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I, Dawn M Thomas, hereby submit this original work as part of the requirements for the degree of Doctor of Philosophy in Health Education.

It is entitled:
Marijuana and African American Youth: Exploring Parenting Behaviors and Characteristics of Acquisition associated with Marijuana Use

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Marijuana and African American Youth: Exploring Parenting Behaviors and Characteristics of Acquisition Associated with Marijuana Use

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Doctor of Philosophy

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by
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Marijuana and African American Youth

ABSTRACT

AN ABSTRACT OF THE DISSERTATION FOR THE DOCTOR OF PHILOSOPHY DEGREE IN HEALTH PROMOTION AND EDUCATION, PRESENTED ON MARCH 6, 2017 AT THE UNIVERSITY OF CINCINNATI, CINCINNATI, OHIO

TITLE: Marijuana and African American Youth: Exploring Parenting Behaviors and Characteristics of Acquisition associated with Marijuana Use

DOCTORAL COMMITTEE MEMBERS: Dr. Keith A. King (Chair), Dr. Rebecca A. Vidourek, and Dr. Ashley Merianos

This dissertation consists of two studies. Study one examined whether the use of marijuana (past year and past month) by African American youth differed based on the frequency of positive parenting behaviors and age. Study Two examined sources where African American adolescent marijuana users obtain marijuana and if sources differ based on frequency of marijuana use, age when they first used and demographic variables (i.e., sex, age).

Study One Abstract

Background: The increasing trend of marijuana use among African American youth is particularly concerning. Gaps in literature exist and the association between positive parenting behaviors and youth marijuana use based on age should be explored. Purpose: The purpose of this study was to examine whether African American adolescent’s marijuana use differed based on sex, age and frequency of positive parenting behaviors. Method: A secondary data analysis of the 2012 National Survey on Drug Use and Health was employed for this study. A national sample of African American youth in the United States (N = 2,328) aged 12-17 years completed the survey. Results: A total of 14.4% (n = 336) youth reported using marijuana in the past year and 7.9% (n = 183) of youth reported past month use. Findings: There were no significant
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differences with regards to sex and marijuana use in the past year and past month. Across age, older students were more likely to have engaged in past year and past month marijuana use than younger students. Further analyses reported youth whose parents engaged in frequent positive parenting behaviors were less likely to use marijuana. Additional results found the impact of implementing positive parenting behaviors was higher within younger students (12 to 13 year olds) compared to older students (15 to 17 year olds). Conclusions: Implications for prevention should include focusing age appropriate intensive prevention strategies for younger African American adolescents and involving parents as a key component of programming.

Study Two Abstract

Background: Adolescent marijuana use among African Americans is considerably higher within the last decade and is of serious public health concern. Study aims: The purpose of this study is to examine sources where African American adolescent marijuana users obtain marijuana and if sources differ based on frequency of marijuana use, age of first use and demographic variables (i.e., sex, age). Methods: The present study performed a secondary analysis of the 2012 National Survey on Drug Use and Health (NSDUH). A national sample of African American youth in the United States (N = 2,328) aged 12-17 years completed the survey, and of these 393 were marijuana users. Findings: The current study found that the majority (43.9%) of African American users tried marijuana for the first time between the ages of 14 – 15 years old. Most users (43.9%) indicated the last time they used marijuana was in the past 30 days and 48% of marijuana users reported marijuana was fairly easy/very easy to obtain. More than half (59.2%) of African American adolescent marijuana users obtained marijuana for free and 54.5% bought the last marijuana they used. The most common source of marijuana was from friends whether purchased or free. No significant differences were found regarding how adolescents obtain
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marijuana whether they bought it or obtained it for free based on sex, age or age of first use. Conclusions: Socially relevant programming efforts should be developmentally appropriate, implemented across all age categories and focus on building positive peer groups and healthy communities.
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INTRODUCTION

Marijuana is the most commonly used illicit drug in the United States (US), with an estimated 22.2 million current users aged 12 or older (Center for Behavioral Health Statistics and Quality [CBHSQ], 2015; Reboussin, Hubbard & Ialongo, 2007). Marijuana use among African American adolescents is on the rise and considerably higher than the previous decade (Johnston, O’Malley, Miech, Bachman & Schulenberg, 2016; Reboussin, Green, Milam, Furr-Holden & Ialongo, 2014; Reboussin et al., 2007; Substance Abuse and Mental Health Services Administration [SAMHSA], 2012; SAMHSA, 2015). While previous trends of African American students have shown substantially lower rates of illicit drug use than whites, these differences have narrowed within recent years, (Reboussin et al., 2007; Reboussin et al., 2014; SAMHSA, 2012) with rising marijuana rates in both 8th and 10th grade African American students being substantially higher than among white students in those same grade levels. (Johnston et al., 2016). Unfortunately, perceptions of the risks of marijuana have steadily declined most likely due to the public debate about legalizing marijuana for medicinal and recreational purposes, as well as states loosening restrictions and destigmatizing marijuana use, thereby possibly increasing positive social norms toward use. (CBHSQ, 2015; Vidourek, King & Montgomery, 2015).

Data from the 2015 Youth Risk Behavior Surveillance (YRBS) reports that 38.6% of students have used marijuana one or more times during their life (Centers for Disease Control and Prevention [CDC], 2016). Nationwide the prevalence of having ever used marijuana was higher among African American (45.5%) and Hispanic (45.6%) than white (35.2%) students. The prevalence of having ever used marijuana was also higher among African American (49.7%) and Hispanic males (46%) than White male (36.2) students. In addition, prevalence rates for
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African American female (40.5%) were also above those of white female (34.3%) students (CDC, 2016). According to the 2015 YRBS, 21.7% of students nationwide had used marijuana one or more times during the past 30 days before the survey (CDC, 2016). The prevalence of current marijuana use was again higher among African American (27.1%) and Hispanic (24.5%) than white (19.9%) students. Higher prevalence rates were also reported among African American males (31.3%) than African American females (22.1%) and, prevalence rates for current use were again higher among African American males (31.3%) than Hispanic male (25.5%) students.

The nationwide prevalence of students who have tried marijuana before the age of 13 was 7.5% (CDC, 2016). However, both African American (10.6%) and Hispanic students (10.9) report the prevalence of having ever tried marijuana at higher rates than white students (5.4%), and while the prevalence of having ever tried marijuana before age 13 is higher among Hispanic females (8.2%) than both black (7.4%) and white (4.2%) female students, African American (13.0%) and Hispanic male students (13.6%) report rates almost twice that of white male (6.7%) students (CDC, 2016). A metanalysis of longitudinal studies by Horwood et al (2010) showed that the earlier the age of first use, the lower the chances of completing school and advancing towards post-secondary training (Hall, 2015).

This increasing trend of marijuana use by African American youth (CDC, 2016; Mandara, Rogers, & Zinbarg, 2011; Reboussin et al., 2014; Reboussin et al., 2007; SAMHSA, 2012) is particularly alarming since African Americans have already been disproportionately affected by chronic diseases such as cancer, diabetes, HIV/AIDS and cardiovascular illnesses (American Diabetes Association, 2010; Center for Disease Control and Prevention [CDC] Fact Sheet, 2010; US Department Health Human Services Office Minority Health [US DHHS OMH],
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2009; US DHHS OMH, 2010). In the US, ethnic minorities in general and African Americans in particular, tend to suffer from higher incidences of mortality and morbidity, compared to their Caucasian counterparts (CDC, 2011; Smedley, Stith & Nelson, 2003). The added use of marijuana during adolescence can affect the developing brain, and lower a person’s IQ well into adulthood (Hall, 2015; Horwood et al., 2010; National Institute on Drug Abuse [NIDA], 2016; Reboussin et al., 2014; Reboussin et al., 2007). These outcomes may significantly contribute to the disproportionate burden of disease and health disparities that exist within the African American community.

It has been well documented that marijuana impairs short-term memory, judgment, distorts perception and can last for days or weeks after the acute effects of the drug wear off (Brook, Lee, Brown, & Finch, 2012; Hall, 2015; NIDA 2016; Reboussin et al., 2014; Reboussin et al., 2007). When the brain is exposed to tetrahydrocannabinol (THC) during adolescence this may result in notable problems with specific learning and memory tasks (Hall, 2014; NIDA, 2016; Reboussin et al., 2014; Reboussin et al., 2007). More importantly marijuana affects brain systems that are still maturing through young adulthood and considerable evidence suggests that students who smoke marijuana have poorer educational outcomes than their nonsmoking peers and are also more likely to use other illicit drugs (Hall, 2014; Lynskey, Coffey, Degenhardt, Carlin, & Patton, 2003; NIDA, 2016; Reboussin et al., 2014; Reboussin et al., 2007; Wagner & Anthony, 2002; Wilcox, Wagner & Anthony, 2002).

Research by Hall (2015) found consistent associations between regular cannabis use and adverse psychosocial outcomes such as: lower educational attainment than non-smoking peers; increased risks for dependence (particularly for those initiating marijuana use in adolescence); increased risk of being diagnosed with schizophrenia or experiencing psychotic symptoms. Thus
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someone that smokes marijuana daily may be functioning at a reduced intellectual level most or all of the time (NIDA, 2016; Reboussin et al. 2014). Several studies (Ferguson & Boden, 2008; Brook, Lee, Finch, Seltzer & Brook, 2013) as cited in (NIDA, 2016, p. 7) have also linked heavy marijuana use to lower income, greater welfare dependence, unemployment, criminal behavior, school dropout (Lynskey et al., 2003) and lower life satisfaction. This is particularly concerning for this population because prior research (Emshoff, Avery, Raduka & Anderson, 1996; Kakade et al., 2012; Ramchand, Pacula & Iguchi, 2006; Wallace & Muroff, 2002) suggest that African American adolescents are more likely to experience substance abuse related legal involvement and reduced academic achievement than other racial/ethnic groups further complicating the issue of marijuana use. Since the adverse health, social and legal consequences of drug use are reportedly greater among the African American community than other racial and ethnic groups (Clark, Belgrave & Abell, 2012; Emshoff, et al., 1996; Reboussin et al., 2014; Vidourek et.al, 2015) the consequences of African American adolescent marijuana use further complicates these issues.

The contributing factors that lead adolescents to marijuana use are often varied and complex. Hawkins, Catalano & Miller (1992) provides a framework of risk and protective factors that is often utilized to examine substance abuse. These can generally be categorized as societal and/or risk factors that exist within an individual, or are present within their interpersonal environments such as neighborhoods, families, school and peer groups (Hawkins et al., 1992; Mandara, et al., 2011). Within this framework (Hawkins et al., 1992), the presence of risk (e.g., academic failure, peer drug use, or neighborhood conditions) and the lack of protective factors (e.g., parental monitoring, social bonding, or neighborhood attachment) may contribute to substance use. While more research is needed to lower the substance use rates of all youth there
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is a specific need for additional research that focuses on decreasing the rising trend of marijuana use by African American adolescents and in particular identifying protective factors that may be used in an effort to enhance resiliency to risk exposure.

**Parental Behaviors and Marijuana Use**

Parental attitudes towards drug use influence parent-adolescent relationships and play a critical role in youth substance use (Cleveland, Feinberg, Osgood & Moody, 2007; King, Vidourek & Merrianos, 2015; Wu, Chong, Cheng & Chen, 2007). A study by Clark et al. (2012) focused on African-American youth suggest that parental attitudes toward drug use influence parent-adolescent relationships (e.g., warmth, attachment) and parenting management (e.g., monitoring and supervision), this work is also supported by prior research (Clark et al., 2012; King & Vidourek, 2011; King et al., 2015; Shakya, Christakis & Fowler, 2012; Stanton, Li, Pack, Cottrell, Harris & Burns, 2002;). Previous research (Clark et al., 2012; King, Vidourek, & Hoffman, 2012) find that youth are more likely to use when their parents convey approving attitudes toward use (Stanton, et al., 2000) consider use as a normative behavior (King, Vidourek & Wagner, 2004) and lack appropriate monitoring and supervision of their child’s actions (Clark et al., 2012; Li, Stanton, & Feigelman, 2000). On the contrary, parents who hold negative attitudes towards drugs may engage in more monitoring of their child’s activities and be selective about the peers with whom their child affiliates (Clark et al., 2012). The combination of parental attitudes toward drug use and the parent-adolescent relationship intertwine such that adolescents with strong attachment and bonds with parents who hold favorable attitudes towards drugs may also engage in drug use. Conversely a strong attachment to parents, high levels of parental monitoring and a perception of parent disapproval of drug use may predict drug refusal (King & Vidourek, 2010; Clark et al., 2012).
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Empirical research focused on parental behaviors, styles and its association with adolescent behavior has been well established and also suggest that the quality of the parent-adolescent relationship has significant impact on the development or prevention of risky behaviors. (Caldwell, Rafferty, Reischl, DeLoney & Brooks, 2010; Clark et al., 2012; Griffin, Botvin, Scheier, Diaz & Miller, 2000; King & Vidourek, 2011; Sartaj & Aslam, 2010; Wu et al., 2007). Sartaj & Aslam (2010) found there are two important elements of parenting: parental responsiveness and parental demandingness. Parental responsiveness generally refers to the extent to which parents provide support, encourage individuality, and are accepting of youth’s needs and demands. Parental demandingness refers to the requests parents make on children with regards to supervision, discipline and willingness to confront inappropriate behavior (Sartaj & Aslam, 2010). The appropriate balance of these two elements generally fall under what has been deemed as an authoritative parenting style and consist of parents being nurturing and assertive without being intrusive, although flexible, exert moderate control when necessary (Sartaj & Aslam, 2010).

**Socially Relevant Factors and Parenting Behaviors**

Cultural differences in ethnic and racial groups may lead family and parenting factors to have a stronger influence on adolescent risk behaviors for some groups more than others (Tragesser, Beauvais, Swaim. Edwards & Oetting, 2007; Wu et al., 2007). Because of the strong values African Americans place on families, parenting behaviors and the parent-child relationship is essential (Larson, Richards, Sims & Dworkin, 2001; Wilson, Foster, Anderson & Mance, 2001). Giordano, Cernkovich and Demaris (1993) found that across socioeconomic status African American youth place a higher value on family interaction than their European counterparts. Additionally, Larson et al., (2001) also found that across grade, gender and
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socioeconomic status African American youth spend more time with their family members than other ethnic groups. As such positive parenting behaviors may serve as a significant protective factor against youth marijuana use.

A study in Taiwan by Wu et al., (2007) suggests both family and school connections were protective factors against substance use and in particular the family was protective by keeping adolescents engaged with family and school activities. Research by Caldwell et al., (2010) focused on parenting skills with non-resident African American fathers and found that parental monitoring, parental involvement (i.e., showing support) and parent-child communication were consistently associated with less risky behaviors for African American youth. Caldwell et al., (2010) highlights the importance of fathers being engaged in more preventive interventions during adolescence. This study underscores the need to have fathers involved at this critical developmental stage, which may potentially have considerable implications for expanding current programming efforts to address risky behaviors for African American youth (Caldwell et al., 2010). A third study from Elmore and Gaylord-Harden (2013) examined supportive parenting practices with racial socialization messages and emphasizes the use of an integrative approach which combines implementing universal parenting practices that are supportive for all children (e.g., support, warmth, sensitivity, empathy acceptance) in combination with culturally specific strategies to provide a more holistic approach to parenting for African American youth.

More research is needed on the relationship between parental monitoring practices and styles for ethnic and minority youth and particularly for African American adolescents due to their increasing use of marijuana. Wallace & Muroff (2002) suggest the family may be the most powerful protective factor among African American adolescents. Interestingly while Giordano...
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et al., (1993) suggests that African American youth are more closely attached to their parents and have stronger bonds than white youth, there are also studies (Maddahian, Newcomb and Bentler, 1998) (as cited in Wallace & Muroff, 2002, p. 244) suggesting there are no differences in attachment. Although the differing opinions exist, what is clear is that poor family bonding is a critical risk factor (Hawkins et al., 1992; Wallace & Muroff, 2002) for all youth as it relates to substance use/abuse.

Family practices have been considered as strong predictors of adolescent substance use (Blanton, Gibbons, Gerrard, Conger & Smith, 1997; Flannery, Williams, & Vazsonyi, 1999; Oetting & Beauvais, 1987). Parental monitoring and supportiveness are essential to regulating adolescent risk behaviors and research on adolescent substance use (Borawski, Levers-Landis, Lovegreen & Trapl, 2003; Clark et al., 2012; Resnick et al., 1997; Vidourek, Bernard & King, 2009; Wu et al., 2007) suggests that youth with strong family relationships have been less likely to use substances and family connections may serve as a protective factor against substance use. More specifically, Hawkins et al., (1992) supports that higher levels of parental monitoring and control as well as proactive family management practices exist within African American families. Parental knowledge generally refers to parent’s awareness about a child’s activities and/or parental monitoring (Tebes et al., 2011). Tebes et al., (2011) indicated that parental knowledge is related to substance use among African American adolescents and that grade and gender alter the strengths of this association such that the relationship tends to diminish as youth progress from early to middle adolescence. Additionally, Wallace (1999) proposes that African American parents may be more diligent in parental monitoring practices. This concept is consistent with previous research from Ceballo and Mcloyd (2002) and Jarrett (1995) which suggest that African American parents are more likely than parents from other racial/ethnic
groups to monitor their adolescents’ activities and whereabouts. Further research by Tragesser et al., (2007) indicate that in addition to higher overall levels of parental monitoring behaviors among African American parents, the behaviors and monitoring practices themselves have a stronger association with the risk factor of peer influence on drug use among African American youth and as such it was determined that parental monitoring has more influence among African American youth.

Parent family connectedness including parental monitoring, consistent communication, and authoritative parenting are considered to be significant protective factors for adolescent substance use (Resnick et al., 1997; Vidourek et al., 2009; Wu et al., 2007). Different parenting styles such as the display of warmth, acceptance and appropriate control may also influence youth’s well-being and behaviors. Baumrind (1978) introduced parenting styles based upon quantities and qualities of parental warmth and control. Authoritative parenting is characterized by high levels of parental nurturance, involvement and sensitivity is high on demandingness and high on responsiveness. Permissive parenting is characterized by high levels of warmth and acceptance high on responsiveness and low on demandingness. Authoritarian parenting consists of high levels of restrictive, punitive, power-assertive behaviors that are high on demandingness and low on responsiveness. Additionally, Maccoby and Martin (1983) extended the efforts of Baumrind’s (1978) styles and added a neglectful parenting style, which is low on demandingness and low on responsiveness. Utilizing authoritative parenting skills is one way of building positive connections with parents (King & Vidourek, 2011; Vidourek et al., 2009). Earlier research implied that parents who exhibit authoritative behaviors with their adolescents proved to be more beneficial for young people (Becona, et al., 2012; Cleveland, Gibbons, Gerrard & Pomery, 2005; King & Vidourek, 2011; Leonard et al., 2007; Sartaj & Aslam, 2010; Shakya, et
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al., 2012; Steinberg, 2001). The authoritative style of parenting has also been associated with lower levels of substance use (Becona et al., 2011) including marijuana, (Montgomery, Fisk & Craig, 2008) and may also help buffer the influence of peer pressure (Dorius, Barr, Hoffman & Harman, 2004).

Knowing the differing parental styles and understanding the appropriate style to utilize based on the stages of adolescence is critical to youth substance use (Becona et al., 2011; Sartaj & Aslam, 2010). Previous research has shown that parenting styles may serve as a risk and/or protective factor for youth substance use (Becona et al., 2012; Sartaj & Aslam, 2010; Velleman, Templeton & Copella, 2005). Identifying positive parenting behaviors associated with an authoritative style may be useful in providing protection against marijuana use for African American adolescents. Additionally, Wallace and Muroff (2002) suggested that parental influence might be a stronger determinant of adolescent drug use than peer influences for African American youth as compared with youth of other races/ethnicities.

**Study Purpose**

Substance use is a significant problem among African American adolescents and the consequences of alcohol and drug use during adolescence are considerable (Myers, 2013). Despite the rising trend in higher rates of marijuana use among African American adolescents (CDC, 2016; Johnston et al., 2016; Reboussin et al., 2007; SAMHSA, 2012; SAMHSA, 2015), gaps in the literature exist and the association between positive parenting behaviors and youth marijuana use based on age should be explored. This study sought to address these gaps. The purpose of this study was to examine African American adolescent’s (past year and past month) use of marijuana and whether it differed based on age and the frequency of positive parenting behaviors.
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Research Questions

The following research questions were analyzed in this study:

1. What percent of African American youth aged 12 to 17 years use marijuana?
   a. Past year?
   b. Past month?

2. Does marijuana use (past year and past month) by African American youth differ based on:
   a. Age category? (12 to 13 years, 14 to 15 years and 16 to 17 years)
   b. Sex? (males and females)
   c. Positive parenting behaviors (i.e., helping with homework, told youth they did a good job)

3. Is the frequency of positive parenting behaviors associated with marijuana use among African American youth?
   a. Past year?
   b. Past month?

4. Is the frequency of positive parenting behaviors by age categories associated with marijuana use in African American youth?
   a. 12 to 13 years old?
   b. 14 to 15 years old?
   c. 16 to 17 years old?

Keywords: marijuana, African American adolescents, youth, parenting behaviors
METHODS

Participants

The present study involved a secondary analysis of the 2012 National Survey on Drug Use and Health (NSDUH). A national sample of African American students in grades 7 through 12 (n=2,328) in the US completed the NSDUH survey. All participants were US non-institutionalized individuals who were 12 years of age or older.

Instrumentation

The Substance Abuse and Mental Health Services Administration (SAMHSA) and US Department of Health and Human Services sponsor the NSDUH study. SAMHSA’s Center for Behavior Health Statistics and Quality manages the study which aims to identify the overall prevalence of and associated variables to US substance use. For the present study, past year and past month youth marijuana use (yes, no) were assessed. Using a four-point scale, (1 = never, 2 = seldom, 3 = sometimes, 4 = always), students were requested to report how frequently in the past 12 months their parent(s) engaged them in the following seven behaviors: checked to see if their homework was done, helped youth with their homework, made youth do chores around the house, limited the amount of television youth watched, limited that amount of time youth spent outside on a school night, told the youth that they did a good job, and told the youth that they were proud of them.

Participants responded to demographic questions including: sex, age, and race/ethnicity. Sex and race/ethnicity variables were only used as descriptive statistics to show demographic characteristics of variables. These variables were used in the analyses as the study purpose focuses on race/ethnicity, specifically African Americans. Regarding the race/ethnicity variables, participants self-identified their race/ethnicity including non-Hispanic white, non-
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Hispanic Black/African American, non-Hispanic Native American/Alaska Native, non-Hispanic Hawaiian/Pacific Islander, non-Hispanic Asian and non-Hispanic multiracial.

Procedures

The present study was deemed non-human subjects research by the University of Cincinnati Institutional Review Board (IRB) as a secondary data analysis of the 2012 National Survey on Drug Use and Health. The NSDUH is sponsored by SAMHSA and the US Department of Health and Human Services. Students were recruited to participate in the study via multistage probability sampling methods from the Research Triangle Institute (RTI). Parental permission and consent for youth participation was attained from RTI professional interviewers. Participants completed the survey via a computer-assisted interview form and were informed of the voluntary and confidential nature of all responses. An incentive of $30 was provided for participation in the study.

Data Analysis

The Statistical Package for Social Sciences (SPSS) was used to analyze all data for this study. Descriptive statistics including frequency distributions, means, standard deviation and ranges were used to describe African American youth’s demographic and background characteristics related to past year and past month marijuana use. Past year and past month marijuana use was dichotomized into two categories: yes and no. Chi-square analyses were conducted to determine whether marijuana use among African American adolescents differed significantly based on sex and age category. Univariate logistic regression analyses were computed to examine whether reported marijuana use by African American youth differed based on sex, age category, 12 to 13 years; 14 to 15 years; 16-17 years and parenting behaviors.
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The subscale scores of parenting behaviors were computed to determine an overall score. The overall score was dichotomized into two categories: never/seldom and always/often. Logistic regression and odds ratios were performed to determine an association between past year and past month reported marijuana use and the frequency of parenting behaviors. Age was divided into three categories: 12 to 13 years old, 14 to 15 years old and 16-17 years old to assess the numerous stages of adolescent development. Additionally, logistic regression analyses were also performed to determine significant differences related to the frequency of parenting behaviors and marijuana use by age group. Tables for odds ratios, confidence intervals and p-values are included. An alpha level of .05 was established for this study.

RESULTS

Demographics

Participants for this study included a total of 2,328 African American youth from 12 to 17 years old. Of this national sample 49.5% were African American males (n=1152) and 50.5% were African American females (n = 1176). The age categories for this survey were trichotomized with 31.9% (n = 743) of African American youth 12 to 13 years old, 32.8% (n = 763) of African American youth 14 to 15 years old and 35.3% (n = 822) of African American youth 16 to 17 years old. Overall a total of 14.4% (n = 336) African American youth reported using marijuana in the past year and 7.9% (n = 183) of African American youth reported they had used marijuana in the past month of taking the survey (Table 1).

African American Youth’s Marijuana Use by Sex and Age

Results indicated that 14.1% of African American males reported using marijuana in the past year, compared to 14.7% of African American females. No significant differences were found between African American males and females with regards to reported marijuana use in
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the past year. With regards to past month marijuana use the results were nearly equal with 7.9% of African American males reporting they had engaged in marijuana use compared to 7.8% of African American females. Similarly, these results also indicate that there were no significant differences among African American males and females with regards to marijuana use reported within the past month of taking the survey (Table 1).

Regarding age category, 1.9% of African American students from 12 to 13 years of age reported using marijuana, 14.4% of students’ ages 14 to 15 years, and 25.8% of students 16 to 17 years of age all reported using marijuana within the past year. Additional age category results for African American students indicate that .8% of 12 to 13 year olds, 6.9% of 14 to 15 year olds and 15.1% of 16 to 17 year olds, reported marijuana use within the past month of taking the survey (Table 2). Across age categories older African American students were more than twice as likely as younger students to have reported engaging in marijuana use within the past year.

In particular, African American youth ages 14 to 15 were more likely to have used marijuana in the past year (OR = 8.772, 95% CI = [4.980, 15.450], p < .001) than 12 to 13 year olds. Comparably African American youth ages 16 to 17 years were more likely to have used marijuana in the past year than students ages 14 to 15 years and 12 to 13 years old (OR = 18.097, 95% CI = [10.426, 31.412], p < .001). Significant differences were also found among African American youth with respect to age categories related to past month marijuana use. Older African American youth ages 16 to 17 years old were more likely to report past month marijuana use (OR = 21.821, 95% CI = [9.555, 49.833], p < .001) than the 14 to 15 age group. Likewise, African American youth 14 to 15 years old were more likely to report past month marijuana use (OR = 9.169, 95% CI = [3.917, 21.463], p < .001) than students 12 to 13 years old (Table 2).
Parenting Behaviors and African American Youth Marijuana Use

Parenting behaviors in this study were assessed via seven items which included: checked to see if their homework was done, helped youth with their homework, made youth do chores around the house, limited the amount of television they watched, limited the amount of time youth spent out on a school night, told youth they did a good job, and told youth they were proud of them. These items were dichotomized into levels (0 = always/sometimes; 1 = never/seldom). As seen in Table 3 African American youth reported that their parents’ always/sometimes engaged them in six of the seven positive parenting behaviors. On the contrary, youth reported that their parents never/seldom (63.3%) limited the amount of television they watched (Table 3).

Logistic regression analyses were calculated to assess the impact of parenting behaviors on past year and past month marijuana use. Results indicated that both past year and past month marijuana use among African American youth differed based on the frequency of positive parenting behaviors. Students at higher risk of marijuana use reported that their parents never or seldom engaged them in positive parenting behaviors (Table 4). Additional results also found that past year or past month marijuana use were not significantly associated with the following behavior: parents make youth do chores around the house (OR = 1.157, 95% CI = [.773, 1.732], p = > .05) and (OR = 1.497, 95% CI = [.926, 2.422, p = > .05).

Conversely, African American youth who were at lower odds for past year and past month marijuana use reported that their parents frequently engaged them in six out of seven positive parenting behaviors which included: checked to see if their homework was done, helped them with their homework, limited the amount of television they watched, limited the amount of time youth spent out on a school night, told youth they did a good job, and told youth they were proud of them. The data results from this study illustrate that the frequency of positive parenting
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behaviors has a significant association with past year and past month marijuana use as reported by African American youth (Table 4).

Parenting Behaviors and African American Marijuana Use based on Age

Additionally, logistic regression analyses were also performed to determine if the frequency of applying positive parenting behaviors impacted past year and past month marijuana use for African American youth by age categories, specifically ages 12 to 13 years, 14 to 15 years, and 16 to 17 years old. Interestingly the results of these analyses found that the impact of implementing positive parenting behaviors was higher within the younger age group of 12 to 13 year olds and 14 to 15 year olds for past year marijuana use (Table 5). Similar results were also found for past month marijuana use (Table 6). The frequency of positive parenting behaviors showed lower impact within the 16 to 17 year old age group (Table 5). Out of the seven positive parenting behaviors assessed, five of them resulted in odds ratios that were found to be significantly associated for both 12 to 13 year olds, 14 to 15 year olds and 16 to 17 year olds respectively (Figures 1 and 2).

DISCUSSION

This study was designed to explore potential associations between marijuana use among African American adolescents and other multiple factors including: sex; age and frequency of parenting behaviors. The present study found that 14.4 % of African American youth have used marijuana within the past year and 7.9 % have used marijuana within the past month. These rates are startling and coincide with previous research affirming that marijuana continues to be the most commonly used illicit drug among youth aged 12 and older (; CBHSQ, 2015; King et al., 2012; Reboussin et al., 2007). The current study’s results are similar to those found in previous studies regarding marijuana usage (Johnston et al., 2016; SAMHSA, 2012, 2015).
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While data from Monitoring the Future Survey (MTF) have reported steady marijuana use by 8th, 10th and 12th graders in the past few years (CBHSQ, 2015; Johnston et al., 2016; SAMHSA, 2012, 2015), MTF has also reported rising marijuana rates for African Americans. In fact, previous rates of illicit drug use for African American students were largely lower than whites (Catalano et al., 1992). The increasing trend of marijuana use by African American youth is of major concern (Compton, Grant, Colliver, Glantz, & Stinson, 2004) because many African Americans have already been disproportionately affected by a number of chronic diseases and illnesses (American Diabetes Association, 2010; CDC Fact Sheet, 2010; US DHHS OMH, 2009, 2010). The added use of marijuana especially during the developmental phases of adolescence may put African American youth at an even higher risk for health disparities because African Americans tend to be disproportionately impacted by substance use and abuse (Clark et al., 2012; Wallace & Muroff, 2002).

Findings from the present study also indicate similar patterns of marijuana use for both African American males and females with 14.1% of African American adolescent males and 14.7% of African American adolescent females reporting past year marijuana use. Similar results of past month marijuana use during this study were also found to be nearly equal with African American adolescent males at 7.9% and African American females reporting 7.8% past month marijuana use at the time of the survey. The present study found no significant differences for past year and past month marijuana use based on sex; these findings were also supported in a study by King et al., (2015). However other national research studies suggests differently (CDC, 2014; Farhat, Simons-Morton, & Luk, 2011; King et al., 2012; Toci et al., 2014). Data from the 2015 YRBS reports higher prevalence rates for African American male students than those for African American female students with rates of 49.7% and 45.5%
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respectively (CDC, 2016). Another national research study that focused on African American adolescents and risky sexual behavior reported levels of male marijuana use at 53% while females use of marijuana was at 38%, these participants were surveyed shortly after admission to juvenile detention facilities (National Institute of Justice, 2000). Results from previous studies as well as the current study suggest the need for additional research on the association between marijuana use and the demographic variable of sex. Prevalence rates and potential differences that exist between African American male and female adolescent users of marijuana should be further explored in an effort to develop prevention programs that are both gender and culturally appropriate.

Another key focus of the present study was to examine whether marijuana use differed based on age category. The present study found statistical significance across the three age categories; 12 to 13 years old, 14 to 15 years old, and 16 to 17 years old. Findings from the present study indicate that as youth progress through adolescence their reported marijuana use also significantly increases. Older African American students (16 to 17 years old) were more than 10 times as likely to have used marijuana in the past year and more than 20 times as likely to have used marijuana in the past month, than the 12 to 13 year old age group. Likewise, African American students in the 14 to 15 year old age group were more than five times as likely to have used marijuana both in the past year and in the past month. These findings correspond to national trends documented in previous literature (King et al., 2012; King et al., 2015).

Numerous studies have documented the risks associated with marijuana use including short term memory loss, distorted perception and impaired judgement (Brook, Balka, & Whiteman, 1999; Hall, 2015; Horwood et al., 2010; Reboussin et al., 2007; Wagner & Anthony, 2002; Wilcox et al., 2002). According to the 2015 YRBS the prevalence of having tried
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marijuana before the age of 13 was higher among African American (10.6%) and Hispanic (10.9%) students than white (5.4%) students. The cognitive effects of marijuana on the developing brain of adolescents, further complicates these issues. Marijuana impairs short-term memory, judgment, and distorts perception. When the brain is exposed to THC during adolescence this may result in notable problems with specific learning and memory tasks later in life (Hall, 2015; NIDA, 2014; Reboussin et al., 2007; Reboussin et al., 2014). Therefore, the early use of marijuana may not only impair functioning but has also been associated with reduced motivation and achievement for completing school (Brook et al., 1999; Hall, 2015; Horwood et al., 2010). Additional studies have indicated that the use of marijuana during early adolescence is associated with other risks in late adolescence such as limiting the acquisition of skills and employment opportunities, which may lead to an array of undesirable psychosocial outcomes (Lynskey et al., 2003; Ferguson & Boden, 2008; Brook et al., 1999; Brook et al., 2012). Results from the present study suggest that while comprehensive prevention messages should continue to be focused across all age groups a more concentrated focus of interventions during early adolescence particularly aimed at those within the 12 to 13 year old age group may have potential impact on older students and could possibly lower marijuana use among older age groups. This study supports the need for additional research to examine specific patterns of marijuana use among African American adolescents and particularly how early use may be associated with health disparities and other adverse outcomes that tend to be over-represented within the African American community.

The present study further examined the impact of parental behaviors on marijuana use among African American adolescents. Results from this study indicate that both past year and past month marijuana use among African American youth differed based on the frequency of
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positive parenting behaviors. Statistical significance from this study suggested that youth were at increased odds of marijuana use if their parents never or seldom engaged them in positive parenting behaviors. The current study provides evidence supported by previous literature suggesting that parenting styles influence adolescent behaviors and decisions. Authoritative parenting styles exhibit behaviors such as high warmth, caring and communication while exerting appropriate control. This style of parenting has not only been widely associated with lower levels of substance use including marijuana (Montgomery et al., 2008) but other risky behaviors as well (Becona et al., 2011; Cleveland et al., 2005; King & Vidourek, 2011; Leonard et al., 2007; Sartaj & Aslam, 2010; Shakya, et al., 2012 Steinberg, 2001). Shakya et al., (2012) suggests the use of authoritarian or permissive parenting styles may be more appropriate for some families because of culture, ethnicity and socioeconomic level. However, what is pivotal is that the strategies employed by parents may serve as a critical component for decreased odds of substance use (King & Vidourek, 2010). Data from the present study align with professional literature in that the frequency of implementing positive parenting practices: such as parental communication; involvement and monitoring; working with youth on certain skills and academics; and providing support may serve as an effective protective factor against substance use for African American adolescents (Caldwell et al., 2010; Clark et al., 2012; King & Vidourek, 2010; Williams-Wheeler, 2011).

Lastly, the present study also explored the relationship between the frequency of applying positive parenting behaviors by age categories and its impact on marijuana use. The results of these analyses also found that implementing positive parenting behaviors had the most influence with 12 to 13 year olds and 14 to 15 year olds marijuana use. African American adolescents in the younger age categories who reported that their parents frequently engaged them in six of the
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seven behaviors (checked to see if homework is done, parents help with homework, parents make youth do chores around the house, parents limit amount of television, parents tell youth they did a good job, parents tell youth they are proud of them) were less likely to report past year marijuana use. African American adolescents within the younger age categories (12 to 13 years and 14 to 15 years) were less likely to report past month marijuana use if their parents engaged them frequently in five of the seven behaviors which included: helped them with their homework, limited the amount of television they watched, limited the amount of time youth spent out on a school night, told youth they did a good job, and told youth they were proud of them. These findings suggest that the frequency of implementing positive parenting behaviors is most influential within the early stages of adolescence. Prior studies have found that programs that focus on adolescents and emphasize parental knowledge may have a positive impact on adolescent use particularly youth in middle-school (Tebes et al., 2011). King et al., (2012) acknowledge the important role that parents can play in helping their children to abstain from marijuana use. Nevertheless, as adolescents get older parenting styles often shift and parental control tends to reduce over time (Borawski et al., 2003; Roche, 2008). A study by Clark et al. (2012) suggests that parental influence on adolescents’ behavior is meaningful and parental monitoring may have indirect effects on drug refusal, hence the role of parents should be emphasized and serves as a significant protective factor for risky behaviors. Previous research regarding the middle childhood stage of adolescent development specifically suggest that early adolescence is an essential period of transition that can prove challenging to both parents and youth. Research by Williams-Wheeler (2011) emphasize the value of high levels of communication, behavioral control and parental support and how these behaviors are particularly
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vital for African American youth who may often experience discriminatory situations and societal barriers.

The results of the current study add to the dearth of literature surrounding the rising trend of marijuana use among African American youth. This study attempts to convey the importance of implementing positive supportive parenting practices from early childhood adolescence through adulthood. Past research has indicated that African American adolescents as well as adults, experience substance abuse related problems at a greater magnitude. As such additional studies should be conducted that focus on race and family management practices in an effort to help understand the rising trend of marijuana use among African American youth.

Limitations

The following limitations for this study should be noted. Due to the nature of self-report some students may have responded in a socially desirable manner. Therefore, response bias, may have interfered with valid reporting of information. In addition, study participants were limited to African American youth within the specific age category of 12 to 17 years old. Lastly caution is warranted when generalizing these results to other students in other age categories as well as among other races and ethnicities.

Conclusion and Recommendations

This study has provided some evidence to support the need for more parent involvement and has several implications for substance abuse prevention efforts. First interventions delivered in school, after school or within a community setting that include parents in a collaborative effort are likely to be more culturally appropriate for African American adolescents (Beach et al., 2016; Tebes et al., 2011). Secondly prevention efforts should provide parents with age-specific information recognizing that implementing positive parenting behaviors is a protective factor for
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youth that varies by age, and that interventions implemented early may have the most impact (King et al., 2015). Lastly it is important to utilize socially relevant approaches that consider both race and ethnicity when developing programs for African American youth (Clark et al., 2012).

Overall the findings in this study indicate that implementing positive parenting behaviors could serve as a valuable prevention strategy against marijuana use (Beach et al., 2016). Prior research (Beach et al., 2016; Catalano et al., 1992; Wallace & Muroff, 2002) has suggested that the family is potentially one of the most influential protective factors among African Americans. This represents a significant strength for African American families with regards to prevention efforts. Finally, it is recommended that prevention approaches for African American youth are developmentally appropriate, culturally inclusive and involve not only parents but also extended family members as key components. Thus family based interventions that focus on developing positive parenting behaviors and preventing substance use may enhance resilience in African American youth (Beach et al., 2016).
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REFERENCES


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Wagner, F., & Anthony J. (2002). Into the world of illegal drug use: Exposure opportunity and
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other mechanisms linking the use of alcohol, tobacco, marijuana, and cocaine. American Journal of Epidemiology, 155, 918-925.


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TABLES AND FIGURES

Table 1. Demographic and Background Characteristics of African American Youth

<table>
<thead>
<tr>
<th>DEMOGRAPHIC VARIABLE</th>
<th>n</th>
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</thead>
<tbody>
<tr>
<td>Sex</td>
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<td></td>
</tr>
<tr>
<td>Male</td>
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<tr>
<td>Female</td>
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</tr>
<tr>
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<td></td>
</tr>
<tr>
<td>12 to 13 years old</td>
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</tr>
<tr>
<td>14 to 15 years old</td>
<td>763</td>
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<tr>
<td>16 to 17 years old</td>
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<td>35.3</td>
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<tr>
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</tr>
<tr>
<td>Did not use in past year</td>
<td>1992</td>
<td>85.6</td>
</tr>
<tr>
<td>Used in past year</td>
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<td>14.4</td>
</tr>
<tr>
<td>Marijuana Use (past month)</td>
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<td></td>
</tr>
<tr>
<td>Did not use in past month</td>
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</tr>
<tr>
<td>Used in past month</td>
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<td>7.9</td>
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N = 2328; Missing values excluded
Table 2. Odds Ratios for Youth Marijuana Use based on Sex and Age

<table>
<thead>
<tr>
<th>DEMOGRAPHIC VARIABLE</th>
<th>MARIJUANA USE (PAST YEAR)</th>
<th>MARIJUANA USE (PAST MONTH)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did Not Use</td>
<td>Used</td>
</tr>
<tr>
<td></td>
<td>n (%)</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female*</td>
<td>1003 (85.3)</td>
<td>173 (14.7)</td>
</tr>
<tr>
<td>Male</td>
<td>989 (85.9)</td>
<td>163 (14.1)</td>
</tr>
</tbody>
</table>

Age

<table>
<thead>
<tr>
<th></th>
<th>Did Not Use</th>
<th>Used</th>
<th>OR</th>
<th>(95% CI)</th>
<th>p</th>
<th>Did Not Use</th>
<th>Used</th>
<th>OR</th>
<th>(95% CI)</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>n (%)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 to 13 years old*</td>
<td>729 (98.1)</td>
<td>14 (1.9)</td>
<td>1.000</td>
<td></td>
<td></td>
<td>737 (99.2)</td>
<td>6 (0.8)</td>
<td>1.000</td>
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<tr>
<td>14 to 15 years old</td>
<td>653 (85.6)</td>
<td>110 (14.4)</td>
<td>8.772</td>
<td>(4.980, &lt;.001)</td>
<td>710 (93.1)</td>
<td>53 (6.9)</td>
<td>9.169</td>
<td>(3.917, &lt;.001)</td>
<td>21.463</td>
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<tr>
<td>16 to 17 years old</td>
<td>610 (74.2)</td>
<td>212 (25.8)</td>
<td>18.097</td>
<td>(10.426, &lt;.001)</td>
<td>698 (84.9)</td>
<td>124</td>
<td>21.821</td>
<td>(9.555, &lt;.001)</td>
<td>49.833</td>
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</tbody>
</table>

Notes: * Referent; N = 2,328; Missing values excluded
Table 3. Frequency of Parenting Behaviors Reported by African American Youth – Past Year

<table>
<thead>
<tr>
<th>PARENT BEHAVIOR</th>
<th>n</th>
<th>%</th>
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</thead>
<tbody>
<tr>
<td>Parents check if homework is done</td>
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<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1752</td>
<td>84.0</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>334</td>
<td>16.0</td>
</tr>
<tr>
<td>Parents help with homework</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1679</td>
<td>80.5</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>408</td>
<td>19.5</td>
</tr>
<tr>
<td>Parents make youth do chores around the house</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>2124</td>
<td>91.7</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>192</td>
<td>8.3</td>
</tr>
<tr>
<td>Parents limit amount of TV</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>849</td>
<td>36.7</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>1465</td>
<td>63.3</td>
</tr>
<tr>
<td>Parents limit time out on a school night</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1488</td>
<td>71.9</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>581</td>
<td>28.1</td>
</tr>
<tr>
<td>Parents tell youth they did a good job</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1955</td>
<td>84.4</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>361</td>
<td>15.6</td>
</tr>
<tr>
<td>Parents tell youth they are proud of you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1994</td>
<td>85.9</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>326</td>
<td>14.1</td>
</tr>
</tbody>
</table>

Notes: N = 2,328; Missing values excluded
Table 4. Odds Ratios for Past Year and Past Month Youth Marijuana Use based on Parent Behaviors

<table>
<thead>
<tr>
<th>PARENT BEHAVIOR</th>
<th>MARIJUANA USE (PAST YEAR)</th>
<th>MARIJUANA USE (PAST MONTH)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Did Not Use n (%)</td>
<td>Used n (%)</td>
</tr>
<tr>
<td>Parents check if homework is done</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1,540 (87.9)</td>
<td>212 (12.1)</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>227 (68.0)</td>
<td>107 (32.0)</td>
</tr>
<tr>
<td>Parents help with homework</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1,463 (87.1)</td>
<td>216 (12.9)</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>305 (74.8)</td>
<td>103 (25.2)</td>
</tr>
<tr>
<td>Parents make youth do chores around the house</td>
<td></td>
<td></td>
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<tr>
<td>Always/Sometimes</td>
<td>1,821 (85.7)</td>
<td>303 (14.3)</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>161 (83.9)</td>
<td>31 (16.1)</td>
</tr>
</tbody>
</table>
Marijuana and African American Youth

<table>
<thead>
<tr>
<th>Parents limit amount of TV</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Always/Sometimes</td>
<td>771 (90.8)</td>
<td>78</td>
<td>1.000</td>
<td>813</td>
<td>36</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>(9.2)</td>
<td></td>
<td>(95.8)</td>
<td>(4.2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>1,210</td>
<td>255</td>
<td>2.083</td>
<td>(1.591, &lt; .001)</td>
<td>1,320</td>
<td>145</td>
</tr>
<tr>
<td></td>
<td>(82.6)</td>
<td>(17.4)</td>
<td>2.727</td>
<td>(90.1)</td>
<td>(9.9)</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parents limit time out on a school night</th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Always/Sometimes</td>
<td>1,282</td>
<td>206</td>
<td>1.000</td>
<td>1,382</td>
<td>106</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>(86.2)</td>
<td>(13.8)</td>
<td>(92.9)</td>
<td>(7.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>468 (80.6)</td>
<td>113</td>
<td>1.503</td>
<td>(1.167, .002)</td>
<td>511</td>
<td>70</td>
</tr>
<tr>
<td></td>
<td>(19.4)</td>
<td>1.935</td>
<td>(88.0)</td>
<td>(12.0)</td>
<td></td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Parents tell youth they did a good job</th>
<th></th>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>Always/Sometimes</td>
<td>1,715</td>
<td>240</td>
<td>1.000</td>
<td>1,831</td>
<td>124</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>(87.7)</td>
<td>(12.3)</td>
<td>(93.7)</td>
<td>(6.3)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>269 (74.5)</td>
<td>92</td>
<td>2.444</td>
<td>(1.861, &lt; .001)</td>
<td>304</td>
<td>57</td>
</tr>
<tr>
<td></td>
<td>(25.5)</td>
<td>3.210</td>
<td>(84.2)</td>
<td>(15.8)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Parents tell youth they are proud of you</th>
<th></th>
<th></th>
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<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Always/Sometimes</td>
<td>1,743</td>
<td>251</td>
<td>1.000</td>
<td>1,864</td>
<td>130</td>
<td>1.000</td>
</tr>
<tr>
<td></td>
<td>(87.4)</td>
<td>(12.6)</td>
<td>(93.5)</td>
<td>(6.5)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>245 (75.2)</td>
<td>81</td>
<td>2.296</td>
<td>(1.728, &lt; .001)</td>
<td>275</td>
<td>51</td>
</tr>
<tr>
<td></td>
<td>(24.8)</td>
<td>3.050</td>
<td>(84.4)</td>
<td>(15.6)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Notes: * Referent; N = 2,328; Missing values excluded
Table 5. Odds Ratios for Past Year Marijuana Use based on Parent Behaviors among 12-13, 14-15, and 16-17 year olds

<table>
<thead>
<tr>
<th>PARENT BEHAVIOR</th>
<th>PAST YEAR MARIJUANA USE</th>
<th>12-13 YEAR OLDS</th>
<th>14-15 YEAR OLDS</th>
<th>16-17 YEAR OLDS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR (95% CI)</td>
<td>p</td>
<td>OR (95% CI)</td>
<td>p</td>
</tr>
<tr>
<td>Parents check if homework is done</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td></td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>3.122 (2.074, 4.702)</td>
<td>&lt; .001</td>
<td>2.391 (2.001, &lt; .001)</td>
<td>1.891 (1.670, &lt; .001)</td>
</tr>
<tr>
<td>Parents help with homework</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td></td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>3.415 (2.286, 5.103)</td>
<td>&lt; .001</td>
<td>2.514 (2.108, &lt; .001)</td>
<td>1.856 (1.641, &lt; .001)</td>
</tr>
<tr>
<td>Parents make youth do chores around the house</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td></td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>1.890 (1.240, 2.882)</td>
<td>.003</td>
<td>1.573 (1.266, &lt; .001)</td>
<td>1.505 (1.284, &lt; .001)</td>
</tr>
<tr>
<td>Parents limit amount of TV</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td></td>
<td>1.000</td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>2.696 (1.867, 3.893)</td>
<td>&lt; .001</td>
<td>2.073 (1.704, &lt; .001)</td>
<td>1.796 (1.567, &lt; .001)</td>
</tr>
</tbody>
</table>
Parents limit time out on a school night

<table>
<thead>
<tr>
<th></th>
<th>Always/Sometimes</th>
<th>Never/Seldom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.000</td>
<td>1.616 (1.126, 2.319)</td>
</tr>
</tbody>
</table>

Parents tell youth they did a good job

<table>
<thead>
<tr>
<th></th>
<th>Always/Sometimes</th>
<th>Never/Seldom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.000</td>
<td>3.249 (2.210, 4.776)</td>
</tr>
</tbody>
</table>

Parents tell youth they are proud of you

<table>
<thead>
<tr>
<th></th>
<th>Always/Sometimes</th>
<th>Never/Seldom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1.000</td>
<td>2.776 (1.861, 4.139)</td>
</tr>
</tbody>
</table>

Notes: * Referent; N = 2,328; Missing values excluded
Table 6. Odds Ratios for Past Month Marijuana Use based on Parent Behaviors among 12-13, 14-15, and 16-17 year olds

<table>
<thead>
<tr>
<th>PARENT BEHAVIOR</th>
<th>12-13 YEAR OLDS</th>
<th>PAST MONTH MARIJUANA USE</th>
<th>14-15 YEAR OLDS</th>
<th>PAST MONTH MARIJUANA USE</th>
<th>16-17 YEAR OLDS</th>
<th>PAST MONTH MARIJUANA USE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>OR</td>
<td>(95% CI)</td>
<td>p</td>
<td>OR</td>
<td>(95% CI)</td>
<td>p</td>
</tr>
<tr>
<td>Parents check if homework is done</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td></td>
<td></td>
<td>1.000</td>
<td></td>
<td>1.000</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>2.230 (1.149, 4.329)</td>
<td>.015</td>
<td>2.918 (2.336, 3.646)</td>
<td>&lt; .001</td>
<td>2.176 (1.875, 2.524)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parents help with homework</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td></td>
<td></td>
<td>1.000</td>
<td></td>
<td>1.000</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>3.065 (1.667, 5.636)</td>
<td>&lt; .001</td>
<td>2.656 (2.122, 3.324)</td>
<td>&lt; .001</td>
<td>1.853 (1.597, 2.150)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parents make youth do chores around the house</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td></td>
<td></td>
<td>1.000</td>
<td></td>
<td>1.000</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>2.179 (1.196, 3.970)</td>
<td>.009</td>
<td>2.016 (1.548, 2.626)</td>
<td>&lt;</td>
<td>1.719 (1.427, 2.070)</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Parents limit amount of TV</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td></td>
<td></td>
<td>1.000</td>
<td></td>
<td>1.000</td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>2.889 (1.649, 5.060)</td>
<td>&lt; .001</td>
<td>2.449 (1.907, 3.145)</td>
<td>&lt;</td>
<td>1.997 (1.668, 2.393)</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>
Marijuana and African American Youth

Parents limit time out on a school night

<table>
<thead>
<tr>
<th></th>
<th>Always/Sometimes</th>
<th>Never/Seldom</th>
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<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td>2.572 (1.529, 4.326)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>2.572 (1.529, 4.326)</td>
<td>&lt; .001</td>
</tr>
<tr>
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<td></td>
</tr>
</tbody>
</table>

Parents tell youth they did a good job

<table>
<thead>
<tr>
<th></th>
<th>Always/Sometimes</th>
<th>Never/Seldom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td>2.553 (1.401, 4.654)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>2.553 (1.401, 4.654)</td>
<td>.002</td>
</tr>
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</tbody>
</table>

Parents tell youth they are proud of you

<table>
<thead>
<tr>
<th></th>
<th>Always/Sometimes</th>
<th>Never/Seldom</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Always/Sometimes</td>
<td>1.000</td>
<td>2.508 (1.378, 4.567)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never/Seldom</td>
<td>2.508 (1.378, 4.567)</td>
<td>.002</td>
</tr>
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</tbody>
</table>

Notes: * Referent; N = 2,328; Missing values excluded
Figure 1. Effect of Parenting Behaviors on Past Year Marijuana Use by Age
Figure 2. Effect of Parenting Behaviors on Past Month Marijuana Use by Age
STUDY TWO: Sources of Marijuana Use in African American Adolescents
INTRODUCTION

Adolescent marijuana use in the United States has nearly become usual and customary as marijuana continues to be the most commonly used illicit drug (Center for Behavioral Health Statistics and Quality [CBHSQ], 2015; Miech, Johnston, O’Malley, Bachman & Schulenberg, 2015; Reboussin, Hubbard & Ialongo, 2007). Marijuana use for African American adolescents is considerably higher than the previous decade and is of significant public health concern (Johnston, O’Malley, Miech, Bachman & Schulenberg, 2016; Reboussin, Green, Milam, Furr-Holden & Ialongo, 2014; Reboussin et al., 2007; Substance Abuse and Mental Health Services Administration [SAMHSA], 2012, 2013). Past survey research has indicated lower rates for African American students than Whites on all drugs except marijuana (Reboussin et al., 2007). Data from Monitoring the Future survey (MTF) which annually measures drug use and attitudes in the nation’s middle and high school students, has reported African Americans aged 12 and older are now showing higher rates of marijuana use than whites (Johnston et al., 2016; SAMHSA, 2013). Rising marijuana rates for African American students in both 8th and 10th grade are substantially higher than among white students in those same grade levels (Johnston et al., 2016).

This rising trend among African American youth (Reboussin et al., 2014; Reboussin et al., 2007; SAMHSA, 2012, 2013) is especially concerning as the early initiation of marijuana use increases the risk for substance abuse and its related problems. Additionally, trends in prevalence often coincide with perceptions of risk and as marijuana use has increased, the perceptions of risk and harm have unfortunately declined (Green, Doherty, Stuart & Ensminger, 2010; Johnston, O’Malley, Bachman & Schulenberg, 2009; King, Merrianos, Vidourek, 2016). The continued legislative deliberation within the United States over the legalization of medicinal
Marijuana and African American Youth

and recreational marijuana may have additionally contributed to youth’s decreasing perception of risk and harm. Unfortunately, the potential increase in positive social norms towards use (CBHSQ, 2015; King et al., 2016; SAMHSA, 2014; Vidourek, King & Montgomery, 2015) combined with increases in prevalence, may result in serious health concerns for a population that already experiences a disproportionate burden of preventable disease and health disparities (Airhihenbuwa & Liburd, 2006; CDC, 2011; Smedley, Stith & Nelson, 2003).

With the escalating trend of marijuana use among African American youth it is surprising that little more than anecdotal information exists with regards to the marijuana acquisition behaviors of African American adolescents. Perhaps gaps in the research may be due to the illegal nature of the drug. Nonetheless there is marginal information on the sources of where African American youth obtain marijuana. Research in this area is warranted, and findings may assist health professionals understand the typical sources where African American youth use and obtain marijuana and subsequently implement culturally appropriate interventions.

PATTERNS OF USE AND CONSEQUENCES

Prevalence of Marijuana Use and African American Youth

While previous trends for African American adolescents have shown substantially lower rates of illicit drug use than whites (Reboussin et al., 2014; Reboussin et al., 2007; SAMHSA, 2012, 2013) data from the Center for Disease Control and Prevention’s (CDC) Youth Risk Behavior Surveillance (YRBS) reports that while 38.6% of students have used marijuana one or more times during their life (CDC, 2016), the prevalence of having ever used marijuana was higher among African American (45.5%) than white (35.2%) students nationwide. Additionally, the prevalence of marijuana use during the past 30 days, was higher among African Americans (27.1%), and Hispanic (24.5%) than white (19.9%) students (CDC, 2016). As it relates to
Marijuana and African American Youth

gender, the prevalence of having ever used marijuana was again higher among African American males (49.7%) than White male (46.0%) students and similarly, prevalence rates for African American females (40.5%) were also above those of white female (34.3%) students (CDC, 2015).

Although early adolescence has been identified as a risky period for the initiation of drugs for all youth this has been particularly so for both Native American and African American adolescents (Kosterman, Hawkins, Guo, Catalano & Abbott, 2000). The 2015 YRBS survey data reports the prevalence of having tried marijuana before the age of 13 was higher among African American (10.6%) and Hispanic (10.9%) than white (5.4%) students, and while the prevalence of having ever tried marijuana before age 13 is higher among Hispanic females (8.2%) than both white (4.2%) and black (7.4%) female students, African American males still see higher prevalence rates (13.0%) than Hispanic (13.6%) and almost twice that of white male (6.7%) students (CDC, 2016). This data supports research by Kosterman et al., (2000) which suggest boys appear to be at greater risk for alcohol and marijuana initiation than girls. Prior research has shown that those who initiate early substance use are more likely to develop a substance use disorder (Kosterman et al., 2000; Welty et al., 2016) and in particular, the early onset of marijuana has been associated with increased opportunities to use other illicit drugs later in life (Hall, 2015; Lynskey, Coffey, Degenhardt, Carlin, & Patton, 2003; Wagner & Anthony, 2002; Wilcox, Wagner & Anthony, 2002).

National survey data (CDC, 2015; Johnston et al., 2016) indicate that marijuana use has surpassed cigarette smoking with prevalence greater among African American youth compared to white youth. Additionally, the YRBS study (CDC, 2015) examined the prevalence of exclusive cigarette, cigar and marijuana use in high school students and suggests that exclusive
Marijuana and African American Youth

marijuana use more than doubled overall from 4.2% to 10.2% during the time of the study (1997-2013). Considerable increases were identified among African American students for increased exclusive marijuana use between 2009 (10.9%) and 2013 (16.6%) (CDC, 2015). Among African American students, any cigarette, cigar or marijuana use increased from 2007 to 2013 (25.0% to 30.0%) and among cigarette or cigar users, the use of marijuana increased from 2009 to 2013 (66.4% to 82.0%). Although data for Caucasian youths in representative samples of 8th, 10th, and 12th graders indicate patterns of substance use that are consistent with the gateway hypothesis, in contrast, African American youth have used marijuana more than cigarettes (Vaughn, Wallace, Perron, Copeland & Howard, 2008). Thus advances in adolescent health related to lower cigarette and cigar use might be diminished by increases in marijuana use (Sinclair, Foushee, Scarinci & Carroll, 2013), which vary by racial/ethnic subgroup (CDC, 2015). While patterns of African American adolescent drug use have been studied, this research has primarily focused on comparisons with White youth, and minimal data exists regarding the patterns of use specifically within the African American population (Rebousson et al., 2007; Wallace, 1999). Additional research aimed at understanding the patterns of marijuana use among African Americans is needed.

Methods of Marijuana Use

Cannabis is most commonly smoked or inhaled by users (Hall, 2015; Iversen, 2007; McClure, Stitzer & Vandrey, 2012). However, there are a variety of ways this can be done including: smoking in a joint (rolled cigarette); or a blunt (cannabis rolled in hollowed out cigars); pipes; bongs (sometimes with added tobacco or other chemicals); and most recently vaporizers; (McClure et al., 2012). Research by Roditis, Delucchi, Chang and Halpern-Falsher, (2016) found that marijuana and blunts were generally perceived as more socially acceptable.
Marijuana and African American Youth

Interestingly, social norms and settings vary based on the differing methods of marijuana use (Timberlake, 2009).

Marijuana is commonly smoked by African American youth as a blunt which is a hollowed out cigar shell filled with marijuana (Timberlake, 2009; Sinclair, Foushee, Pevear, Scarinci & Carroll, 2012; Sinclair, Foushee, Scarinci & Carroll, 2013). Blunt use became popular in the 1990s during the hip-hop movement particularly for African American males that resided in metropolitan and urban areas (Golub, Johnson & Dunlap, 2005). As the popularity of cocaine decreased, it was believed that blunt smokers especially those from urban areas, had overall feelings of contempt for the use of “hard drugs” such as crack cocaine mostly due to the devastation caused in the 1980s. As such a new era was ushered in and referred to as the “marijuana/blunts era” (Golub, Johnson, Dunlap & Sifaneck, 2004; Sifaneck, Ream, Johnson & Dunlap, 2007; Timberlake, 2009). A study by Dunlap, Benoit, Sifaneck and Johnson (2006) suggest that rituals are associated with blunt smoking and part of the ritual includes rolling the blunt, and passing it around to the group, thereby it has been considered a social activity because of the rituals and social nature of the participant’s behavior when consuming the drug.

In 2005 it was estimated that 3.5% of American youth ages 12 to 17 had used blunts in the past month. Blunts have become a very common form of marijuana use for adolescents nationwide with more than half of 30-day marijuana users also reporting blunt use (Delneo, Bover-Manderski, & Hrywna, 2011; Golub et al., 2005). Research from Golub et al., (2005) examined marijuana use trends within the past twenty years of the NSDUH and attributed much of the increase in marijuana prevalence to the popularity of blunt smoking. Additional research with Volkow, Baler, Compton and Weiss (2014) reported that using both tobacco and marijuana together (as with blunts) may potentially increase the addictive potential of these products. Since
blunt smoking is more common among African Americans, older teens and men and has continued to increase (Golub et al., 2005; Timberlake, 2009; Sinclair et al., 2012; Sinclair et al., 2013), more research is needed on the patterns of blunt use among youth, and specifically with African American adolescent males.

Consequences of Marijuana Use

Adolescent substance use is associated with a number of poor developmental outcomes. The use of marijuana is particularly damaging to the growing adolescent brain and has harmful effects on memory, thinking and attention (Bachaman et al., 2008; Brook, Balka & Whiteman, 1999; Hingson, Heeren, Jamanka & Howland, 2000; Schuster, O’Malley, Bachman, Johnston, Schulenberg, 2001). Although the adverse effects of smoking marijuana have been less clear than tobacco there are certain ingredients in marijuana smoke that may predispose individuals to chronic cough and other laryngeal irritations that may lead to smoking related lung disease (Sinclair et al., 2013). The health and social consequences of early marijuana use and dependence are of serious concern and have been found to have negative long term effects including: higher rates of risky sexual behavior, unintentional injury, reduced educational attainment, unemployment, early pregnancy and overall poor health (Ensminger, 1990; Green et al., 2010; Horwood et al., 2010; Lynskey et al., 2003).

Several studies (Ferguson & Boden, 2008; Brook, Lee, Finch, Seltzer & Brook, 2013) as cited in (National Institute on Drug Abuse [NIDA], 2016, p. 7) have also linked heavy marijuana use to lower income, greater welfare dependence, unemployment, criminal behavior, school dropout (Lynskey et al., 2003) and lower life satisfaction. Additionally, a study by Brook, Adams, Balka & Johnson (2002) found several outcomes related to marijuana use that inhibit later functioning during the transition to young adulthood including; lowered educational and
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workforce expectations, workforce termination (which may include collecting welfare) and lower attachment to conventional institutions and societal rules. This is of particular concern since African Americans are already over represented in some of the nation’s most vulnerable populations, such as the poor, the uninsured, the homeless, and the incarcerated (U.S. Department of Health Human Services Office of Minority Health [DHHS OMH], 2011). Substance abuse tends to have greater consequences (French, Finkbiner & Duhamel, 2002) for racial/ethnic minorities, particularly African American adolescents who are often less able to afford treatment and if arrested, less able to obtain effective legal counsel than persons of greater means (Welty et al., 2016). Since the adverse health, social and legal consequences of drug use are reportedly greater among the African American community than other racial and ethnic groups, (Clark, Belgrave & Abell, 2012; Emshoff, Avery, Raduka, & Anderson, 1996; Reboussin et al., 2014; Vidourek et.al, 2015) the early use of marijuana in Black adolescents further magnifies these issues and raises significant concerns for this population.

**RISK FACTORS**

**Social Norms**

As marijuana becomes increasingly accessible attitudes toward marijuana have become more tolerant and therefore the monitoring and regulation of how youth access marijuana is critical to understanding their use and subsequent problems (Osilla et al., 2014). Adolescents’ perception of marijuana use has changed significantly over the years (Roditis et al., 2016) and social media has served as a critical setting for adolescents to share attitudes and beliefs regarding marijuana (Roditis et al., 2016). Between 2012 and 2013 more adolescents tweeted about marijuana with positive messages than adults. Research by Roditis et al., (2016) found that while the perceptions of marijuana were not related to use, seeing messages related to the
positive benefits of marijuana use was associated with 6% greater odds of use. Conversely messages regarding risk were not related to use, when adolescents viewed ads that showed both risks and benefits. Finally, Roditis et al., (2016) recommends that states should collectively consider adolescents’ perceptions of risks, benefits, social norms as well as peer influences when developing marijuana legislation. As states move towards legalizing marijuana for both recreational and medicinal purposes, more tolerant attitudes towards marijuana use appear to reflect these trends and may ultimately support positive social norms toward use. (CBHSQ, 2015; Osilla et al., 2014; Vidourek et al., 2015).

A considerable populace of African American youth tend to be disproportionately exposed to environmental risk factors that contribute to substance abuse (Clark et al., 2008) and urban African American adolescents are deemed to be at an even greater contextual disadvantage (Beach et al., 2016; Clark et al., 2008; Reboussin et al., 2014). African American adolescents may live in urban neighborhoods where there are high levels of disorder that include but are not limited to; drug activity, violence, criminal behavior, the presence of abandoned buildings, and a lower ability to monitor youth activities (Reboussin et al., 2014). Reboussin et al. (2014) suggests that illegal drugs are more prevalent in African American urban neighborhoods and youth that reside in these areas are more likely to witness drug sales and activity. Disordered neighborhoods and environments where adolescents are exposed to drug sales and activity may have an association with increased social norms towards marijuana use (Furr-Holden et al., 2011; Leifheit et al., 2015; Rebuossin, Milam, Green, Ialongo & Furr-Holden, 2015).

A study by Leifheit et al., (2015) focused on the association between neighborhood drug prevalence and marijuana use with over 500 African American adolescents and found permissive peer drug and alcohol norms to be significantly associated with marijuana use among both males
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and females. Their findings also suggest that a young person is more likely to use marijuana if they live in a neighborhood with high drug prevalence and if their peers also condone drug and alcohol use (Leifheit et al., 2015). The area of permissive social norms around drug use should be more closely examined to determine its impact on marijuana prevalence with this population.

Perception of Risk/Harm

Another factor related to youth’s marijuana use is perception of harm (Danseco, Kingery & Coggeshall, 1999). According to the most recent Monitoring the Future Survey (MTF) survey (Johnston et al., 2016) since 2004 in 8th grade, 2005 in 12th grade, and 2008 in 10th grade, results indicate that perceived risk of marijuana use has fallen substantially. Adolescents’ perceptions related to marijuana use have changed and the number of youth who perceive risk from using marijuana once or twice a week decreased from 54.6% in 2007 to 39.5% in 2013 (Miech et al., 2015). Perceived risk has continued to decline since the mid-2000s. Personal disapproval of trying marijuana has shown minimal declines since 2007 or 2008 in all three grades (8th, 10th, 12th), but remains quite high with 82%, 74%, and 71% of youth saying that they disapprove of regular use of marijuana (Miech et al., 2015). According to MTF the perception of risk associated with smoking marijuana has continued to decline among all grades with 31.1 percent of 12th graders reporting that regular marijuana use is harmful as compared to 58.3 percent in 2000 (NIDA, 2016b). In a recent study with primarily low-income African American youth, Reboussin et al. (2014) found that youth living in neighborhoods where they specifically witnessed drug activity, perceived less harm from using marijuana. As a result, youth that perceived less harm were more likely to transition from no use to frequent marijuana use, and experience consequences associated with use.

Research studies have shown that perceived harm regarding marijuana use was inversely related to current use (Johnston, O’Malley, Bachman & Schulenberg, 2010; King, Vidourek &
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Hoffman, 2012; NIDA, 2016). Additional findings from King et al., (2012) indicated the greater the risk of harm students perceived from marijuana use, the less likely they were to have used. These outcomes were supported by previous research as well (Danseco et al., 1999; DeWit, Hance, Offord & Ogbourne, 2000; Beyers, Toumbourou, Catalano, Arthur & Hawkins, 2004). Interestingly King et al. (2012) also found that male high school students viewed marijuana use to be less harmful than females which further supports national data indicating higher prevalence rates with African American males than females (CDC, 2014; SAMHSA, 2013, 2014). The greater the amount of risk youth perceived the less likely they were to use marijuana (King et al., 2012). Perception of harm may in fact be a contributing factor to the current rising trend in marijuana use among African American adolescents (CDC, 2014), but could also serve as a protective factor as well (King et al., 2012).

Peer Factors and Perceived Use

Various peer factors are associated with youth drug use (Hawkins, Catalano, & Miller, 1992) and Reinherz Giaconia, Carmola Hauf, Wasserman and Paradis (2000) indicate that having friends who use drugs has been considered one of the strongest risk factors and predictors for drug abuse among adolescents (Myers, 2013). Youth generally try their first drugs with peers and peers provide drugs, model drug-using behaviors, and influence attitudes toward drugs (Clark et al., 2008). A study by Farrell & White (1998) with African American tenth graders found that peer pressure and peer drug use were related to the frequency of drug use. Another study by Myers (2013) with rural African American adolescents also found that the characteristic most strongly associated with both alcohol and illegal drug use was having friends who use. Additionally, Leifheit et al., (2015) found that peers continue to be influential in increasing or diminishing the level of neighborhood risk. Furthermore, findings with Biglan et al., (2004)
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maintain that peer approval has a large influence on the use of marijuana by youth and peer norms may even provoke substance use among youth due to their need for acceptance and approval.

Another compelling risk factor for substance abuse among youth is perceived peer substance use (Branstetter, Low & Furman, 2011; Olds & Thombs, 2001). A study by Roditis et al., (2016) focused on the perception of social norms and exposure to pro-marijuana messages reported that perceived rates of marijuana use among friends was not only higher than self-reported marijuana use, but also for national average adolescent use rates as well. In addition, as it relates to alcohol and binge drinking, Roditis et al., (2016) also found that youth tend to overestimate peer drinking rates. Dispelling these misperceptions as part of social norms campaigns have proved to be effective prevention strategies for reducing binge drinking. Therefore, Roditis et al., (2016) suggest similar approaches may also be utilized for marijuana use prevention.

Another finding from Roditis et al., (2016) shows that adolescents perceive higher use of marijuana and blunts and lower use of cigarettes among their siblings and peers. This finding is critical because of the popularity of blunts within the African American community and also because blunts contain nicotine and marijuana does not. Roditis et al., (2016) found marijuana and blunts were perceived more socially acceptable and even more beneficial than cigarettes. Additionally, Roditis et al., (2016) found that approximately 25% of participants who reported that their friends used marijuana had a 27% greater odds of using marijuana themselves. These findings may be the result of changing social norms in which marijuana use is seen as acceptable (Roditis et al., 2016). Conversely research with Wallace and Muroff (2002) suggest that peer pressure is not as great and does not influence African American adolescents as much as other
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youth. Wallace & Muroff (2002) suggest the family may be the most powerful protective factor among African American adolescents.

Access and Availability

Generally, a combination of social sources, provide access to youth for illicit drugs. A study by King & Vidourek (2010) found that availability and access to marijuana may be a contributing factor to adolescent use (King et al., 2012; King et al., 2016; Osilla et al., 2014). Since the inception of the MTF survey in 1975 (Johnston et al., 2016), between 80% and 90% of 12th graders each year have said that they could get marijuana fairly easily or very easily if they wanted. Unfortunately, as of 2015 the statistic of 80% is still accurate. Marijuana has been considerably less available to 8th graders, with 37% in 2015 reporting it would be fairly easy or very easy to get. In 2015 availability and easy access was reported at 66% for 10th graders (Johnston et al., 2016). While availability has declined among younger adolescents, marijuana continues to remain readily available to 12th graders (Johnston et al., 2016; Osilla et al., 2014).

Although the impact of medical marijuana legalization on adolescent use has not yet been widely studied, there are a few studies that have examined this issue. One small study conducted by Thurstone, Lieberman and Schmiege, (2011) of youth in treatment found that nearly half (49%) of the study participants reported obtaining marijuana from someone with a medical marijuana license. In this comparative study those youth obtaining marijuana from a medically licensed facility reported easier access to marijuana in addition to less perceived peer disapproval. Additionally, the youth in this study were also more likely to use marijuana 20 or more times per month and more likely to report substance use related problems as well (Thurstone, et al., 2011). The availability of medical marijuana may provide youth with easier access which may potentially encourage greater use (Thurstone et al., 2011). Another study
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counted by Friese & Grube (2013) examined the relationship between perceived ease of access to marijuana and medical marijuana cards. The results of this study suggest that the number of marijuana cards in a community may in fact increase youths’ access to marijuana although it may not be directly related to marijuana use (Friese & Grube, 2013).

A third factor more specifically related to African American adolescents’ access and availability to marijuana are living environments. Swaim (2003) found perceived availability of marijuana to be a stronger risk factor in larger cities as opposed to smaller cities. A study by Leifheit et al., (2015) among urban African American girls ages 9-15, found that neighborhood and family exposure to drug activity increased odds by 56% of having some type of drug history or intention. Similarly, in a longitudinal study in Baltimore with 12th graders Furr-Holden et al., (2011) found a strong correlation between neighborhood disorder and marijuana use. Contextual factors unique to the African American community, such as living in urban environments associated with drug use, have received minimal attention.

However, there is a growing body of research associating neighborhood factors to youth risky behaviors particularly substance abuse (Burlew et al., 2009; Furr-Holden et al., 2014; Rebuossin et al., 2014). A study by Rebuossin et al., (2014) has shown that African American youth living in urban environments with exposure to drug activity, violence and neighborhood disorder are at increased risk for both initiation and progression to more frequent and problematic marijuana use during high school (Rebuossin et al., 2014). Prior research by Crum, Lillie-Blanton & Anthony (1996) suggests that the relationship between neighborhood environment and substance use during adolescence might partially be explained by increased exposure and opportunities to use drugs. Interestingly Rebuossin et al., (2014) also proposes that increased exposure may weaken beliefs about the perceptions of harm and conversely strengthen
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positive attitudes towards use. Reboussin et al., (2014) asserts that youth who perceive less harm, may in turn be more likely to engage in frequent use of marijuana and experience substance related problems.

CHARACTERISTICS OF ACQUISITION

Purchasing Behaviors

Although it has been classified as criminal and prohibited since 1937, the retail sale of marijuana from person to person is a common behavior that comprises a multi-billion-dollar industry within the United States (Shepard & Blackley, 2016; Sifaneck et al., 2007). Cannabis is generally sold within someone’s own social network and social networks are usually peers within the same age range (Davenport, Caulkins, & Kleiman, 2015). As the United States continues the public debate about legalizing marijuana for both medicinal and recreational purposes, many states have loosened restrictions around access to marijuana (CBHSQ, 2015; Davenport et al., 2015; Vidourek et al., 2015). Unfortunately, there is the potential that legal availability for adults may affect price and availability for minors which could potentially increase the prevalence of adolescent marijuana use (Davenport et al., 2015).

Curtis and Wendel (2000) provide three manners in which the retail markets for marijuana are differentiated; street-level, indoor sales (including storefronts), and delivery services. Currently black markets prevail and there is already an illicit supply system that provides cannabis to minors. A research study by Davenport et al., (2015) which focused on controlling underage access to legal cannabis, reasons that while underage youth may not have access to legal markets, some may still gain access to the “gray market” in which adults buy legally from stores and then resell or give the drug away for free. This is similar to what the alcohol industry has coined “shoulder-tapping” where an adult purchases the alcohol legally and
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then furnishes it to the minor (Chen, Gruenewald, & Remer, 2009; Toomey, Fabian, Erickson, & Lenk, 2007). Interestingly Davenport et al., (2015) also suggested that effective enforcement policies for marijuana must anticipate both the black and gray market activity, and that it may in fact be easier for youth to by-pass restrictions against store access via social networks.

The European School Survey Project on Alcohol and Other Drugs (ESPAD) conducted a study with students’ ages 15 to 16 in 30 European countries to examine patterns of illicit drug availability as well as acquisition among youth (Hibell et al., 2004). Results showed that over half of the students surveyed (55%) knew one or more places to purchase cannabis easily. Clubs and bars were most often reported (27%), public places like streets or parks (23%), houses of dealers (21%), schools (16%) and other (13%) ranked lowest. Youth also reported that drug use generally started with a small group of friends, and an older peer or sibling. Purchasing drugs from a friend or someone else was found to be a rare occurrence in this study (Hibell et al., 2004). Another drug use survey implemented in the Netherlands asked youth where they acquired cannabis. Friends and relatives (47%) were reported as the most frequent response (Abraham, Kall, & Cohen, 2002) from this survey.

In a NSDUH survey from 2002, youth were asked how they obtained marijuana the last time they used and 10.6 reported they got it for free (Harrison, Erickson, Korf, Brochu, & Benschop, 2007). Interestingly 10 years later in a secondary study based on NSDUH results King et al., (2016b) found that over half (59.1%) of marijuana users obtained the substance for free the last time they used it. About 39% actually purchased marijuana and a smaller percentage (1.4%) traded something to obtain it. If the source of marijuana was free, 26.4 % of adolescents indicated that the source came from a friend. In the same study when asked about the source of bought marijuana last used, about 33% bought it from a friend, 6.7% from someone
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they didn’t know or just met and equally 6.7% purchased it from an unspecified source (King et al., 2016b). This study also reported that males were more likely to purchase marijuana and less likely to get it for free than females or youth that were 12 to 13 years old. Research has shown that the most common source of marijuana was from friends, whether purchased and/or last used for free (King et al., 2016b).

While the purchasing behaviors of African American adolescents has not been widely studied, research with (Ramchand, Pacula & Iguchi, 2006) suggests that African Americans are more likely to engage in risky purchasing behaviors, such as buying marijuana outdoors, from strangers and away from places of residence. The study also reported that African Americans were twice as likely to purchase marijuana from strangers and nearly 50% more likely to buy marijuana away from their places of residence, compared to their white counterparts. These behaviors increase the likelihood of arrest for African American youth and place them in precarious situations. Supportive research from Nguyen and Reuter (2012) found that arrest rates for marijuana possession tend to be disproportionately high for adolescents, African Americans and males. Juveniles tend to easily get arrested since they are most likely to consume marijuana outdoors due to their limited access to private residences without parental monitoring (Nguyen & Reuter, 2012). The study by Ramchand et al., (2006) suggests that African Americans are differentially impacted by policies that criminalize the individual possession of marijuana and these policies result in even greater burdens for this population. This is possibly the result of difficulties in identifying transactions with marijuana users.

Marijuana Sources

The supply of cannabis for youth is generally through the black market (Davenport et al., 2015). Sources for how youth access cannabis can generally be assessed within several
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dimensions: origin of supply, relationship with the provider, and nature of the transaction. Social source is a term that encompasses other specific methods including: adult supply from home, proxy buyers, and peer to peer exchange (Davenport et al., 2015). The 2013 National Survey on Drug Use and Health (NSDUH) asks users how they most recently acquired marijuana (SAMHSA, 2014). Among past month users, under the age of twenty-one, (88%) accessed from friends or family. Additionally, many of them accessed marijuana for free. Only 10 percent reported purchasing from a stranger (Davenport et al., 2015; SAMHSA, 2013). In an analysis of 2001 NSDUH data Caulkins and Pacula (2006) report that most respondents that reported marijuana use in the past year obtained it indoors (87%), from a friend or relative (89%) and 58% obtained it for free. Additionally, Caulkins and Pacula (2006) concluded that minimal marijuana sales take place outdoors (13%) and that many sellers both use and sell marijuana. Sifaneck et al., (2007) find that transactions involving a low profit level are generally informal, made behind closed doors in homes, vehicles and even workplaces.

Research by Roditis et al., (2016) revealed that adolescents not only get marijuana from friends, but use them in friends’ houses when they feel stressed. Harrison, Fulkerson and Park (2000) suggest that since friends and parties can be a common source for drugs, strategies that are effective for reducing alcohol access through social networks may potentially work to reduce other drug use. This study additionally suggests that social sources have been overlooked as a strategy to restrict youth access. Although research studies have been conducted to address sources of underage drinking (Bonnie & O’Connell, 2004; King, Vidourek & Merrianos, 2016; US Surgeon General, 2007), surprisingly gaps in the literature exist on the sources of youth marijuana use, and more specifically for African American adolescents. It is important to note that many of the studies within the literature do not focus solely on African American youth and
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research in the racial differences of marijuana procurement methods is minimal (Goncy & Mrug, 2012)

Study Purpose

Marijuana is the most commonly used illicit drug in the United States among adolescents and while more research is needed to lower the substance use rates of all youth. There is a particular need to provide research that focuses on the rising trend of marijuana use by African American adolescents and identifying the sources where marijuana users obtain marijuana. Despite the rising trend in higher rates of marijuana use among African American adolescents, gaps in the literature exist and the sources where African American adolescent marijuana users obtain marijuana should be explored (Goncy & Mrug, 2012; Harrison et al., 2000; Ramchand et al., 2006). This study attempted to address these gaps. The purpose of this study is to examine the sources where African American adolescent marijuana users obtain marijuana and if the sources differ based on frequency of marijuana use, age when they first used, and demographic variables (i.e., sex, age).

The following research questions were analyzed in this study:

1. Do the sources where African American adolescents obtain marijuana differ based on sex?
   a. Male?
   b. Female?

2. Do the sources where African American adolescents obtain marijuana differ based on age category?
   a. 12 to 13 years old?
   b. 14 to 15 years old?
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c. 16 to 17 years old?

3. To what extent do the sources where African American adolescents obtain marijuana differ based on age of first use of marijuana?

a. ≤ 11 years old?

b. 12 - 13 years old?

c. 14 - 15 years old?

d. 16 - 17 years old?

Keywords: marijuana, sources, acquisition, African American, youth

METHODS

Participants

The 2012 National Survey on Drug Use and Health (NSDUH) was utilized and a secondary data analysis was conducted for the present study. All participants were US non-institutionalized individuals who were 12 years of age or older. This national sample of students were in grades 7 through 12 (n = 2328).

Instrumentation

For the present study a secondary data analysis was conducted of the 2012 National Survey on Drug Use and Health (NSDUH). The US Department of Health and Human Services Substance Abuse and Mental Health Services Administration’s (SAMHSA) sponsor the NSDUH study. SAMHSA’s Center for Behavior Health Statistics and Quality manages the study which aims to identify the overall prevalence and associated variables to US substance use among individuals 12 years and older. Participants responded to demographic questions including sex, age, and race/ethnicity. Sex and race/ethnicity variables were only used as descriptive statistics to show demographic characteristics of variables. Regarding the race/ethnicity variables,
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participants self-identified their race/ethnicity including non-Hispanic white, non-Hispanic Black/African American, non-Hispanic Native American/Alaska Native, non-Hispanic Hawaiian/Pacific Islander, non-Hispanic Asian and non-Hispanic multiracial. Race and ethnic categories were limited to participants who self-identified their race as non-Hispanic Black/African American as the study focuses on race/ethnicity, specifically African American adolescents.

**Ever used marijuana.** To determine marijuana use, among adolescents the following questions were asked: “Have you ever, even once, used marijuana or hashish?” Responses were categorized (1= yes, 2 = no). All participants that responded yes were included in the present study. Additionally, marijuana users were asked the following set of questions: (1) “On how many days in the past 12 months did you use marijuana or hashish?” (range = 1 – 366) and (2) “During the past 30 days, on how many days did you use marijuana or hashish? (range = 1 – 30).

**Age of first marijuana use and time last used marijuana.** To determine the age of first use, study participants were asked the following question: “How old were you the first time you used marijuana or hashish?” Responses were (1 = ≤11 years old, 2 = 12 – 13 years old, 3 = 14 – 15 years old, 4 = 16 – 17 years old). Study participants were also asked the following question to determine the last time they used marijuana: “How long has it been since you last used marijuana or hashish?” Responses were categorized (1 = within the past 30 days, 2 = more than 30 days ago but within the past 12 months, 3 = more than 12 months ago, 9 = never used marijuana).

**Perceived availability of marijuana and peer use of marijuana.** Participants were asked one item on perceived availability and perceived peer use of marijuana. To determine perceived availability of marijuana adolescent marijuana users were asked: “How difficult or
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easy would it be for you to get some marijuana, if you wanted some?” Responses were
categorized (1 = probably impossible/very difficult/fairly difficult, 2 = fairly easy/very easy). To
determine perceived peer use of marijuana, adolescent participants were asked: “How many
students in your grade at school would you say use marijuana or hashish?” Responses were
categorized as (1 = none/a few of them, 2 = most/all of them).

**Sources of marijuana.** Participants responded to four items on the survey related to the
sources of last marijuana that they used, these questions included: (1) “Now think about the last
time you used marijuana. How did you get this marijuana?” (1 = you bought it, 2 = you traded
something else for it, 3 = you got it for free or shared someone else’s, 4 = you grew it yourself);
(2) “The last time you bought marijuana, who did you buy it from?” (1 = a friend, 2 = a relative
or family member, 3 = someone I had just met or didn’t know well, 4 = unspecified source, 5 =
did not use free marijuana).

**Procedures**

A secondary data analysis of the NSDUH was conducted. The NSDUH is sponsored by
the U.S. Department of Health and Human Services, Substance Abuse Mental Health Services
Administration (SAMHSA). Research Triangle Institute (RTI) trained interviewers visited all
selected homes, and after receiving parental permission, all youth were assented. Students were
recruited to participate in the study via multistage probability sampling methods from the RTI.
The present study was deemed non-human subjects research by the University of Cincinnati
Institutional Review Board.

A total of 2,328 African American adolescent marijuana users ages, 12 to 17 years old
completed the NSDUH study. Participants were asked whether they had ever used marijuana:
“Have you ever, even once, used marijuana or hashish?” (1 = yes, 2 = no). Of African American
adolescents, 393 used marijuana and were included in this analyses. All participants who answered yes completed the survey via a computer-assisted interview form and were informed of the voluntary and confidential nature of all responses. Most participants answered questions by entering their responses into the laptop computer so interviewers did not know their responses. Some items required the interviewer to read the questions aloud and enter the responses on behalf of the participants’ responses. No prior computer skills were needed to complete this study. An incentive of $30 was provided for participation in the study. Additional details that more specifically delineate the NSDUH procedures may be found in SAMHSA’s NSDUH Methodological Book (CBHSQ, 2015).

Data Analysis

All data for this study was analyzed using the SPSS statistical software package. Descriptive statistics including frequency distributions were performed to determine lifetime marijuana use, past year and past month marijuana use, as well as age first used marijuana and time since last marijuana was used. Additionally, the demographic variables of participants were also included. Chi-square analysis was computed to determine whether adolescent marijuana users who obtained their last marijuana bought it or got it for free/shared it, differed significantly by sex, age: 12 to 13 years; 14 to 15 years; 16 to 17 years and age first used marijuana with the following categories: younger than 11 years old, 12 to 13 years, 14 to 15 years, and 16 to 17 years.

Univariate logistic regression analyses were computed to investigate how marijuana was last obtained to examine the potential differences among adolescent marijuana users’ sex, age, age of first use, time since last used and number of days used marijuana in the past 30 days. Logistic regression analyses were additionally performed to determine whether the acquisition
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sources for last obtained bought marijuana differed by sex, age, and age of first use. The categories for the sources of acquisition included: friend, family member/relative and someone just met. A significance level of .05 was utilized for this study.

RESULTS

Demographics

Participants for this study included a total of 2,328 African American youth from 12 to 17 years old. This national sample was nearly equal with regards to sex with 49.5% (n = 1152) African American males and 50.5% (n = 1176) African American females. The age categories for this study were divided into three classifications with 31.9% (n = 743) of African American youth 12 to 13 years old, 32.8% (n = 763) of African American youth 14 to 15 years old and 35.3% (n = 822) of African American youth 16 to 17 years old. Overall a total of 18.4% (n = 429) African American youth reported using marijuana within their lifetime (Table 1).

Additionally, 14.4% (n = 336) youth reported using marijuana in the past year and 43.8% (n = 172) of African American youth reported the last time they had used marijuana was within the past 30 days (Table 1).

Regarding age of first use, the majority (43.9%) of African American adolescent marijuana users first tried marijuana between the ages of 14 to 15 years old, followed by 28.9% of 12 to 13 year olds, 19% of 16 to 17 year olds and 8.2 % were 11 years old or younger the first time they tried marijuana (Table 1). Most adolescent marijuana users (43.8%) reported that the last time they used marijuana was within the past 30 days, followed by 33.8% reported that the last time they used marijuana was more than 30 days ago but within the past 12 months and finally 22.4% reported that the last time they used marijuana was more than 12 months ago.

More than half (92.1) of adolescent marijuana users reported not using marijuana in the past 30
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days, 2.7% used 1 – 2 days, 1.8% used 3 - 5 days, 1.7% used 6 – 19 days and 1.6% used more than 20 days. Although the majority (52%) of participants reported that it was very difficult/fairly difficult to get marijuana, 48% reported that marijuana was fairly easy/very easy to obtain. As it relates to perception of peer use, less than half (39%) of participants thought that students in their grade use marijuana.

Sources of bought and free last marijuana used. More than half (59.2%) of African American adolescent marijuana users n = 393 indicated that they obtained marijuana for free the last time they used it, 38.2% bought it, and 1.6% traded something else for marijuana. Regarding source of bought marijuana last used, 61.8% did not buy the last marijuana they used, 54.5% bought it from a friend, 24.7% bought it from an unspecified source, 17.2% bought it from someone they just met or did not know and 3.5% bought it from a relative or family member (see Table 2).

Obtained last marijuana used (bought). A series of unadjusted odds ratios were performed to determine if statistically significant predictors for how adolescent marijuana users last obtained marijuana differed by sex, age and age of first marijuana use. For adolescent marijuana users who bought their last marijuana that was used (odds ratio [OR] = 1.2, 95% confidence interval [CI], [.795, 1.9], p = .326) there were no significant differences between males and females. There were also no significant differences among age categories for both 14 to 15 year olds (OR = .530, 95% CI, [.159, 1.7], p = .302) and 16 to 17 year olds (OR = .647, 95% CI, [.201, 2.0], p = .465) On the other hand, adolescents that were 16 to 17 years old when they first tried marijuana were at slightly less odds of buying marijuana (OR = .369, 95% CI, [.137, .99], p = .049) than those who were 14 to 15 years old (OR = .685, 95% CI, [.286, 1.6], p
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= .396) or 12 to 13 years old when they first tried marijuana (OR = 1.2, 95% CI [.486, 3.0], p = .681).

Obtained last marijuana used (free/shared it). For adolescent marijuana users who obtained their last marijuana for free or shared it, participants who were 14 to 15 years old, (OR = 1.8, 95% CI, [.778, 4.4] and 16 to 17 years old when they first used marijuana (OR = 3.7, 95% CI, [1.4, 10.1], were more likely to obtain marijuana for free than adolescent users who were 11 years old or younger the first time they used marijuana. Additionally, there were no significant differences found for adolescent marijuana users that obtained marijuana for free or shared it based on sex (OR = .717, 95% CI, [.454, 1.1], p < .151) as well as age category for 14 to 15 year olds (OR = 1.6, 95% CI [.499, 5.5], p = .499) and 16 to 17 year olds (OR = 1.3, 95% CI [.433, 4.4], p = .433).

Acquisition sources for last obtained bought marijuana. Logistic regression analyses were additionally performed to assess an association between the sources of where adolescent marijuana users acquired the last marijuana bought and sex and age. The results of this analysis found that there were no statistical differences as it relates to sex when the acquisition source for an adolescent marijuana user was a friend (OR = .868, 95% CI [.496, 1.5], p = .622), or someone they just met, (OR = .885, 95% CI [.423, 1.8], p = .746). Whereas, the acquisition source of last obtained bought marijuana was a family member/relative the tables related to sex were unable to be computed due to the small sample size.

In addition, there were no statistical differences as it relates to last obtained marijuana from a friend with adolescent marijuana users ages 14 to 15 years old (OR = 1.7, 95% CI [.444, 6.6], p = .434), and 16 to 17 years old (OR = 1.0, 95% CI [.289, 3.7], p = .944). Likewise, no statistical differences were found with marijuana users ages 14 to 15 years old (OR = 28847793,
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95% CI [.000], \( p = .999 \) and 16 to 17 years old (OR = 77542867, 95% CI [.000], \( p = .999 \)) when the acquisition source was a family member or relative. Similarly, for marijuana users ages 14 to 15 years old (OR = .385, 95% CI [.064, 2.3], \( p = .298 \)) and 16 to 17 years old (OR = 1.0, 95% CI [.208, 5.1], \( p = 1.038 \)) there were no statistical differences found as it relates to acquiring marijuana from someone they just met. In summation, for African American adolescent marijuana users there were no significant differences found related for all three acquisition sources (friend, family member/relative, someone just met) in all three age categories (12 to 13 years, 14 to 15 years and 16 to 17 years (see Table 4).

**DISCUSSION**

Results from this study revealed that 18.4% of African American youth reported using marijuana within their lifetime. Data from the 2015 YRBS indicated the prevalence of marijuana use among African American adolescents at 45.5% which was higher than white (35.2%) students nationwide (CDC, 2016). Although the statistics from the present study are lower than current research statistics, data from this study is aligned with more recent large scale research studies that indicate marijuana use continues to be on the rise among African American adolescents (Johnston et al., 2016; Reboussin et al., 2014; Reboussin et al., 2007; SAMHSA, 2012, 2013). Furthermore, as the United States continues to legalize marijuana for both recreational and medicinal purposes, limitations around youth access to marijuana have been less restrictive and could potentially increase the prevalence of youth marijuana use (CHBHSQ, 2015; Davenport et al., 2015; Vidourek et al., 2015).

The current study found that while 52% of African American marijuana users reported marijuana was difficult/fairly difficult to get, a startling 48% reported that marijuana was fairly easy/very easy to obtain. Prior research with ESPAD (Hibell et al., 2004) have supported this
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finding in that students knew one or more places to purchase cannabis. Similarly, a research study by King et al., (2016) also found that the majority (88.6%) of students surveyed found marijuana easy/very easy to obtain. Another study by King et al., (2012) with over 50,000 students in 7th through 12th grade found that students who felt that marijuana was easy to obtain were more than 21 to 31 more times to have used marijuana in the past year. Sources for where African American youth obtain and use marijuana are critical to understanding their involvement in this rising trend.

The present study also revealed that the majority (43.9%) of African American adolescent marijuana users tried marijuana for the first time between the ages of 14 to 15, followed by 28.9% of 12 to 13 year olds, 19% of 16 to 17 year olds and 8.2% of adolescents 11 years old or younger. The 2015 YRBS indicates that the prevalence of having ever tried marijuana before the age of 13 is higher (10.6%) among African American and Hispanic (10.9%) than white students (5.4%) (CDC, 2016). Findings from the current study support previous national research that suggest African American youth continue to try marijuana for the first time during the early stages of adolescence (CDC, 2016). This finding is critical and is supported by prior research studies that have shown that the early initiation of substance use not only increases the opportunities to use other illicit drugs later in life (Hall, 2015; Lynskey et al., 2003; Wagner & Anthony, 2002; Wilcox, Wagner & Anthony, 2002) but also increases the likelihood to develop substance use disorders (Kosterman et al., 2000; Welty et al., 2016). The initiation of marijuana use during the early stages of adolescent development can affect the developing brain, lower a person’s IQ and also interferes with other functioning (Hall, 2014; Horwood et al, 2010; NIDA, 2016; Reboussin et al., 2014 Reboussin et al., 2007).
Another finding of the present study reported that most adolescent marijuana users (43.8%) indicated that the last time they used marijuana was within the past 30 days. Prior research by Hall (2015) has indicated that regular marijuana use may result in adverse psychosocial outcomes such as; lower educational attainment than non-smoking peers or increased risk for dependence. Other research has indicated that persons who smoke marijuana daily may be functioning at reduced intellectual levels most or possibly even all of the time (NIDA, 2016; Reboussin, 2014). The high prevalence rates of marijuana use among African American adolescents combined with the early initiation of marijuana and high rates of use within the past 30 days is especially concerning because these are risk factors which may contribute to the disproportionate burden of disease and health disparities that already exist in the African American community.

Additional findings from the current study reported that more than half (59.2%) of African American adolescent marijuana users obtained marijuana for free the last time they used it, while 38.2% bought the marijuana they last used. Similar research findings were also supported by King et al., (2016) who reported that over half (59.1%) of marijuana users obtained the substance for free the last time they used it and approximately (39%) purchased marijuana the last time they used it. The present study also revealed that 61.8% of adolescent marijuana users did not buy the last marijuana they used. Additional study results indicated that 54.5% bought the last marijuana they used from a friend, 24.7% bought it from an unspecified source, 17.2% bought it from someone they just met or did not know and only 3.5% bought it from a family member (Table 2). Prior research findings (Caulkins & Pacula, 2006; SAMHSA, 2014; King et al., 2016) also support that the most common source of marijuana was from friends, whether purchased and/or last used for free. Additional supportive research also indicates that
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cannabis is often sold within someone’s own social network (Caulkins & Kleinman, 2015; Davenport et al., 2015). Lastly, Caulkins and Pacula (2006) also reported that marijuana purchases are generally private sales between people that already know each other. These findings are meaningful when trying to understand the patterns of marijuana acquisition among African American youth and should be considered when designing prevention and intervention efforts.

A key focus of this study was to examine how African American adolescents obtain marijuana and to determine whether differences existed based on sex, age categories and age of first use. The current study found no significant differences related to sex or age categories with users who obtained their last marijuana by buying it. In contrast research by King et al., (2016) found that males were more likely than females to buy marijuana the last time they used it. However, the present study did find that adolescent marijuana users who were 16 to 17 years old when they first tried marijuana were at slightly less odds of buying marijuana than those who were 14 to 15 years old or 12 to 13 years old when they first tried marijuana.

Additionally, this study also revealed there were no significant differences found related to sex or age categories for adolescent marijuana users who obtained their last marijuana for free or shared it. Contrasting research by King et al., (2016) report that males were more likely to purchase marijuana and less likely to get it for free than females or youth that were 12 to 13 years old. However, it should be noted that the prior study by King et al., (2016) did not focus solely on African American adolescents and the primary focus of the present study was to examine patterns of use among African American adolescents. Findings from this study suggest that both African American male and female marijuana users as well as adolescents ages 12 to 17 are showing similar methods of acquisition and sources for obtaining marijuana. Whereas,
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Recent research studies have indicated higher marijuana prevalence rates for African American males than females (CDC, 2016), the present study may reflect a trend that has resulted in the current gender differences that exist within this population.

Further analysis in the current study of adolescent marijuana users who obtained their marijuana for free or shared it, indicated that marijuana users who were 14 to 15 years old and 16 to 17 years old were more likely to obtain marijuana for free than adolescent users who were 11 years old or younger the first time they used marijuana. The current study essentially reinforces the vital need to provide prevention and intervention efforts to both African American males and females. While prevention programming may need to be gender specific, this study indicates that a concentrated emphasis on both males and females is equally necessary. Lastly, it is just as vital to provide evidence based, age appropriate prevention and intervention curriculums that cross the span of adolescent (12 to 17 years) development.

Results from the present study also explored sources of where marijuana users acquired the last marijuana they bought and its association with sex and age categories. There were no statistical differences as it relates to sex when the acquisition source was a friend, family member/relative or someone they just met. Key findings within the present study are in alignment with data from the 2013 NSDUH which found that past month users under the age of 21 (88%), mainly accessed their marijuana from friends or family (Davenport et al., 2015; SAMHSA, 2014). Moreover, there were no statistical differences as it related to last obtained marijuana from a friend, family member/relative or with someone they just met among adolescent marijuana users across all three age categories 12 to 13 years old, 14 to 15 years old. Prior research would suggest that among adolescents, peers are central to obtaining substances (Floyd et al., 2010). In a prior research analysis of 2001 NSDUH data, Caulkins and Pacula
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(2006) reported that most survey respondents indicated obtaining marijuana from a friend or relative (89%). As friends tend to be a common source for marijuana acquisition across all age categories, Harrison et al. (2000) suggest that effective strategies implemented for reducing alcohol access by utilizing social networks may potentially work to reduce other drug use. Social sources are a strategy that should be considered to restrict youth access (Fulkerson & Park, 2000).

The acquisition sources from which African American adolescents’ purchase and obtain marijuana, warrants further examination. Osilla et al., (2014) suggests that purchasing behavior may be a good predictor of future substance use and disorders. Identifying adolescents who already use substances, and may be at risk for future substance use problems because of how they acquire substances is crucial (Osilla et al., 2014). The increasing trend related to African American adolescent marijuana use is alarming and continues requires a thorough examination of the particular racial differences in acquisition patterns, in an effort to effectively address this public health issue.

Limitations

There are several limitations to this study. A secondary data analysis was conducted for this study and as such the data analysis was specifically limited to the NSDUH questions and items. Secondly, the NSDUH is a self-report survey and the participants may have provided socially desirable responses. Thirdly, the study sample was limited to participants who identified as African American and national studies often include small sample sizes of African American youth and therefore may inadequately represent data analysis for this population. Lastly, as this study was limited to participants who identified as African American caution is warranted as the findings may not be generalizable to other populations.
Conclusions and Recommendations

The key findings in this study lend support for the continued need to examine the patterns of marijuana use among African American adolescents. The current trend of rising marijuana use among African American youth is disturbing. Although African American adolescents had previous rates of use below those of White and Hispanic students their current rate of use has increased considerably within the past decade to surpass their White and Hispanic counterparts (Johnston et al., 2016; Reboussin et al., 2014; Reboussin et al., 2007; SAMHSA, 2012). The early stages of adolescence have been identified as a critical time for the initiation of all drugs and particularly so for African Americans (Kosterman et al, 2000). The early use of marijuana affects brain systems that are still maturing through young adulthood (Hall, 2014; NIDA, 2014; Reboussin et al., 2007). Results from this study provide evidence to support the implementation of age appropriate prevention programs across all three categories of adolescence with a primary emphasis on African American youth that are 12 to 13 and 14 to 15 years old. Prevention and intervention programming efforts should be age specific, as well as developmentally and gender appropriate. Additionally, prevention programs for adolescents should include a wide range of prevention strategies as recommended by SAMHSA’s Center for Substance Abuse Prevention (CSAP) that include: information dissemination, prevention education, alternative activities, environmental strategies, community based process and problem identification and referral (Hogan, Gabrielsen, Luna & Grothaus, 2003). While it is important to focus on the adverse health effects of smoking marijuana it is critical to not only focus on knowledge, but to address other community, legal and employment related issues as well which may possibly help to reduce future marijuana use (Sinclair et al., 2013).
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Since the consequences of drug use are reportedly greater among the African American community than other racial and ethnic groups (Clark et al., 2012; Emshoff, et al., 1996; Reboussin et al., 2014; Vidourek et al., 2015), youth in this population continue to be at high risk for substance abuse related problems. Therefore, it is imperative that effective prevention programming efforts are implemented early, contain multiple interactive learning strategies and focus on minimizing risk factors while enhancing protective factors (Catalano et al., 1992; Hogan et al., 2003). Results from this study indicate that friends serve as a major source for marijuana acquisition; hence prevention programs that focus on peer use and strategies such as increasing positive friendships and building healthy peer groups may serve as additional protective factors to decrease the risk of substance use (King et al., 2012) among African American adolescents. The use of peer leaders as trainers to model positive behavior could be influential (Clark et al., 2008) as one aspect of programming. Furthermore, the use of positive peer modeling could help facilitate social norms that encourage healthy decision making for African American adolescents.

Lastly, it is recommended that programs designed for African American youth are racially and ethnically appropriate as well as culturally inclusive. Socially relevant programming should involve not only parents but extended family and community members as key components. Living environments are integral to marijuana access and availability for African American adolescents and community involvement is vital to building healthier neighborhoods that promote positive social norms. Although anecdotal data exists few studies have explored the patterns of African American adolescent marijuana use and its impact. Therefore, additional studies that focus primarily on the purchasing patterns and sources of marijuana acquisition

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(Ramchand, Pacula & Iguchi, 2006) for this population are necessary to fill current gaps in the literature.
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REFERENCES


Marijuana and African American Youth


Marijuana and African American Youth


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Retrieved from

http://search.proquest.com.proxy.libraries.uc.edu/docview/208842537?accountid=2909


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doi:10.1016/j.drugalcdep.2006.02.010


Marijuana and African American Youth


doi:http://dx.doi.org.proxy.libraries.uc.edu/10.1177/0022042615623983


Substance Abuse and Mental Health Services Administration (SAMHSA). (2013). *Results from the 2012 National Survey on Drug Use and Health: Summary of National Findings* (HHS
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### TABLES

**Table 1. Demographic characteristics of African American adolescents (n = 2328)**

<table>
<thead>
<tr>
<th>Variable</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sex</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1176</td>
<td>50.5</td>
</tr>
<tr>
<td>Male</td>
<td>1152</td>
<td>49.5</td>
</tr>
<tr>
<td><strong>Age</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-13 years old</td>
<td>743</td>
<td>31.9</td>
</tr>
<tr>
<td>14-15 years old</td>
<td>763</td>
<td>32.8</td>
</tr>
<tr>
<td>16-17 years old</td>
<td>822</td>
<td>35.3</td>
</tr>
<tr>
<td><strong>Marijuana use</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Used in lifetime</td>
<td>429</td>
<td>18.4</td>
</tr>
<tr>
<td>Used in past year</td>
<td>336</td>
<td>14.4</td>
</tr>
<tr>
<td>Used in past month</td>
<td>183</td>
<td>7.9</td>
</tr>
<tr>
<td><strong>Age first used marijuana</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 11 years old</td>
<td>34</td>
<td>8.2</td>
</tr>
<tr>
<td>12-13 years old</td>
<td>120</td>
<td>28.9</td>
</tr>
<tr>
<td>14-15 years old</td>
<td>182</td>
<td>43.9</td>
</tr>
<tr>
<td>16-17 years old</td>
<td>79</td>
<td>19.0</td>
</tr>
<tr>
<td><strong>Time since last used marijuana</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>More than 12 months ago</td>
<td>88</td>
<td>22.4</td>
</tr>
<tr>
<td>More than 30 days but within past 12 months</td>
<td>133</td>
<td>33.8</td>
</tr>
<tr>
<td>Within the past 30 days</td>
<td>172</td>
<td>43.8</td>
</tr>
</tbody>
</table>
### Number of days used marijuana in past 30 days

<table>
<thead>
<tr>
<th>Days Used</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>0 days</td>
<td>2145</td>
<td>92.1</td>
</tr>
<tr>
<td>1 – 2 days</td>
<td>63</td>
<td>2.7</td>
</tr>
<tr>
<td>3 – 5 days</td>
<td>43</td>
<td>1.8</td>
</tr>
<tr>
<td>6 – 19 days</td>
<td>39</td>
<td>1.7</td>
</tr>
<tr>
<td>≥ 20 days</td>
<td>38</td>
<td>1.6</td>
</tr>
</tbody>
</table>

### How difficult is it to get marijuana?

<table>
<thead>
<tr>
<th>Difficulty Level</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Impossible/very difficult/fairly difficult</td>
<td>1167</td>
<td>52.0</td>
</tr>
<tr>
<td>Fairly easy/very easy</td>
<td>1077</td>
<td>48.0</td>
</tr>
</tbody>
</table>

### How many students in your grade use marijuana?

<table>
<thead>
<tr>
<th>Use Level</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>None/a few</td>
<td>1220</td>
<td>60.8</td>
</tr>
<tr>
<td>A lot/most</td>
<td>788</td>
<td>39.2</td>
</tr>
</tbody>
</table>

N = 2,328 Missing values excluded
Table 2. Sources of last marijuana used among African American adolescent marijuana users ($n = 198$).

<table>
<thead>
<tr>
<th>Variable</th>
<th>$n$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>How last marijuana was obtained</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bought it</td>
<td>118</td>
<td>38.2</td>
</tr>
<tr>
<td>Traded something else for it</td>
<td>5</td>
<td>1.6</td>
</tr>
<tr>
<td>Got it for free or shared it</td>
<td>183</td>
<td>59.2</td>
</tr>
<tr>
<td>Grew it</td>
<td>3</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Source of last marijuana bought</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Friend</td>
<td>108</td>
<td>54.5</td>
</tr>
<tr>
<td>Relative/Family Member</td>
<td>7</td>
<td>3.5</td>
</tr>
<tr>
<td>Someone just met did not know</td>
<td>34</td>
<td>17.2</td>
</tr>
<tr>
<td>Unspecified Source</td>
<td>49</td>
<td>24.7</td>
</tr>
<tr>
<td>Did not buy last marijuana</td>
<td>191</td>
<td>61.8</td>
</tr>
</tbody>
</table>

$n = 198$ Missing values excluded
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Table 3. Adjusted Odds Ratios for sources of last obtained marijuana used among adolescent marijuana users based on sex, age and age of first use demographic characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>How Obtained Last Marijuana</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Bought It</td>
<td>Got it for Free/Shared it</td>
<td></td>
</tr>
<tr>
<td></td>
<td>AOR (95% CI)</td>
<td>AOR (95% CI)</td>
<td></td>
</tr>
<tr>
<td>Sex</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>1.2 (.795, 1.9)</td>
<td>.717 (.454, 1.1)</td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-13 years old</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>14-15 years old</td>
<td>.530 (.159, 1.7)</td>
<td>1.6 (.499, 5.5)</td>
<td></td>
</tr>
<tr>
<td>16-17 years old</td>
<td>.647 (.201, 2.0)</td>
<td>1.3 (.433, 4.4)</td>
<td></td>
</tr>
<tr>
<td>Age first used marijuana</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>≤ 11 years old</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
</tr>
<tr>
<td>12 – 13 years old</td>
<td>1.2 (.486, 3.0)</td>
<td>.994 (.398, 2.4)</td>
<td></td>
</tr>
<tr>
<td>14 – 15 years old</td>
<td>.685 (.286, 1.6)</td>
<td>1.8 (.778, 4.4)</td>
<td></td>
</tr>
<tr>
<td>16 – 17 years old</td>
<td>.369 (.137, .99)</td>
<td>3.7 (1.4, 10.1)**</td>
<td></td>
</tr>
</tbody>
</table>

Notes: n = 393 missing values excluded; *p < .05; **p < .01; ***p < .001
Table 4. Adjusted Odds Ratios for sources of last obtained marijuana used among adolescent marijuana users based on sex, age and age of first use demographic characteristics

<table>
<thead>
<tr>
<th>Variable</th>
<th>Sources for Last Obtained Bought Marijuana</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Friend (95% CI)</td>
</tr>
<tr>
<td>Sex</td>
<td></td>
</tr>
<tr>
<td>Female</td>
<td>1.0</td>
</tr>
<tr>
<td>Male</td>
<td>.868 (.496, 1.5)</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>12-13 years old</td>
<td>1.0</td>
</tr>
<tr>
<td>14-15 years old</td>
<td>1.7 (.444, 6.6)</td>
</tr>
<tr>
<td>16-17 years old</td>
<td>1.0 (.289, 3.7)</td>
</tr>
</tbody>
</table>

Notes: n = 198

Missing values excluded

N/A – denotes tables cannot be computed