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# Younger Versus Older African Americans: Patterns and Prevalence of Recent Illicit Drug Use

# NICOLE ENNIS WHITEHEAD,

University of Florida, Gainesville, Florida

REBECCA C. TRENZ Mercy College, Dobbs Ferry, NY

LARRY KEEN II, JONATHAN ROSE, WILLIAM W. LATIMER University of Florida, Gainesville, FL

# Abstract

**Objectives:** The current study examined recent substance use among younger and older African Americans and factors associated with recent use.

**Methods:** The current study used a subset of African American men and women (N = 260) from the NEURO-HIV Epidemiological Study (Mage = 42, SD = 9.27; 59% female). Self-report of past 6 month substance use was evaluated for 21 different substances by routes of administration (ROA).

**Results:** Older adults were 1.9 times (AOR = 1.92, 95% CI = 1.13-3.26) more likely to have used crack in the past 6 months and half as likely to have used marijuana (AOR = .44, 95% CI = 25-.77). There were no significant differences for heroin use.

**Discussion:** Substance use at midlife may have significant implications for adverse social and health outcomes among African Americans. Findings support the need to better understand the developmental pathways of drug use and dependence among African Americans.

# Keywords

illicit drug use; aging; HIV; Black/African American

# INTRODUCTION

Illicit drug use remains a critical national problem that adversely influences the health care, mental health, and criminal justice systems. The negative consequences of drug abuse and addiction have been well documented, with an estimated \$600 billion spent annually in health care and social costs, of which illicit drug use accounts for \$193 billion (Office of the National Drug Control Policy, 2011). Traditionally, youth have been the target of drug prevention and intervention programs; however, recent research suggests that older adults may also be in need of specialized services to reduce an ever-increasing trend toward

Address correspondence to Nicole Ennis Whitehead, PhD, University of Florida, 1225 Center Drive, Room 3151, Gainesville, FL 32611. nwhitehead@phhp.ufl.edu.

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multiple morbidities associated with drug use. The proportion of older adults entering treatment for the first time compared to younger adults is increasing, with a rising prevalence of heroin, cocaine, and prescription drug use in this population of drug users (Arndt, Clayton, & Schultz, 2011; Simoni-Wastila & Yang, 2006).

Recently, within the substance use literature, many have identified aging substance users as an understudied group in great need of treatment. In particular, older illicit drug users have often been neglected in research, policy, and treatment (Beynon, 2009; Blazer & Wu, 2009; Gossop & Moos, 2008; Han, Gfroerer, Colliver, & Penne, 2009; Roe, Beynon, Pickering, & Duffy, 2010; Wu & Blazer, 2011). Most drug use begins in early adolescence and early onset is one of the best predictors of future drug abuse and dependence (Chen & Kandel, 1995; Trenz et al., 2012). However, this may not be the case for African Americans. Although Whites tend to have higher rates of substance use during adolescence, the prevalence of substance use among Whites declines in young adulthood. In contrast, it appears African Americans' substance use may increase with age and surpass Whites' rates of use by midlife (Cooper et al., 2008; Cronley et al., 2012; Lee, Mun, White, & Simon, 2010; Wallace et al., 2003; White, Labouvie, & Papadaratsakis, 2005). Specifically, African Americans have relatively lower rates of substance use in adolescence compared to Whites, including later initiation and onset of use but higher rates of alcohol abuse (Bucholz & Robins, 1989; Godette et al., 2009; Paschall, Bersamin, & Flewelling, 2005;), cocaine use (Kandel & Yamaguchi, 1993; Yuan, 2011), and drug dependence (Hasin & Grant, 2004) than Whites by midlife. These differences in rates of use at midlife may contribute to the substantial social and health inequities observed among African Americans.

Due to the lack of empirical data in this area, further research is needed to map the course and patterns of use for specific types of drugs among African Americans. Studies have examined race differences in adolescence and young adulthood; however, little work has investigated age cohort differences in substance use among African Americans. Therefore, in an effort to ascertain whether midlife may be a time for targeted intervention in the drugabuse trajectory, the current investigation focuses on current illicit drug use in younger versus older cohorts of African Americans.

# METHOD

#### **Study Design**

Data for this study were obtained from the baseline assessment of the NEURO-HIV Epidemiologic Study. Data used for these analyses were collected between June 2009 and July 2011. This study was originally designed to examine neuropsychological, social, and behavioral risk factors of human immunodeficiency virus (HIV) and hepatitis A, B, and C among both injection and noninjection drug users. This study was approved by the University of Florida's Institutional Review Board and has received annual renewals. To be eligible for the parent study, participants had to be aged 18 years or older and report the use of noninjection and/or injection drugs in the past 6 months. Recruitment strategies for participation included advertisements in local papers, street outreach, and referrals from local service agencies. Participants were remunerated \$45 for the baseline assessment. Participants provided written informed consent and completed a face-to-face HIV-Risk

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Behavior Interview. In addition, urine samples were tested for the presence of drugs, including opiates, cocaine, cannabinoids, amphetamines, methamphetamines, methadone, PCP (angel dust), barbiturates, benzodiazepines, MDMA (Ecstasy), and oxycodone.

#### Measures

**Demographics**—Study demographics include sex, race, education, marital status, source of income, and stability of housing resources.

**Urinalysis**—Urine samples were collected from all participants immediately following informed consent and urinalysis was conducted.

**HIV-Risk Behavior Interview**—The HIV-Risk Behavior Interview is a detailed behavioral assessment of drug use and sexual practices. This assessment was adapted from a similar interview used in the ALIVE (Vlahov et al., 1991) and REACH (Latkin et al., 1995) studies. Questions addressed the educational, medical, and neurodevelopmental variables, along with a detailed assessment of lifetime and recent drug use and sexual practices.

**Last 6-month drug use**—Participants were asked, "In the last 6 months, have you used (specific drug named)" to evaluate drug use in the last 6 months for 21 drugs with varying routes of administration (i.e., smoked, sniffed/snorted [nasal], injected, swallowed, or inhaled). The current study examined the last 6-month use of all substances that had a 5% or greater prevalence in the current sample. These include cigarettes, alcohol, marijuana, nasal cocaine, crack, nasal heroin, injection heroin, nasal speedball (speedball is the mixture of cocaine and heroin), and injection speedball. However, only those with a prevalence of 20% or greater (marijuana, heroin, crack) were included in the final models (Harrell, Mancha, Petras, Trenz, & Latimer, 2012).

**Age cohort**—Age cohort was defined using participants' current age in years. Participants aged 18 to 44 years were defined as younger and those aged 45 to 68 years were defined as older. These definitions were drawn from previous literature (Bodley-Tickell et al., 2008; Johnson, Striley, & Cottler, 2007). In addition, the median split for age in the current sample was 44 years.

#### **Data Analysis**

To meet study aims, descriptive statistics were used to calculate frequencies, means, and percentages for each variable of interest. Age groups were created to conduct chi-square  $(\chi^2)$  and t-test for demographic variables and recent substance use. The multivariate logistic regression analyses were then conducted to assess predictors of recent substance use. The adjusted logistic analysis controlled for sex, education, marital status, and money from a regular job. Descriptive data analysis and regression analyses were performed using IBM SPSS Statistics version 20 software.

# RESULTS

#### **Sample Characteristics**

The current study includes a subset of the larger study consisting of African American men and women (n = 260). Table 1 shows a complete summary of participant demographics and recent substance use. The current study participants are predominately African American (100%), female (59%), and have completed high school or equivalent (39%). In the last 6 months, 16% of the sample reported being homeless and 80% reported receiving public assistance and having no income from a regular job. The sample ranges in age from 18 to 68 years, with a mean of 42.35 years and a standard deviation of 9.27 years.

In the last 6 months, 80% of the sample reported smoking cigarettes and 64% reported having used alcohol. The sample reported a high prevalence of illicit substance use within the last 6 months, with 40% having smoked crack, 36% having smoked marijuana, 28% having used nasal heroin, 10% having injected heroin, and 10% having used nasal cocaine. Fewer reported injection speedball (9%) and/or nasal speedball (6%).

#### **Demographics Stratified by Age Cohort**

Frequency distributions for demographic and study variables for the entire sample were stratified by age cohort (Table 1). Younger adults were more likely to be women ( $X^2 = 4.402$ , P = .03) and less educated ( $X^2 = 6.19$ . P = .04), with a greater number of younger adults having an education of 11th grade or less. Younger adults started using illicit substances at a younger age on average (mean = 17.65, SD = 5.08) as compared to their older counter parts (mean = 20.32, SD = 8.43; t(237) = -2.98, P = .003). Younger adults were also more likely to be single or never married ( $X^2 = 17.95$ , P < .001) compared to older adults. In addition, younger adults were more likely to have received money from a regular job in the past 6 months ( $X^2 = 5.555$ , p = .02) and reported more current health problems ( $X^2 = 16.07$ , p < .001) than older adults. There were no significant differences between the age cohorts on receipt of public assistance in the last 6 months, lifetime treatment for emotional or behavioral problems, or homelessness. There was no significant difference in use by age cohort for licit (cigarette and alcohol) substance use, yet use of these substances in both groups was greater than 60%.

#### Drug Use Stratified by Age Cohort

Age cohorts did not differ on positive urinalysis, with 57% of younger adults and 62% of older adults testing positive for illicit substance use at baseline. Younger and older adults also did not differ on cigarette, alcohol, or nasal heroin use, which had a high prevalence in both groups. In addition, age cohorts did not differ on lower prevalence substances, such as injection heroin, nasal cocaine, nasal speedball, or injection speedball. The groups did differ on marijuana and crack use in the last 6 months (see Figure 1). Older adults were more likely to have used crack than younger adults ( $X^2 = 8.17$ , P = .005) and younger adults were more likely to have smoked marijuana ( $X^2 = 7.79$ , P = .007) than older adults (Table 1).

**Predictors of recent drug use by age cohort**—The first bivariate regression model examined the relationship between age cohort and crack use in the last 6 months (Table 2).

In this model, age cohort significantly predicted recent crack use; specifically older adults were two times (odds ratio [OR] = 2.07; 95% confidence interval [CI] = 1.25-3.43) more likely to use crack in the last 6 months than younger adults. In the multivariate model, the association remained significant, with older adults being 1.9 times (adjusted OR = 1.92; 95% CI = 1.13-3.26) more likely to have smoked crack in the last 6 months.

Similarly, the bivariate relationship between age cohort and marijuana use was examined. It was found that older adults were half as likely (OR = .48, 95% CI = 0.28–0.80) to have used marijuana in the last 6 months compared to younger adults. In the multivariate model, the association remained significant, with older adults being 0.44 times (adjusted OR = 0.44, 95% CI = 0.25–0.77) less likely to have smoked marijuana in the last 6 months.

#### Drug use stratified by age cohort and gender

In the overall sample, the only gender difference found is that men were more likely to inject speedball than women ( $X^2 = 4.97$ , P = .03). We then examined gender differences in drug use stratified by age cohort. Among the older cohort, in the last 6 months men were more likely to inject speedball ( $X^2 = 6.76$ , P = .01) and women were more likely to use nasal heroin ( $X^2 = 5.34$ , P = .03). Among the younger cohort, men were more likely to have used nasal cocaine in the last 6 months ( $X^2 = 4.38$ , P = .05). No other significant differences by gender were found.

We ran a multivariate logistic regression model within the older cohort (n = 128) to examine the influence of gender on nasal heroin and injection speedball. The multivariate logistic model shows women are three times as likely to use nasal heroin (adjusted OR = 3.00; 95% CI = 1.27-7.12) and significantly less likely to inject speedball (adjusted OR = 0.11; 95% CI = 0.22-0.58). We ran a multivariate logistic regression model within the younger cohort (n = 132) to examine the influence of gender on nasal cocaine. Gender did not significantly predict drug use among the younger cohort after controlling for demographic variables.

# DISCUSSION

The current findings suggest that effective treatments need to be developed for African Americans in midlife. African Americans have more severe drug use-related consequences than Whites, such as higher rates of HIV, with rates 12 times as high for those aged 50 years and older (Centers for Disease Control [CDC], 2008). In addition, older African Americans have higher rates of Hepatitis C (HCV) (Pearlman, 2006; Substance Abuse and Mental Health Services Administration, 2010) and higher rates of incarceration related to substance use (The Pew Charitable Trusts, 2010). The current study examined recent use of 21 different substances and various routes of administration among a sample of African Americans aged 18 to 68 years. As expected, a high prevalence (25% or greater) of cigarette, alcohol, marijuana, crack, and nasal heroin use among both younger and older cohorts was found. Prevalence of nasal cocaine, nasal speedball, injection heroin, and injection speedball were lower than expected (6% to 11%) and did not differ between both cohorts. The prevalence rates for both licit and illicit substance use in the current study are significantly higher than the general population, as expected due to the study's focus on community residing drug users. Specifically, rates in the United States for recent use of illicit substances

are approximately 8% (CDC, 2012a), whereas the use of cigarettes and alcohol is estimated to be 19% (CDC, 2012b) and 51% (CDC, 2011c), respectively, among Americans.

An important study finding is that the older cohort of substance users was two times more likely than the younger cohort to have used crack in the last 6 months and half as likely to have used marijuana. This finding suggests that midlife and older African American adults are engaging in illicit substance use at high rates and are more likely to use higher risk drugs. Crack cocaine is a notable high-risk drug in urban areas that has with multiple adverse outcomes. For example, crack cocaine use has been noted in accelerating the HIV epidemic among heterosexual populations. Specifically, crack use has been associated with greater numbers of HIV-positive sex partners, overlapping sexual network members, sex partners who are also drug partners, and fewer partners who always use condoms during sexual encounters (Tobin, German, Spikes, Patterson, & Latkin, 2011). In addition, crack use is associated with a greater risk of exposure to tuberculosis (Howard, Klein, Schoenbaum, & Gourevitch, 2002) and a higher incidence of syphilis (Lopez-Zetina et al., 2000). The current study findings highlight a need for interventions targeted toward older African American crack users in an effort to facilitate entry into treatment and reduce use.

The heightened HIV transmission risk among crack users has been underappreciated among older crack users. Although the needed attention to HIV risk among those aged 18 to 44 years is provided, less attention is given to those aged 45 years and older. Those aged 45 years and older may have unique risks for HIV infection that may include misconceptions regarding their engagement in high-risk behaviors due to their lack of education regarding risk (Foster, Clark, Holstad, & Burgess, 2012; Williams & Donnelly, 2002) and a lack of prevention messages targeting high-risk behaviors among older individuals (CDC, 2008). Furthermore, few older adults perceive that they are at high risk for HIV/AIDS (Radda, Schensul, Disch, Levy, & Reyes, 2003). Specifically, Foster et al. (2012) found that 67.9% of adults between ages 50 to 74 who were single and sexually active did not use condoms, despite knowing how HIV is transmitted. In addition, midlife and older adult women who may not see themselves at risk for HIV may be at even greater risk due to biological changes related to menopause that place them at risk for vaginal tearing, as well as behavioral risks, such as decreased condom use because preventing pregnancy may no longer be needed (Kott, 2011; Paniagua & O'Boyle, 2008).

Among older adults, African Americans face the greatest HIV burden (CDC, 2008) compared to other race/ethnicity groups. Heterosexual transmission has significantly increased among this population of older adults, and drug use has been implicated as a significant contributing factor (Karpiak, Shippy, & Cantor, 2006). Due to limited research, there is a lack of understanding regarding the role of substance use among older adults, specifically older African Americans. With HIV rates increasing among older African Americans (CDC, 2008), as well as the role of drug use in heterosexual transmission (Karpiak et al., 2006), it is imperative that research focus on describing and explaining drug use in midlife and later life among African Americans in an effort to inform targeted intervention programs.

To date, few studies have focused on midlife and later life substance use among African Americans. To our knowledge, this study is the first to explore the pattern and prevalence of recent substance use by age cohort among African American illicit drug users. This study also specifically identifies older drug users as a separate cohort, as opposed to the common practice of comparing adults to adolescents (Nielsen, 1999; White et al., 2005). Little is known about the developmental trajectories of African American drug users or their turning points. This is of critical importance given that African Americans who use drugs are at increased risk for HIV, HCV, and other infectious diseases. Although the current study data are cross-sectional, whereby age, cohort, and historical period effects cannot be disentangled, these findings provide a closer examination of the drug use trajectories of African Americans in midlife and later life. Despite the limitations of a cross-sectional design, the current study provides a first step in understanding the prevalence of substance use among a population of older African Americans. Substance use at midlife may have significant implications for adverse social and health outcomes among African Americans. Future research should focus on the developmental trajectories and turning points in substance use among African Americans to understand the full spectrum of drug use patterns and related consequences, with an eye toward interventions designed to meet the specific needs of this population of substance users.

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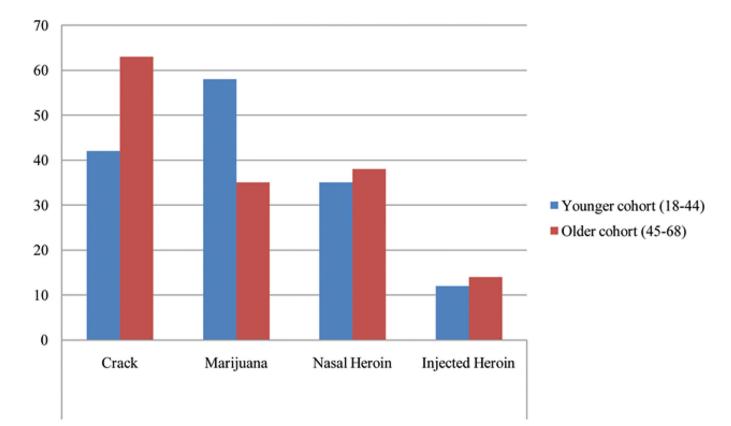
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**FIGURE 1.** Recent drug use by age cohort.

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#### TABLE 1

Demographic and Drug Use Comparisons by Age Cohort  $(N=260)^a$ 

VARIABLE	Entire Sample		Younger		Older		Test statistics	
	N	%	N	%	N	%	$\chi^2$ or t-test	<i>p-v</i> alue
Ν	260		132		128			
Age (M/SD)	42.35	9.2	35.3	7.45	52.76	3.01		
Gender							4.40	0.03
Male	107	41	46	35	61	48		
Female	153	59	86	65	67	52		
Age of 1st Regular Use (M/SD)	18.95	7.02	17.65	5.08	20.32	8.43	-2.98	0.003
African American	260	100	132	100	128	100		
Education							6.19	0.04
<high school<="" td=""><td>106</td><td>41</td><td>62</td><td>47</td><td>44</td><td>34</td><td></td><td></td></high>	106	41	62	47	44	34		
High school or GED	101	39	50	38	51	40		
Some College	53	20	20	15	33	26		
Marital Status							17.95	<.001
Single Never Married	170	65	101	76	69	54		
Married/Common Law	29	24	14	11	15	12		
Divorced/Widowed/Separated	61	23	17	13	44	34		
Money from a Regular Job (yes)	52	20	34	26	18	14	5.55	0.02
Public Assistance (yes)	208	80	102	77	106	83	1.24	0.28
Current Health Problems (yes)	134	52	85	64	49	38	16.07	<.001
Emotional behavioral problems-yes (Life)	146	56	74	56	72	56	1.19	1
Homeless in last 6 mos (yes)	41	16	20	15	21	16	0.07	0.86
Positive Urinalysis	154	59	75	57	79	62	0.53	0.52
Past 6 month drug use (yes)								
Cigarettes	208	80	107	81	101	79	0.18	0.75
Alcohol	166	64	88	67	78	61	0.92	0.36
Marijuana	93	36	58	44	35	28	7.79	0.007
Nasal Cocaine	25	10	11	8	14	11	0.5	0.53
Smoked crack	105	40	42	32	63	49	8.17	0.005
Nasal heroin	73	28	35	27	38	30	0.32	0.58
Injection heroin	26	10	12	9	14	11	0.24	0.68
Nasal Speedball	17	6	8	6	9	7	0.1	0.8
Injection speedball	24	9	12	9	12	9	0.06	1

 $^{a}$ N may vary slightly according to missing data.

#### TABLE 2

Odds Ratios and 95% CI's for Age Cohort & Recent Drug Use in past 6 months (N= 260)

	Unadjusted $OR^a (CI^b)$	p <sup>c</sup>	Adjusted $OR^d (CI^b)$	p <sup>c</sup>
Smoked crack				
Younger (n = 128)	Referent		Referent	
Older (n = 132)	2.07 (1.25-3.43)	**	1.92 (1.13–3.26)	*
Marijuana				
Younger (n=128)	Referent		Referent	
Older (n = 132)	.48 (.2880)	**	.44 (.2577)	**
Nasal Heroin				
Younger $(n = 128)$	Referent		Referent	
Older (n = 132)	1.17 (.68–2.01)	ns	.99 (.56–1.77)	ns

<sup>a</sup>Odds ratio.

*b* 95% confidence interval.

 $c_{**p}$  0.01; \*p 0.02; ns = not significant.

 $^d\mathrm{Adjusted}$  for gender, education, marital status, money from a regular job.