

Ethnicity versus Ethnic Identity: What Predicts Substance Use Norms and Behaviors?

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ABSTRACT. Although researchers often incorporate various measures of ethnicity and ethnic identity (EI) into research about substance use, the relationships among ethnicity, EI, and substance use remain unclear (Marsiglia, Kulis, & Hecht, 2001; Phinney, 1996). This paper explores whether ethnicity and three EI instruments are useful in predicting substance use outcomes among three samples of ethnically diverse middle school youth. Findings include that age, gender, and/or racial or ethnic group membership influenced the strength of EI and that age, sex, and strength of EI influence substance use norms and behaviors. In each case where significant effects were obtained, a stronger sense of EI as measured by two of the instruments predicted more negative attitudes toward, and less use of, alcohol, cigarettes, and marijuana. Implications for preventing substance use among middle school youth by building on and strengthening ethnic identity are provided. doi:10.1300/J160v06n03_06 [Article copies available for a fee from The Haworth Document Delivery Service: 1-800-HAWORTH. E-mail address: <docdelivery@haworthpress.com>

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INTRODUCTION

Research about drug-related attitudes and behaviors among early adolescents has found differences among youth from different ethnic groups (Hecht, Trost, Bator, & MacKinnon, 1997). For example, a study of Asian, Black, Latino, and White middle school students found that White and Latino youth reported more use of cigarettes, alcohol, and marijuana than did Asian and Black youth (Epstein, Botvin, Griffin, & Diaz, 1999). Another study found that Mexican American youth are more likely to use substances than are Mexican youth (De La Rosa, Khalsa, & Rouse, 1990). In addition to playing a role in the prevalence of substance use, ethnic and racial influences have been found to influence the effectiveness of substance use prevention (Centers for Disease Control, 1998). Although researchers often incorporate various measures of ethnicity and ethnic identity into research about alcohol, cigarette, marijuana, and other substance use, the relationships among ethnicity, ethnic identity, and substance use remain unclear (Marsiglia, Kulis, & Hecht, 2001; Phinney, 1996). A better understanding of these relationships will aid in the development of effective substance use prevention programs for adolescents (Castro, Proescholdbell, Abeita, & Rodriguez, 1999; Marsiglia et al., 2001; Phinney, 1996; Williams, Lavizzo-Mourey, & Warren, 1994).

The purpose of this research is to evaluate the reliability of three ethnic identity instruments and to explore whether they are useful in predicting substance use outcomes among three samples of ethnically diverse middle school youth. Findings from this study will allow us to better understand both the complexities of ethnic identity and ways in which this construct may be related to substance use outcomes. With this knowledge, we can better design culturally relevant substance-use prevention and intervention programs. We begin by reviewing the literature on acculturation, ethnic identity, and substance use, including a discussion of various conceptual and measurement approaches to ethnic identity. After describing our methodology, we present findings about the variables that influence youth's scores on three different ethnic identity measures and the effects of age, sex, and strength of ethnic identity on substance use norms and behaviors in three samples of middle school students. Based on these findings, we conclude with a discussion that

includes implications for measuring ethnic identity and preventing substance use among middle school youth from different ethnic groups.

LITERATURE REVIEW

Recent scholarship suggests that acculturation level or ethnic identity, rather than ethnic group membership, may be more important in understanding adolescents' use of various substances. Conceptualizing and measuring these constructs continues to be a difficult area for researchers (Beauvais, 1998). Some researchers have focused on acculturation as an important factor in understanding youth development, while others have viewed ethnic identity from social identity theory and ego identity perspectives (Umaña-Taylor, Diversi, & Fine, 2002). This section will discuss these various approaches to measuring ethnic identity and their possible relationships to substance use.

Acculturation Perspective

Acculturation refers to the changes that may occur due to an individual's contact with a different society. Acculturation is a complex process, involving changes in the values and attitudes related to both the culture of origin and those of European Americans (De La Rosa, 2002). Language use with parents, or "linguistic acculturation," is often used as a measure of adolescent acculturation. Of course, the languages other than English used with parents may better describe the acculturation levels of parents, rather than youth.

Acculturation and Substance Use

The majority of studies that seek to understand the relationship between ethnicity-related variables and adolescent substance use have been based on an acculturation perspective. It has been hypothesized that differences in the use of substances by youth of different levels of acculturation may be due to differences in norms and values regarding substance use, the level of expansiveness of peer social networks, degree of exposure to pro-substance use images in mainstream media, and differences in parental monitoring (Caetano, 1987; Dalton et al., 2003; Epstein, Botvin, & Diaz, 1998; Escobar, 1998; Flannery, Williams, & Vazsonyi, 1999).

Studies about acculturation and Latina/o youth's use of substances such as alcohol, cigarettes, and marijuana have resulted in mixed findings, with one study finding that U.S.-born Latinos who were less acculturated had higher rates of initiation into substance use as compared with other Latinos (Vega, Gil, &

Wagner, 1998) and another study finding that less-acculturated foreign-born youth had the highest levels of initiation and experimentation with substance use (Katims, Zapata, & Yin, 1996). Studies also have found that more linguistically acculturated Latina girls tend to smoke more than less acculturated girls (Epstien, Botvin, & Diaz, 1998) and that higher levels of acculturation were associated with increased cigarette smoking among Latino 6th graders (Landrine, Richardson, Klonoff, & Flay, 1994). A study of Cuban American 6th and 7th grade boys, however, found no relationship between being Spanish-speaking and smoking cigarettes (Vega, Gil, & Zimmerman, 1993).

Studies about youth alcohol use have found that bilingual Latino adolescents use alcohol more than their more acculturated peers (Epstein, Botvin, & Diaz, 2000) and that young Latino adolescents who were Spanish speakers (i.e., those who were considered to be less acculturated) were less likely to have tried alcohol or drank less alcohol than other Latinos (Epstein, Botvin, & Diaz, 2000; Vega, Gil, & Zimmerman, 1993). Fewer studies have examined alcohol use among other youth (Strunin & Demissie, 2001). One study of 9th-12th graders in inner-city public schools found no association between alcohol use and cultural identification among Haitian or African American adolescents, but noted that these two groups had different patterns of use (Sturnin & Demissie, 2001).

Less research is available about acculturation levels and marijuana use. One study found that young Latino adolescents who spoke English with their parents were more likely to smoke marijuana than were youth who spoke only Spanish with their parents (Epstein, Botvin, & Diaz, 2001).

Some researchers have questioned conflating ethnic identity and acculturation because an increase in the level of acculturation does not necessarily mean the loss of the values and attitudes of one's culture of origin (Cuellar, Arnold, & Gonzalez, 1995; De La Rosa, 2002). Research has indicated, however, that these two constructs are related (Cuellar, Nyberg, Maldonado, & Roberts, 1997). For example, one study found that for adolescents of Armenian, Vietnamese, and Mexican descent, proficiency in the youth's ethnic group languages positively affected the strength of ethnic identity (Phinney, Romero, Nava, & Huang, 2001).

Ethnic Identity

Social identity theory (Tajfel & Turner, 1986) posits that one attributes value to and gains self-esteem from a sense of belonging to a social group (Phinney, Romero, Nava, & Huang, 2001; Roberts, Phinney, Masse, Chen, Roberts, & Romero, 1999). Ethnic identity measures reflecting this theory attempt to measure youth's sense of belonging to her or his ethnic group.

Erikson's (1968) developmental theory is an ego identity perspective that posits that, in adolescence, youth engage in exploration as they seek to develop a strong sense of identity. Ethnic identity measures based on this theory assess the amount of exploration in which an adolescent has engaged about her or his ethnic group.

While most measures of ethnic identity focus on only one ethnic group (e.g., Cuellar, Nyberg, Maldonado, & Roberts, 1997; Klonoff & Landrine, 1999; Resnicow, Soler, Braithwaite, Selassie, & Smith, 1999), some researchers have explored whether ethnic identity is a "general phenomenon with common characteristics across ethnic groups" (Roberts, Phinney, Masse, Chen, Roberts, & Romero, 1999, p. 302). A common characteristic across youth of color, for instance, is that they must develop an ethnic identity within a society that devalues and creates negative stereotypes about their ethnic groups (Spencer & Dornbusch, 1990).

The Multigroup Ethnic Identity Measure (MEIM) (Phinney, 1992) was developed for the purpose of measuring ethnic identity across diverse groups. Based on Erikson's (1968) developmental theory and Tajfel and Turner's (1986) social identity theory, the original 14-item MEIM comprised three subscales: Affirmation and Belonging, Ethnic Identity Achievement, and Ethnic Behaviors. Although Phinney (1992) intended the MEIM to measure three conceptual components of ethnic identity, studies examining the psychometric properties of the MEIM have found that two factors, distinct but related, emerge. These two factors have been identified as Affirmation/Belonging and Exploration (Roberts, Phinney, Masse, Chen, Roberts, & Romero, 1999) or as Identification and Exploration (Spencer, Icard, Harachi, Catalano, & Oxford, 2000). The Affirmation and Belonging (or Identification) factor is considered to be consistent with the social identity theory of Tajfel & Turner (1986) (Phinney, Romero, Nava, & Huang, 2001; Roberts, Phinney, Masse, Chen, Roberts, & Romero, 1999). Consistent with Erikson's (1968) developmental theory, the Exploration factor appears to assess adolescents' ethnic group exploration and may range from a lack of awareness of group membership to commitment to the group (Phinney et al., 2001; Roberts et al., 1999).

Not surprisingly, some studies have found that white adolescents score lower on the MEIM than do adolescents of color (Phinney, 1992; Phinney & Alipuria, 1990; Roberts et al., 1999; Spencer et al., 2000; Yancey, Aneshensel, & Driscoll, 2001), suggesting that white youth may have little reason to consider the effects of their own racial or ethnic group memberships. Spencer and colleagues (2000) also found that monoracial youth of color scored higher than multiracial youth on the MEIM.

Ethnic Identity and Substance Use

A youth's ethnic identity is posited to be associated with many aspects of adolescence (Worrell, 2000). As noted by Roberts and colleagues (1999), if ethnic identity affects "the ways in which adolescents come to view themselves, then it should follow that ethnic identity is important in understanding whether and the ways in which ethnic group membership might increase or decrease the vulnerability of adolescents to emotional and behavioral problems" (p. 319).

For example, several studies have found positive relationships between ethnic identity and self esteem (e.g., Lorenzo-Hernandez & Ouellette, 1998; Martinez & Dukes, 1997; Phinney, 1992; Phinney, Cantu, & Kurtz, 1997; Phinney & Chavira, 1992; Rotheram-Borus, Dopkins, Sabate, & Lightfoot, 1996), though research has led to conflicting results for those who are bicultural (e.g., Der-Karabetian & Ruiz, 1997). Different findings about the strength and effects of ethnic identity across various racial and ethnic groups may be due to different operational definitions of ethnic identity, differences in research settings, and the effects of grouping together multiple ethnic groups (e.g., combining Mexican Americans and Puerto Ricans into a "Latina/o" group) (Umaña-Taylor & Fine, 2001).

Apart from the literature using an acculturation perspective, scant research exists about the relationship between ethnic identity and various behaviors among youth. One study found direct or indirect negative relationships between strong ethnic identity and attitudes approving of fighting among African American and Latino/a middle school students (Arbona, Jackson, McCoy, & Blakely, 1999). Kulis, Napoli, and Marsiglia (2002) found a positive relationship between ethnic pride and anti-drug norms among Native American students. Further research is needed to better understand whether various ethnic identity measures are reliable in different situations and their relative usefulness in identifying relationships that may exist between ethnic identity and substance use.

In order to develop substance-use prevention and intervention programs that are effective with all youth, whether of color or white, we need to identify individual-, family-, and community-level variables that may influence youth's substance use. Because research suggests that ethnic identity may be related to substance use or nonuse, it is possible that it may be one important individual-level factor. It, therefore, is important to develop reliable measures in order to better understand this relationship. This study examines the reliability of three ethnic identity instruments designed for use with youth from diverse racial and ethnic groups, then explores whether youth's ethnic identity, as measured by these instruments, is related to norms about and use of cigarettes, alcohol, and marijuana. Such information can inform prevention efforts.

METHOD

Context

De La Rosa (2002) asserts that understanding the impact of cultural identity and acculturation on substance use requires an understanding of the effects of acculturation-related stress and of family-, individual-, and community-level factors, recognizing that each of these factors may have direct or indirect effects on substance use. It is thus important to consider context when conducting research about the strength and effects of ethnic identity.

This current study took place in the center of a Southwestern U.S. metropolitan area. Although the area is predominately non-Hispanic white, over a third of residents are Latina/o, and Latinas/os constitute a majority of public school students in the large city where the current study took place. The vast majority of these Latinas/os are of Mexican descent, ranging from recent immigrants to those whose ancestors have lived here for generations. Multiple First Nations ethnic groups live in the state, both in urban areas and on reservations. The metropolitan area has smaller populations of other Latinas/os, African Americans, and those of Asian and Pacific Islander descent.

The political climate during the period of this research included vocal anti-immigrant sentiment, perhaps best illustrated by an English Only movement aimed primarily toward native Spanish speakers (though other non-English language groups also were targeted) and increased efforts to halt immigration into the U.S. across its southern border. It is not known how this hostile political climate may have directly or indirectly affected the youth who participated in this study.

Study Participants and Questionnaire

Questionnaires were administered to three samples of 7th and 8th graders attending one multiethnic school in a primarily lower-socioeconomic community in the central city area. Passive parental consent was obtained prior to questionnaire administration. Sample 1 ($n = 346$) completed questionnaires in Fall 1999, and was a subsample drawn from a larger study ($N = 4,630$) of students from 35 metropolitan middle schools in which all 7th grade classrooms were sampled (see Hecht et al., 2003). Sample 2 ($n = 301$ among 8th graders) completed questionnaires in Fall 2001, and came from a study in which all 8th grade classrooms were sampled. Sample 3 ($n = 61$) is a subset of Sample 2 and includes students who completed a second questionnaire in Spring 2002 that contained a different set of ethnic identity items than those included in questionnaires administered to Samples 1 and 2. At the same time the remaining

members of Sample 2 completed a different version of the questionnaire that did not contain any ethnic identity items; therefore, they are not analyzed here. Although Sample 3 is much smaller than the other two, standard errors adjust for the sample size variations in all data analyses. All forms of the survey instrument offered an English and Spanish version back-to-back, and the students could opt to complete the survey in the language in which they were most proficient.

Demographic variables. The questionnaires for each sample included items about race/ethnicity, gender, and age (see Table 1). Youth were able to indicate “yes” or “no” to items asking whether they were members of each racial/ethnic group (i.e., African American; Mexican, Mexican American, or Chicana/o; Other Latina/o; Native American; Asian American or Pacific Islander; White [not of Hispanic origin]). Note that, because the largest Latina/o ethnic group residing in the community from which the samples were drawn is of Mexican descent, Latina/os were offered the option of identifying as being “Mexican American, Mexican, or Chicana/o” and/or being a member of an “other” Latina/o ethnic group.

A three-stage process was undertaken to create groups that were large enough for examination of the possible effects of racial/ethnic group membership while remaining conceptually sound. First, all youth who identified only as White were placed into one racial group (i.e., White-only). Second, we considered the hypothesis that youth whose primary ethnic identity is Mexican, Mexican American, or Chicana/o may identify also as White, African, Other Latina/o, and/or Indigenous (Native American) in recognition of the acceptance of mixed (*mestizo*) heritage in Mexican culture (Marsiglia, Kulis, & Hecht, 2001). Based on this hypothesis, and using the large sample ($N = 4,630$) from which Sample 1 was drawn, one-way ANOVAs were run to explore whether there were any differences on measures of the strength of ethnic identity or on substance use outcomes for youth who indicated that they were *only* Mexican, Mexican American, or Chicana/o compared with youth who indicated they were of Mexican descent as well as members of another ethnic/racial group. Because no significant differences were found, all these youth were placed into one category (i.e., Mexican descent). Because other individual racial/ethnic minority groups (African-, Native-, and Asian Americans) were so small both proportionally and in absolute numbers, they were placed into a single category (i.e., Other race/ethnicity), though we recognize that this latter category has limited use in interpretation. Using Mexican descent as the excluded reference group, dummy variables were created for White-only and Other race/ethnicity for purposes of regression analyses (described in the following text).

TABLE 1. Descriptive Statistics for Dependent and Independent Variables

Variable	Sample 1			Sample 2			Sample 3			
	N	M	%	N	M	%	N	M	%	SD
Personal Substance Use										
A/C/M use last 30 days	327	4.72		299	4.76		59	6.37		5.93
Lifetime use of A/C/M	342	7.09		226	7.82		58	10.07		7.21
Personal Norms										
OK to use A/C/M	340	10.00		295	10.01		54	9.57		2.48
Injunctive Norms										
Parental injunctive norms ^a	190	6.93		297	7.42		55	7.29		1.29
Friends' injunctive norms	307	8.75		292	8.70		56	8.00		2.98
Descriptive Norms										
How many users in school	346	4.95		249	7.55		50	7.54		3.17
Friends use regularly ^a	193	2.92		291	3.92		51	4.12		2.96
Personal Intentions										
Intended response if offered A/C/M	335	5.05		296	4.99		58	5.02		2.31
Race/Ethnicity ^b										
African American	42		12.1	41		13.6	9		14.8	
Mexican American	168		48.6	153		50.8	29		47.5	
Other Latino/a	19		5.5	40		13.3	6		9.8	
Native American	47		13.6	62		20.6	11		18.0	
Asian American or Pacific Islander	8		2.3	19		6.3	4		6.6	

TABLE 1 (continued)

Variable	Sample 1			Sample 2			Sample 3			
	N	M	%	N	M	%	N	M	%	SD
White	98		28.3	73		24.3	16		26.2	
Sex										
Female	169		48.8	160		53.2	36		59	
Male	175		50.6	141		46.8	25		41	
Age	345	12.49		301	13.36		61	13.57		.74

^aThe questionnaire administered to Sample 1 utilized a three-form design (Graham, Taylor, & Cumsille, 2001) that employed planned missingness on these two items to limit the number of items each student received in the questionnaire while maximizing the total number of items available for analysis. While core items were asked of all students, other items were distributed such that they appeared on only two of three questionnaire forms, which were given out to students at random. The planned missing design accounts for the approximately one-third of students who did not answer all items on these 2 scales in Sample 1.

^bStudy participants could select as many categories as applicable.

Ethnic identity scales. The research team developed two instruments intended for use with multiple ethnic groups (Marsiglia, Kulis, & Hecht, 2001). The instrument for Sample 1, based on a 1996 pilot study with adolescents, comprised 6 items (see Table 2) designed to measure three aspects of ethnic identity: Ethnic Behavior, Ethnic Pride, and Ethnic Negativity. Previous analysis of the 434 Native American students in the larger study of 35 schools found a positive relationship between Ethnic Pride and strength of anti-drug norms (Kulis, Napoli, & Marsiglia, 2002). For Sample 2, three additional items were added to the 6-item instrument and were again intended to measure Ethnic Behavior, Ethnic Pride, and Ethnic Negativity (see Table 2). A 10-item variation of the MEIM (Phinney, 1992; Roberts, Phinney, Mase, Chen, Roberts, & Romero, 1999) was administered to Sample 3 (see Table 2). This scale includes 7 items intended to measure Affirmation and Belonging and 3 items to measure Exploration. Although the validity of the particular combination of items on the 6- and 9-item scales used in Samples 1 and 2 have not been separately established, they reflect adaptations of items used in the MEIM, the validity of which has been demonstrated (see Roberts et al., 1999). Each item on each ethnic identity subscale had four response categories ranging from *Strongly Agree* to *Strongly Disagree*. Before creating simple additive scales, items were reverse coded as necessary so that higher scores always indicate a more positive or stronger sense about one's ethnic group membership. Thus, the Negativity subscales administered to Samples 1 and 2 hereafter are referred to as Non-Negativity subscales.

Substance-use outcome variables. Outcomes for the study included Likert-scaled measures of both actual lifetime and recent substance use, as well as important mediators of youth substance use: injunctive, descriptive and personal norms regarding substance use, and future intentions to use substances. The questionnaire for each sample included three items asking how many times the youth had used alcohol, cigarettes, or marijuana in the last 30 days (where 1 = *No use*, 2 = *Used once* and so on up to 9 = *More than 30 drinks, more than 20 packs of cigarettes, or more than 100 times smoking marijuana*) and three corresponding items regarding use in their lifetimes. These measures of *personal substance use*, with higher scores indicating more use, were modeled on items used by Flannery, Vaszsonyi, Torquati and Friedrich (1994) with a similar ethnic minority adolescent population. Following Cialdini, Reno, and Kallgren (1990), distinctions were made among three types of substance use norms: personal (what the individual thinks is right or wrong), injunctive (what the individual thinks others believe to be right or wrong), and descriptive (how many peers are thought to be using drugs). *Personal norms* were assessed with three items asking if the youth thought it is "OK" for someone their age to use cigarettes, alcohol, and marijuana, with a higher score indicating that it is not

TABLE 2. Ethnic Identity Scale Items^a

Sample 1

Ethnic behavior

1. I like to do things that people of my race/culture do.
2. I usually talk like other people from my race/culture.

Ethnic pride

3. If I could choose, I would still be of my race/culture.
4. I feel good about being from my race/culture.

Ethnic negativity

5. Sometimes I am embarrassed by the way people from my race/culture talk.
6. People from my race/culture do not know how to act.

Sample 2

Ethnic behavior

1. Most of my friends are of the same race or ethnic group as I am.
2. I like to do things that people of my racial or ethnic group do.
3. You can tell I am from my racial or ethnic group by the way I talk.

Ethnic pride

4. I feel good about being from my racial or ethnic group.
5. If I could choose, I would still like to be of my same racial or ethnic group.
6. Being a member of my ethnic or racial group is important to me.

Ethnic negativity

7. I wish I looked like I was from a different racial or ethnic group.
8. I have difficulty accepting some of the customs of my ethnic or racial group.
9. I am embarrassed by the way that people from my racial or ethnic group act.

Sample 3

Affirmation and belonging^b

1. I am happy that I am a member of my ethnic or racial group.
2. I have a strong sense of belonging to my own ethnic or racial group.
3. I have a lot of pride in my ethnic or racial group and its accomplishments.
4. I feel a strong attachment toward my own ethnic or racial group.
5. I feel good about my ethnic or racial background.
6. I understand pretty well what my ethnic or racial group membership means to me.
7. I have a clear sense of my ethnic or racial background and what it means for me.

Exploration^b

8. I have spent time trying to find out more about my own ethnic or racial group, such as its history, traditions, and customs.
 9. In order to learn more about my ethnic or racial background, I have often talked to other people about my ethnic or racial group.
 10. I think a lot about how my life will be affected by my ethnic or racial group membership.
-

^a Items in each scale had 4 response options ranging from Strongly Agree to Strongly Disagree. Selected items were reverse coded so that higher scores indicate more positive feelings about one's ethnic or racial group membership.

^b These items were selected from the MEIM (Phinney, 1992) and the Revised MEIM (Roberts, Phinney, Masse, Chen, Roberts, & Romero, (1999).

OK (Hansen & Graham, 1991). Two items measured *parental injunctive norms* (i.e., How angry would your parents be if you smoked cigarettes? and How angry would your parents be if you smoked marijuana?), and three items measured *friends' injunctive norms* (i.e., How friendly or unfriendly would your best friend be if you used alcohol, cigarettes, or marijuana?), with higher scores indicating angrier or less friendly expected reactions. *Descriptive norms* were measured with three items asking how many of their friends use alcohol, cigarettes, or marijuana at least once a month, and with two items asking about youths' perceptions of how many of her/his school peers use these substances, with higher scores indicating more users. *Personal use intentions* were assessed with three items asking about the likelihood (from definitely no to definitely yes) that the youth would accept offers of alcohol, cigarettes and marijuana, with a higher score indicating stronger intentions to accept.

Data Analysis

SPSS Version 11.5 for Windows was used for all analyses. After calculating descriptive statistics, Cronbach's alpha was determined for each of the three ethnic identity scales and their respective subscales and for each substance-use outcome scale. Means and standard deviations were calculated for each racial/ethnic group on each ethnic identity (EI) scale. Two series of multiple regression analyses then were run. First, controlling for the effects of age and sex, we examined whether racial/ethnic group membership (measured as being of Mexican descent, White-only, or Other), predicted scores on each EI scale. Second, controlling for age and sex, we examined whether and how strength of ethnic identity (EI scale), then racial/ethnic group membership, predicted scores on each of the eight substance-use outcome measures.

RESULTS

Sample Characteristics and Scale Reliability

Table 1 presents descriptive statistics for each substance-use outcome scale for each sample and comparisons on demographic variables. As seen in the table, the means and standard deviations for measures of injunctive norms and personal norms were similar across the three samples, but measures of personal substance use as well as descriptive norms depicting substance-using peers showed trends toward increasing use from Sample 1 to Sample 3. Because the first sample comprised 7th graders and the other two samples comprised 8th graders at different points in the school year, these differences may

be attributed to age and development related increases in substance use and exposure to it. The *t*-tests (not shown in tables) indicated that, on average, Sample 1 youth were younger than those in Sample 2 ($t = 17.9, df = 633, p < .001$), and those in Sample 2 were, in turn, younger than those in Sample 3 ($t = 2.1, df = 77, p < .05$). The younger Sample 1 youth perceived that fewer of their school peers and fewer of their friends used substances monthly than both the Sample 2 ($t = 5.6, 4.5; df = 52, 480; p < .001$) and Sample 3 youth ($t = 5.7, 2.7; df = 53, 62; p < .01$). Youth in Sample 3 also reported mean recent and lifetime substance use that was higher than that reported by Sample 1 ($t = 2.1, 3.0; df = 65, 66; p < .05$) and by Sample 2 ($t = 2.0, 2.2; df = 65, 74; p < .05$).

Table 3 presents descriptive statistics for each ethnic identity (EI) scale and the respective subscales. As seen in the table, the 6-item EI scale had a somewhat low Cronbach's α of .60, the expanded 9-item EI scale had a Cronbach's α of .76, and the adapted 10-item MEIM had a Cronbach's α of .92. Cronbach's α for the substance-use outcome scales (not shown in tables) ranged from .65 to .84 for Sample 1, from .71 to .92 for Sample 2, and from .52 to .92 for Sample 3. The lower Cronbach's α scores for substance use outcome scales were generally for two-item scales, but other scales had acceptable reliability.

Predictors of Ethnic Identity

Means and standard deviations by racial/ethnic group membership for each of the three measures of ethnic identity are shown in Table 4. One-way ANOVA tests yielded no significant differences in EI scores across these racial/ethnic categories in Samples 1 and 3 (Sample 1: $F = 1.691, df = 2, 335, p > .05$; Sample 3: $F = .415, df = 2, 48, p > .05$). Significant differences were found in Sample 2, however (Sample 2: $F = 4.475, df = 2, 284, p < .05$), with Sheffe's *post hoc* test indicating that White-only youth scored significantly lower than Mexican descent youth ($p < .05$).

Table 5 examines the relationships between ethnic group membership and ethnic identity measures through ordinary least squares (OLS) multiple regression analyses that control for age and sex. Older youth in Sample 1 reported weaker EI scores than those of younger respondents. Sex was a significant predictor of EI, with boys scoring lower than girls on the Non-Negativity subscale and on the overall EI measure. In addition, controlling for age and sex, White-only youth had significantly more negativity than did Mexican-descent youth.

There were two significant predictors for EI scores in Sample 2 (see Table 5). Controlling for age and sex, White-only youth scored significantly lower on the Behavior Subscales, the Pride Subscales, and on the overall EI score than

TABLE 3. Descriptive Statistics for Ethnic Identity Scales

Ethnic Identity Measure	<i>N</i>	<i>M</i>	<i>SD</i>	Cronbach's α
Sample 1				
6-Item Ethnic Identity Scale	340	18.95	2.80	.60
Ethnic Behavior Subscale (2 items)	342	5.73	1.36	.65
Ethnic Pride Subscale (2 items)	342	6.88	1.30	.66
Ethnic Non-Negativity Subscale (2 items)	343	6.31	1.49	.58
Sample 2				
9-Item Ethnic Identity Scale	266	27.74	4.53	.76
Ethnic Behavior Subscale (3 items)	283	8.13	2.03	.58
Ethnic Pride Subscale (3 items)	282	9.82	1.98	.69
Ethnic Non-Negativity Subscale (3 items)	280	9.70	1.90	.59
Sample 3				
Adapted 10-Item Multigroup Ethnic Identity Measure	53	31.11	6.59	.92
Affirmation and Belonging Subscale (7 items)	54	22.69	4.80	.93
Exploration Subscale (3 items)	55	8.60	2.36	.79

TABLE 4. Descriptive Statistics for Ethnic Identity Scales^a by Racial/Ethnic Group

Racial/Ethnic Group	Sample 1			Sample 2			Sample 3		
	<i>N</i>	<i>M</i>	<i>SD</i>	<i>N</i>	<i>M</i> [*]	<i>SD</i>	<i>N</i>	<i>M</i>	<i>SD</i>
Mexican American/ Mexican/Chicana/o	168	9.50	1.36	147	28.31	4.51	26	30.35	6.87
White only	76	9.24	1.42	44	26.20	4.50	10	32.50	5.08
Other race/ethnicity	94	9.63	1.42	96	27.19	4.31	15	31.53	7.25

* One-way ANOVA found significant mean differences ($F = 4.475$, $df = 2, 284$, $p < .05$), with Sheffe *post hoc* test indicating that White-only youth scored significantly lower than Mexican descent youth (M difference = -2.11 , $p < .05$).

^a6-item Ethnic Identity Scale for Sample 1, 9-item Ethnic Identity Scale for Sample 2, 10-item MEIM for Sample 3.

did Mexican-descent youth. In addition, controlling for age and sex, Other race/ethnicity youth had significantly lower scores on the Behavior Subscale than did youth of Mexican descent.

In Sample 3, age was the only significant predictor of scores on the adapted 10-item MEIM; scores on the Affirmation and Belonging Subscale and on the

TABLE 5. Regressions on Ethnic Identity Scales

	Sample 1			Sample 2			Sample 3				
	Behavior Subscale	Pride Subscale	Non-Negativity Subscale	6-Item Eth-nic Identity Scale	Behavior Subscale	Pride Subscale	Non-Negativity Subscale	9-Item Eth-nic Identity Scale	Affirmation and Belonging Subscale	Exploration Subscale	10-Item MEIM Scale
	b (Beta)	b (Beta)	b (Beta)	b (Beta)	b (Beta)	b (Beta)	b (Beta)	b (Beta)	b (Beta)	b (Beta)	b (Beta)
Intercept	4.324***	4.673***	3.885***	12.881***	10.212***	7.709**	8.202***	26.133***	-3.895	-.456	-7.743
Age	-.114 (-.104)	-.093 (-.090)	-.049 (-.040)	-.256* (-.111)	-.125 (-.037)	.169 (.052)	.102 (.033)	.143 (.019)	2.015* (.323)	.660 (.216)	2.916* (.344)
Sex (0 = Female, 1 = Male)	-.080 (-.060)	-.092 (-.073)	-.179* (-.121)	-.351* (-.126)	-.071 (-.018)	.231 (.058)	.313 (.082)	.543 (.060)	-2.107 (-.212)	-.848 (-.176)	-2.751 (-.203)
White 1 = White only	.043 (.027)	-.094 (-.063)	-.220* (-.123)	-.271 (-.061)	-.812* (-.143)	-.990** (-.182)	-.160 (-.031)	-2.087** (-.167)	.630 (.054)	.673 (.117)	.514 (.031)
Other 1 = Not White-only or of Mexican descent	-.084 (-.006)	.015 (.011)	.093 (.057)	.100 (.032)	-.798** (-.186)	-.281 (-.067)	.052 (.013)	-1.075 (-.113)	-.477 (-.045)	.960 (.185)	.530 (.037)
F ²	.017	.019	.041	.041	.041	.036	.009	.034	.183	.138	.191
N	335	335	335	282	281	280	280	287	52	53	51

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$

overall MEIM increased with age (see Table 5). Girls scored higher than boys on this EI scale and its subscales, with appreciable larger standardized sex coefficients than those found for the other two samples, but because of much smaller sample size, this predictor was not statistically significant. Controlling for the effects of age and sex, race/ethnicity was not a significant predictor. Taken together, age, sex, and racial/ethnic group membership accounted for 19.1% of the variation in scores on the MEIM in sample 3, a much larger R^2 than that obtained with the other two samples.

Predictors of Substance-Use Outcomes

Ethnic/racial group membership and the three measures of strength of ethnic identity are examined next as predictors of substance use outcomes, using OLS regression analyses that controlled for age and sex (see Table 6).

Personal substance use. Ethnic identity was the only significant predictor of lifetime and recent use of alcohol, cigarettes, and marijuana, but not in all samples. In Sample 3, higher EI scores predicted less lifetime as well as less recent substance use, with large standardized coefficients and substantial amounts of explained variance. Similar but less sizable effects appeared in Sample 1 where higher EI scores were significant predictors of less substance use in the previous month. In Sample 2, however, EI scores were statistically unrelated to substance use outcomes.

Personal norms. Although the younger and female respondents in all samples tended toward stronger agreement with personal norms that using alcohol, cigarettes, and marijuana is “not OK,” only age was a significant predictor of personal norms and only in Sample 2.

Injunctive norms. There were two significant predictors of youth’s perceptions of how angry their parents would be if the youth used cigarettes or marijuana (see Table 6). In Sample 1, higher scores on the EI scale predicted perceptions that parents would be angrier. In Sample 2, compared with those of Mexican heritage, White-only respondents reported they anticipated substantially less parental anger in response to the youths’ use of these two substances. There were no statistically significant predictors of the level of perceived parental anger in Sample 3.

Across all three samples, younger youth reported that their best friends would be less friendly toward them if they used these three substances, though age was a significant predictor only in Sample 2 (see Table 6). In Samples 1 and 3, controlling for age and sex, stronger EI predicted that best friends would be less friendly if the youth used alcohol, cigarettes, and marijuana, although EI was a significant predictor only in Sample 3. White-only youth in

TABLE 6. Regression Analyses of Substance Use Norms and Behaviors (Part 1 of 2)

Variable	Personal Use			Personal Norms			Parental Injunctive Norms							
	Sample 1 b (beta)	Sample 2 b (beta)	Sample 3 b (beta)	Sample 1 b (beta)	Sample 2 b (beta)	Sample 3 b (beta)	Sample 1 b (beta)	Sample 2 b (beta)	Sample 3 b (beta)					
Intercept	2.843 (.064)	-.148 (.063)	9.639* (-.082)	.230 (.061)	-.520 (.057)	10.174 (-.055)	4.515*** (-.079)	5.239*** (-.132)	2.299 (-.001)	3.131 (.013)	4.309*** (-.054)	3.131 (.013)	4.309*** (-.054)	5.722** (-.267)
Age	.365 (.081)	.114 (.081)	-.207 (-.002)	.165 (.109)	.166 (.040)	-.166 (-.011)	-.100 (-.078)	-.150* (-.045)	-.012 (-.015)	-.012 (-.015)	.036 (.011)	.036 (.011)	-.054 (.008)	-.226 (.229)
Sex (0 = Female 1 = Male)	.563 (.130)	-.178 (.043)	-.010 (-.516)	.358 (-.014)	-.144 (.074)	-.054 (-.437)	-.120 (.028)	-.062 (.032)	-.024 (.224)	-.024 (.224)	-.426 (.336)	-.426 (.336)	.011 (.061)	.309 (.280)
Ethnic Identity Scale ^a	-.324* (-.130)	.010 (.043)	-.154*** (-.516)	-.016 (-.014)	.029 (.074)	-.155** (-.437)	.016 (.028)	.049 (.032)	.028 (.224)	.028 (.224)	1.152*** (.336)	1.152*** (.336)	.009 (.061)	.028 (.280)
White 1 = White-only	-.512 (.061)	.025 (.008)	.325 (.066)	.058 (.015)	.062 (.013)	.706 (.121)	.077 (.042)	-.054 (-.029)	-.134 (-.066)	-.134 (-.066)	.094 (.023)	.094 (.023)	-.368*** (-.210)	.012 (.007)
Other 1 = Not White-only or Mexi- can descent	.824 (.106)	.039 (.017)	.049 (.011)	.228 (.062)	.192 (.051)	.653 (.128)	-.182 (-.107)	.012 (.008)	.035 (.020)	.035 (.020)	-.341 (-.095)	-.341 (-.095)	-.152 (-.114)	-.065 (-.045)
<i>F</i> ²	.048	.013	.298	.020	.013	.212	.029	.021	.055	.055	.143	.143	.056	.133
<i>N</i>	333	287	51	334	287	51	334	286	51	286	184	184	286	51

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$ ^a 6-item Ethnic Identity Scale for Sample 1, 9-item Ethnic Identity Scale for Sample 2, 10-item MEIM for Sample 3

TABLE 6. Regression Analyses of Substance Use Norms and Behaviors (Part 2 of 2)

Variable	Friends' Injunctive Norms			Descriptive Norms			Personal Use Intentions					
	Sample 1 b (Beta)	Sample 2 b (Beta)	Sample 3 b (Beta)	Sample 1 b (Beta)	Sample 2 b (Beta)	Sample 3 b (Beta)	Sample 1 b (Beta)	Sample 2 b (Beta)	Sample 3 b (Beta)			
Intercept	9.673*	6.213***	2.328	.160	-.487	10.146	.677	4.678**	3.838*	1.061	.536	3.481
Age	-.176 (-.035)	-.212* (-.143)	-.118 (-.097)	.329 (.104)	.681* (.143)	-.673 (-1.173)	.161* (.116)	-.081 (-.041)	-.010 (-.005)	.092 (.075)	.083 (.069)	.082 (.007)
Sex (0=Female 1=Male)	-.521 (-.086)	-.031 (-.017)	.426 (.219)	-.065 (-.016)	-.677* (-1.118)	-1.279 (-2.06)	-.190* (-.113)	.187 (.079)	.027 (.008)	.097 (.065)	-.146 (-.099)	.120 (.069)
Ethnic Identity Scale ^a	.431 (.067)	-.015 (-.077)	.057* (.396)	-.149 (-.109)	.071 (.111)	-.064 (-1.142)	-.061 (-.010)	-.032* (-.120)	.009 (.039)	-.063* (-.118)	.002 (.013)	-.063*** (-.487)
White 1=White-only	.888* (.125)	-.031 (-.012)	-.022 (-.009)	-.288 (-.058)	-.607 (-1.077)	-1.234 (-1.63)	-.061 (-.030)	-.060 (-.002)	-.241 (-.063)	.007 (.004)	-.010 (-.005)	.198 (.099)
Other 1 = Not White-only or Mexican descent	-.319 (-.048)	-.126 (-.066)	.047 (.023)	.493 (.114)	-.036 (-.006)	-.423 (-.063)	.339** (.181)	-.022 (-.009)	-.620 (-1.182)	.162 (.098)	.027 (.017)	.104 (.056)
R ²	.035	.030	.147	.042	.053	.123	.060	.039	.030	.036	.016	.253
N	298	286	51	185	280	47	332	193	50	332	286	51

*** $p \leq .001$; ** $p \leq .01$; * $p \leq .05$

^a6-item Ethnic Identity Scale for Sample 1, 9-item Ethnic Identity Scale for Sample 2, 10-item MEIM for Sample 3.

Sample 1 reported that their best friends would be less friendly toward them if they used alcohol, cigarettes, or marijuana than did youth of Mexican descent.

Descriptive norms. In a scattered pattern, all the predictors were implicated in the youth's perceptions of how many of their school peers and friends use alcohol, cigarettes, or marijuana. In Sample 1, older and male respondents reported that significantly more of their peers were involved with substances than did younger and female respondents, and in Sample 2 older and female youth reported relatively more substance use by their friends. Stronger EI significantly predicted lower perceptions of school peer use in Sample 2, but showed virtually no relation in the other samples. Compared with those of Mexican descent, those in the "Other" race/ethnicity group reported that significantly more of their school peers used substances in Sample 1.

Personal substance use intentions. EI was the only significant predictor of youth's intentions to accept an offer of alcohol, cigarettes, or marijuana. In Samples 1 and 3 higher EI scores were inversely related to intent to use substances in the future, but essentially unrelated in Sample 2.

DISCUSSION

Findings from this study confirm the complexities involved in measuring ethnic identity. Depending on the instrument used, age, gender, and/or racial or ethnic group membership influenced the strength of ethnic identity. For example, girls scored significantly higher on the 6-item EI instrument, suggesting that it may better measure aspects of girls' ethnic identity. There were no significant gender differences, however, with the other two instruments. Ethnic identity was related to substance use outcomes in Samples 1 and 3, but not in Sample 2. We do not know the reason for this difference, though we speculate that it may be due to differences in the instruments used to measure ethnic identity, to variations in the ethnic composition of the samples, or to unknown differences among student cohorts. Age was positively related to ethnic identity as measured by the adapted 10-item MEIM, but negatively related to ethnic identity as measured by the 6-item EI instrument. The fact that youth in Sample 3 were 8th graders and youth in Sample 1 were 7th graders could be part of the reason for this difference. However, because age did not predict EI score in Sample 2 (which also comprised 8th graders), these findings suggest that the MEIM may better detect age-related changes in ethnic identity, as suggested by the developmental theories on which it is based.

Further, racial or ethnic group membership influenced strength of ethnic identity as measured by two of the instruments used in this study. Youth of Mexican descent scored significantly higher than White-only youth on the

Non-Negativity Subscale of the 6-item EI instrument and the overall 9-item instrument and two of its subscales, suggesting that these scales may be most useful in measuring the ethnic identity of Mexican-descent youth within a community in which they are members of the largest ethnic minority group, and, in fact, constitute a numerical majority in many schools and neighborhoods. Although some previous research has found that White youth score lower on the MEIM than do youth of color (Phinney, 1992; Phinney & Alipuria, 1990; Roberts, Phinney, Masse, Chen, Roberts, & Romero, 1999; Yancey, Aneshensel, & Driscoll, 2001), findings from this study include that racial or ethnic group membership did not predict strength of ethnic identity as measured by the MEIM. This finding suggests that, in a school setting in which White youth are not in the numerical majority, their ethnic identity development may be similar to that of youth of color.

Findings also suggest that 7th and 8th grade youth across multiple racial/ethnic groups hold strong anti-drug norms and behaviors. Means on substance use outcome variables indicate that typical youth at this middle school report that their parents would be angry if they used cigarettes or marijuana; best friends would be unfriendly if they used alcohol, cigarettes, or marijuana; it is not OK for someone their age to use alcohol, cigarettes, or marijuana; they would refuse an offer of alcohol, cigarettes, or marijuana; and few of their friends have tried or use alcohol, cigarettes, or marijuana monthly.

Findings from this study also indicate that age, sex, and strength of ethnic identity do influence substance use norms and behaviors. After accounting for the effects of age, sex, and strength of ethnic identity, race/ethnicity was a significant predictor in only three of the 24 regressions on substance use outcomes. A different story emerged, however, regarding the predictive power of ethnic identity.

Overall, regression results suggested that ethnic identity as measured in Sample 1 (the 6-item scale) and especially in Sample 3 (the MEIM) were sizable and consistent predictors of a range of substance use related outcomes. In one of the samples, EI scores were significantly related to every outcome category except personal norms. The standardized effects for EI were larger than for any other of the predictors (age, sex, ethnic group membership). In Sample 3 especially, the significant effects of EI were also linked to much higher amounts of explained variance in outcomes. In each case where significant effects were obtained, a stronger sense of ethnic identity as measured by the MEIM or the 6-item EI scale predicted more negative attitudes toward, and less use of, alcohol, cigarettes, and marijuana.

Several strengths and limitations of this study design are important to consider before discussing implications. Strengths include that the samples comprised ethnically diverse youth, that all data were collected from youth

who were in seventh and eighth grades (i.e., who were likely to be at similar stages of ethnic identity development), that three different ethnic identity measures were assessed, and that a range of substance use outcome variables are included. Limitations include that sample sizes varied across the three data sets, questionnaires were administered at different points in time, there was little age variation within each sample, and data are not longitudinal. In addition, findings likely are not generalizable to areas with different ethnic group composition or socioeconomic statuses.

Implications for Future Research

Despite these limitations, findings from this study suggest that the 6-item EI instrument may be useful in measuring the strength of ethnic identity for girls, that the 9-item instrument may be useful in measuring strength of ethnic identity of youth of Mexican descent within a context in which they are the largest ethnic minority, and that the adapted 10-item MEIM may be the best instrument for measuring the strength of identity for both genders across multiple racial and ethnic groups. Further, the finding that a stronger sense of ethnic identity as measured by the MEIM predicted anti-drug norms and behaviors suggests that the MEIM may be the most reliable and useful in examining ethnicity-related factors associated with youth substance use norms and behaviors. We thus recommend that researchers examining the relationship between ethnic identity and substance use outcomes consider using this instrument, particularly when samples comprise multiple racial or ethnic groups. Such research needs to examine whether strength of ethnic identity promotes anti-drug use norms and behaviors equally for white youth and youth from specific communities of color, particularly in relation to whether these groups are in the numerical majority or minority.

Our understanding of ethnic identity and substance use also would benefit greatly from the development of instruments measuring youth's experiences with racism and classism. As noted by De La Rosa (2001) in discussing Latino/a youth:

A social environment that limits the ability of individuals to self-actualize by limiting necessary educational and economic opportunities and by discriminating against them because of their cultural heritage, their skin color, or their economic level is more likely to promote unhealthy adaptations of Latino adolescents to American society. (p. 445)

Future research thus is needed to examine direct and indirect relationships between racism and classism and ethnic identity and substance use norms and behaviors.

IMPLICATIONS FOR SOCIAL WORK PRACTICE

The finding that a stronger sense of ethnic identity generally led to stronger anti-substance use norms and behaviors suggests that interventions that strengthen ethnic identity may be effective in preventing substance use among young adolescents. Social workers working with such youth thus may find it useful to develop interventions that encourage youth to explore the meaning of their ethnic group memberships. We offer some possible approaches.

Group approaches in which same-ethnic-group youth come together to learn about their ethnic group's traditions and experiences, including learning about situations in which role models have overcome oppression, may encourage development of stronger ethnic identities. Social workers in mainstream agencies may want to consider developing formal relationships with ethnic agencies, which can serve as leaders in developing these and other youth programs that encourage ethnic awareness or consciousness (Holley, 2003b; Iglehart & Becerra, 1995). Such agencies may offer language or ethnic history classes, visits to ethnic museums and other culture-specific institutions, family and community gatherings, and other community-building activities that may encourage youth and their families to increase their commitment to their ethnic groups (Holley, 2003a). Social workers in ethnic agencies may seek ways to involve area youth in such programs through developing contracts with schools, neighborhood centers, mainstream agencies, and other organizations to provide such opportunities for youth and their families.

Social workers in school settings, in addition to developing interventions such as those described above, are in positions to advocate for other initiatives that may support the development of strong ethnic identities among youth. In addition to supporting culturally-grounded programs aimed specifically at preventing substance use (e.g., see Hecht et al., 2003), school social workers can encourage their organizations to incorporate curriculum that centers the experiences of the ethnic groups included in the student population (e.g., see Dale, 2005); implement student-led culture-specific music and arts festivals, plays, dances, and other celebrations that may encourage ethnic group exploration, pride, and commitment; assist in developing affirmative action policies that will lead to the recruitment and retention of teachers and staff of color so that youth have positive ethnic group role models; and guide youth involvement in ethnicity-related social change activities.

In conclusion, our study suggests that efforts that encourage young adolescents to explore the meaning of their ethnic group memberships may be as important as—or perhaps more important than—therapy and other social work interventions that seek to prevent substance use. We hope that the suggestions

offered here serve as a useful starting point for strengthening ethnic identity and thus preventing substance involvement.

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