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School Commitment and Alcohol Use: The Moderating Role of Race and Ethnicity¹

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Abstract

Research indicates that lower levels of school commitment may be one potential outcome of policy initiatives such as high-stakes testing and exit exams. Such outcomes may lead these policy initiatives to have unintended consequences for students, particularly racial or ethnic minority students. This study examines whether race or ethnicity moderate the relationship between school commitment and alcohol use or binge drinking among a sample of Florida public middle and high-school students who were surveyed as part of the 2002 Florida Youth Substance Abuse Survey. Low school commitment was found to be associated with a greater likelihood of alcohol use in the past 30 days and a greater likelihood of binge drinking during the past two weeks for Black, Hispanic, and White students. Both the higher average levels of school commitment among Black and Hispanic than among white students and the greater association between low school

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commitment and the two alcohol use outcomes for Black and Hispanic students compared to White students account for some of the difference in alcohol use and binge drinking among the different groups.

Keywords: alcohol use; racial difference; adolescence.

Compromiso escolar y uso de alcohol: El papel moderador de la raza y la etnicidad

Resumen

Investigaciones indican que bajos niveles de compromiso escolar pueden ser uno de los posibles resultados de las iniciativas de políticas educativas como las pruebas finales y exámenes de “consecuencias severas”. Estas iniciativas podrían tener consecuencias no deseadas para los estudiantes de escuelas secundarias, en particular, para aquellos estudiantes de minorías raciales o étnicas. Este estudio examina los datos de una muestra con estudiantes secundarios de escuelas públicas de la Florida que contestaron la encuesta sobre abuso de drogas del estado de Florida en el año 2002 para determinar si la raza o el origen étnico moderan la relación entre el compromiso escolar y el consumo alcohol. Niveles de bajo compromiso con la escuela estaban asociados con una mayor probabilidad de uso del alcohol en los últimos 30 días y un mayor riesgo de emborracharse durante las últimas dos semanas entre estudiantes negros, hispanos, y blancos. Tanto los niveles más altos de compromiso escolar de los estudiantes negros e hispanos respecto de los estudiantes blancos y la mayor asociación entre el bajo compromiso escolar y el uso del alcohol para los estudiantes negros e hispanos en comparación con estudiantes blancos dan cuenta de algunas de las diferencias en el uso del alcohol entre los diferentes grupos.

Palabras clave: uso de alcohol; diferencias raciales; adolescencia.

Prior studies of the association between school bonds and alcohol use have largely found that the stronger a student’s affective bond to schooling and commitment to educational goals, the less likely that student is to engage in delinquency (Anderson, Holmes & Ostresh, 1999; Crum, Ensminger, Ro & McCord, 1998; Jenkins, 1997) and, more specifically, substance use (Bahr, Marcos, Anastasios & Maughan, 1995; Costa, Jessor & Turbin, 1999; Mason & Windle, 2001; Simons-Morton, et al., 1999; Sutherland & Shepherd, 2001). While these studies have increased our understanding of the association between various school bonds (including school commitment) and teen delinquency, important questions remain unanswered. For instance, it has yet to be determined whether race or ethnicity moderates the school commitment/alcohol use association. Although several studies have addressed this question, they provide inconsistent answers and suffer from a few limitations—the use of relatively small samples comprised of students from a single school or district, the failure to include Hispanics in analyses, and the failure to include alcohol use singularly as an outcome.

To overcome these limitations, the present study reexamines the role of race and ethnicity as a moderator of the school commitment/alcohol use association by utilizing survey data administered to a random sample of middle and high school students from public schools in Florida. We explore the moderating role of race and ethnicity for the relationship between school commitment and alcohol use. Policy initiatives such as high-stakes tests and exit exams have been linked to lower levels of school commitment (Orfield & Kornhaber, 2001; McNeil, 2000). It is important to

investigate both the intended and unintended outcomes of these initiatives, especially if the impact may differ by racial and ethnic group.

Criminologists have found that other school related variables, including school commitment, are strong predictors of delinquency and teen substance use (Anderson, et al., 1999; Bahr et al., 1995; Costa, et al., 1999; Crum et al., 1998; Hawkins, Catalano & Miller, 1992; Jenkins, 1997; Jessor, Van Den Bos, Vanderryn, Costa & Turbin, 1995; Maguin & Loeber, 1996; Mason & Windle, 2001; Simons-Morton et al., 1999; Sutherland & Shepherd, 2001). Indeed, some scholars have suggested that school bonds are among the strongest predictors of delinquency and substance use (Empey, 1982; Kelly & Balch, 1971). Most of these prior studies of the association between school bonds and teen delinquency have been grounded in the logic of social control theory (Hirschi, 1969), but school and education-related variables are at the heart of several other explanations of delinquency and substance use as well (e.g., cultural deviance theory, strain theory, conflict theory and labeling theory) (Cernkovich & Giordano, 1992). Social control theory posits that the presence of multiple strong bonds to conventional institutions and others will dissuade individuals from acting purely in their own self-interest, which in turn will dissuade hedonistic behavior such as alcohol abuse. Hirschi (1969) argued that the quality of an adolescent's bonds to family, friends, and school is the most important predictor of delinquency, including substance use. The bonds between student and school can be affective, the quality Hirschi refers to as *attachment* (e.g., emotional ties to teachers and school officials); goal-oriented, which he calls *commitment* (e.g., desire to succeed, degree of commitment to academic pursuits); behavioral, which he calls *involvement* (e.g., school performance, attendance patterns, paying attention in class); or value-oriented, which he calls *belief* (e.g., believing that school rules are fair and evenly enforced). Students who are not emotionally close to teachers, are disinterested in school, and put little or no effort into educational achievement are at greater risk for involvement in deviance generally and alcohol use specifically (Maguin & Loeber, 1996).

Social control theory predicts that students, regardless of race or ethnicity, who lack commitment to educational goals are more likely to become involved in such behaviors as alcohol use. Yet there are reasons to suspect that such factors might not be similarly related to alcohol use across racial and ethnic groups. A number of studies have found that Blacks and other minorities perform more poorly in school than Whites and demonstrate lower levels of commitment to school than Whites (Fordham & Ogbu, 1986; Jenkins, 1995, 1997; Steinberg, Brown & Dornbusch, 1996), suggesting that the school experience is qualitatively different for minorities and that such differences may affect the ability of school bonds to influence delinquent behavior (McAdoo, 1988; see also Cernkovich & Giordano, 1992). Research has identified several factors that may be predictive of lower commitment to educational goals and inferior academic performance in Non-whites as compared to Whites: evidence of racial-bias in testing and student placement, lower teacher expectations for Black and Hispanic students as compared to Whites, belief among many Black and minority students that discriminatory mechanisms limit the opportunity to translate educational success into adult accomplishment, and the stigmatization of "acting white" directed by Black peers at Black students who work hard in school (Alexander, Entwisle & Bedinger, 1994; Cernkovich & Giordano, 1992; Farkas, Lleras & Maczuga, 2002; Johnson, Crosnoe & Elder, Jr., 2001; Ogbu, 1988, 1997).

However, other studies suggest that Black and Hispanic students (particularly recent immigrants) actually display *greater* levels of school attachment than non-Hispanic White students (Ainsworth-Darnell & Downey, 1998; Downey & Ainsworth-Darnell, 2002; Farkas et al., 2002) and that certain Black males display a pro-educational attitude (MacLeod, 1987). Furthermore, some research suggests that school commitment and good academic performance are important protective factors against alcohol and illicit drug use for Hispanics (Flannery, Vazsonyi & Rowe, 1996;

Marsiglia, Miles, Dustman & Sills, 2002; Seydlita & Jenkins, 1998; Swaim, Bates & Chavez, 1998; Vega, Gil, Warheit, Zimmerman & Apospori, 1993).

Clearly, many questions remain unanswered regarding the effect of race/ethnicity on the strength of student-school bonds and on the association between these bonds and adolescent alcohol use. While previous research suggests that there may be important racial and ethnic differences in the strength of school bonds, the evidence is unclear and inconsistent. Further complicating matters is the finding that Black teens use alcohol less frequently than Whites, with Hispanic use varying greatly across studies (Chavez & Swaim, 1992; Oetting & Beauvais, 1990; Warheit, Vega, Khoury, Gil & Elfenbein, 1996; Windle, 1991) and by group (Cervantes, Gilbert, DeSnyder & Padilla, 1990; Warheit et al, 1996). This finding, in conjunction with the aforementioned evidence regarding the average level of school bonding by racial/ethnic group, suggests that a lower level of school bonding is not as serious a risk factor for minority students as it is for Whites. In other words, while differences in the level of school bonding may be predictive of the likelihood of alcohol use among non-Hispanic Whites, they may be of little predictive utility for explaining the likelihood of alcohol use among Blacks and Hispanics. Yet very little research has examined whether race moderates the strength of the association between school bonds and delinquency generally, and school bonds and alcohol use specifically.

Only a few studies have actually explored the possible conditioning influence of race/ethnicity on the school bonds/delinquency association. Cernkovich and Giordano (1992) examined a neighborhood sample of 942 teens and found that the association between school bonds and a general scale of delinquency was invariant across Black and White student subgroups. Likewise, Williams, Ayers, Abbott, Hawkins, and Catalano (1999) found among a sample of 567 adolescents that race (defined as Black or White; Hispanics were not considered) was generally an unimportant factor in conditioning the relationships between risk factors, including school bonds, and substance use.

Only one published study suggests that the impact that school bonds can have on teen delinquency is dependent upon the race/ethnicity of the teen. Using a national sample of students, Hoffman and Xu (2002) found that under certain conditions school involvement (i.e., the number of activities that a student participated in at school) was positively associated with general delinquency for Black students and negatively associated with delinquency for non-Black students, albeit slightly so. However, this study only explored the association between school involvement and general delinquency, which prior research suggests may be the least influential school bond with regard to delinquency (e.g., Cernkovich & Giordano, 1992; Welsh, Greene & Jenkins, 1999).

While the studies outlined above make important contributions to our understanding of how race may condition the association between teen deviance and school bonds, more definitive answers will require additional research. These earlier studies suffer from several limitations. First, those that failed to find evidence of a moderating role for race/ethnicity in the school bond/delinquency association were based on relatively small samples from a single school or school district. This raises concerns about both generalizability and diminished statistical power to detect differences, particularly when attempting to detect statistical significance with interaction terms (McClelland & Judd, 1993). Second, relatively few of the previous studies have included Hispanics, despite the growing proportion of Hispanic students in the United States (Ramirez & de la Cruz, 2002). And third, the focus on general scales of delinquency or substance use may mask important differences in the association between school bonds and particular types of deviant behavior or substance use.

The current study examines the role of race and ethnicity as a moderator of the association between school bonding and alcohol use. Our focus on alcohol use stems from past research that suggests that alcohol use is prevalent among high school students and does vary by race/ethnicity.

In addition most research on alcohol use tends to focus exclusively on White-middle class teens (Costa et al., 1999; Mason & Windle, 2001; Stacy, Newcomb & Bentler, 1992). Although there are many aspects of school bonds to examine, we focus on school commitment. We chose this focus in response to evidence suggesting that school commitment is the strongest of the school bonds in predicting delinquency (Jenkins, 1997; Krohn & Massey, 1980).

Methods

Data for this study is derived from the Florida Youth Substance Abuse Survey (FYSAS) administered during the 2001–2002 school year. FYSAS is an annual survey of Florida middle and high school students conducted by a multi-agency workgroup that includes the Departments of Education, Health, Juvenile Justice, and Children and Families. Based on Hawkins and Catalano's Communities That Care Youth Survey (CTCYS) (Hawkins et al., 1992), the survey is designed to assess substance use behavior and salient family, school, peer, individual, and community risk and protective factors. A two-stage cluster sample was employed in which groups of middle and high schools were randomly selected to participate and then classrooms within each selected school were randomly selected. Teachers administered the surveys and each student was given a survey envelope in which to place their survey before returning them to the teacher. Teachers reviewed the instructions with their students and both the teacher and the written instructions on the survey assured students that the survey responses were anonymous and confidential (Florida Department of Children and Families, 2003). The study design was to produce a sample representative of county levels, which correspond to each school district (67 total districts/counties) in the state. For the present analyses, only those middle and high school respondents who provided complete grade level, gender, and alcohol use information were included in the study. In addition, the study was limited to those students who identified themselves as White, Black, or Hispanic. This screening produced a sample of 38,568 students. A STATA 8.0 regression procedure was employed to impute missing values for cases with missing data for the predictors (excluding race, gender, and grade level). The survey data was weighted to adjust for deviations in the representativeness of the sample from its corresponding population. A comprehensive discussion of the methodology of the survey, including the sampling plan and weighting strategy, is available in the 2002 FYSAS State Reports (see FDCF, 2003).

Dependent Variables

Two dependent variables are used in this study: alcohol use and binge drinking. Alcohol use, while a common behavior in American adolescent culture, is an illegal behavior and among adolescents has been found to be associated with risky and illegal behaviors (O'Malley & Johnston, 2003), increasing emotional distress (Crosnoe, Muller & Frank, 2004), and other negative psychological outcomes that may impact later life stages (Chassin, Pitts & DeLucia, 1999; Schulenberg & Maggs, 2002). Consistent with prior research (Chuang, Ennett, Bauman & Foshee, 2005; Fagan and Najman, 2005), alcohol use is measured as a dummy variable derived from the self-reported number of times that a student used alcohol (more than just a sip or two) in the past 30 days. It was measured based on responses to the following prompt: "On how many occasions (if any) have you had beer, wine or hard liquor during the past 30 days?" Prior research has identified binge drinking as a measure of problem drinking (Wallisch & Spence, 2006; Higgins, Tewksbury & Mustaine, 2007). We measure binge drinking using a dummy variable derived from the self-reported

number of times that a student engaged in binge drinking in the past two weeks. It was measured based on responses to the following prompt: "On how many occasions (if any) have you had 5 or more drinks of beer, wine or hard liquor during the past two weeks?"

Independent Variables

The primary variable of interest in these analyses is the school bond measure. Low school commitment is measured as a seven-item scale comprised of answers to the following questions: (a) "How often do you feel that the school work you are assigned is meaningful and important?", (b) "How interesting are most of your courses to you?", (c) "How important do you think the things you are learning in school are going to be for your later life?", (d) "Now, thinking back over the past year in school, how often did you enjoy being in school, [(e)]hate being in school, [(f)] try to do your best work in school?", and (g) "During the last four weeks, how many whole days have you missed because you skipped or cut?" Items were reverse coded where applicable. Higher scores indicate lower levels of commitment to school and education (Cronbach's $\alpha = .76$).

In addition to the measure of school commitment, we include an array of control variables to reduce concerns about spuriousness. Family related variables suggested by prior research and social control theory are controlled for in this study. Included among these variables are family structure, family substance use, parental supervision, parental discipline, family attachment, parental education, and mobility. Each of these factors has been found to be a salient predictor of adolescent substance use (Brook, Brook, Scovell, Whiteman & Cohen, 1990; Ellickson & Morton, 1999; Vakalahi, 2002). Family structure is indicated by a set of dummy variables. The possible categories are single-parent families and blended families (i.e., step parent families and other family arrangements), with a respondent living with two parents serving as the reference category. Family substance use is measured with a three-item scale comprised of answers to the following questions: (a) "Has anyone in your family ever had a severe alcohol or drug problem?" and "About how many adults have you known personally who in the past year have [(b)] used marijuana, crack, cocaine, or other drugs [(c)] or gotten drunk or high? Higher scores represent greater family substance use (Cronbach's $\alpha = .71$). Poor parental supervision is measured with a six-item scale comprised of answers to the following questions: (a) "My parents ask if I've got my homework done," (b) "My parents want me to call if I'm going to be late getting home," (c) "Would your parents know if you did not come home on time?", (d) "When I am at home, one of my parents knows where I am and who I am with," (e) "The rules in my family are clear," and (f) "My family has clear rules about alcohol and drug use." Higher scores indicate lower family supervision (Cronbach's $\alpha = .68$). Poor parental discipline is measured with a three-item scale comprised of answers to the following questions: (a) "If you drank some beer, wine, or liquor without your parents' permission, would you be caught by your parents?", (b) "If you skipped school, would you be caught by your parents?", and (c) "If you carried a handgun without your parents' permission, would you be caught by your parents?" Higher scores indicate lower family discipline (Cronbach's $\alpha = .84$). Parental attachment is measured with a four-item scale comprised of answers to the following questions: (a) "Do you feel very close to your mother?", (b) "Do you share your thoughts and feelings with your mother?", (c) "Do you feel very close to your father?", and (d) "Do you share your thoughts and feelings with your father?" Higher scores indicate greater parental attachment (Cronbach's $\alpha = .74$). Parental education is indicated by a set of dummy variables. It is captured as the highest reported schooling for the more educated parent, if there are two parents present, and coded as "high school graduate" or "college graduate", with "less than a high school graduate" serving as the reference category.

Finally, mobility is measured with a four-item scale comprised of answers to the following questions: (a) "Have you changed homes in the past year?", (b) "How many times have you changed homes since kindergarten?", (c) "Have you changed schools in the past year?", and (d) "How many times have you changed school since kindergarten?" Higher scores indicate a greater history of mobility (Cronbach's $\alpha = .67$).

Other important risk factors suggested by social control theory, peer use and poor school performance, are also included. Peer use is measured with a four-item scale comprised of answers to the following questions, which are asked after the respondent has been instructed to think about his/her best friends: (a) "In the past year, how many of your best friends have smoked cigarettes?", (b) "In the past year, how many of your best friends have tried beer, wine, or hard liquor when their parents didn't know about it?", (c) "In the past year, how many of your best friends have used marijuana?", and (d) "In the past year, how many of your best friends have used LSD, cocaine, amphetamines, or other illegal drugs?" Higher scores on the peer use scale indicate greater exposure to substance using peers (Cronbach's $\alpha = .84$). Poor school performance is measured as a two-item scale comprised of answers to the following questions: (a) "Putting them all together, what were your grades like last year?" and (b) "Are your school grades better than the grades of most students in your class?" Higher scores indicate lower grades (Cronbach's $\alpha = .58$).

Finally, two established neighborhood risk and protective factors are also included in the analyses as control variables. The respondent's perceived level of low neighborhood attachment (Cronbach's $\alpha = .89$) and the level of community disorganization (i.e., the extent to which communities are disorganized in their efforts to socialize children and solve community problems; Cronbach's $\alpha = .80$) have been found to be associated with a variety of social problems, including juvenile substance use (Bell, Carlson & Richard, 1998). Gender and grade level are also included in the analyses because of their established associations with adolescent substance use (Ellickson & Morton, 1999; Hawkins et al., 1992).

Analytic Strategy

The analyses begin with a comparison of the racial/ethnic group mean levels or proportions for the measures of alcohol use, binge drinking, and school commitment. An adjusted Wald test of significant differences (for the various pairs) or a chi-square test is used to determine whether the group differences in means or proportions are statistically significant. Logistic regression analyses are conducted for each racial/ethnic group sample on two different dichotomous measures of alcohol use: alcohol use and binge drinking. Alternative cutpoints for the dependent variables (contrasts distinguishing between infrequent drinking/binge drinking and more frequent drinking/binge drinking) were also explored and were consistent with the results and interpretations presented here. All the analyses are conducted using commands in STATA 8.0 that utilize a survey estimation method to correct for clustering of observations and unequal probability sampling procedures (StataCorp, 2004). Included in this estimation method is the calculation of Huber standard errors (Huber, 1967), which we use to determine the significance of coefficient estimates. Next, to explore possible differences between racial/ethnic groups in the effect of school commitment on alcohol use and binge drinking, logistic regression coefficients for the measure of school commitment is compared across models using Allison's (1999) test of logit coefficients across groups. This Wald chi-square test removes the potential confounding effects of unobserved heterogeneity that may produce observed but ingenuine differences in logit coefficients across groups allowing for a test of

whether the effect of school commitment on alcohol use and binge drinking differs significantly across racial/ethnic groups (Allison, 1999).

Results

Table 1 presents the means for the key variables for each of the racial/ethnic group samples. These descriptive statistics suggest that significant differences do exist across categories of race/ethnicity on the two measures of alcohol use and on the measure of school commitment. Our results indicate significant racial/ethnic differences in school commitment, with Whites reporting the lowest school commitment (highest scores on the school commitment scale), followed by Hispanics, and Black students reporting the highest levels of commitment (lowest scores on the low school commitment scale).

Table 1

Descriptive statistics for select variables for White, Black, and Hispanic respondents

Indicator	Total Sample	Black	Hispanic	White
Percent reporting drinking alcohol in the last 30 days ^a	32.7%	8.1%	29.3%	42.9%
Percent reporting binge drinking (5 or more drinks in one setting) in the last two weeks ^a	24.4%	3.7%	16.4%	33.7%
Mean low school commitment (ranges from 0 to 4) ^b	1.47	1.19	1.33	1.60
Unweighted N	38,568	9,934	3,218	25,416

Note: Statistics are calculated using survey weights.

^a Differences significant across groups significant at $p < .05$, using Design based Chi-square test

^b Black-White difference significant at $p < .05$, using Adjusted Wald test

As expected, the analyses also reveal significant differences across racial/ethnic groups in the measures of alcohol use and binge drinking. Whites report the greatest proportion of alcohol users in the past 30 days (0.43), followed by Hispanics (0.29) and Blacks (0.08). Similarly, Whites report the greatest proportion of binge drinking in the past two weeks (0.34), followed by Hispanics (0.16) and Blacks (0.04). Prior research supports this finding of a differential pattern of alcohol use across race/ethnicity groups (e.g., Costa et al., 1999; Warheit et al., 1996).

The multivariate logistic regression analyses of alcohol use on low school commitment and the control variables are presented in Table 2. For Black students, nine of the control variables are found to be associated with the likelihood of alcohol use. With the exception of the family structure measures and poor school performance, each significant association is in the expected direction. Low school commitment is associated with alcohol use for Black students. As expected, Black students reporting lower school commitment are more likely to use alcohol than their counterparts. This finding is consistent with prior research that has found low commitment to be associated with substance use (Hawkins et al., 1992; Jenkins, 1997; Krohn & Massey, 1980; Mason & Windle, 2001).

Table 2

Logistic regression of alcohol use on low school commitment for middle and high school students

Variable	Black beta (<i>se</i>)	Hispanic beta (<i>se</i>)	White beta (<i>se</i>)
Grade level (7 th -12 th)	.102 (.095)	.160*** (.030)	.220*** (.054)
Gender	.750** (.259)	-.159 (.110)	.206 (.179)
Parent h.s. graduate	-.024 (.278)	-.343* (.141)	.454** (.170)
Parent college graduate	-.691 (.397)	-.180 (.153)	.019 (.083)
Low neighborhood attachment	-.117 (.117)	-.090 (.058)	-.010 (.090)
Community disorganization	.295* (.137)	-.367 (.103)	.327* (.145)
Mobility	.322* (.131)	.027 (.046)	-.056 (.070)
Poor family discipline	.470* (.216)	.240*** (.066)	.718*** (.144)
Poor family supervision	-.052 (.206)	.173 (.114)	-.253 (.157)
Parental attachment	-.006 (.121)	.060 (.082)	.125 (.134)
Family substance use	.577*** (.082)	.340*** (.047)	.322*** (.060)
Peer substance use	.770*** (.081)	.746*** (.051)	1.114*** (.068)
Single parent family	-.575* (.259)	-.079 (.134)	.124 (.217)
Blended family	-.630* (.264)	-.091 (.126)	-.105 (.175)
Poor school performance	-.561* (.217)	-.045 (.086)	.087 (.072)
Low school commitment ^{bw, hw}	.592*** (.166)	.422*** (.084)	.385*** (.109)
Constant	-5.008*** (.634)	-3.272*** (.319)	-5.290*** (.571)
<i>F</i> (16, 540)	15.38	54.80	51.69

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests)^{bw} indicates that the coefficients for the Black and White models for the specified variable are significantly different at $p < .05$.^{hw} indicates that the coefficients for the Hispanic and White models for the specified variable are significantly different at $p < .05$.

Table 3

Logistic regression of binge drinking on low school commitment for middle and high school students

Variable	Black beta (<i>se</i>)	Hispanic beta (<i>se</i>)	White beta (<i>se</i>)
Grade level (7 th -12 th)	.108 (.097)	.198*** (.039)	.234*** (.056)
Gender	.648* (.253)	-.149 (.127)	.576** (.208)
Parent h.s. graduate	.035 (.316)	.044 (.204)	.387* (.190)
Parent college graduate	-.640 (.389)	.149 (.208)	-.014 (.192)
Low neighborhood attachment	.042 (.121)	-.061 (.070)	-.169 (.098)
Community disorganization	.307 (.158)	.055 (.115)	.506** (.167)
Mobility	.175 (.104)	.079 (.064)	-.308*** (.086)
Poor family discipline	.503* (.219)	.280*** (.078)	.789*** (.162)
Poor family supervision	.015 (.218)	.144 (.128)	-.421* (.170)
Parental attachment	-.009 (.158)	.023 (.090)	-.224 (.142)
Family substance use	.496*** (.102)	.214*** (.047)	.323*** (.059)
Peer substance use	.868*** (.097)	.680*** (.066)	1.095*** (.071)
Single parent family	-.235 (.303)	-.129 (.156)	-.195 (.253)
Blended family	-.147 (.288)	.080 (.137)	-.448* (.219)
Poor school performance	-.211 (.199)	.222* (.094)	.403*** (.078)
Low school commitment ^{bw, hw}	.387* (.174)	.335** (.111)	.315** (.091)
Constant	-6.651*** (.778)	-4.848*** (.391)	-5.685*** (.484)
F(16, 540)	8.47	28.32	49.47

* $p < .05$; ** $p < .01$; *** $p < .001$ (two-tailed tests)^{bw} indicates that the coefficients for the Black and White models for the specified variable are significantly different at $p < .05$.^{hw} indicates that the coefficients for the Hispanic and White models for the specified variable are significantly different at $p < .05$.

For Hispanic students, five of the control variables are found to be associated with the likelihood of alcohol use, and all of these associations are in the expected direction. In addition, Hispanic students with lower school commitment are more likely to use alcohol than students with higher school commitment. Similarly the analyses of the White student sample reveals that six of the control variables are associated with alcohol use and White students with lower school commitment are more likely to use alcohol than students with higher school commitment.

The three individual racial/ethnic group models show similar but not identical results. To explore whether there are differences across racial/ethnic groups in the association between school commitment and alcohol use, we test whether there are statistical differences in the coefficient estimates for low school commitment across the three models. For each racial group, the models indicate that lower school commitment is associated with a greater likelihood of alcohol use. However, a Wald chi-square test reveals that the size of the effect of lower school commitment is greater for Blacks and Hispanics than for Whites. A one-unit increase in low school commitment increases the odds of drinking by a factor of 1.81 for Black students, 1.52 for Hispanic students, and 1.47 for White students.

The results of a second set of logistic regression models predicting the likelihood of binge drinking are presented in Table 3. Once again, each set of columns represents a different racial/ethnic group sample beginning with the Black student sample. Four of the control variables are found to be associated with binge drinking for Black students. The measure of school commitment is also significant. Black students with low school commitment are more likely to engage in binge drinking than those who are more committed to school.

The binge drinking model for Hispanic students is also reported in Table 3. Five of the control variables are significant in the expected directions. In addition, Hispanic students with low school commitment are more likely to binge drink than those with higher school commitment. For White students, ten of the control variables are associated with binge drinking. Similar to Hispanic and Black students, White students with low school commitment are more likely to binge drink. However, the effects of low school commitment are statistically different across racial/ethnic groups. Again, a Wald chi-square test reveals that the size of the effect of lower school commitment is greater for Blacks and Hispanics than for Whites. A one-unit increase in low school commitment increases the odds of binge drinking by a factor of 1.47 for Black students, 1.40 for Hispanic students, and 1.37 for White students.

Discussion

The present study examined the associations between school commitment and the likelihood of both alcohol use and binge drinking among a sample of Florida public middle and high school students. Low school commitment was found to be associated with a greater likelihood of alcohol use in the past 30 days and a greater likelihood of binge drinking during the past two weeks for Black, Hispanic, and White students. So the results provide added support for the notion that school commitment is an important protective factor for alcohol use and binge drinking for all students. However, the effect of low school commitment for both outcomes is greater for Black and Hispanic students than for White students. It is important to remember that both Black and Hispanic students report significantly lower proportions of alcohol use and binge drinking than Whites in the first place and that Blacks report significantly higher levels of school commitment than White students. Given these two conditions, the key findings from this study are that school commitment is a protective factor for alcohol use and binge drinking regardless of race and that the associations between school commitment and the two measures of alcohol use are conditioned by

race/ethnicity. There are some clear limitations to this study that should be considered. First, because the data is cross sectional in nature, we can make no assertions about the causality of the relationship between school commitment and alcohol use. That is, we cannot assess whether a lowered school commitment serves as a risk factor for alcohol use or alcohol use serves to reduce one's commitment to school and increase the risk of academic failure and dropping out (although it is likely that the association is reciprocal in nature; Mason & Windle, 2001). Second, the present analysis only examined the conditional nature of race and ethnicity for the association between school commitment and alcohol use and binge drinking. Other research that failed to find that race or ethnic background served as a moderator for other forms of delinquency may not be inconsistent with the present research, since rates of alcohol use are somewhat disparate compared to the patterns of other forms of delinquent behavior among teens from various racial/ethnic groups (e.g., Cernkovich & Giordano, 1992; Williams et al., 1999).

Despite these limitations, this research suggests that race and ethnicity matter when evaluating the association between school commitment and alcohol use or binge drinking. This finding may be particularly relevant for urban, predominately minority schools as they are more likely to face problems that may alienate students such as high dropout rates, low achievement, and poor relations among faculty and staff (Ekstrom, Goertz, Pollack & Rock, 1986; Bryk & Schneider, 2002). In addition, recent policy initiatives such as tightening graduation standards, employing exit exams, and implementing other high stakes testing may also risk reducing student commitment and these policies may disproportionately affect minority students (Orfield & Kornhaber, 2001; McNeil, 2000). If these policies do have an impact on school commitment, then many other unintended consequences including potentially higher rates of alcohol use and abuse may result.

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