

## Cultural Orientation as a Protective Factor Against Tobacco and Marijuana Smoking for African American Young Women

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**Abstract** The present study examined cultural orientation as a protective factor against tobacco and marijuana smoking for African American young women (ages 18 to 25). African American college students ( $N = 145$ ) from a predominantly White university were administered subscales from the African American Acculturation Scale-Revised (AAAS-R); the shortened Individualism/Collectivism (INDCOL) Scale; a Tobacco and Drug Use Survey; and a background survey. Multiple logistic regression was conducted using cultural orientation variables as predictors and smoking status (i.e., tobacco and marijuana) as the criterion. It was expected that young women who endorsed traditional African American cultural characteristics (i.e., religious beliefs, health, family values, and socialization) and

were collectivistic in their community (i.e., cultural interdependency) and familial (i.e., familial interdependency) interactions would be less likely to smoke. Results show that traditional religious beliefs and practice was protective against tobacco smoking for this sample of young women. Familial interdependency (e.g., supportive exchanges between friends, and consultation and sharing with parents), and traditional religious beliefs and practices surfaced as protective factors against marijuana smoking. Traditional health beliefs and practices was a risk factor for both tobacco and marijuana smoking. The implications signal the need for smoking prevention and cessation programs to

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focus on interpersonal factors which may strengthen African American young women's religious and familial bonding.

**keywords** African American females · Culture · Emerging adulthood · Tobacco use · Marijuana use

## Introduction

The smoking of tobacco and marijuana is typically thought to begin in adolescence. As a result, most prevention and intervention programs are focused on helping adolescents develop skills to decrease smoking behaviors or prevent smoking initiation. Recent studies on tobacco and marijuana, however, have found that this period of initiation differs among various ethnic groups. Specifically, the age of smoking initiation is later for African Americans than for individuals from other ethnic groups in relation to both tobacco (Ellickson *et al.*, 2001; Trinidad *et al.*, 2004) and marijuana (Guo *et al.*, 2002; Johnson *et al.*, 2001), smoking suggesting that the period between adolescence and adulthood (i.e., emerging adulthood) may be a time of crucial intervention. In addition, while the smoking rates for most ethnic groups steady across later developmental stages, African Americans tend to show a greater increase in smoking behavior as they get older (Howard, 2003).

The study of tobacco and marijuana use is important because both substances are considered “gateway” or initiation drugs, which when used early in life increase the likelihood of exploring other “harder” substances such as cocaine and heroin (e.g., Kandel *et al.*, 1992; Yamaguchi and Kandel, 1984). Although it is noted that African Americans experience a later smoking onset (i.e., early adolescence vs. late adolescence) than other ethnic groups, the patterns of progressive tobacco and marijuana use between adolescence and adulthood, especially among African American young women, is of major concern. Equally as important are findings that demonstrate comparably adverse health outcomes for tobacco and marijuana smokers within this population, such as heart disease, diabetes, HIV/AIDS, as well as respiratory problems and precancerous conditions in the lungs (DHHS, 2004; NIDA, 2004). In fact, studies have shown that marijuana smoke contains more cancer-causing agents than is found in tobacco smoke, highlighting the importance of including measures of marijuana use when studying smoking behavior (NIDA, 2004). Later onset smoking initiation may also have significant implications for African American women if it occurs during peak childbearing years. Among these women, tobacco and marijuana smoking have similar reproductive consequences, often leading to infertility, infant mortality, and child developmental delays (e.g., Enster, 1993; MMWR, 1993; Fielding, 1987).

It is our position that greater attention should be afforded to the etiology of tobacco and marijuana smoking for African American young women so as to increase the scientific community's understanding of factors that might prevent later onset smoking in this population. Relatively few studies have focused explicitly on factors that might prevent smoking behaviors among African American adolescents and young adults (e.g., Belgrave *et al.*, 2004). The current study presents the case for such an inquiry, first, by highlighting the smoking prevalence rates for African American women, and then focusing on the identification of protective factors against tobacco and marijuana use in this population.

The prevalence of tobacco and marijuana smoking among African American young women

Although studies have documented a substantial decline in the overall rates of tobacco and marijuana use among African Americans, these findings can be misleading as they apply to African American young women. African American adolescent girls are less likely to smoke tobacco than girls from any other U.S. ethnic group (MMWR, 2004). Whereas 26.3% of American Indian/Alaskan Native, 17.2% of White Non-Hispanic, 10% of Hispanic, and 7.3% of Asian adolescent girls (12–17 years) report regular tobacco smoking, only 5.9% of African American girls between the same ages report regular smoking (MMWR, 2004). Unfortunately, this is short-lived and there is a substantial increase in the number of African American women smokers following adolescence (Howard, 2003). For example, African American women experience the largest percent increase in regular tobacco smoking between adolescence (ages 12–17; 5.9%) and adulthood (age  $\geq 18$ ; 22.2%) than any other group; placing them as the third largest group of women smokers (MMWR, 2004).

Also of concern are findings that this increase in smoking behavior persists into later adulthood. Wagenknecht *et al.*, (1998), for example, found that over a ten-year period (1986–1996) smoking rates declined significantly for White women ( $-0.50\%/year$ ) but remained unchanged for African American women. In addition, African American women are more likely to smoke brands with higher nicotine and tar levels (Stoddard *et al.*, 1997; Shopland, 1995); thereby, increasing the likelihood of nicotine dependence and addiction and making them less likely than their White American counterparts to succeed in quitting (American Lung Association, November 2003).

Similar trends are noted for marijuana use. The national percentage for past year marijuana use among 12 to 17 year olds is lower for African American (12%) than for White youth (18%) (NSHDA, 2003). And, while there is a similar gap between the ages of 18 and 25 in these two groups (27% and 34%, respectively), Compton *et al.*,

(2004) reported that the national percent increase in marijuana use between 1991–1992 and 2001–2002 was greatest among African American (3% and 7%) and Hispanic women (3% and 5%), but remained relatively unchanged for White women (8% and 9%). The health risks associated with marijuana smoking, however, are potentially more severe than tobacco smoking in that marijuana use increases the chances for subsequent addictions (Doweiko, 1999); unwanted, unsolicited, and unprotected sex (Larimer *et al.*, 1999); and places African American women at higher risk of contracting sexually transmitted diseases (STDs), in particular HIV disease (Anderson and Mathieu 1998). Research has also shown that while African American women in college are less likely than their classmates to consume alcohol and smoke tobacco, they are in fact more likely to smoke marijuana (Madison-Colmore *et al.*, 2003), thereby increasing the risk for a myriad of other health, social, and academic concerns. To summarize, the overall decline in the national percentages of tobacco and marijuana smoking may actually mask the increasing rates of use among African American women.

Therefore, with the understanding that African American women (a) experience the highest percent increase in tobacco smoking between adolescence and adulthood; (b) report the highest percent increase in marijuana smoking over the past decade; and, (c) exhibit low success rates in smoking cessation as adults, we thought it prudent to identify potential protective factors against tobacco and marijuana smoking for African American women (ages 18 to 25). The identification of risk and protective factors (i.e., resilience) within the African American population has not been extensively studied. Yet, researchers and theorists have emphasized the importance of both sets of resilience factors in the development of intervention and prevention programs. King (1997) notes that most minority health research has centered on majority-minority comparisons of diseases and risk behaviors that are most prevalent among minorities. On the other hand, intra-minority group status and behavior is less often investigated. Hence, the importance in examining this specific population is highly justified so as to better delineate the reasons for smoking among African American young women.

#### The protective role of African American cultural values & socialization practices

Preventive intervention efforts directed toward addressing the overall smoking prevalence in African American young women have been less than effective (Guthrie *et al.*, 2001). However, one area of prevention research which shows great promise is the study of cultural protective factors. Researchers have found that some cultural characteristics (e.g., those related to one's ethnic background) are associated with

decreased substance use among African Americans (Miller 1999; Wright and Fitzpatrick, 2004). These protective cultural characteristics typically indicate that an individual has adopted values and norms that are either shared with groups of similar background and experience, or are unique to one's particular ethnoracial group.

Among African Americans, traditional values and normative socialization experiences have often been described as highly interdependent, spiritual (i.e., religious), and communal (Boykin and Toms, 1985). Indeed, there is strong consensus that many African Americans grow up in families that adhere to the African traditions of being religious (Taylor, 1988), communal and collectivistic (Moemeka, 1998). These cultural traditions and practices may serve a protective function in adolescent and adult adjustment. For instance, religiosity has been found to protect African American individuals from smoking (Wills *et al.*, 2003a, 2003b). Findings by Wallace *et al.*, (2003) further suggest that the effect of religiosity on African Americans drug use may function effectively at the community level (e.g., cultural proscriptions) rather than solely at the individual level in promoting abstinence. In addition, cultural and familial interdependency (i.e., supportive exchanges between community, family, and friends) has been shown to protect ethnic minority adolescents and young adults from the negative effects of controversial peer status groups and pressure to smoke (Ellickson *et al.*, 2003; Freeberg and Stein, 1996). Other studies have shown that the quality of familial attachments (Biglan *et al.*, 1995; Tilson *et al.*, 2004) and parental involvement (Conrad *et al.*, 1992) also serve to inhibit the onset of smoking among ethnic minorities.

The salience of cultural and familial interdependency among African American women is consistent with the relational worldview found among women in general (Miller, 1986). Relationships and connections are central to a woman's sense of self worth and identity. When relationship needs are met within a supportive context of family, kin, friends and others, women are not likely to use drugs. On the other hand, when relationship needs are not met, women may be vulnerable to using and abusing substances. In fact, women are more likely than men to initiate drug use in the context of a relationship (Finkelstein *et al.*, 1997). Positive family relationships, strong religious beliefs, and connections with others may be especially protective for women during the emerging adult years. It is during these years of independency that relationships are forged with those outside of the woman's immediate family and socio-cultural context (Baslow and Rubin, 1999).

Research has also shown traditional cultural factors (e.g., ethnic identity, feelings of belongingness to one's ethnic group) to be associated with overall adaptive behaviors and attitudes (Wong *et al.*, 2003), better coping ability and lowered depression (Grieg 2003; Roberts *et al.*, 1999), increased

psychosocial competence (Carter *et al.*, 1997), and prosocial attitudes (Smith *et al.*, 1999). For African American women, a communal or collectivist orientation may be protective because such an orientation considers significant others in health decisions, including decisions to smoke or not. This raises a paradox as there may be competing motivations among women who smoke tobacco and marijuana. On the one hand, women may initiate and consume drugs when in relationships with others, typically men who encourage such use. At the same time, collectivistic and communal orientations emphasize that health decisions should be made while considering the overall impact of these decisions on family and significant others.

In contrast, Klonoff and Landrine (1996, 1999) have found that traditional socialization characteristics specific to African American culture (e.g., growing up in predominantly African American neighborhoods, attending predominantly African American schools), traditional African American family practices (e.g., eating ethnic foods; relationship among immediate and extended family members), and African American health beliefs and practices (e.g., traditional healing beliefs) were *risk factors* for smoking (Klonoff and Landrine, 1996, 1999). Although no gender effects were found, 78.4% of African American women in the 1996 study who endorsed traditional cultural beliefs and practices were smokers. The authors provide several reasons why this relationship may exist: (1) African Americans having more traditional childhood experiences may seem more “stereotypically” Black, and as a result may be prone to certain racial stressors from mainstream society, inciting a need to cope that may include the use of substances (i.e., childhood socialization); (2) highly traditional African Americans may lead unhealthy lifestyles—such as consumption of fried and salty foods—which may be indicative of other unhealthy behaviors such as smoking (i.e., traditional family practices); and, (3) highly traditional African Americans, in general, may have poor knowledge about prevention and health, and hold irrational beliefs that traditional health practices may render them invulnerable to certain diseases and disorders (i.e., traditional health beliefs and practices).

We hypothesize that a factor contributing to the discrepant findings between Klonoff and Landrine’s studies and other studies supporting the protective role of African cultural values is that the former sampled African American adults between the ages 18 to 79, without making any distinctions between the age groups. Specifically, the average age of the participants in the Klonoff and Landrine studies (1996, 1999) was 28.59 (SD = 10.89) and 28.2 (SD = 10.01) years, respectively. Although classifying individuals 18 and older as adults is consistent with the *societal* norm in the U.S., developmentally speaking this age range comprises at least four, characteristic-specific devel-

opmental periods (e.g., emerging adulthood (roughly 18 to 25), young adulthood (roughly 26 to 40), middle adulthood (roughly 40 to 60), and late adulthood (roughly 60 and over)) (Feldman, 2003). Risk and protective factors may function differently within each of these developmental periods. For example, researchers have found age-related differences in the quality of family attachment, family support systems, and identity development (Andrews *et al.*, 1993), each of which can influence the initiation of smoking behaviors. As such, it is likely that the Klonoff and Landrine studies masked age-related differences in cultural attributes that may exist within African American populations.

#### Theoretical framework

The study of protective factors (i.e., resilience) within minority populations necessitates an epistemological framework that raises inquiries based on cultural integrity models, rather than cultural deficit approaches. Protective factors are considered characteristics that distinguish optimal functioning group members from members of the same group who have developed serious problems (Luthar, 1993; Luthar *et al.*, 2000a). Research on protective factors has shown that some youth are at decreased risk for behavioral and emotional difficulties (including substance use) despite their exposure to stressful conditions (Garmezy and Rutter, 1985). However, the methodological approaches used to determine whether factors are functioning in a protective fashion have varied. Debate among scholars on how to establish the protective function of certain characteristics has been reviewed extensively in the literature (Luthar *et al.*, 2000a, 2000b; Roosa, 2000; von Eye and Schuster, 2000). For example, some researchers establish the protective function of factors via main effects (Luthar, *et al.*, 2000a), whereas others demonstrate a protective function as an interaction effect between risk and protective factors (e.g., Rutter, 1987). Our conceptualization of protective factors is similar to that of Luthar’s, and therefore will be defined as those factors that positively affect the outcome (i.e., main effect).

#### The current study

For many college students, the period between late adolescence and young adulthood is characterized as a transition period when youth are striving for self-reliance and independence (Arnett, 2000). It is during this developmental period that individuals are most likely to seek emotional and psychological independence from family and relatives. For many, this quest for independence and decision-making power results in transformations in sexual, racial, ethnic, and political identities as well as an increase in the degree of experimentation with substances both legal and illegal. Among African American women, it is believed that certain cultural

socialization practices might ease the transition, and make for a better adjustment (i.e., non-substance use) during this developmental period.

While the studies by Landrine and Klonoff have found that traditional African American socialization practices actually increase African American adults' risk of smoking, our expectation is that cultural variables will support non-use of drugs among African American women in the period of emerging adulthood. Specifically, we hypothesize that African American young women with high levels of cultural and familial interdependency as measured by both general and culture-specific orientations (e.g., immersion in African American family practices, religious beliefs) will be less likely to smoke tobacco products or experiment with illicit substances such as marijuana. To determine protective characteristics, Luthar (1993) contends that main effect models ask, "Among [groups placed at-risk], what distinguishes those who do well from those who do poorly?" (p. 449). We will seek to answer this research question by identifying cultural characteristics that promote positive and healthy functioning, as demonstrated by nonsmoking behaviors among African American women.

Finally, research suggests that smoking behavior is associated with individual, family, and neighborhood demographic characteristics. For example, studies have reported that rates of drinking for college students who do and do not report a history of parental drinking problems differ (Baer *et al.*, 1995). Sibling drug use is also linked to adolescent and young adult drug use and this link seems to be related to environmental similarity (Schulenberg and Maggs, 2002). Community factors, specifically exposure to drugs, also affect drug use among adolescents and adults. Individuals who reside in communities with higher accessibility to cigarettes and marijuana are more likely to use drugs than other individuals (Wallace and Muroff, 2002). Moreover, the NHSDA (2001) found that African American youth had the highest rate of exposure to adult marijuana use (39.4%) and neighborhood drug selling (42.4%) than other youth. Thus, throughout our analyses, we control for demographic characteristics.

## Method

### Participants

Participants were 145 undergraduate African American women from a predominantly White university located in a rural, mid-Atlantic region of the U.S. Of the 14,200 students enrolled at the university, 476 (3.4%) were African American and 300 (2%) were African American women. Participants were recruited from general education courses via Experimentrix—a web-based subject pool service—to participate in a study evaluating cultural attitudes and

beliefs. Participant's age ranged from 18 to 25 ( $M = 19.9$ ,  $SD = 1.72$ ). Seventy-three percent of the participants were second-semester freshmen, 13% sophomores, 12% juniors, and 2% seniors. Sixty-four percent reported that they were from middle to upper class backgrounds. Over two-thirds reported that their parents were married. The percentage of participants who grew up in a predominantly Black neighborhood (36%) was almost identical to those who indicated having grown up in a racially diverse (34%) or predominantly White neighborhood (30%). Seventy percent reported that their mother had some college or higher education.

### Procedure

Participants were seen in a university classroom during an allotted time period. Only ten participants were scheduled for any one-time period to ensure maximum comfort and privacy. The session began with a general orientation to the study's procedures. Once consent forms were signed, participants completed questionnaires. Research assistants were available to answer questions. Students received course credit for participating in the study. Descriptive statistics for measures included in the present study are summarized in Table 1.

### Measures

#### *Background and demographics questions*

Participants answered questions about their age, academic classification (e.g., freshmen, sophomore, junior, and senior), SES (e.g., lower class, working class, middle class, upper class), and reported on neighborhood characteristics. Neighborhood characteristics were assessed using items from *The Screening Survey of Exposure to Community Violence* (Richters 1990). Participants were asked to respond to items in terms of the neighborhood where they spent most of their time as a youth. A sample item of the scale is, "In my neighborhood" I have seen drug deals. The 12-item questionnaire is based on a four-point scale with higher scores indicating higher perceived neighborhood risk when growing up. In this study, the internal consistency of the scale was .83.

#### *African American acculturation scale-revised (AAAS-R)*

The AAAS-R (Klonoff and Landrine, 2000) was used to assess participants' level of acculturation. The scale consists of 47-items answered using a 7-point Likert scale (1 = Totally disagree to 7 = Totally agree). The items can be summed to obtain a total score and combined to form eight subscales. Low scores on the instrument indicate an orientation toward

**Table 1** Means, standard deviations, ranges, and skewness of primary study variables

Variable	<i>M</i>	<i>SD</i>	Range	Skewness
African American acculturation				
Health beliefs and practices	4.59	1.02	1–7	0.17
Religious beliefs and practices	5.72	1.03	1–7	–0.96
Traditional socialization	3.80	1.62	1–7	0.21
Family practices	5.31	0.95	1–7	–0.63
Preferences for things Af. Am	5.04	0.90	1–7	–0.76
Attitudes of cultural mistrust	3.62	1.10	1–7	0.42
Cultural superstitions	3.57	1.16	1–7	0.39
Family interdependency				
Supportive exchanges with colleagues and friends	1.85	0.48	1–5	0.51
Sharing and consulting with parents	1.05	0.57	1–5	–0.93
Cultural interdependency				
Susceptibility to the influence of kin and close friends	0.11	0.59	1–5	–0.40
Neighbor/Social isolation	–1.31	0.79	1–5	0.20

mainstream society, whereas high scores are indicative of African American cultural immersion. In the current study, seven of the eight subscales had alphas  $\geq .65$  and were used in analyses: Preferences for Things African American (e.g., “Most of the music I listen to is by Black artists”) ( $\alpha = .76$ ), Religious Beliefs and Practices (e.g., “The church is the heart of the Black community”) ( $\alpha = .85$ ), Family Practices (e.g., “When I was young, I shared a bed at night with my sister, brother, or some other relative”) ( $\alpha = .72$ ), Health Beliefs and Practices (e.g., “Some people in my family use Epsom salts”) ( $\alpha = .70$ ), Traditional Childhood Socialization (e.g., “I grew up in a mostly Black neighborhood”) ( $\alpha = .70$ ), Attitudes of Cultural Mistrust (e.g., “Most tests like the SATs and tests to get a job are set up to make sure that black people do not score well on them”) ( $\alpha = .65$ ), and Cultural Superstitions (e.g., “I avoid splitting a pole”) ( $\alpha = .67$ ). Because the remaining subscale, Family Values (e.g., “It is better to try to move your whole family ahead rather than trying to be out for yourself”), had a low Cronbach alpha ( $\alpha = .37$ ), it was not used in analyses (Robinson *et al.*, 1991).

#### *Individualism-collectivism—short form (INDCOL)*

The Shortened INDCOL (Hui and Yee, 1994) is a 33-item instrument that asks individuals what they would think/feel/do in various situations (0 = Strongly Disagree and 5 = Strongly Agree). The scoring scheme for the Shortened INDCOL is such that items are either added or subtracted from each other to yield a subscale score. Thus, negative values are possible. The instrument is comprised of two dimensions: In-group Solidarity (i.e., Family Interdependency), which measures the degree of interdependency between family and friends, and Social Obligation (i.e., Cultural Interdependency), which measures the extent of collectivistic orientation toward others. Family Interdependency is further comprised of three subscales which measure (a) supportive exchanges between colleagues and friends (8-items;

$\alpha = .74$ ) (e.g., “There is everything to gain and nothing to lose for co-workers to groups themselves to help each other”), (b) consultation and sharing with parents (5-items;  $\alpha = .83$ ) (e.g., “Young people should take into consideration their parents’ advice when making career/education plans”), and (c) personality distinctiveness from parents (5-items;  $\alpha = .42$ ) (e.g., “Children should not feel honored even if the father were highly praised and given an award by a government official for his contribution and service to the community”). Personality distinctiveness from parents was dropped because of the low alpha. The resulting Cronbach alpha for the Family Interdependency dimension was good ( $\alpha = .76$ ). Cultural Interdependency consists of two subscales: (a) neighbor/social isolation (6-items;  $\alpha = .70$ ) (e.g., “I enjoy meeting and talking to my neighbors every day”) and (b) susceptibility to the influence of kin and close neighbors (9-items;  $\alpha = .74$ ) (e.g., “When deciding what kind of education to have, I would definitely pay attention to the views of relatives of my generation”).

#### *Tobacco and drug use survey*

Participants were asked about their previous and current use of tobacco and marijuana products. Tobacco smoking status was measured by their responses to two questions: (a) “Do you currently smoke cigarettes?” and (b) “Have you smoked cigarettes in the past 7 days?” Participants who answered “yes” to both questions were classified as smokers, and those who answered “no” to both questions were classified as non-smokers (No = 0, Yes = 1). Participants who responded “yes” to only one of the two items used to assess tobacco smoking were dropped from the study ( $n = 2$ ). This coding scheme is consistent with that used by Klonoff and Landrine (1996). Marijuana smokers were individuals who responded yes to the following two questions: (a) “Do you currently smoke marijuana?” and (b) “Have you smoked in the past 30 days?” Current marijuana use is defined as use during the

past 30 days (NHSDA, 2002). Four participants responded “yes” to the item assessing current marijuana use, and “no” to 30-day use. As a consequence, these four participants were excluded from the study.

This study also asked participants to report on the tobacco and marijuana smoking behaviors of their mother, father, sister, brother, close relative, and close friends. We computed overall family risk scores for family tobacco and marijuana use separately by summing responses (0 or 1) across items that asked about participant’s mother, father, sister, brother, and close relatives smoking behavior (Sameroff and Seifer, 1990). Specifically, the values respondents assigned to the smoking behaviors of their mother, father, sister, brother, and close relative were summed to produce a family risk score for both tobacco and marijuana smoking (Luthar, 1993; Sameroff and Seifer, 1983). Research shows that assessing the effects of co-stressors is a more valuable indicator of risk than any single factor (e.g., Rutter, 1979; Sameroff and Seifer, 1983). To assess peer smoking, participants were asked to indicate the number of close friends who smoke tobacco and marijuana (None = 0, All = 5).

**Results**

**Descriptive results**

One-quarter (25.5%) of participants self-identified as tobacco smokers, and 43% self-identified as marijuana smokers. One-quarter reported that their mothers smoked tobacco; 21.4% reported that their fathers smoked; 11% reported siblings who smoked; 23% reported close relative smoking; and, 34% indicated that they had close friends who smoked. When asked about family and close friend’s current mari-

juana use: 3.8% indicated that their mothers smoked; 5.8% reported that their fathers smoked; 27% indicated sibling’s smoking; 29% indicated close relatives smoking; and, 39% reported that they had close friends who smoked.

**Inter-relationship among primary variables**

Table 2 summarizes the intercorrelations between African American Acculturation, and Family and Cultural Interdependency. With respect to the relationship between family interdependency and African American acculturation, we found that supportive exchanges with colleagues and friends was positively related to family practices and negatively related to cultural superstitions. Seven of the correlations between cultural interdependency and acculturation were significant. Specifically, influence of kin was positively related to traditional religious beliefs and practices, traditional childhood socialization, and family practices, and negatively related to attitudes of cultural mistrust. In addition, neighborhood/social isolation was positively related to traditional religious beliefs and practices, family practices, and preference for things African American.

**Associations with demographic characteristics**

Because studies have consistently found associations between smoking behavior and demographic characteristics, we first examined differences in tobacco and marijuana use based on participant age, family and peer smoking behavior, and neighborhood characteristics (see Table 3). We found that tobacco smokers tended to be older and reported more friends who smoked tobacco and marijuana than non-smokers. Because of their associations with participant

**Table 2** Intercorrelations of the primary study variables

	1	2	3	4	5	6	7	8	9	10	11
1. Health beliefs	—										
2. Religious beliefs	.249**	—									
3. Socialization	.037	.248**	—								
4. Family practices	.266**	.258**	.258**	—							
5. Preferences	.139	.347**	.454**	.379**	—						
6. Cultural mistrust	.057	.077	.297**	-.010	.319**	—					
7. Cultural superstitions	.113	-.045	.352**	.317**	.306**	.410**	—				
8. Supportive Exch	.026	.051	.125	.307**	.021	-.243**	.122	—			
9. Sharing w/parents	-.123	.076	-.094	.145	.144	-.015	.017	.178*	—		
10. Influence of kin	.080	.210*	.206*	.306**	.038	-.343**	-.132	.366**	.047	—	
11. Neighbor/Social Is	-.020	.232**	.142	.371**	.284*	.105	-.071	.183*	.320**	.522**	—

*Note.* Health beliefs: Health beliefs and practices; Religious beliefs: Religious beliefs and practices; Socialization: Traditional childhood socialization; Preferences: Preference for things African American; Cultural mistrust: Attitudes of cultural mistrust; Supportive exch.: Supportive exchanges among colleagues and friends; Sharing w/ parents: Sharing and consulting with parents; Influence of kin: Susceptibility to the influence of kin and close friends; Neighbor/Social Is: Neighborhood/social isolation.

\**p* < .05, \*\**p* < .01.

**Table 3** Means, standard deviations, and *t*-statistics by tobacco and marijuana smoking status

Variables	Tobacco smoking				Marijuana smoking				
	No ( <i>N</i> = 108)		Yes ( <i>N</i> = 37)		No ( <i>N</i> = 82)		Yes ( <i>N</i> = 63)		
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
<b>Demographic characteristics</b>									
Age	19.37	1.72	20.08	1.69	19.92	1.53	19.87	1.94	0.18 <i>ns</i>
Neighborhood characteristics	2.13	0.75	2.41	0.89	2.06	0.72	2.37	0.86	- 2.35*
Family-summatd tobacco risk	0.75	0.92	0.72	0.87	0.75	0.89	0.73	1.06	0.16 <i>ns</i>
Family-summatd marijuana risk	0.48	0.74	0.72	0.76	0.40	0.66	0.73	0.97	- 2.64**
Peer tobacco smoking	1.55	0.66	2.40	1.06	1.54	0.63	2.04	1.01	- 3.62**
Peer marijuana smoking	1.90	0.87	2.47	1.17	1.67	0.77	2.53	1.10	- 5.71**
<b>African American acculturation</b>									
Health beliefs and practices	4.50	1.01	4.87	1.01	4.43	1.05	4.80	1.74	- 2.13*
Religious beliefs and practices	5.86	0.96	5.24	1.13	6.04	0.93	5.29	1.08	4.43**
Traditional socialization	3.90	1.76	3.47	0.96	4.08	1.67	3.43	1.46	2.34*
Family practices	5.41	0.82	4.94	1.26	5.45	0.88	5.11	1.09	2.09*
Preference for things Af. Am	5.11	0.91	4.80	0.84	5.22	0.78	4.81	1.00	2.67**
Attitudes of cultural mistrust	3.62	1.09	3.63	1.17	3.67	1.14	3.55	1.06	0.65 <i>ns</i>
Cultural superstitions	3.59	1.24	3.51	0.89	3.62	1.15	1.50	1.19	0.62 <i>ns</i>
<b>Family interdependency</b>									
Supportive exchanges w/colleagues and friends	1.86	0.48	1.86	0.47	1.93	0.53	1.74	0.37	2.31*
Sharing and consulting w/parents	1.11	0.59	0.87	0.46	1.16	0.64	0.91	0.43	2.62**
<b>Cultural interdependency</b>									
Susceptibility to the influence of Kin and close friends	0.12	0.57	0.09	0.65	0.23	0.63	- 0.05	0.48	2.90**
<b>Neighbor/social isolation</b>									
Neighbor/social isolation	- 1.25	0.77	- 1.53	0.83	- 1.19	0.84	- 1.48	0.69	2.13*

\**p* < .05, \*\**p* < .01.



tobacco smoking, age and peer smoking behavior were used as controls in all analyses.

We also found that marijuana smokers compared to non-smokers reported more negative neighborhood characteristics when growing up and were more likely to have family members who smoked marijuana, and have peers who smoked both tobacco and marijuana. Thus, we controlled for negative neighborhood characteristics, family-summed risk for marijuana, and peer tobacco and marijuana smoking in subsequent analyses on marijuana smoking.

Finally, differences between smokers and non-smokers on cultural characteristics were examined (Table 3). We found that tobacco nonsmokers were more traditional in their religious beliefs and practices; endorsed traditional family practices more than smokers; and, were more likely than smokers to share information and consult with their parents. Marijuana smokers (compared to non-smokers) indicated having a stronger orientation toward traditional health beliefs and practices. Nonsmokers compared to smokers were more religious, more likely to have been socialized in predominantly African American neighborhoods and schools, and demonstrated a stronger preference for things African American. Moreover, nonsmokers indicated having more supportive and consultative relationships with friends, family, close kin, and neighbors.

#### Multiple logistic regression results

In multivariate analyses for tobacco smoking, in which age, and peer tobacco and marijuana smoking were controlled, traditional religious beliefs and practices was negatively associated with tobacco smoking, OR = .44, 95CI [.23, .85], while traditional health beliefs and practices was positively associated, OR = 2.52, 95CI [1.31, 4.78]. In contrast, the family and cultural interdependency factors were not significant. The overall model accounted for 39% of the variation in tobacco smoking. Main effects for age and peer tobacco and marijuana smoking were not significant. Table 4 presents the results of the logistic regression analyses for tobacco smoking.

In consideration of marijuana smoking, in which the analysis was adjusted for negative neighborhood characteristics, and peer tobacco and marijuana smoking, several protective/promotive cultural characteristics emerged. Traditional religious beliefs and practices, OR = .38, 95CI [.19, .76], attitudes of cultural mistrust, OR = .51, 95CI [.26, 1.00], supportive exchanges with colleagues and friends, OR = .17, 95CI [.03, .79], and sharing and consultation with parents, OR = .32, 95CI [.11, .93], were each negatively associated with marijuana smoking. In contrast, traditional health beliefs and practices was associated with more marijuana smoking, OR = 3.90, 95CI [1.74, 8.75]. The overall model accounted for 60% of the variation in marijuana smoking.

Main effects for negative neighborhood characteristics, and peer tobacco and marijuana smoking were not significant. Table 5 presents the results of the logistic regression analyses for marijuana smoking.

#### Discussion

Over 52% of African American smokers initiate tobacco smoking between the ages of 18 and 25 (Trinidad *et al.*, 2004). At particular risk are African American women who are almost four-times as likely to begin tobacco smoking in young adulthood compared to adolescence (MMWR, 2004). Similarly, African American women between the ages of 18 and 25 are more likely to smoke marijuana than young women from other ethnic groups. The health consequences of smoking (both tobacco and marijuana) among African American women place them at a greater disadvantage than their White American counterparts (Shoptland, 1995; Jarvik *et al.*, 1994), especially when taking into account unfavorable status characteristics Many of which result from recognized racial inequalities, such as lower socioeconomic status, reduced access to healthcare, and unequal healthcare treatments (Nelson and Stith, 2002). As a result, we focused on understanding this population of women smokers and nonsmokers and identifying protective factors that might play a role in the prevention of smoking tobacco and marijuana.

Our investigation focused on cultural orientation factors which have been shown to be predictive of smoking inhibition among other ethnic groups (e.g. Ellickson *et al.*, 2003). Specifically, we sought to determine if psychosocial characteristics related to African American cultural immersion (Landrine and Klonoff, 1994, 1995, 1999) and cultural and familial interdependency (Hui and Yee, 1994) served as factors that inhibit tobacco and marijuana smoking. Our hypothesis was that African American young women (ages 18 to 25) reporting high levels of cultural immersion and interdependency would be less likely to smoke tobacco and marijuana than those who reported a mainstream cultural orientation or individualist perspectives.

#### Cultural orientation and tobacco smoking

In our sample, tobacco smokers tended to be older than their nonsmoker counterparts (age difference < 1 year). This finding is consistent with research indicating an increase in tobacco use among African American women during the emerging and young adulthood years when compared to late adolescence. This finding also lends support to the notion that African Americans transitioning from late adolescence may still retain some of the protective properties associated with very low substance use during their pre-teen and

**Table 4** Summary of logistic regression analysis (LRA) for cultural predictors of tobacco smoking, adjusting for age, and peer tobacco and marijuana smoking

Variable	B	SE B	OR	95CI
<b>African American acculturation</b>				
Preference for things African American	.48	.39	1.62	[.75, 3.496]
Attitudes of cultural mistrust	.34	.29	1.40	[.79, 2.49]
Health beliefs and practices	.93	.32	2.52	[1.31, 4.78]
Religious beliefs and practices	-.80	.32	.44	[.23, .85]
Traditional childhood socialization	-.48	.26	.62	[.37, 1.02]
Family practices	-.49	.33	.61	[.31, 1.18]
Cultural superstitions	-.03	.30	.96	[.53, 1.75]
<b>Family interdependency</b>				
Supportive exchanges w/colleagues and friends	.42	.70	1.52	[.38, 6.06]
Sharing and consulting w/parents	-.28	.47	.75	[.29, 1.90]
<b>Cultural Interdependency</b>				
Susceptibility to the influence of kin and close friends	1.14	.69	3.13	[.79, 12.32]
Neighbor/social isolation	-.22	.48	.80	[.30, 2.08]
(Logistic regression model $\chi^2 = 38.81, p < .000$ ) <sup>a</sup> (Naglerkerke's $R^2 = .39$ ) <sup>b</sup>				

Note. Odds ratios are significant when the 95% confidence intervals do not overlap 1.

<sup>a</sup>Alternative to the Wald statistic.

<sup>b</sup>Naglerkerke's  $R^2$  tends to run lower than the corresponding OLS  $R^2$ , and therefore should not be compared directly.

teenage years. In consideration of this, we proposed that young women who were more immersed, interdependent, and collectivistic in terms of culture, religion, and family dynamics would be less likely to smoke tobacco than those who were not. We found support for this hypothesis.

Nonsmokers tended to have more traditional family practices than smokers; demonstrate a greater level of familial interdependency; and, report being more religious. In comparison to smokers, nonsmokers were more likely to indicate having grown up in families that demonstrated traditional African American family values and practices. Family values and practices often center on responsibility to the family—both the immediate and extended—and, may include assuming roles with caregiver status. We suppose that African American family practices, which instill accountability and a sense of connectedness to other members of the family, may serve to inhibit the use or misuse of alco-

hol, cigarettes, and other drugs which may compromise this relationship. Evidence for this supposition comes from our analyses showing that nonsmokers were more likely than smokers to share ideas and knowledge with their parents, and seek consultation from their family on matters related to dating, education, and career choices (i.e., familial interdependency). Familial proscriptions regarding smoking may also weigh more heavily for these individuals than for smokers, as they are more likely to consider the implications of their decisions and/or actions on other people. As a result, African American young women's non-use of cigarettes may include a desire to not disrespect parents (Jackson, 2002).

In terms of identifying protective factors against tobacco smoking, we found traditional religious beliefs and practices to be a protective cultural characteristic among nonsmokers. Research indicates that high levels of religiosity among African Americans may serve as a protective factor

**Table 5** Summary of logistic regression analysis (LRA) for cultural predictors of marijuana smoking, adjusting for negative neighborhood characteristics, and peer tobacco and marijuana smoking

Variable	B	SE B	OR	95CI
<b>African American acculturation</b>				
Preference for things African American	-.10	.46	.89	[.35, 2.25]
Attitudes of cultural mistrust	-.66	.33	.51	[.26, 1.00]
Health beliefs and practices	1.36	.41	3.90	[1.74, 8.75]
Religious beliefs and practices	-.95	.34	.38	[.19, .76]
Traditional childhood socialization	-.05	.23	.94	[.59, 1.50]
Family practices	-.46	.46	.62	[.25, 1.57]
Cultural superstitions	-.13	.31	.87	[.47, 1.63]
<b>Family interdependency</b>				
Supportive exchanges with colleagues and friends	-1.77	.78	.17	[.03, .79]
Sharing and consultation with parents	-1.13	.54	.32	[.11, .93]
<b>Cultural interdependency</b>				
Susceptibility to influence of kin and close friends	-1.18	.69	.30	[.07, 1.20]
Neighbor/social isolation	.55	.44	1.73	[.73, 4.12]
(Logistic Regression Model $\chi^2 = 78.78, p < .000$ ) <sup>a</sup> (Naglerkerke's $R^2 = .60$ ) <sup>b</sup>				

Note. Odds ratios are significant when the 95% confidence intervals do not overlap 1.

<sup>a</sup>Alternative to the Wald statistic.

<sup>b</sup>Naglerkerke's  $R^2$  tends to run lower than the corresponding OLS  $R^2$ , and therefore should not be compared directly.

from negative health behaviors, including substance use. For example, adolescents who report being highly religious are less likely to use alcohol and other substances than less religiously oriented youth (Booth *et al.*, 2004; Wallace *et al.*, 2003). In many ways, religiosity provides African Americans with both social and psychological support (Taylor, 1988), and may serve to increase adolescents and young adults resiliency and ability to resist the temptation to engage in alcohol or other drug use (Juon *et al.*, 2002). The temptation to use substances for members of this age group usually arises from peer relations; hence, in relation to this sample, nonsmokers were significantly less likely than smokers to have close friends who smoked tobacco and marijuana.

We did however find that a stronger adherence to traditional health beliefs and practices placed young women at greater risk for tobacco smoking. While this is a particularly surprising finding, it is consistent with what has been reported previously on cigarette smoking (e.g., Klonoff and Landrine, 1996). Klonoff and Landrine (1996) elucidate:

‘[Highly traditional African Americans] have a poor knowledge of the health consequences of smoking . . . and the belief that they will suffer few consequences from smoking . . . [It continues] It is possible that African American smokers believe that they render themselves invulnerable to the deleterious consequences of smoking by engaging in traditional health practices (involving herbs, teas, etc.) and various cultural based, superstitious rituals (p. 510).’

The explication of results offered by Klonoff and Landrine is persuasive. However, rather than focusing intently on how these traditional cultural characteristics are deleterious in nature and provide a risk condition for tobacco use, we prefer to explore in greater depth the seeming paradox between positive cultural characteristics (i.e., traditional beliefs and practices) and what we consider to be negative health behaviors.

For instance, another reason, slightly different than the one proposed by Klonoff and Landrine, may be that African American women endorsing traditional practices regarding their health (e.g., home remedies, homeopathy, or natural healing) turn to cigarette smoking as a less invasive mechanism to cope, or self-therapy for stress-relief. Thus, cigarette smoking is a short-term solution that enables their bodies (e.g., stress levels) to rebalance or achieve homeostasis in a relatively short-period of time. Compared to more conventional therapies and medicinal practices, this form of self-therapy may be comforting to African American women who may consider physician visits and over-the-counter prescriptions as spiritually weakening, destabilizing, and intrusive and public. This, however, is only a speculative account as to why this relationship exists. Moreover, this explanation is not intended to justify tobacco smoking. Nevertheless, how

we frame the discussion on tobacco use among highly traditional African American women can help determine the types of preventive intervention programs made available to this population of smokers.

#### Cultural orientation and marijuana smoking

Our study also considered the effect of cultural orientation on determining whether or not African American women smoke marijuana. First, there are several notable differences between marijuana nonsmokers and smokers on cultural orientation variables. Nonsmokers, more so than smokers, were culturally immersed, religious, and collectivistic. One finding in particular was that nonsmokers tended to be more cultural interdependent (i.e., social obligation) than their smoking counterparts. Social obligation is described as collective interactions between the person and those neighbors and relatives who are not an immediate part of the nuclear family (Hui and Yee, 1994). In our study, it was found that young women were less likely to use marijuana when they came from communities where kin and close neighbors have a vested influence in their lives. These communities, in accordance with our findings, were predominantly African American. In support of this, our findings show that non-marijuana smokers reported more traditional African American socialization as children than marijuana smokers—meaning that non-users were more likely to have had grown up in African American communities and attended mostly African American schools.

These findings, taken in their entirety, lend support to the supposition that community level factors (e.g., cultural proscriptions emanating from religious institutions) may be paramount in reducing the chances of drug use. In a concurrent fashion, because ties to extended family, neighborhood, and community (i.e., social obligation) are strongest among nonsmokers, it seems to refute the notion that marijuana smoking is viewed as socially acceptable in African American communities.

As for protective factors against marijuana smoking, cultural immersion (i.e., traditional religious beliefs and practices, and attitudes of cultural mistrust) and family interdependency (i.e., supportive exchanges with colleagues and friends, and sharing and consulting with parents) were significant factors that emerged. Young women who considered their religious beliefs to be an important part of their socialization experiences were less likely to smoke marijuana than women who did not report religiosity as an important part of their experience. And while religion was purported to operate primarily as a cultural proscriptive against drug use (Wallace *et al.*, 2003), as evidenced here there is reason to believe that traditional religious practice is significant in inhibiting substance use as well. Wills *et al.*, (2003b) showed

that religious practice reduces the impact of stress on initial marijuana use as well as substance abuse over time.

Also protective against marijuana use was family interdependency, specifically supportive exchanges between friends, and consultation and sharing with parents. Young women who keep close knit ties with their families are likely to consult them when they have problems or are stressed, rather than coping via substance use. Similarly, having a supportive network of peers is also an effective means of coping for this age group. For this sample of African Americans on a predominantly White campus, maintaining supportive ties with family and friends may help alleviate feelings of anxiety, and serve as a buffer against certain environmental stressors, such as perceived discrimination and social and peer pressure to use substances. In addition, possessing certain attitudes of cultural mistrust may enhance African American students' skepticism related to the prevalence and acceptable use of marijuana on college campuses.

Again, we find traditional health belief and practices as a risk factor for smoking. Whereas before we concluded that the relationship between the endorsement of traditional health practices and cigarette smoking may be justified as a less invasive and as short-term solution to achieve homeostasis, its relation to marijuana use may encompass a different set of factors. To begin with, marijuana use is illegal in most states, and its use can have significant consequences to include, loss of employment and stiff judicial penalties such as fines and even jail time. However, the penalties associated with its use are apparently not a significant deterrent. For example, while 25% of African American women in this study reported current cigarette smoking, 43% indicated marijuana use. Moreover, African Americans, in addition to growing numbers of Americans in the general populace, support the use and legalization of marijuana. Another factor is that some view marijuana smoking as a healthy practice, and witness to its healing properties and therapeutic value. The same is not true for tobacco smoking.

#### Limitations and future research directions

The present study is not without limitations. The sample for this study was not as representative as what we would have liked. There may be limitations pertaining to the generalizability of our results. Other studies may want include participants from multiple populations and geographical regions whenever possible. Researchers may employ a cross-sectional research design to compare several developmental periods, such as adolescence and young adulthood, or consider longitudinal studies to assess changes within certain populations over time. In addition, most of the participants in the study reported their parent's SES to be middle class or higher. Studies have shown that SES influences conventional substance use (e.g., Scarici *et al.*, 2002). Future studies

should be mindful of economic and class status when reporting statistics related to the smoking behavior of minorities. Furthermore, we relied on the self-reporting of legal and illegal substance use. In the future, studies may include a desirable responding measure to help determine the validity of participant reports.

Despite these limitations, the findings from this study provide valuable information regarding the protective effects of cultural orientation on the smoking behavior of young African American women. Research has often expounded on the social inadequacies or the supposed cultural deficiencies of African American culture without fully acknowledging or understanding its protective characteristics (King, 1997). Here, we were able to identify several cultural orientation variables both general and specific to African American culture that function as inhibiting factors to tobacco and marijuana use among African American young women. The findings of this study are consistent with research on other ethnic groups purporting cultural and familial characteristics to be protective of tobacco smoking (Ellickson *et al.*, 2003; Freeberg and Stein, 1996). Our findings are also unique in that we were able to identify what are considered traditional cultural factors (i.e., traditional religious beliefs, traditional socialization) that were protective of both tobacco and marijuana use. Relatively few studies have sought to identify protective characteristics specific to African American culture. To the extent that this is so, Shervington (1994) recommends that preventive intervention programs have culturally proficient psychoeducational components directed towards cognitive and behavioral dispositions regarding smoking. In addition, prevention and cessation programs targeting college-age African American women may find it useful to consider factors that influence both religious and familial bonds.

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