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The Role of Ethnic Pride and Parental Disapproval of Smoking on Smoking Behaviors among Minority and White Adolescents in a Suburban High School

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Abstract

Background—Adolescence is a critical developmental period when tobacco use is initiated and progression to regular smoking occurs. Another growing concern is the mounting evidence of ethnic/racial disparities in the smoking rates and adverse health consequences related to smoking. To reduce ethnic/racial disparities in smoking behaviors, understanding the protective influences against smoking behaviors among minority adolescents is important. Therefore, we examined the role of ethnic pride and parental disapproval of smoking on a wide range of smoking behaviors in ethnic/racial minority and White adolescents attending a suburban high school in Connecticut.

Methods—A total of 870 adolescents (ethnic/racial minority: $n = 202$) completed questions on susceptibility to smoking, ever trying a cigarette, smoking at least 1 cigarette daily in the past 30 days, as well as parental disapproval of smoking and ethnic pride in a school-wide survey.

Results—Logistic regression analyses indicated that perceived parental disapproval of adolescent smoking and ethnic pride were associated with susceptibility to smoking, ever trying a cigarette, and daily smoking differently for minority and White adolescents. For White youth, high parental disapproval of smoking was protective against all three smoking behaviors while ethnic pride was not. For minority youth, the combined protective effect of higher ethnic pride and higher parental disapproval of smoking was protective against all smoking behaviors.

Conclusion—The protective role of parental disapproval of smoking and ethnic pride on smoking behaviors may inform culturally sensitive smoking interventions aimed at diverse, multi-ethnic youth, and future studies are needed to examine this.

Introduction

Significant ethnic/racial variations exist in adolescent smoking behaviors. Black adolescents, for example, report lower levels of smoking initiation and current smoking than White and Hispanic adolescents.[1] However, rates of smoking among Black adolescents grow exponentially and surpass those of their White counterparts in adulthood.[2,3] Similar disparities have also been observed among Hispanic smokers. While smoking among White adolescents decreased from 2006 to 2009 (9.2% to 7.1%), Hispanic adolescents showed

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trends of increased smoking during the same time period (10.9% to 11.1%) that exceeded the rates of use among Whites. [1] Finally, there is also evidence that multi-ethnic adolescents are at higher risk for several smoking behaviors, such as susceptibility to smoking and lifetime smoking, than adolescents who do not identify as multi-ethnic.[4] In order to close the gaps in ethnic/racial smoking disparities, understanding the protective factors against smoking behaviors among ethnic/racial minority adolescents is critical.

Ethnic identity, such as a sense of pride in one's ethnic/racial group and parental influences, may have important protective effect against smoking behaviors among adolescents. Among inner-city Puerto Rican and Black young adults, weak ethnic identity and parental factors such as parental tobacco use have been implicated in the pathway to nicotine dependence.[5] Furthermore, strong ethnic identity has shown to offset the internal and external drug risk factors in Puerto Rican young adults, implicating the importance of ethnic identity in precluding substance use behaviors.[6] The role of ethnic identity on substance use may differ depending on the ethnic/racial composition of the school and the neighborhood. For instance, when the balance shifts from a school being primarily White to primarily Hispanic, higher ethnic pride may not only protect minority adolescents from substance use but may also protect White adolescents,[7] suggesting that regardless of ethnicity/race, when an individual belongs to the numerical minority group in a school, they may develop their sense of self differently because they have to negotiate their sense of minority membership within the majority culture.

Several culturally sensitive smoking prevention/cessation interventions aimed at adolescents have begun to foster strong ethnic identity and encourage parental involvement.[8,9] As these factors are being considered as critical components of culturally sensitive smoking interventions, empirical assessment of their influence on a wide range of smoking behaviors, such as initiation and maintenance of smoking behaviors, is needed to further inform these interventions.

Parental Disapproval of Smoking

Parental disapproval of adolescent smoking has been shown to preclude adolescent smoking behaviors.[10-12] For instance, in a school sample of never smokers between grades 4 and 11, adolescents who perceived parental disapproval of smoking were less likely to become established smokers three years later. There is also evidence that shows that parental influences may be stronger for minority students. Among Hispanics, a value system that emphasizes the importance of family (familism) is known to be critical in smoking prevention.[13] Hispanic smokers report that one of the strongest motivations to quit smoking is the negative consequences that smoking has on their family.[14] Parental influences also appear to protect Black adolescents against the risk of smoking. Compared with White parents, Black parents feel more empowered to influence their adolescent's smoking behaviors and to engage in anti-smoking parenting practices, such as setting clear parental guidelines and consequences for breaking the smoking rules, which in turn may explain low smoking rates among Black adolescents.[15,16]

Ethnic Pride

Identity formation is a key feature in adolescent development,[17] and it may be more complex for ethnic/racial minority youth who have to navigate membership in both minority and majority cultures. A crucial component of identity formation is the development of ethnic identity, which involves exploring multiple social selves and processing the meanings of ethnic/racial membership in the context of mainstream society.[18] Ethnic identity, a construct comprised of ethnic affiliation, attachment, and pride, is crucial to self-concept and psychological functioning and is also protective against substance use, including

smoking.[6,19,20] High ethnic identity implicates an individual's sense of commitment and attachment to the protective values of the cultural group,[21] such as greater enforcement of prohibitions against substance use by family members, and this in turn, may be protective against smoking behaviors. We chose to examine ethnic pride, a major component of ethnic identity, because it better predicts substance use and other problem behaviors in adolescents.[22, 23]

Interaction among Ethnicity/Race, Parental Disapproval, and Ethnic Pride

As the literature indicates, both parental disapproval of smoking and ethnic pride have independent effects on adolescent smoking behaviors. Evidence also points to the interaction effects among minority status, parental disapproval of smoking, and ethnic pride. Ethnic pride had found to moderate drug-related risk factors and lessen the drug use among Hispanic youth.[6,24] Further, protective factors may enhance other protective factors in reducing the likelihood of adolescent substance use;[25] therefore, we hypothesized that high ethnic identity may heighten the protective effect of parental influences on adolescent smoking behaviors. Finally, given the evidence that family variables, especially parents, influence minority adolescents' smoking behaviors to a greater extent than those of White adolescents',[26] it is possible that this protective factor may be more salient to precluding smoking behaviors in minority adolescents.

Current Study

The aim of this study is to determine the impact of independent and interactive roles of ethnicity/race, parental disapproval of smoking, and ethnic pride on smoking behaviors of adolescents attending a suburban high school in Connecticut. Many research studies examining smoking behaviors among ethnic/racial minority adolescents have been conducted in primarily low-income, urban populations with predominantly ethnic/racial minority populations. Although these are important communities to examine, it is unknown whether these protective factors are also relevant to ethnic/racial minority students in suburban high schools with predominantly White student populations. Minority adolescents in these schools may experience more challenges and difficulties with their ethnic identity, and therefore, face greater risk for engaging in risky behaviors such as smoking. This is important from a smoking perspective because smoking behaviors of Hispanic[27] and Asian-American youth[28] with greater acculturation levels are more likely to resemble smoking rates of White adolescents, and cigarette smoking among Black and Hispanic adolescents decreases as the percentage of minority students in the schools increases.[29] Additionally, an important component of ethnic identity, such as ethnic pride, may be protective against smoking behaviors for numerically underrepresented ethnic/racial minority groups. Therefore, we examined these important factors in this sample.

We hypothesized that perceived parental disapproval of smoking and high ethnic pride would be protective against susceptibility to smoking, ever smoking, and regular smoking in both minority and White adolescents. Furthermore, we hypothesized the interactive roles of these variables in that having high ethnic pride will heighten the protective effect of parental influences on smoking behaviors in minority adolescents. We could not separately examine each ethnic/racial group because of small sample size, but we conducted this analysis focusing on the Hispanic group, the single largest ethnic group to see whether the pattern observed in the overall minority groups was found in the largest ethnic group. We also compared non-Hispanic minority groups with the White group to assess whether the findings will be comparable to other ethnic/racial groups without the Hispanic group.

Methods

Participants

A total of 896 students participated in the survey, 3% (n = 26) of the participants were missing demographic information, and 13% (n = 120) were missing one or more study variables. Those who were missing demographic information were excluded from the analyses, and an expectation-maximization (EM) estimation derived data for the 120 participants missing values of the study variables. Data analyses were conducted using both listwise deletion and EM estimation and both methods derived comparable results. The results from EM estimation are presented in this paper.

The final sample (n = 870) consisted of 57.5% (n = 500) girls, 2.1% (n = 19) African-Americans, 2.8% (n = 24) Asian Americans, 9.7% (n = 84) Hispanics, 7.0% (n = 61) multi-ethnicity/race, 0.3% (n = 3) Native American, 1.3% (n = 11) Native-Hawaiian, and 76.8% Whites (n = 668). The ethnicity/race groups were dummy coded to represent either White or ethnic/racial minority group (23.2%; n = 202). The ethnicity/race breakdown in this study is comparable to the race/ethnic composition of the school (Native American 0.2%, Asian American 2.6%, African American 2.6%, Hispanic 9.5%).

Procedures

Data for this analysis are derived from an anonymous, school-based, self-report survey assessing attitudes and behaviors related to smoking, as well as other drug use of an entire student body of a Connecticut high school in 2010, as part of a larger study to develop a novel smoking prevention/intervention program. Two weeks prior to the administration of the survey, passive parental consent was obtained through mailing a letter informing parents of the survey procedures in which they were given the option of calling the school if they did not want their child to participate. Prior to the administration of the survey, assent was obtained from those who were less than 18 years of age and consent was obtained from those who were greater than 18 years of age. The research staff explained the survey procedures to students and provided detailed information about confidentiality, voluntary participation, and the content of the survey. The survey was conducted in an assembly setting. The Yale University School of Medicine Institutional Review Board approved this study.

Measures

Demographic characteristics—Demographic questions assessed gender, age, and ethnicity/race. Minority status was assigned to respondents who indicated that their ethnicity/race was: “Black or African American”, “Mexican American or Chicano”, “Cuban American”, “Puerto Rican”, “Other Hispanic or Latino”, “Asian American”, “American Indian or Alaska Native”, or *“Native Hawaiian or other Pacific Islander.”* The categories of “Mexican American or Chicano”, “Cuban American”, “Puerto Rican”, and *“Other Hispanic or Latino”* were recoded to reflect Hispanic ethnicity, and individuals who identified more than one race category, including White/Hispanic and Black/Hispanic, were coded as multi-racial, with the exception of multiple selections of Hispanic ethnicities. White category included only those who indicated *“ White (Caucasian)”*. To assess the difference between minority and White adolescents, ethnicity/race was dichotomized to indicate White and minority groups (i.e., non-White race).

Smoking Behavior—Three indicators of smoking behavior were used as dependent variables in the current study: susceptibility to smoking, history of ever trying a cigarette, and daily smoking in the past 30 days. Both trying a cigarette and susceptibility to smoking are comprehensive approaches to measure adolescent smoking initiation because they allow

for the integration of intention with behavior.[30] A history of ever trying a cigarette was assessed by a response *"yes"* to, "Have you ever tried cigarette smoking, even just 1 or 2 puffs?" and ever having been a regular smoker was assessed by a response *"yes"* to, "Have you ever smoked cigarettes regularly, that is, at least 1 cigarette every day for 30 days?"

Pierce's Susceptibility Scale to Smoking[31] was used to classify adolescents as susceptible to smoking or having the intention to smoke in the future. A respondent was considered not susceptible to smoking in the future if he/she answered *"no"* to the question, *"Do you think that you will try a cigarette soon?"* and responded, *"definitely not"* to the questions, "If one of your best friends were to offer you a cigarette, would you smoke it?" and "Do you think you will be smoking cigarettes 1 year from now?" Responses of either *"yes"* to the first question or *"probably not", "probably yes"*, or *"definitely yes"* to the last two questions were coded as susceptible to smoking.

Parental disapproval of smoking—Perceived parental disapproval of adolescent smoking was assessed using a 4-point Likert scale *"strongly disagree =1"* to *"strongly agree = 4"* to the question, "According to my parents, it is very important for me to not smoke cigarettes." [32-34]

Ethnic pride—Ethnic pride was assessed using the 7-item ethnic pride subscale of the Ethnic Identity Scale.[22] This subscale assesses the pride one feels about one's ethnic group, which is an integral aspect of ethnic identity. This subscale had a Chronbach's alpha of 0.80 based on the data in this study, and it has been shown to be protective against substance use for minority[22] and White[7] adolescents. To ensure that all adolescents understood the terms "ethnicity" and "ethnic group", we clarified these concepts prior to administering the questions: "Every person is born into an ethnic group, or sometimes two groups but people differ on how important their ethnicity is to them, how they feel about it, and how much their behavior is affected by it. These questions are about your ethnicity or your ethnic group and how you feel about it or react to it."

The items of the Ethnic pride asked whether an adolescent s (1) "thought a lot about what it means to be from their ethnic group," (2) "think ethnic groups are important to who they are," (3) "talked to people to learn more about their ethnic group," (4) *"know the history of their ethnic group,"* (5) "choose to be in their ethnic group," (6) "feel good about being from their ethnic group," and (7) "think that people from their ethnic group look better than people from other groups." Adolescents were asked their opinions on these aspects of ethnic pride using a 4-point Likert scale *"strongly disagree =1"* to *"strongly agree = 4"*, and the responses to these items were averaged to compute a total score.

Results

We used t-tests to assess for differences in continuous measures between minority and White adolescents and between those with missing data and those with complete data; chi-square tests were used to assess for differences in categorical measures.

Prior to conducting logistic regression analyses, all continuous variables were centered to aid in interpretation of findings and reduce the impact of multicollinearity in interaction terms. Three separate logistic regression analyses were then conducted to determine whether ethnicity/race, ethnic pride, parental disapproval of adolescent smoking, and the interaction among these variables were associated with (1) susceptibility to smoking, (2) ever trying a cigarette, and (3) regular smoking. For each model, ethnicity/race, parental disapproval, ethnic pride, two-way interaction terms (ethnicity/race x parental disapproval, ethnicity/race x ethnic pride, and parental disapproval x ethnic pride), and a three-way interaction term

(ethnicity/race x parental disapproval x ethnic pride) were entered simultaneously as independent variables, and all analyses controlled for age and gender. We also examined these variables comparing White and Hispanic adolescents to assess whether these findings are generalizable to Hispanic youth and also between White and non-Hispanic minority adolescents (i.e., Black, Asian, Native American/Native Hawaiian, Multi-ethnic/race) to assess whether the overall findings are consistent among these groups. We could not compare other specific ethnic/racial groups with White adolescents because of small sample size.

Table 1 presents the percentages and means of the study variables for the total sample and separately for each ethnic/racial minority and White students. The American Indian or Alaska Native and Native Hawaiian or other Pacific Islander groups were combined in Table 1 because of small sample size. The overall combined ethnic/racial minority adolescents reported stronger ethnic pride ($t(870) = -4.47$, $p < .001$) and less parental disapproval of smoking ($t(870) = 2.58$, $p = .01$) compared with White adolescents, but they did not differ in demographic variables and smoking behaviors. When specific ethnic/racial groups were compared to the White group on study variables, Hispanic ($t(750) = -4.39$, $p < .01$), Black ($t(685) = -2.24$, $p = .04$), and Asian ($t(690) = -2.31$, $p = .02$) adolescents reported greater ethnic pride. Ethnic/racial groups did not differ from White adolescents in their ratings of parental disapproval of smoking except for Hispanic adolescents who reported lower levels of parental disapproval ($t(750) = 2.64$, $p = .01$). Compared to White adolescents, Black ($\chi^2(687) = 7.55$, $p < .01$) and Native American/Native Hawaiian adolescents ($\chi^2(682) = 6.04$, $p = .01$) were more likely to report having tried cigarettes and Native American/Native Hawaiian adolescents were more likely to report being regular smokers, $\chi^2(682) = 8.92$, $p < .01$.

Table 2 presents the results of the logistic regression analyses assessing the main effects of ethnicity/race (combined minority group vs. White), ethnic pride, and parental disapproval of smoking, as well as the two-way and three-way interaction effects among these variables on the three smoking behavior outcomes. The probabilities of engaging in smoking behaviors based on the level of ethnic pride and parental disapproval were graphed separately for White and minority adolescents in Figure 1. Low ethnic pride and low parental disapproval was determined by values equal to or less than 0 and high ethnic pride and high parental disapproval was determined by values greater than 0 on each respective centered variable.

Contrary to our hypotheses, the main effects of ethnicity/race or ethnic pride were not statistically related to smoking behaviors. However, the three-way interaction (ethnicity/race x parental disapproval x ethnic pride) effects were significant for susceptibility to smoking, ever trying a cigarette, and regular smoking (Table 2, Figure 1), suggesting that parental disapproval of smoking was protective against all three smoking outcomes (regardless of ethnic pride) for White youth; for minority youth, those who reported high ethnic pride and high parental disapproval were protected from all three smoking behaviors compared to minority adolescents with low ethnic pride and low/high parental disapproval and high ethnic pride and low parental disapproval.

When the analysis was limited to White and Hispanic youth, ethnic pride was not associated with any smoking behaviors; however, the results supported that parental disapproval of smoking was associated with lower odds of susceptibility to smoking and ever trying a cigarette (See Table 3). In determining regular smoking, Hispanic adolescents who perceived higher parental disapproval of smoking cigarettes compared to White adolescents who also perceived higher parental disapproval of smoking and White and Hispanic

adolescents who did perceive lower parental disapproval of smoking were less likely to report regular smoking (See Figure 2).

The results comparing non-Hispanic minority groups with the White group were comparable to the results comparing the overall ethnic/racial minority group with the White group as discussed above, except for one difference showing that non-Hispanic minority groups were more likely to report smoking cigarettes regularly in the past 30 days. The regression coefficients, odds ratios, and confidence intervals are presented in Table 4 but the figure is not presented because the direction of the effects was comparable to the overall minority sample.

Discussion

This study examined the independent and interactive roles of ethnicity/race, ethnic pride, and parental disapproval of smoking in determining susceptibility to smoking, ever trying a cigarette, and regular smoking among adolescents attending a suburban high school in Connecticut. Our data suggest that smoking rates between minority and White adolescents were comparable. A possible explanation is that minority adolescents attending the suburban school are more assimilated to the dominant culture, and thus, may have adopted the smoking behaviors of the predominantly White adolescents in their high school. Other researchers have also found that acculturated Hispanic adolescents' smoking behaviors were more similar to those of Whites, and less acculturated Hispanic adolescents' smoking behaviors were more similar to those of Blacks and Asians.[27] Similarly, research has found that high acculturation levels in Asian-American youth were associated with earlier smoking onset and higher smoking prevalence rates than less acculturated Asian youth.[28]

When specific ethnic/racial group was compared to White adolescents, the data showed that Black and Native American/Native Hawaiian were more likely to try a cigarette and Native American/Native Hawaiian adolescents were more likely to be regular smokers. This finding contrasts with the existing data indicating that Black adolescents are protected from smoking behaviors. According to the findings of this study, it appears that Black adolescents attending a predominantly White school may be more likely than White adolescents to have tried cigarettes, which is of considerable concern given the growing disparity in smoking behaviors among these two racial groups in adulthood.[2,3] More consistent with the existing literature is the high rates of smoking behaviors among Native American/Native Hawaiian populations. Although, it is difficult to draw conclusive statements about the smoking behaviors of these two ethnic/racial groups because of the small sample sizes. Future studies should closely examine the smoking behaviors in these samples attending predominantly White, suburban schools.

The three-way interaction effects among ethnicity/race, parental disapproval of adolescent smoking and ethnic pride suggest that the protective factors against smoking behaviors differ for minority and White adolescents: parental disapproval of adolescent smoking was protective against all smoking behaviors such as susceptibility to smoking, ever smoking, and regular smoking for White adolescents regardless of ethnic pride. For minority adolescents, those who reported high ethnic pride and high parental disapproval of smoking were protected against all smoking behaviors compared to minority adolescents with high ethnic pride and low/high parental disapproval, and low ethnic pride and high parental disapproval.

We observed comparable finding when we omitted the Hispanic group in the analysis. However, when we limited the analysis to only Hispanic youth and White adolescents, we did not find that higher ethnic pride interacted with parental disapproval of smoking.

Parental disapproval of smoking and Hispanic ethnicity interacted in determining regular smoking, indicating that Hispanic adolescents who perceived greater parental disapproval of smoking were protected from regular smoking compared to White adolescents who perceived greater parental disapproval of smoking and White and Hispanic adolescents who perceived less parental disapproval of smoking. We may not have detected the effect of ethnic pride among Hispanic adolescents on smoking behaviors because of small sample size. Although we did not find that ethnic pride protected Hispanic adolescents from cigarette smoking, we may have been underpowered to detect an effect. Other studies[7,22] have found that high ethnic pride also protected Hispanic adolescents against substance use, including cigarette smoking. Another possibility is that parental disapproval of smoking is more important in precluding heavier smoking behavior among Hispanic youth than ethnic pride but this hypothesis should be tested larger Hispanic sample.

These findings may have valuable clinical applications. Perhaps, smoking cessation programs may effectively prevent and eliminate adolescent smoking by encouraging parental involvement. Furthermore, culturally sensitive smoking interventions aimed at minority populations may consider parents as critical figures who not only express disapproval of smoking and instill antismoking socialization at home, but also foster positive ethnic pride, which can be protective against smoking behaviors. A sense of ethnic pride is transmitted by parents through teaching and socialization practices that emphasize language use, exposure to history about their heritage, and encourage community involvement.[35]

The evaluation of protective roles, such as parental disapproval of smoking and ethnic pride, for both White and minority adolescents in a suburban high school is a major strength of this study. As the population in the United States becomes more diverse, smoking interventions should be tailored to multiethnic, multicultural populations rather than a single targeted group by combining common cultural themes relevant to the integrated population. This may facilitate dissemination of culturally sensitive smoking interventions.

As a response to such need, researchers have begun to develop multicultural smoking prevention curricula that draw upon common themes from different ethnic/racial minority groups.[36,37] These curricula are based on the collectivist framework that teaches minority adolescents to avoid cigarette smoking for the benefit of their family and community, and address important determinants of smoking behavior, such as discrimination and acculturative stress. The findings of this study indicate that the multicultural curriculum may not be as effective for minority adolescents attending schools with predominantly White or integrated school populations. These results suggest that in heterogeneous, diverse populations, culture-specific protective influences should be framed in an individualistic framework that focuses on the influences of smoking on the individual self. For instance, positive ethnic pride can be promoted by teaching cultural group norms that are protective against smoking while maintaining the focus on the self, and this transmission of ethnic pride may be fostered by parent involvement. As this research finding suggests, high ethnic pride in combination with high parental disapproval of smoking is protective against smoking behaviors for minority adolescents; therefore, fostering such identity development may have smoking prevention implications.

A second strength of this study is the presentation of varying smoking behaviors including susceptibility to smoking, ever trying a cigarette, and regular smoking, whereas the majority of the smoking literature focuses on a single aspect of smoking behavior. The risk and protective influences in each stage of smoking behaviors, from initiation to escalation to regular smoking to the development of addiction to cigarettes are different;[38] therefore, examining a wide range of smoking behaviors allows us to draw conclusions on differential protective influences at each level, which can inform both prevention and cessation

interventions. Third, the examination of the role of ethnic pride of White adolescents adds to the current literature on White race identity and smoking behaviors. In the suburban high school in Connecticut, where White adolescents are the numerical majority (77%), ethnic pride does not appear to be associated with smoking behaviors.

Caution should be taken when interpreting the findings of this study. Combining diverse ethnic/racial groups into a single minority group does not capture potential unique protective and risk factors specific to each group; nevertheless, there is a value to studying these groups as a combined group because they may share similar risk and protective factors for smoking because of commonly shared experiences as a member of a numerically underrepresented racial/ethnic minority group. Ethnic/racial minority students attending schools located in geographical areas where White adolescents are the numerical majority are difficult to examine because of issues of sample size and power-related issues. Despite this challenge, we examined important protective factors against smoking behaviors in this population, which can inform culturally sensitive smoking prevention and cessation interventions. Second, reliance on self-report measures of smoking rather than having biochemical confirmation is a limitation because it is possible that certain adolescents were less likely to honestly report their smoking behavior for fear of consequences even though confidentiality and anonymity was explained. Third, although evidence suggests adolescents' perceptions of parents' attitudes about smoking may be more important than their actual attitudes; direct assessment of parental disapproval of smoking among different ethnic/racial groups should be obtained in future studies.

Finally, we have drawn programmatic implications based on the findings of this study, however, further longitudinal research is needed to assess whether actually strengthening ethnic pride in addition to incorporating greater parental disapproval of smoking will preclude smoking behaviors among minority adolescents. Future research should clarify the etiology of ethnic pride development as well as the mechanisms that explain how ethnic pride influences smoking behaviors. One proposed mechanism is that adolescent smoking, parent-adolescent conflict, and low ethnic identity are associated with antisocial behavior that influences adolescents to associate with peers who smoke cigarettes and use illegal drugs, which then may lead to young adult smoking.[39] Another possibility is that the experience of discrimination affects the development of weaker ethnic identity, which then leads to worse mental health outcomes.[40] These mechanisms should be tested in future studies.

In conclusion, parental disapproval of smoking is an important social influence that may preclude the initiation of and progression to smoking behaviors among White adolescents. However, for minority adolescents, parental disapproval alone does not appear to exert influence on smoking behaviors, and rather, the combined effect of greater parental disapproval of smoking and higher ethnic pride has a stronger protective influence over different levels of smoking behaviors. We also found that ethnic pride may not protect Hispanic adolescents from smoking behaviors, but caution should be taken when interpreting this finding because of the small sample size of the Hispanic group. The overall findings of this study suggest that culturally sensitive smoking prevention and intervention can be strengthened by encouraging parent involvement to build strong ethnic pride and prohibit against the use of cigarettes.

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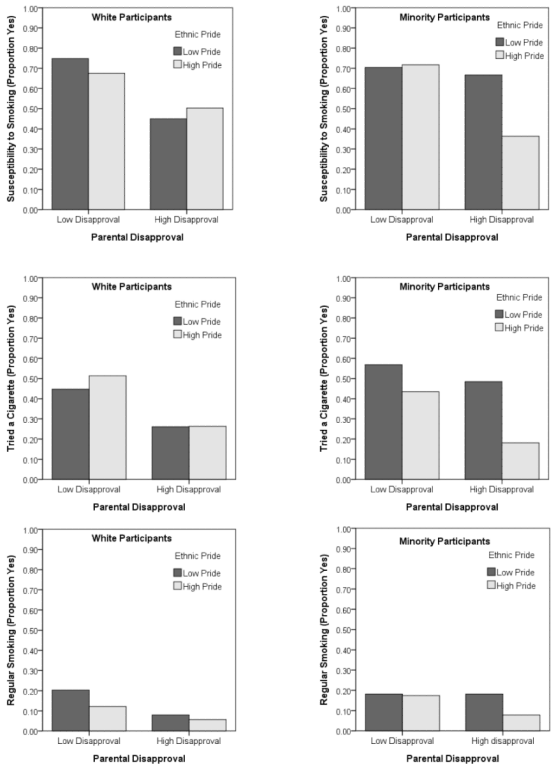

Figure 1.

Interactive effect of parental disapproval of smoking and ethnic pride smoking behaviors on susceptibility to smoking, ever trying a cigarette, and regular smoking separately for White (n = 668) and minority adolescents (n = 202). Note: All models controlled for age and gender.

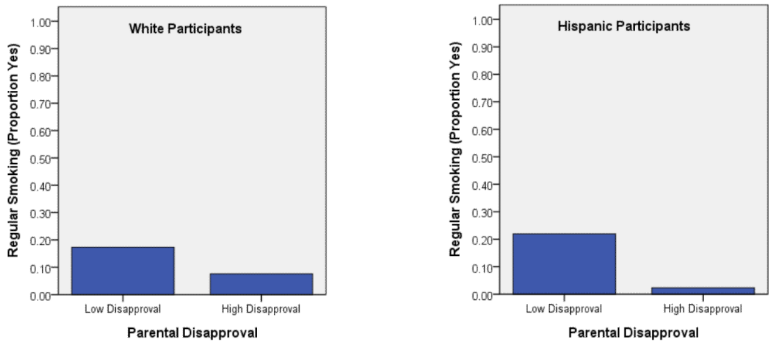

Figure 2.

Effect of parental disapproval of smoking on regular smoking separately for White (n = 668) and Hispanic (n = 84) adolescents. Note: All models controlled for age and gender.

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Table 1

Characteristics of adolescents.

	Total (*N* = 870)	**White (*n* = 668)**	**Minority (*n* = 202)**	**Hispanic (*n* = 84)**	**Multi-Ethnicity/ Race (*n* = 61)**	**Asian (*n* = 24)**	**African American (*n* = 19)**	**Native American/ Native Hawaiian (*n* = 14)**
Gender (%)								
Male	42.5	42.1	44.0	50.0	34.4	25.0	63.2	57.1
Female	57.5	57.9	56.0	50.0	65.6	75.0	36.8	42.9
Age (%)								
13 and younger -14	14.4	14.5	14.0	14.3	59.0	41.7	10.5	7.1
15-16	54.1	52.4	60.0	61.9	14.7	33.4	52.6	71.4
17-18 and older	31.4	33.1	26.0	23.8	26.2	25.0	36.8	21.4
Grade								
9th	27.3	26.8	29.0	31.3	36.1	21.7	10.5	21.4
10th	27.6	25.1	36.0	34.9	31.1	39.1	42.1	50.0
11th	22.8	23.4	21.0	26.5	13.1	26.1	15.8	21.4
12th	22.2	24.7	14.0	7.2	19.7	13.0	31.6	7.1
Susceptibility to Smoking (%)	55.6	55.2	57.0	63.1	49.2	50.0	47.4	78.6
Tried Cigarette (%)	34.0	32.9	37.5	32.1	32.8	29.2	63.2	64.3
Smoke Regularly (%)	11.3	10.5	14.0	11.9	14.8	0.0	21.2	35.7
Parent Disapproval (*M, CI*)	3.55 (3.50, 3.59)	3.58 (3.53, 3.63)	3.43 (3.32, 3.53)	3.32 (3.51, 3.41)	3.49 (3.33, 3.65)	3.56 (3.21, 3.90)	3.47 (3.10, 3.58)	3.49 (3.13, 3.85)
Ethnic Pride (*M, CI*)	2.57 (2.54, 2.61)	2.53 (2.49, 2.56)	2.75 (2.65, 2.84)	2.85 (2.71, 2.99)	2.64 (2.50, 2.80)	2.76 (2.51, 3.01)	2.86 (2.54, 3.17)	2.38 (1.85, 2.90)

M = mean; CI = 95% confidence interval

Table 2

Logistic regression analyses examining independent and interactive effects of ethnicity/race, parental disapproval, ethnic pride on smoking behaviors between combined ethnic/minority groups (n = 202) and White adolescents (n = 668).

	Susceptibility				Tried Cigarette				Regular Smoking			
	B	**SE**	**OR**	**CI**	***B***	**SE**	**OR**	**CI**	***B***	**SE**	**OR**	**CI**
Ethnicity/Race (combined minority adolescents [coded 1] vs. White adolescents [coded 0])	0.15	0.19	1.17	0.81, 1.67	0.29	0.19	0.90	0.67, 1.22	0.39	0.26	1.48	0.88, 2.46
Parental disapproval (PD)	−0.74	0.14	0.48**	0.36, 0.63	−0.59	0.12	0.56**	0.44, 0.71	−0.66	0.16	0.52**	0.38, 0.71
Ethnic Pride (EP)	−0.18	0.17	0.84	0.60, 1.17	−0.10	0.18	0.90	0.64, 1.28	−0.25	0.28	0.78	0.45, 1.34
2-Way Interactions												
PD x EP	0.40	0.24	1.49	0.93, 2.39	0.08	0.22	1.09	0.71, 1.66	0.50	0.32	1.65	0.89, 3.07
Ethnicity/race x EP	−0.68	0.32	0.51*	0.28, 0.94	−0.82	0.32	0.44*	0.24, 0.82	−0.11	0.43	0.99	0.39, 2.08
Ethnicity/race x PD	−0.10	0.28	1.11	0.64, 1.93	0.06	0.25	1.06	0.65, 1.73	0.57	0.33	1.77	0.92, 3.39
3-Way Interaction												
Ethnicity/race x EP x PD	−1.04	0.43	0.36*	0.15, 0.83	−0.83	0.29	0.44*	0.21, 0.91	−1.49	0.51	0.22**	0.08, 0.61

All analyses controlled for age and gender.

* $p < .05$.

** $p < .01$.

Table 3

Logistic regression analyses examining the independent and interactive effects of ethnicity/race, parental disapproval, ethnic pride on smoking behaviors between Hispanic adolescents (n = 84) and White adolescents (n = 668).

	Susceptibility				Tried Cigarette				Regular Smoking			
	B	**SE**	**OR**	**CI**	***B***	**SE**	**OR**	**CI**	***B***	**SE**	**OR**	**CI**
Ethnicity/Race (Hispanic adolescents [coded 1] vs. White adolescents [coded 0])	0.16	0.27	1.18	0.69, 2.02	−0.17	0.30	0.85	0.47, 1.51	−1.41	0.91	0.25	0.04, 1.45
Parental disapproval (PD)	−0.74	0.14	0.48**	0.36, 0.63	−0.58	0.12	0.56**	0.44, 0.71	−0.66	0.16	0.52**	0.38, 0.71
Ethnic Pride (EP)	−0.17	0.17	0.84	0.61, 1.18	−0.11	0.18	0.90	0.64, 1.28	−0.24	0.28	0.79	0.45, 1.36
2-Way Interactions												
PD x EP	0.40	0.24	1.49	0.93, 2.38	0.09	0.22	1.09	0.71, 1.66	0.49	0.32	1.63	0.88, 3.03
Ethnicity/race x EP	0.22	0.40	1.25	0.57, 2.74	−0.22	0.44	0.80	0.34, 1.91	2.45	1.01	11.64*	1.61, 83.96
Ethnicity/race x PD	−0.31	0.45	0.75	0.30, 1.78	−0.13	0.37	0.88	0.43, 1.80	−0.56	0.58	0.57	0.18, 1.79
3-Way Interaction												
Ethnicity/race x EP x PD	−0.60	0.70	0.55	0.14, 2.17	−0.60	0.61	0.55	0.17, 1.80	0.12	0.46	1.12	0.22, 5.85

All analyses controlled for age and gender.

* $p < .05$.

** $p < .01$.

Table 4

Logistic regression analyses examining the independent and interactive effects of ethnicity/race, parental disapproval, ethnic pride on smoking behaviors between non-Hispanic ethnic/minority groups (n = 118) and White adolescents (n = 668).

	Susceptibility				Tried Cigarette				Regular Smoking			
	B	**SE**	**OR**	**CI**	***B***	**SE**	**OR**	**CI**	***B***	**SE**	**OR**	**CI**
Ethnicity/Race (minority adolescents without Hispanic adolescents [coded 1] vs. White adolescents [coded 0])	0.15	0.25	1.16	0.71, 1.88	0.50	0.23	1.65	1.05, 2.59	0.50	0.23	1.65*	1.05, 2.59
Parental disapproval (PD)	−0.74	0.14	0.48**	0.36, 0.63	−0.59	0.12	0.56**	0.44, 0.71	−0.59	0.12	0.55**	0.43, 0.71
Ethnic Pride (EP)	−0.19	0.17	0.83	0.60, 1.16	−0.11	0.18	0.90	0.63, 1.28	−0.11	0.18	0.90	0.63, 1.28
2-Way Interactions												
PD x EP	0.40	0.24	1.49	0.93, 2.39	0.84	0.22	1.09	0.71, 1.66	0.08	0.22	1.09	0.71, 1.66
Ethnicity/race x EP	−2.04	0.55	0.13**	0.05, 0.38	−1.24	0.43	0.29**	0.12, 0.68	−1.24	0.43	0.29	0.12, 0.68
Ethnicity/race x PD	0.58	0.36	1.80	0.87, 3.62	0.17	0.33	1.19	0.62, 2.26	0.17	0.33	1.19	0.62, 2.26
3-Way Interaction												
Ethnicity/race x EP x PD	−1.49	0.53	0.23**	0.08, 0.63	−0.96	0.44	0.38*	0.16, 0.91	−0.96	0.44	0.38*	0.16, 0.91

All analyses controlled for age and gender.

* $p < .05$.

** $p < .01$.