli, 1999). Young men and women also attribute different character traits to smokers and nonsmokers, suggesting that smoking behavior has different meanings and appeals for male and female adolescents (Amos, Gray, Currie, & Elton, 1997). Young male smokers are more likely than nonsmokers to consider themselves as tough, wild, and arrogant and to aspire to those traits. Young female smokers, depending on their age, rate themselves as more sexy/sexuctive, trendy/fashionable, wild, and cool.

Researchers have also investigated possible connections between drug use and a person's attitudes and beliefs about appropriate male and female behaviors, or gender roles. Traditional attitudes toward men's gender roles have been found to relate positively to alcohol use for men and relate inversely for women. Such gender role attitudes appear to play a larger role in predicting alcohol use than gender-identified personality traits (Huselid & Cooper, 1992). Among the beliefs of men that best predict their alcohol consumption are that men should be in high-status positions, should avoid anything that would appear feminine, and should act in physically or emotionally tough ways (D. McCreary, et al., 1999). Traditional gender-role attitudes among males are also related to delinquent or drug abuse behaviors, which the authors label "externalizing behaviors," but not to "internalizing behavior," such as psychological distress or low self-esteem (Huselid & Cooper, 1994). Traditional attitudes toward appropriate gender roles for women do not relate to either category of behaviors by females.

Gender differences are also reported in drug-refusal skills (Clayton et al., 1991; Hecht et al., 1997). This may be due to differing communication skills and differences in the way that men and women use and interpret speech (Tannen, 1990). As a social category, gender affects how adolescents are socialized (Bussey & Bandura, 1999; Chodorow, 1978; P. Collins, 1986; Gilligan, 1982), how they experience life, and how they communicate with each other and with significant adults (Wood, 1994). Some research suggests that drug and alcohol refusals may be more difficult for girls who are socialized as caretakers (Aronson, 1992; Hochschild, 1983) and those who are defined to a

great extent by their relationships with boys (Wood, 1994). Drug offers and refusals also differ for male and female adolescents who adhere strongly to social norms regarding appropriate gender roles (Deutsch et al., 1986). Such differences in socialization and communication between males and females may have significant implications for drug-use prevention (Moon et al., 1999). These differences, however, appear to also be mediated by ethnicity (Marsiglia, Kulis, & Hecht, 2001). If one accepts the premise that gender identity is socially constructed and enforced (Koestner & Aube, 1995), ethnicity also needs to be considered when exploring gender differences in drug use.

#### **GENDER LABELS, GENDER IDENTITY, AND DRUG USE ACROSS ETHNIC GROUPS**

The increasing ethnic diversity of our society—well reflected in this study's sample—needs to be recognized when investigating the impact of gender identity on youth drug use. Research generally indicates that there is more widespread drug use among majority than minority youth (Griesler & Kandel, 1998; Moon et. al., 1999), and that drug use is more prevalent among males than females across all ethnic groups (Wallace, Bachman, O'Mally, & Johnston, 1995). The generally comparable size of gender gaps in drug use within ethnic groups suggests that gender differences alone cannot account for ethnic differences in reported drug use by youth. Although gender differences do not explain ethnic variations in the prevalence of drug use, the nature of these gender differences and their cultural underpinnings do appear to vary markedly across ethnic groups. These differences have sometimes been attributed to variations in the degree to which masculine and feminine identities are polarized (Prendergast, Maton, & Baker, 1989).

As the interaction of ethnic identity and gender identity receives more attention, there is increasing evidence that members of different ethnic groups rank and rate the desirability of male and female attributes in different ways (De Vita & Haverkamp, 1997); that foreign-born and ethnic minority adolescents in the United States respond to greater exposure to Western majority culture by selectively adopting the majority's notions of masculinity and femininity while still retain-

ing some traditional notions (Abu-Ali & Reisen, 1999), and that the process of gender identity is intimately linked to the process of acquiring an ethnic identity (Ossana, Helms, & Leonard, 1992; Parks, Carter, & Gushue, 1996; Poindexter-Cameron & Robinson, 1997). For ethnic minorities, gender-role conflict (unclear or inconsistent cultural expectations of how males and females should think and act) and difficulties in formulating a gender identity appear to be intensified when their ethnic identities are less well developed (Wade, 1996).

In the case of some Latino/Latina communities and other socially conservative minority groups, polarized gender identities appear to match equally polarized gender roles that sharply distinguish how men and women are expected to think and act (Marsiglia, 1998). Research on gender, acculturation, and alcohol consumption among Mexican Americans has found that males consume about twice the amount of alcohol that women do and have a higher rate of using many types of drugs (Alaniz, Treno, & Saltz, 1999). Mexican American adolescents and adolescents from other ethnic minority groups are often confronted with contradictory gender norms at home and at school (Marsiglia & Holleran, 1999) as they go through major changes in parental and peer influences and are increasingly exposed to drug use (Chassin et al., 1986).

Although the main focus of this article is not to explore ethnic differences in gender-identity processes, we think it is important to remember that ethnic minorities—and Latinos in particular—constitute a majority of our respondents and that their gender-identity processes may differ appreciably from those of the majority culture. For this reason we empirically derive gender-identity measures from the responses of our sample of ethnically diverse preadolescents rather than directly borrowing gender-identity instruments developed from majority samples.

#### CONCEPTUALIZING AND MEASURING GENDER IDENTITY

Although social pressure to formulate a clear male or female identity makes it rather easy to prompt respondents to reveal their designated or adopted gender label, gender identity is difficult to grasp conceptually or to measure. Several bodies of literature have considered gender identity taking different approaches (Frable, 1997). The clini-

cal literature refers to gender identity as the individual's psychological sense of being male or female and uses the concept to study gender-identity origins of children with inconsistent biological sex markers and gender-identity disorders. The developmental literature is concerned with the means by which individuals come to understand themselves as being male or female (Eaton & Von Bargen, 1981; Kohlberg, 1966). Finally, the social, personality, and sociological literatures attempt to understand the social origins and social meanings of gender identity and see gender as a social construct.

Several definitions have emerged from these bodies of literature. Gender identity has been defined as a "fundamental existential sense of one's maleness or femaleness" and a "primitive, unarticulated concept of self, initially laid down at an essentially pre-verbal stage of development and maintained at an un verbalized level" (Spence, 1993, pp. 79-80). Gender identity has been defined as "the structured set of gendered personal identities that results when the individual takes the social construction of gender and the biological 'facts' of sex and incorporates them into an overall self-concept" (Sherif, 1982, p. 512). Another definition states that "Gender identity includes personal and social attributes, social relationships, interests and abilities, symbolic and stylistic behaviors, and biological/physical/material attributes" (Frable, 1997, p. 144).

Other conceptualizations of gender identity in the social-personality literature relate to the awareness of and feelings for gender categories, self-concepts that are based on gender roles, and the social constraints that may expand or inhibit an individual's possibilities. The most common measurement approach associates gender identity with socially desirable personality traits of stereotypical Western men and women (Bem, 1974). These traits are characterized as having either a masculine instrumental orientation (assertive and self-confident) or a feminine expressive orientation (considerate and gentle). The Sex-Role Behavior Scale measures a more narrow aspect of gender identity called "gender roles" (Koestner & Aube, 1995), such as behaviors that are stereotypically associated with males or females.

Over the past several decades, the conception of gender identity has moved away from a unifactoral model that saw identity as either masculine or feminine to one suggesting that an individual can have both masculine and feminine attributes (Bem, 1974; Spence, 1993). Using

the latter approach, individuals who score high on only one set of attributes are considered sex-typed, individuals who scored low on both scales are considered undifferentiated, and those who score high on both scales are considered androgynous. Other researchers have suggested that gender identity cannot be adequately described even with two-factor models. Spence and Sawin (1985) suggest that gender identity is composed of various categories of gender-related attitudes, traits, interests, preferences, and behaviors that fall into four domains: (a) gender identity or one's basic sense of masculinity or femininity, (b) instrumental and expressive personality traits that are considered by Western culture to be stereotypically male or female, (c) gender-related interests, role behaviors, and attitudes, and (d) sexual orientation. This approach was tested in terms of gender development, personal adjustment, and interpersonal relationships, and it was found to have considerable usefulness (Koestner & Aube, 1995).

Gender identity is a complex construct that interacts with a wide variety of issues such as psychological well-being (Whitley, 1983), body image (Cash, Ancis, & Strachan, 1997), sexual behavior (Walsh, 1995), and decision making (Radecki & Jaccard, 1996). Studies that have related gender to a wide variety of outcomes, including drug use, most frequently define gender identity as a collection of masculine or feminine personality traits, traits such as confidence, bossiness, or approval seeking. Helgeson (1994, p. 412) summarized the underlying constructs that distinguish masculinity and femininity across many gender-identity scales as "agency" (focus on self and forming separation) versus "communion" (focus on others and forming connections). Using this definition, relationships have been found between gender identity and self-esteem (Whitley, 1983), sexual behavior (Walsh, 1995), decision making (Radecki & Jaccard, 1996), empathy (Karniol, Gabay, Ochion, & Harari, 1998), and loneliness (Cramer & Neyedley, 1998). Another common approach links gender identity to traditional versus egalitarian views of women's (and occasionally men's) place in society (Kalin, Heusser, & Edwards, 1982).

Some recent work has attempted to combine all these approaches to conceptualizing and measuring gender identity, utilizing multidimensional scales that encompass notions of agency, traditional gender-role attitudes, and gender-role stress (D. McCreary, Newcomb, & Sadava, 1998). Our study adopts exactly this approach. Although gen-

der differences in drug-use behavior and its determinants have been studied frequently, what is less clear is how drug use relates to gender identity and how gender identity might be implicated in drug use in ways that differ for males and females. This study utilizes multidimensional masculinity and femininity scales to examine the relationship between gender labels, gender identity, and drug use among an ethnically diverse group of middle school students.

## METHOD

Data were gathered during spring of 1996 from middle school students in a large southwestern city who were part of a larger sample in a multischool survey involving three school districts in the city. One English or English-as-a-second-language (ESL) class was selected from each of 15 randomly selected middle schools in these districts. University-trained survey proctors administered a 45-minute questionnaire, available both in English and Spanish. Students were told that this was a university research project and were guaranteed confidentiality. All students present on the day of survey administration agreed to complete the questionnaire. Those absent from class on the day of the survey administration were not contacted. Students were randomly presented with one of three questionnaires, all of which addressed various drug-use outcomes and predictors. One of these three questionnaire forms contained self-reports on gender-typed attitudes, feelings, and behaviors, and it is the responses to this form of the questionnaire that we analyze in this article. Excluding those who failed to report key demographic information (gender, race/ethnicity, age), there are 404 respondents. The students in the sample ranged from 10 to 15 years of age, but 86% were either 12 or 13 years old. There were nearly equal numbers of boys (52%) and girls (48%). When self-identifying with an ethnic label, the largest ethnic groups in the sample were Mexican Americans (47%) and non-Hispanic Whites (23%).

The questionnaire consisted of a demographic section and a series of Likert-type and dichotomous subscales aimed at capturing students' self-identities and their experiences with alcohol, tobacco, and other drugs. The questionnaire included the following categories of questions that we analyze in this article.

*Drug use in the last month.* A set of dependent variables was constructed from questions about the frequency of recent drug use, modeled after questionnaire items used by Flannery, Vazsonyi, Torquati, & Fridrich (1994). These measures were chosen due to their developmental specificity for the age group being studied and their similarity to scales used in other large studies of early adolescent drug use (e.g., Griesler & Kandel, 1998; Newcomb & Bentler, 1986). Students were asked to indicate how often in the past month they had done each of the following: smoked cigarettes or used any tobacco product, drunk alcohol, used uppers, smoked marijuana, and used hard drugs such as hallucinogens, crack, or downers. We transformed the categories of the original responses into estimates of the number of days they had used each drug in the past month. Participants said whether they had used the drug on 1 to 2 days (coded 1.5), 3 to 7 days (coded 5), 8 to 14 days (coded 11), or 15 or more days (coded 20), or not at all (coded 0). Preliminary analysis revealed that few students used uppers so we present results solely for use of alcohol, tobacco, marijuana, and hard drugs. In addition to examining use of these substances individually, we also combine scores for these four variables, taking their mean, in order to examine a comprehensive measure of drug use in the last month.

*Drugs ever offered and used.* Students also were asked how many of seven different substances they had ever been offered in their lifetimes and how many of these they had ever used at least once. The substances were cigarettes/tobacco, beer/wine, hard liquor, marijuana, hard drugs (cocaine, crack, LSD, heroin), uppers (speed, meth), and inhalants (gas, spray, glue). Responses to these items were combined into two indexes, one measuring the number of different drugs they had ever been offered and another indicating the number of these drugs they had ever used in their lifetime.

*Age at first use.* Students reported when they had started using each of four substances—alcohol, cigarettes, marijuana, and hard drugs. We analyze the age at which they had first begun using any of these substances. Nonusers are excluded from these analyses.

*Response to last drug offer.* After indicating whether anyone had ever offered “any drug to you, including cigarettes, glue, alcohol or

harder drugs,” students then reported how they responded to the most recent offer, indicating whether (1) “Yes, this is about the same as what I said/did,” or (0) “No, this isn’t even close to what I said/did.” Students could report using one or more of several resistance strategies for dealing with drug offers (Alberts et al., 1992; Alberts, Miller-Rassulo, & Hecht, 1991; Hecht et al., 1992). We analyze three of the most typical responses as dichotomous variables: simply saying no, refusing by offering an excuse or explanation (e.g., “I’m driving”), and taking or buying the offered drug.

*Gender and gender identity.* The respondent’s gender label was measured from an item asking students to check their “sex (female or male).” Gender-identity measures were constructed from 20 questions at the end of the questionnaire that asked students to describe their gender-typed traits and behaviors using five Likert-type response categories (*strongly disagree* = 0, *disagree* = 1, *neutral* = 2, *agree* = 3, *strongly agree* = 4) (see Table 1). These questions include 10 items designed to map femininity and 10 mapping masculinity. Using exploratory factor analysis, we created summary gender-identity measures that reduced the 20 items to three orthogonal factor scores using a maximum likelihood solution. This factor analysis employed the entire sample of boys and girls together. All 10 of the items designed to capture feminine traits and behaviors loaded on a single factor indicating degree of nurturance, empathy for others, emotional expressivity, and preference for “things that girls and women do.” These items describe aspects of femininity that Helgeson (1994) refers to as a sense of “communion,” and we label this factor Nurturant Femininity. The remaining 10 items broke down into two factors that measured masculine orientations. The first of these included items indicating self-confidence (being sure of one’s abilities, defending and expressing even unpopular views) as well as sports competence and competitiveness. Interestingly, the item indicating a preference for doing “things that girls and women do” actually loaded more strongly, and in inverse fashion, on this masculinity factor than on the single femininity factor. The first masculinity factor may be interpreted as combining aspects of self-confidence, a positive athletic image, and the rejection of the feminine. We call it Confident Masculinity, in short. A second masculinity factor cohered around five items indicating dominance or con-

**TABLE 1**  
**Component Items and Factor Loadings**  
**for Gender-Identity Scales ( $n = 398$ )**

	<i>Nurturant Femininity</i>	<i>Confident Masculinity</i>	<i>Dominant Masculinity</i>
I care about what happens to others.	0.627	0.319	0.003
When someone's feelings have been hurt, I try to make them feel better.	0.716	0.202	0.008
I am a warm person.	0.763	0.077	0.098
I am a kind and caring person.	0.805	0.086	0.071
I like babies and small children a lot.	0.556	0.162	-0.088
I am a gentle person.	0.755	0.056	0.144
I am a cheerful person.	0.701	0.158	0.236
When I like someone, I do nice things for them to show them how I feel.	0.519	0.223	0.122
It makes me feel bad when someone else is feeling bad.	0.637	-0.231	0.136
I like to do things that girls and women do.	0.439	-0.447	0.342
When I play games, I really like to win.	0.008	0.464	0.350
I am sure of my abilities.	0.174	0.699	0.228
I stand up for what I believe in.	0.323	0.639	0.191
I am good at sports.	0.159	0.475	0.387
It's easy for me to tell people what I think, even when I know they will probably disagree with me.	0.277	0.485	0.422
I can control many of the kids in my class.	-0.135	-0.063	0.766
When a decision has to be made, it's easy for me to take a stand.	0.044	0.242	0.624
I am a leader among my friends.	0.102	0.147	0.733
I make a strong impression on most people I meet.	0.182	0.270	0.597
I am good at taking charge of things.	0.269	0.329	0.623
Eigenvalues	6.13	2.67	1.34

trol over others and leadership ability, which we label Masculine Dominance. This factor also taps aspects of what Helgeson (1994) and others have called agency.

The same three factors emerged for both girls and boys when we performed separate factor analyses by gender label (results not presented) and with nearly identical factor loading patterns. The only noteworthy difference was that a weak fourth factor emerged, center-

ing on different items for girls and boys. For females the fourth factor loaded heavily only on agreement/disagreement that "When I play games, I really like to win." For boys, the fourth factor involved rejection of the feminine: agreement/disagreement that "I like to do things that girls and women do." Because the similarities in the factor analyses were overwhelming and the differences involved marginal factors cohering around a single item, our tests for gender-identity effects use the three factor scores that emerged from the combined analysis of boys and girls.

*Racial/ethnic group.* In multivariate analysis we introduce a set of dummy variables to control for ethnic/racial differences in drug use and drug exposure. These variables are based on a question asking respondents to "Indicate your ethnic group" by selecting one of the following six groups: Chinese/Chinese American, Japanese/Japanese American, Black/African American, Mexican American/Hispanic/Chicano/Latino, White or Anglo-American, Native American or American Indian, mixed heritage. The largest self-identified ethnic/racial group in the sample was Mexican Americans (47%), followed by non-Hispanic Whites (23%), those of mixed heritage (12%),<sup>1</sup> and African Americans (12%). Due to small numbers, in analysis we collapsed into one group the students who self-identified as American Indian ( $n = 19$ ), Chinese American ( $n = 14$ ), or Japanese American ( $n = 10$ ). Together, these groups composed only 6% of the sample.

*Other control variables.* We also enter age and self-esteem as control variables in multivariate analysis. Older students are generally at higher risk of using drugs, and middle school is a critical time when many students first become exposed to drugs. Current age in years was calculated from the student's birth date, which they recorded on the questionnaire. Self-esteem has been raised as a factor in drug use, with a possibly direct protective role and/or a mediating role in explaining gender and ethnic/racial differences in drug use (M. McCreary, Slavin, & Berry, 1996; Phinney 1991). Empirical support for self-esteem as a direct determinant of drug use is inconclusive (Schrueder, Laflin, & Weis, 1993), with some studies finding a link (Howard, Walker, Walker, Cottler, & Compton, 1999; M. McCreary et al., 1996; Resnicow, Soler, Braithwaite, Selassie, & Smith, 1999) and others

finding no correlation between self-esteem and drug use (Felix-Ortiz & Newcomb, 1995; Laflin, Moore-Hirschl, Weis, & Hayes, 1994; Moore, Laflin, & Weis, 1996). Many of these studies have been conducted with samples tilted heavily toward majority youth. Linkages between self-esteem and drug use may be stronger for ethnic minority youth, as suggested by studies of Latinos (Warheit et al., 1995). With most of our respondents self-identifying as ethnic minorities, we control for self-esteem in our multivariate results to ensure that gender-identity variables are not acting as proxies for an important resiliency factor in preventing drug use among ethnic minorities.

A measure of self-esteem was created using five questions from Rosenberg's (1965) Self-Esteem Scale. The respondents indicated the degree to which they agreed (*strongly disagree* = 0, *disagree* = 1, *neutral* = 2, *agree* = 3, *strongly agree* = 4) that they felt they "have a number of good qualities," "do not have much to be proud of," "take a positive attitude toward" themselves, are satisfied with themselves, and "at times think I am no good at all." Before calculating the mean of the five items, the coding of the two negatively phrased items was inverted. In confirmatory factor analysis (not presented), all five of the component self-esteem items cohered around a single strong factor.

*Analysis strategy.* We present results that compare drug-use patterns for students of different genders and those scoring lower or higher on the three gender-identity factors. Significant group differences are analyzed through *t* tests, analysis of variance, and ordinary least squares regressions. In tabular presentations of results, the three gender-identity factor scores are dichotomized at their means, but in regressions the full range of values for the factor scores are employed. Stepwise regression analysis is employed to explore the joint role of gender labels and gender identity in predicting drug use and exposure, specifically whether gender label or gender identity supersedes the other as predictors and whether they operate together in additive or interactive fashion. We also use interaction effects in regression analyses to address the question of whether certain combinations of the three realms of gender identity are more strongly linked to drug-use patterns. The regressions enable us to do one more thing, to control for differences in the frequency of drug use for students of different ages, racial/ethnic groups, and levels of self-esteem. We do not control for

socioeconomic status because the survey was conducted in schools where most of the students come from poor homes and qualify for reduced or free lunch programs. Given our reliance on very young respondents, attempts to make socioeconomic distinctions based on their self-reports of parental income and/or occupation would be subject to unacceptably high unreliability.

## RESULTS

Descriptive statistics and selected correlations for all dependent and independent variables are presented in Table 2. Of all the types of drugs, students used alcohol and tobacco most frequently in the prior month, on average 3.7 and 3.3 days, respectively. Marijuana was used about half that often and hard drugs the least often. The average student reported that he or she had at some time been offered and had used about two different drugs, and those having used drugs began use at about 10 years of age. After the last time drugs of any kind were offered, about 44% of the students simply said no, 27% took or bought the drug, and 28% refused by offering an excuse or explanation.

In Table 2, the bivariate correlations between drug outcomes and the continuous predictors suggest that of the three gender-identity measures, Dominant Masculinity is the only one related to frequent recent drug use. It is also positively related to the number of drugs ever offered and ever used. Students scoring high on the Nurturant Femininity scale and those with high self-esteem scores reported having been offered and having used fewer types of drugs, whereas older students reported more drugs offered and used. The correlations with the dichotomous measure of gender label are suggestive of the link between gender label and gender identity. Boys reported higher scores for Confident Masculinity but lower scores for Nurturant Femininity. The Dominant Masculinity scale was not strongly related to gender labels. The three gender-identity scales, although constrained by the factor analysis to be uncorrelated with each other, are all positively correlated with self-esteem, especially Confident Masculinity and Nurturant Femininity. In contrast, they are not very strongly correlated with any of the dichotomous racial/ethnic variables, although on the measure of Confident Masculinity, African Americans tend to

TABLE 2  
Means, Standard Deviations, and Selected Correlations for Variables in Analysis

	n	M	SD	<i>Correlations with</i>						
				<i>Nurt. Fem.</i>	<i>Conf. Masc.</i>	<i>Dom. Masc.</i>	<i>Self-Esteem</i>	<i>Age</i>		
Last month										
Alcohol	402	3.658	6.796	-0.029	-0.066	0.128***	-0.012	0.063		
Tobacco	403	3.266	6.653	-0.006	-0.041	0.032	-0.012	0.050		
Marijuana	403	1.610	4.761	-0.029	-0.008	0.171***	-0.058	0.130***		
Hard drugs	402	0.740	3.454	0.026	-0.062	0.089*	-0.037	0.063		
Mean frequency	404	1.971	3.537	-0.016	-0.070	0.142***	-0.042	0.097**		
No. drugs offered	404	2.292	2.023	-0.165***	0.006	0.243***	-0.128***	0.297***		
No. drugs used	404	1.762	1.709	-0.174***	-0.026	0.201***	-0.182***	0.284***		
Age first used drugs	273	9.577	2.114	-0.052	-0.089	-0.092	0.016	-0.045		
"No" to last drug offer <sup>a</sup>	346	0.436	0.497	0.023	0.037	0.008	0.109**	0.015		
Took/bought drug <sup>a</sup>	342	0.269	0.444	-0.021	-0.026	0.133**	-0.074	0.126**		
Explained refusal <sup>d</sup>	340	0.285	0.452	-0.021	-0.086	0.018	0.005	0.097*		
Gender label <sup>b</sup>	400	0.523	0.500	-0.317***	0.281***	0.016	-0.021	0.090		
Nurt. Fem.	404	0.000	1.000	—	0.000	0.000	0.273***	-0.052		
Conf. Masc.	404	0.000	1.000	0.000	—	0.000	0.314***	0.078		
Dom. Masc.	404	0.000	1.000	0.000	0.000	—	0.119**	0.147***		
Self-esteem	404	2.857	0.706	0.273***	0.314***	0.119**	—	-0.014		
Age	399	12.632	0.752	-0.052	0.078	0.147***	-0.014	—		

African Amer. <sup>a</sup>	404	0.109	0.312	-0.024	0.159****	0.077	0.039	0.074
Mexican Amer. <sup>a</sup>	404	0.451	0.498	-0.034	-0.098**	-0.002	-0.058	0.063
Mixed race <sup>a</sup>	404	0.116	0.321	0.051	0.061	-0.033	0.054	-0.049
Asian/Amer.	404	0.065	0.247	0.048	-0.094*	0.009	-0.095*	0.012
Non-Hisp. White <sup>a</sup>	404	0.215	0.411	-0.002	0.041	-0.012	0.033	-0.058

NOTE: Nurt. Fem. = Nurturant Femininity; Conf. Masc. = Confident Masculinity; Dom. Masc. = Dominant Masculinity; Amer. = American; Hisp. = Hispanic.

a. Yes = 1, no = 0.

b. Male = 1, female = 0.

\* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .01$ . \*\*\*\* $p < .001$ .

have somewhat higher scores whereas Mexican Americans, Asians, and American Indians have somewhat lower scores.

Table 3 investigates the joint impact of gender label and gender identity by contrasting means on all drug outcomes for those who fell above and below the average on each of the three gender-identity measures, with boys and girls treated separately. Two kinds of *t* tests were performed to identify significant group differences: among students with the same gender label, contrasts between those who scored above versus below the mean on a specific gender-identity measure (e.g., males scoring high vs. low on Nurturant Femininity); and among those scoring in the same direction on a particular gender-identity measure (either above or below the mean), contrasts between those with different gender labels (e.g., between males and females all of whom scored above the mean on Nurturant Femininity). The results fall into two general patterns. The first is that gender differences in drug use generally are more salient than differences on two of the gender-identity measures, Nurturant Femininity and Confident Masculinity. Boys with low Nurturant Femininity as well as those with low Confident Masculinity tend to use drugs more frequently, use more types of drugs, and begin use at earlier ages than girls who are also low on the same scales. An exception here is that girls high on Nurturant Femininity use hard drugs more frequently and begin use at earlier ages than girls with low Nurturant Femininity scores, but they are also more likely to refuse a recent drug offer with a simple no. A similarly mixed pattern appears among girls with higher Confident Masculinity scores. They use alcohol less than other girls with less Confident Masculinity and they are more likely to simply refuse a recent drug offer, but they report having used more types of drugs.

The second pattern appears in the last set of rows where boys with high Dominant Masculinity scores report more drug use and exposure both in comparison to other boys with lower Dominant Masculinity scores and in comparison to girls with the same level of Dominant Masculinity and often in comparison to both of these groups. These boys scoring in the higher range of Dominant Masculinity used each of the four substances more frequently in the past month, were offered and used more types of drugs, began use at earlier ages, and were more likely to accept a recent drug offer. They were, however, also more likely to provide an explanation or excuse as a strategy for refusing a

TABLE 3  
Means and *t* Tests of Drug Use and Drug Exposure by Gender Label and Three Measures of Gender Identity

	<i>n</i>	Last Month							Age <i>1st Use</i>	"No" to <i>Last Offer</i>	Took/ Bought <i>Drug</i>	Refused With <i>Explanation</i>
		Alcohol	Tobacco	Marijuana	Hard Drugs	<i>M Monthly Drug Use</i>	No. Drugs Ever Offered	No. Drugs Ever Used				
Nurturant Femininity												
Female, low	70	2.69	1.97	1.05	0.06	1.23	2.24	1.66	10.95 <sup>ab</sup>	0.37	0.2	0.23
Female, high	121	3.58	2.85	1.4	0.65 <sup>a</sup>	1.79	1.98	1.37	10.32	0.52 <sup>ab</sup>	0.24	0.24
Male, low	123	3.76 <sup>bb</sup>	3.77	1.85	0.92 <sup>bb</sup>	2.20 <sup>bb</sup>	2.72 <sup>a</sup>	2.07 <sup>b</sup>	10.11	0.44	0.32	0.30
Male, high	86	4.13	4.05	1.86	0.97	2.35	2.17	1.90	9.89	0.39	0.29	0.37 <sup>b</sup>
Confident Masculinity												
Female, low	128	3.79 <sup>a</sup>	2.61	1.21	0.48	1.71	2.06	1.60 <sup>a</sup>	10.42	0.41	0.23	0.27
Female, high	63	2.16	2.37	1.40	0.34	1.32	2.10	1.22	10.95 <sup>bb</sup>	0.57 <sup>a</sup>	0.21	0.18
Male, low	83	4.21	4.00	2.10	1.42 <sup>b</sup>	2.53 <sup>b</sup>	2.66 <sup>bb</sup>	2.13 <sup>bb</sup>	10.16	0.39	0.34	0.36
Male, high	126	3.71 <sup>b</sup>	3.81	1.70	0.62	2.08	2.38	1.90 <sup>bb</sup>	9.94	0.44	0.28	0.31 <sup>b</sup>
Dominant Masculinity												
Female, low	104	2.40	2.37	1.04	0.52	1.34	1.77	1.43	10.55	0.44	0.17	0.27
Female, high	87	4.25 <sup>aa</sup>	2.71	1.55	0.33	1.87	2.44 <sup>aa</sup>	1.53	10.58 <sup>bb</sup>	0.49	0.29 <sup>a</sup>	0.21
Male, low	109	3.04	3.19	1.08	0.75	1.67	2.00	1.50	10.08	0.46	0.21	0.29
Male, high	100	4.86 <sup>a</sup>	4.64 <sup>b</sup>	2.70 <sup>aa</sup>	1.15 <sup>b</sup>	2.90 <sup>aa</sup>	3.03 <sup>aa</sup>	2.53 <sup>aa</sup>	9.97	0.38	0.39 <sup>aa</sup>	0.36 <sup>bb</sup>

a. Among those with same gender label but opposite gender identity scores, this mean is significantly higher ( $p < .10$ , <sup>aa</sup> .05).

b. Among those with different gender labels but same gender identity score, this mean is significantly higher ( $p < .10$ , <sup>bb</sup> .05).

drug offer. As is the case for boys, girls with higher Dominant Masculinity scores also report more frequent use of alcohol, more types of drug offers, and a higher likelihood of accepting the most recent drug offer than girls with lower scores.

The patterns in Table 3, although highly suggestive of the impact of certain aspects of gender identity, do not account for other factors that are known to affect drug use and exposure. The multivariate regression models in Table 4 introduce controls for age, race/ethnicity, and self-esteem when predicting the number of days in the previous month that students had used each of four substances. Three equations are presented for each substance: one for boys and girls combined, which assesses the impact of gender label while controlling for gender identity, and then two separate equations for boys alone and girls alone.

Two more equations were examined but are not presented here. The first of these assessed the effect of gender label without the gender-identity measures but with the other control variables included. Results for these equations (e.g., unstandardized coefficients, significance levels) were essentially the same as those in the equations that do include gender-identity measures. That indicated that gender-identity measures do not account for or supersede the effects of gender label in predicting frequency of drug use. The other equations that are not presented included interaction effects of gender label and gender identity. These interactions identified the statistically significant differences between girls and boys in the size of the coefficients for the three gender-identity measures, which are indicated in Table 4 with superscript *b* placed between the separate columns for boys and girls.

Table 4 shows that boys tend to use all substances more frequently than girls, and significantly so in the case of tobacco and hard drugs, even controlling for the three gender-identity scales. In contrast, only one of the gender-identity scales is clearly implicated in frequency of drug use. The Nurturant Femininity scale is not significantly related to frequency of use of any drug for girls, boys, or the sample as a whole. Confident Masculinity is generally associated with less frequent drug use, but its impact is statistically significant only in the case of more confident boys who use tobacco less often. In contrast, those with higher Dominant Masculinity scores tend to use all substances more frequently. These effects are significant for girls' use of alcohol but not for boys. But the coefficient for boys approaches that of girls, and the

**TABLE 4**  
**OLS Regression Predicting Number of Days in the Last Month Respondent Used Various Drugs**

	Alcohol			Tobacco			Marijuana			Hard Drugs		
	All	Female	Male	All	Female	Male	All	Female	Male	All	Female	Male
	<i>b</i> <sup>a</sup>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>	<i>b</i>
Gender <sup>f</sup>	0.765			1.817**			0.414			0.619*		
Nurt. Fem.	-0.129	-0.028	-0.294	0.213	0.756	-0.228	0.007	0.442	-0.317	0.267	0.384	0.183
Conf. Masc.	-0.624	-0.513	-0.707	-0.744*	-0.150	-1.108**	-0.056	0.046	-0.173	-0.272	-0.237	-0.354
Dom. Masc.	0.795**	0.890*	0.708	0.123	-0.211	0.282	0.805***	0.378 <sup>b</sup>	1.163***	0.262	0.016 <sup>b</sup>	0.483**
Age	0.162	-0.113	0.269	0.363	-0.378	0.879	0.406	0.536	0.260	0.035	0.255	-0.121
African Amer.	0.854	-0.129	1.639	1.336	0.891	1.892	1.164	-1.428	3.695***	1.514**	-0.673	3.595****
Mexican Amer.	1.473	1.019	1.901	0.150	0.017	0.342	0.724	0.042	1.553*	-0.185	-0.571	0.311
Mixed race	0.223	-0.800	1.131	0.269	-0.851	0.951	1.614*	0.712	2.601**	0.558	0.487	0.761
Asian/Amer. Indian	-0.019	1.566	-1.563	-1.943	-0.356	-3.555	-0.378	-0.510	-0.305	-0.750	-1.027	-0.304
Self-esteem	0.083	0.196	-0.116	-0.014	-0.119	-0.026	-0.576	-0.637	-0.401	-0.305	-0.338	-0.108
Intercept	0.245	3.720	-0.114	-2.237	7.500	-7.103	-2.759	-3.630	-1.915	0.625	-1.635	2.119
<i>n</i>	373	177	195	374	178	195	374	178	195	373	177	195
R <sup>2</sup> 0.035	0.035	0.048	0.029	0.017	0.058	0.056	0.037	0.129	0.055	0.045	0.130	

NOTE: Nurt. Fem. = Nurturant Femininity; Conf. Masc. = Confident Masculinity; Dom. Masc. = Dominant Masculinity; Amer. = American.  
a. Unstandardized regression coefficient.  
b. Coefficients for boys and girls significantly different, from regressions (not presented) with gender label by gender identity interaction effects.  
c. Male = 1, female = 0.  
\**p* < .10. \*\**p* < .05. \*\*\**p* < .01. \*\*\*\**p* < .001.

interaction effects indicated that the effect of Dominant Masculinity for girls was not statistically different than for boys. Dominant Masculinity is even more effective in pinpointing use of marijuana and hard drugs. Only the boys with higher Dominant Masculinity scores use these drugs significantly more frequently, and the effect for boys is significantly larger than for girls. Also of note is that the models predicting boys' use of marijuana and hard drugs explain appreciably more variance than any other model, and the Dominant Masculinity variable plays a major explanatory role, second only to ethnic/racial effects.

Table 5 examines the summary measures of drug use and exposure with the same sequence of regression models as in Table 4. Here the results show an overall tendency for boys to use more types of drugs, more frequently and at earlier ages, than girls do. Net of these effects of gender label, the gender-identity effects fall into a pattern reminiscent of Table 4—widely scattered and gender-specific effects of Nurturant Femininity and Confident Masculinity, and a more powerful and comprehensive set of effects for Dominant Masculinity. Boys with higher Nurturant Femininity scores report fewer types of drug offers, but girls with higher Nurturant Femininity scores began drug use at earlier ages. Boys with more Confident Masculinity report less frequent recent drug use across a range of substances.

Boys with higher Dominant Masculinity scores report significantly more frequent recent drug use as well as a greater variety of drugs offered and used over their lifetimes. So do their female counterparts, significantly so in the case of number of drugs offered. However, the effect of Dominant Masculinity on variety of drugs ever used is significantly larger for boys than girls. Again, the models generally are better at predicting drug use and exposure for boys than for girls, with the exception of age of initiation into drug use.

Students' responses to their last drug offer are analyzed in a series of logistic regression models in Table 6. The log odds (with 1.0 indicating even odds) suggest that compared to girls, boys are less likely to simply say no, more likely to accept the drug offer, but also more likely to refuse with an excuse or explanation. Only the last of these effects is statistically significant. The gender-identity measures have an impact on responses to drug offers only for girls. Degree of Nurturant Femininity is not significantly related to girls' nor to boys' responses

**TABLE 5**  
**OLS Regression Predicting Summary Measures of Drug Use and Exposure**

	Mean Days Used Drugs Last Month						No. of Drugs Ever Offered						No. of Drugs Ever Used						Age 1st Began Using Drugs					
	All		Female		Male		All		Female		Male		All		Female		Male		All		Female		Male	
	a	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	b	
Gender <sup>c</sup>	0.801**						0.109						0.394**											
Nurt. Fem.	0.093	0.295	-0.079				-0.217**	-0.074				-0.334**	-0.124	-0.021										
Conf. Masc.	-0.407**	-0.290	-0.502*				0.049	0.124				-0.037	-0.025	-0.055										
Dom. Masc.	0.467**	0.248	0.646**				0.494**	0.432**				0.523**	0.380**	0.188 <sup>b</sup>										
Age	0.204	0.097	0.239				0.725**	0.687**				0.749**	0.582**	0.424**										
African Amer.	1.199*	-0.370	2.635**				-0.286	-0.860†				0.328	-0.212	-0.276										
Mexican Amer.	0.451	0.060	0.879				0.280	0.016				0.597*	0.400*	0.174										
Mixed race	0.646	0.026	1.235				0.293	0.049				0.519	0.360	0.033										
Asian/Amer. Indian	-0.676	-0.211	-1.112				0.656	0.725				0.655	0.341	0.346										
Self-esteem	-0.234	-0.170	-0.250				-0.357**	-0.442*				-0.241	-0.393**	-0.554**										
Intercept	-0.730	0.785	-0.784				-6.063**	-5.154*				-6.841**	-4.917**	-2.354										
n	375	178	196				375	178				196	375	178										
R <sup>2</sup>	0.058	0.020	0.115				0.192	0.152				0.233	0.207	0.130										

NOTE: Nurt. Fem. = Nurturant Femininity; Conf. Masc. = Confident Masculinity; Dom. Masc. = Dominant Masculinity; Amer. = American.  
a. Unstandardized regression coefficient.  
b. Coefficients for boys and girls significantly different ( $p < .05$ ), from regressions (not presented) with gender label by gender identity interaction effects.  
\*  $p < .10$ . \*\*  $p < .05$ . \*\*\*  $p < .01$ . \*\*\*\*  $p < .001$ .

TABLE 6  
**Logistic Regression Predicting Responses to Last Drug Offer**

	Said "No"			Took or Bought Drug			Refused With Explanation		
	All Log Odds	Female Log Odds	Male Log Odds	All Log Odds	Female Log Odds	Male Log Odds	All Log Odds	Female Log Odds	Male Log Odds
Gender <sup>a</sup>	0.696			1.572			1.920**		
Nurt. Fem.	0.924	1.136	0.778	1.039	1.477	0.871	0.968	0.838	1.114
Conf. Masc.	1.091	1.498*	0.831 <sup>b</sup>	0.868	0.902	0.809	0.751*	0.504**	1.018
Dom. Masc.	1.000	1.147	0.816	1.401**	1.508*	1.306	0.985	0.881	1.160
Age	1.034	1.036	1.037	1.416**	1.348	1.494*	1.295	1.733*	1.046
African Amer.	1.096	0.567	2.282	0.630	0.311	1.125	0.586	1.354	0.230*
Mexican Amer.	1.251	1.065	1.870	0.729	0.654	0.870	1.152	1.350	0.981
Mixed race	0.848	0.569	1.265	1.246	0.790	1.584	1.792	2.102	2.045
Asian/Amer. Indian	1.401	1.670	1.158	0.659	0.515	1.046	4.185*	1.132	19.512**
Self-esteem	1.354	1.217	1.546	0.812	0.405**	1.316	1.282	2.186**	0.931
<i>n</i>	324	152	172	320	149	171	317	149	168
-2 log likelihood	437.6	201.2	225.2	360.4	146.6	203.3	359.6	149.4	191.9

NOTE: Nurt. Fem. = Nurturant Femininity; Conf. Masc. = Confident Masculinity; Dom. Masc. = Dominant Masculinity; Amer. = American.

a. Male = 1, female = 0.

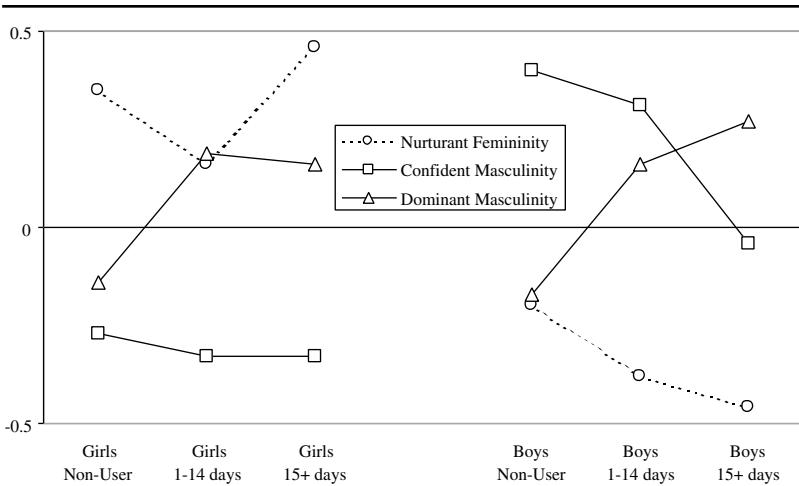
b. Coefficients for boys and girls significantly different ( $p < .05$ ), from equations (not presented) with gender label by gender identity interaction effects. \* $p < .10$ . \*\* $p < .05$ . \*\*\* $p < .001$ .

to drug offers. Girls with more Confident Masculinity are more likely to say no, a significant departure from their male counterparts, and they are also less likely to refuse with an explanation or excuse. Girls scoring higher on Dominant Masculinity are more likely to accept the drug offer, but this effect is not significantly higher than the effect for boys (which, although nonsignificant, is in the same direction and nearly the same size as for girls). So, although Confident Masculinity is clearly a factor that is linked to girls saying no without excuses or explanations, Dominant Masculinity appears to be a risk for accepting drug offers in ways that are similar for boys and girls.

To summarize the variations in drug-use patterns by gender label and gender identity, Figure 1 divides the sample into those who used no drugs (alcohol, tobacco, marijuana, uppers, inhalants, hard drugs) in the previous month, those using up to half of the days, and those using heavily on most of the days. The chart indicates the mean gender-identity scores for each of these three groups, reported separately for females and males. Boys score very low on the Nurturant Femininity scale regardless of their level of drug use, but the heaviest male users have the lowest scores. Among females, moderate users score lowest, and heavier users score the highest on Nurturant Femininity. These trends are partially reversed for the Confident Masculinity scale. Female respondents have very low means on Confident Masculinity without regard to their drug-use rate, whereas the male nonusers score highest in the Confident Masculinity scale and the heaviest users score the lowest. The third gender identity measure, Dominant Masculinity, does not follow a gender-label-specific pattern as the other two but appears to vary directly with drug use. Both nonuser girls and boys have relatively low Dominant Masculinity means, which then increase to similar thresholds for occasional or moderate users. Heavily using boys, however, have the very highest Dominant Masculinity means.

## DISCUSSION

Gender labels (male/female) by themselves appear to be more salient in explaining differences in self-reported drug use than two of the three gender-identity measures we examined. Boys used more drugs, they used them more frequently, and they were overrepresented



**Figure 1: Mean Gender Identity Factor Scores by Gender and Most Frequent Drug Use Last Month**

among users of marijuana and hard drugs. However, one gender-identity measure—Dominant Masculinity—is positively related to drug use, often for both boys and girls. Gender labels and gender-identity measures are also linked together: Boys reported higher scores on the Confident Masculinity measure and lower scores on the Nurturant Femininity measure. When controlling for age, race/ethnicity, and self-esteem, gender-identity measures did not account for nor supersede the effects of gender label in predicting frequency of drug use. But net of these other factors, Dominant Masculinity appears to be a particularly important additional predictor of drug use, especially for boys. In addition, those respondents whose gender identity fails to conform to traditional stereotypes sometimes have recognizable drug experiences. For example, boys with higher Nurturant Femininity scores reported fewer drug offers, and girls with higher Confident Masculinity were more likely to simply refuse drug offers.

These findings support the premise that both gender labels and gender identity are important predictors of drug use. Although the gender-identity measures used in this study may not capture the whole spectrum of gendered experiences of boys and girls, they nevertheless point to some interesting links. The Dominant Masculinity measure

appears to be related to power and risk taking. It is possible that boys and girls prove their maturity, defiance, and authority to their peers through using drugs. Who are these boys and girls? What motivates these adolescents to use more drugs? Is it their leadership roles, efforts to control others, a need to demonstrate defiance, to take risks, and ultimately, a search for group acceptance? We hypothesize that when in group situations and perhaps group leadership situations, including membership in youth gangs, gender labels alone do not explain differences between boys and girls. Masculinity-linked gender-identity traits emerge as a characteristic of boys and some girls who use drugs more frequently. Perhaps they have joined groups where drug use is positively sanctioned, or perhaps due to their young age they are experimenting as a way to move past their possible "wannabe" status. Defiance of authority, engaging in illegal activity, and experimenting with drugs may not be individualistic behaviors but rather may be a part of a rite of passage that brings acceptance into the group. More research, including ethnography, is needed about the lives of these students, their drug-use behaviors, norms, and attitudes, and the meanings they attach to those behaviors.

The results also underline the need for further research that attempts to better understand how young women and men perceive their gender identity in connection with their drug-using behaviors. It is also important for future research to continue to involve large numbers of minority youth in order to further ascertain how the interplay of ethnic minority cultures and gender-identity processes combine in influencing drug use among adolescents. Future explorations of gender-identity and drug-use issues might also profit from investigating androgyny, which may serve as a potential protective factor against drug use for both males and females (Moon et al., 1999; Werner et al., 1982). Gender identity may be interrelated with other potential risk and resiliency factors such as the absence of positive male role models, lack of structure, parental supervision, independence, difficult childhood mood or temperament, childhood emotional distress, behavioral problems, school failure, low academic achievement, relationships with drug-using peers, alienation, self-efficacy, problem-solving skills, personal goals, nurturing, and humor (Moon et al., 1999). Clearly, much remains to be done to properly locate the role of gender identity in the etiology of youth drug use, but our findings indi-

cate that research may need to go beyond gender labels to understand how drug use is gendered among today's youth.

These findings also have implications for schools and community centers where youth naturally congregate. There is a need to examine how adults in facilitating positions communicate with youth about gender-identity issues. Do those institutions provide sufficient alternatives for youth of both genders to express themselves freely, or are they limited to traditional binary definitions of gender identity? It appears that small group settings under the guidance of an adult facilitator are needed for youth to communicate with peers about their own ideas about self and their own construction of their gender identities. Lack of understanding and support may lead to negative behaviors such as drug use. Providing youth with safe forums in which to communicate, be supported, and gain awareness about the shared nature of their identity journeys can be a powerful prevention tool against drug use.

## NOTES

1. It is important to remember that Mexican American youth constitute the numerical majority in the schools and neighborhoods for this sample. However, in reporting patterns in our findings we include them as ethnic minority students to highlight contrasts with non-Hispanic White students. The relatively sizable group of mixed-ethnicity students also raises questions about the use and the interpretation of such a mixed-ethnicity label in a southwestern environment. Latinas/Latinos or Hispanics are by definition a multiethnic group. Given what we know about the ethnic composition of the schools and classrooms in our sample, we strongly suspect that many of the mixed-ethnicity students are, in fact, Mexican or Mexican American students rather than more conventionally defined mixed-race individuals (i.e., African American father and White mother). The terms *mestizo* or *la raza* are commonly used by those of Mexican ancestry to identify themselves as an amalgamation of their Spanish and Amerindian roots (Schaefer, 2000). However, in analysis we have followed a strategy of maintaining the self-identified mixed-heritage group as one that is distinct from Mexican Americans.

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