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Less Drinking, Yet More Problems: Understanding African American Drinking and Related Problems

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Abstract

Researchers have found that, compared to European Americans, African Americans report later initiation of drinking, lower rates of use, and lower levels of use across almost all age groups. Nevertheless, African Americans also have higher levels of alcohol problems than European Americans. After reviewing current data regarding these trends, we provide a theory to understand this apparent paradox as well as to understand variability in risk among African Americans. Certain factors appear to operate as both protective factors against heavy use and risk factors for negative consequences from use. For example, African American culture is characterized by norms against heavy alcohol use or intoxication, which protects against heavy use but which also provides within group social disapproval when use does occur. African Americans are more likely to encounter legal problems from drinking than European Americans, even at the same levels of consumption, perhaps thus resulting in reduced consumption but more problems from consumption. There appears to be one particular group of African Americans, low-income African American men, who are at the highest risk for alcoholism and related problems. We theorize that this effect is due to the complex interaction of residential discrimination, racism, age of drinking, and lack of available standard life reinforcers (e.g., stable employment and financial stability). Further empirical research will be needed to test our theories and otherwise move this important field forward. A focus on within group variation in drinking patterns and problems is necessary. We suggest several new avenues of inquiry.

Keywords

African American; alcohol use; alcohol problems; socioeconomic status; discrimination

Compared to European Americans, African Americans are more likely to live in poverty, be unemployed, and have lower educational attainment (U.S. Census Bureau, 2012; Williams, Mohammed, Leavell, & Collins, 2010). In the mental health field, it has often been assumed that, based on such socio-demographic factors of disadvantage, ethnic minority groups would be at greater risk for mental disorders, including substance abuse (Crum, Helzer, & Anthony, 1993; Ford et al., 2007; Gilman, Breslau, Conron, Koenen, Subramanian, & Zaslavsky, 2008; Midanik & Clark, 1995; Turner & Wallace, 2003). Interestingly, although

it is true that disadvantaged social status is associated with higher risk of mental disorders, being an African American is not associated with increased risk (Kessler, Berglund, Demler, Jin, Merikangas, & Walters, 2005a; Kessler, Chiu, Demler, & Walters, 2005b). In fact, the opposite appears to be true: being African American has been found to be associated with a *reduced* risk of mental disorder diagnosis (Kessler et al., 2005a, 2005b; Riolo, Nguyen, Greden, & King, 2005).

Specifically pertaining to alcohol use, African Americans report abstention from alcohol at significantly higher rates than European Americans (Caetano & Clark, 1998a; Caetano & Kaskutas, 1995; Dawson, 1998; Galvan & Caetano, 2003; Substance Abuse and Mental Health Services Administration (SAMHSA), 2010, 2011). Among those who do drink, compared to European Americans, African Americans also generally report drinking less frequently and consuming smaller amounts of alcohol across almost all age groups (Caetano & Clark, 1998a; Galvan & Caetano, 2003; SAMHSA, 2010, 2011). Despite this reality, African Americans who do engage in drinking behaviors appear to be at a comparable and at times at a higher risk for experiencing alcohol related problems (Caetano, 1997; Caetano & Kaskutas, 1996; Galvan & Caetano, 2003; Jones-Webb, 1998), such as more negative social consequences from drinking (Mulia, Ye, Greenfield, & Zemore, 2009), higher rates of alcohol-related illness and injuries (Greenfield, 2001; Stinson, Dufour, Steffens, & Debaeky, 1993; Yoon, Yi, Grant, & Dufour, 2001), and to some extent, alcohol dependence symptoms and/or diagnosis (Caetano, 1997; Caetano & Kaskutas, 1995; Mulia et al., 2009) compared to their European American counterparts. Although there has been an increased effort to study substance abuse in minority populations over the past two decades, no integrative theory has been developed to explain why African Americans tend to drink less than members of the dominant, European American culture, but experience higher rates of problems. In addition, most research has been conducted using a comparative research design, comparing the rate of African American use to that of the standard European American majority, thus failing to examine or explain individual differences in consumption or risk within the African American community. The aim of this paper is to offer answers to three main questions: a) Why are African Americans, in general, more likely to abstain from alcohol or drink at lower levels compared to European Americans? b) Among individuals who consume alcohol, why are African Americans more likely to experience negative consequences from drinking compared to their European American counterparts? and c) Among African Americans, who is at the greatest risk for alcoholism and alcohol related problems?

In order to answer these three questions, we have divided this paper into six sections. First, we present empirical evidence documenting lower use of alcohol among African Americans compared to European Americans. Second, we present data documenting worse alcohol-related consequences among African American drinkers compared to European American drinkers. In the third section of the paper, we provide evidence from historical, cultural, social and biological data to explain lower use of alcohol among African Americans compared to European Americans. Fourth, we then present evidence from those same perspectives to explain why there are worse consequences for use among African Americans compared to European Americans. Fifth, we present data on variations in drinking risk among African Americans, highlighting those subgroups within the African American community that may be at increased risk for problematic drinking and negative consequences from use. In the sixth and final section, we offer an integrative theory to help explain why a specific group of African Americans appear to suffer the worst consequences for drinking compared to other African Americans. We hope the theoretical framework we provide generates new lines of inquiry into this important problem and stimulates further theoretical advances.

Lower Alcohol Use among African Americans Compared to European Americans

In general, the developmental trend of alcohol consumption for Americans is a rapid rise in the frequency of drinking and the quantity consumed as one transitions through adolescence that tends to peak in early adulthood and gradually declines with increased age (e.g., Johnson, Gruenewald, Treno, & Taff, 1998). Increased consumption during adolescence is thought to be a function of experimentation with adult behaviors (Shedler & Block, 1990), peer influence to consume, and the desire to conform or fit in with one's social network (Bray, Adams, Getz, & McQueen, 2003; Duncan, Duncan, & Strycker, 2006; Jones, Hussong, Manning, & Sterrett, 2008; Kogan, Berkel, Chen, Brody, & Murry, 2005). As individuals transition into adulthood, they experience new levels of freedom and independence (Schulenberg, O'Malley, Bachman, Wadsworth, & Johnston, 1996), which places them at increased risk for engaging in risky behaviors, such as alcohol use. As individuals move through their 20's, the frequency and quantity of alcohol consumption tends to decrease. This change has been attributed to the increased responsibilities typically associated with adulthood, including marriage, parental, and work-related responsibilities (e.g., Donovan, Jessor, & Jessor, 1983; Jackson, Sher, Gotham, & Wood, 2001). However, much of the research presented to date has been conducted with predominantly European American samples, thus raising the question of whether this developmental trend holds for other ethnic minority groups, including African Americans.

Interestingly, developmental trends in drinking behaviors and levels of use have been shown to differ substantially between African Americans and European Americans (refer to Table 1 for a listing of studies reviewed). In comparison to their European American counterparts, African American youth report lower levels of use (Bachman et al., 1991; Johnston, O'Malley, & Bachman, 1994; O'Malley, Johnston, & Bachman, 2008; Poulin, 1991; Wallace et al., 2003a; Wallace, Brown, Bachman, & LaVeist, 2003b), begin drinking at a later age (Catalano et al., 1993; Johnson, Richter, Kleber, McLellan, & Carise, 2005; Watt, 2004), engage in less heavy drinking (Bachman et al., 1991; Wallace et al., 2003a), and show slower increases in rates of drinking in the early adolescent years (Johnston et al., 1994; Warheit, Vega, Khoury, Gil, & Elfenbein, 1996). Based on a national survey that was given to youth aged 12–17, 18% of European Americans compared to 10% of African American youth reported using alcohol in the past 30 days. Moreover, 42% of European Americans compared to only 34% of African Americans reported consuming at least one alcoholic beverage in their lifetime (SAMHSA, 2010). African American youth also report higher rates of abstinence compared to European American youth (Bachman et al., 1991; SAMHSA, 2010, 2011; Wallace et al., 2003b).

During young adulthood, the increase in drinking that has been shown among European American populations has also been observed among African American populations; however, rates of use and heavy drinking are significantly lower among African American young adults than among their European American peers (Caetano & Clark, 1998a; Meilman, Presley, & Cashin, 1995; Meliman, Presley, & Lyster, 1994; Peralta & Steele, 2009; Siebert & Wilke, 2007; Strada & Donohue, 2006). Based on a national survey administered to individuals aged 18 to 25, compared to European Americans, African Americans were less likely to report being a current drinker (49.6% versus 67.7%) binge drinker (27.9% versus 46.1%), or heavy drinker (5.7% versus 17.3%; SAMHSA, 2011). Specifically related to college students, Meilman et al. (1995) and Meilman et al. (1994) found that African American college students drank less and binge drank less often than European American students regardless of whether they attended predominately European American or African American universities. Moreover, Globetti and colleagues (1996) found that among their sample of college students, approximately 60% of European

American students reported that they attended parties where most or all of the time, the majority were intoxicated and nearly 36% of these students reported getting high on alcohol themselves, compared to 33% and 5%, respectively, for African American students.

Differences in developmental patterns appear to continue into adulthood. Based on a national survey administered to individuals ages 26–70, compared to European Americans, African Americans were less likely to report being a current drinker, to have consumed alcohol in the past 30 days, (46.6% versus 59.4%), to be a binge drinker (20.5% versus 22.2%), or to be a heavy drinker (4.9% versus 6.9%; SAMHSA, 2011). In a variety of studies using different sampling methods, African American adults (Caetano, 2003; Caetano & Clark, 1998a; Caetano, Clark, & Tam, 1998; Lillie-Blanton, MacKenzi, & Anthony, 1991; SAMHSA, 2010, 2011) consistently report higher rates of abstaining from alcohol than is true for European Americans. Thus, among both nationally representative samples, as well as smaller, community based convenience samples, there is a robust overall group finding of lower rates of alcohol consumption and higher rates of abstinence among African Americans compared to European Americans across development. Moreover, these findings remained consistent, showing lower rates of drinking among African Americans, regardless of the methodology used in defining alcohol consumption (i.e., current drinker, drinking in past 30 days, lifetime, heavy alcohol use, or binge alcohol use).

Greater Negative Consequences Related to Alcohol Use among African Americans Compared to European Americans

Frequent and heavy use of alcohol has been related to several negative social, mental, and physical health outcomes, such as increased violent behavior (Rodney, Mupier, & Crafter, 1996), criminal offenses (Greenfield, 1998), legal problems (Caetano, 1997; Herd, 1997b; Jones-Webb, Hsiao, Hannan, & Caetano, 1997b), family and interpersonal problems (Caetano, 1997; Jones-Webb et al., 1997b; Mulia et al., 2009), and alcohol-related injuries and illness (Greenfield, 2001; Jones-Webb, 1998; Yoon et al., 2001). Moreover, higher average volumes of alcohol consumption are associated with increased risk for the following major chronic diseases: mouth and oropharyngeal cancer, oesophageal cancer, liver cancer, breast cancer, unipolar major depression, epilepsy, alcohol use disorders, hypertensive disease, hemorrhagic stroke, and cirrhosis of the liver (Rhem et al., 2003). Coronary heart disease (CHD) and both unintentional and intentional injuries were found to depend on patterns of drinking in addition to average volume of alcohol consumption (Rhem et al., 2003). In addition, alcohol dependence has also been linked to chronic health conditions, higher rates of alcohol-related mortality (Dawson, 2000; Rehm et al., 2003**), and acute and chronic social consequences (Drummond, 1990).

In studies that exclude abstainers, there is evidence to suggest that African Americans are more likely to develop and die from liver cirrhosis and other alcohol-related causes compared to European Americans (Galvan & Caetano, 2003; Grant, 1997; Greenfield, 2001; Stinson et al. 1993; Yoon et al., 2001), despite the fact that they do not engage in heavy drinking at greater rates than European Americans (SAMHSA, 2010, 2011). For example, Buka (2002) reported that mortality from liver cirrhosis was 1.27 times more likely among African Americans than European Americans. Additionally, Kochanek and colleagues (2004) reported that mortality rates for alcohol related diseases and disorders were 10% higher in the African American population than for other ethnic groups within the United States. In line with these health disparities, while it has been generally understood that there are health benefits from consuming light to moderate levels of alcohol (Byles, Young, Furuya, & Parkinson, 2006), these findings do not seem to hold among African Americans. Sempos and colleagues (2003) reported there were no beneficial effects of moderate alcohol consumption, especially for African American men. In fact, evidence appears to show that

moderate consumption is associated with an *increased* rate of hypertension and the development of coronary calcification for African American men (Fuchs, Chambless, Welton, Nieto, & Heiss, 2001; Pletcher et al., 2005).

In line with average lower rates of use by African Americans compared to European Americans, a few studies have shown lower lifetime rates of alcohol dependence among African Americans compared to European Americans (Anthony, Warner, & Kessler, 1994; Gilman et al., 2008; Schmidt, Greenfield, & Bond, 2007). However, there have also been reports of no differences in alcohol dependence between the groups (Caetano, Baruah, & Chartier, 2011; Grant et al., 2004; Kandel, Chen, Warner, Kessler, & Grant, 1997) and most studies have found higher rates of dependence symptoms (Caetano, 1997; Caetano & Clark, 1998b; Caetano & Kaskutas, 1995; Herd, 1994a; Midanik & Clark, 1995; Mulia et al., 2009). The reason for discrepancies in comparative levels of alcohol dependence rates are unclear, and do not appear to be due to the quality of the studies, given that most are drawn from nationally representative samples. However, discrepancies may be, at least partially, due to the recentness of the data collected. Studies examining trends in prevalence of DSM alcohol dependence document that over the past decades, rates of alcohol dependence has either remained stable or declined among European Americans, but have increased among African Americans (Caetano & Clark, 1998a; Grant et al., 2004). The underlying mechanisms related to discrepancies in prevalence of alcohol dependence among African Americans and European Americans are not known and merit empirical investigation.

In addition to comparative rates of dependence symptoms and health consequences related to use, African Americans appear to have a disproportionate rate of alcohol related problems from drinking (Caetano, 1997; Grant, 1997; Herd, 1994a; Jones-Webb, 1998; Mulia, Ye, Zemore, & Greenfield, 2008; Mulia et al., 2009; US Department of Health and Human Services, 1995; Wallace, 1999b). Jones-Webb and colleagues (1995) found that relative to European Americans, African Americans experienced more chronic alcohol-related problems, which were defined by the authors as both concrete drinking problems arising in various areas of the person's life, such as financial, health, family or relatives, work, legal, etc., and alcohol dependence symptoms, as well as an increase in the percentage and magnitude of the problems across time. Mulia and colleagues (2009) also found higher rates of negative social consequences from drinking and of alcohol dependence symptoms among African Americans than among European Americans, at almost all levels of drinking, with the most pronounced differences observed at low levels of drinking. Specifically, they found that African Americans who reported low to moderate levels of heavy drinking were three times more likely to experience negative social consequences from drinking (i.e., arguments or fights, accidents, and workplace, legal, and health problems as a result of drinking) and five times more likely to report dependence symptoms (i.e., loss of control, blackouts, hands shaking, and other physiological symptoms of excessive alcohol use) compared to European Americans with similar drinking patterns.

Thus, African Americans appear to be experiencing a higher frequency of alcohol-related problems at comparable levels of use (refer to Table 2 for a listing of studies reviewed). Although the majority of studies examined within the literature review were limited in that they did not specify the specific alcohol-related problems endorsed at the highest frequency among African Americans compared to European Americans, the majority of the national randomized studies cited (8 out of 10 cited studies) reported higher endorsement of alcohol dependence symptoms among African Americans compared to European Americans. As for DSM diagnosable alcohol dependence, findings were more mixed among nationally randomized samples. There appears to be a distinction between past year dependence and lifetime, showing that African Americans appear to report lower endorsement of alcohol dependence when the criterion is lifetime dependence, but higher rates when the time frame

is past year. It is unclear at this time why such differences exist; this warrants further empirical investigation. With respect to health and social problems, studies using national randomized samples consistently found higher rates of health and social problems for African Americans.

Explanations for Lower Alcohol Use among African Americans Compared to European Americans

Historical Perspective

It is intriguing that in the present day, African Americans' drinking behaviors do not appear to mirror what is found in the dominant culture. To understand the psychological and cultural factors that contribute to this phenomenon, it is important to consider the history of alcohol use among African Americans.

Records of alcohol use dating back to pre-colonial Africa indicate that the misuse of alcohol was a rare occurrence among tribal African communities. The role of beer and wine was primarily restricted to use in religious and secular ceremonies, such as rites of passage, funerals, title taking, and social gathering with the purpose of fostering a sense of community solidarity (Christmon, 1995; Harper, 1976; James & Johnson, 1996). Within each of these settings, intoxication was viewed as unacceptable behavior, with the importance of the usage of alcohol placed on participation in the ritual being conducted rather than on becoming inebriated. Among some tribes, drinking in moderation was viewed as the ideal and drunkenness was seen as a sign of weakness.

During the period of slavery in the United States, alcohol use continued to be limited among African American slaves. In part due to external pressure and control (i.e., laws prohibiting alcohol use; slave owners restricting access and use), slaves became even less likely to drink alcohol, with abstinence becoming the norm (Christmon, 1995; Herd, 1991). There have been some records of alcohol being given to slaves by slave owners; however, such use was typically restricted to holiday drinking (Christmon, 1995; Harper, 1976; James & Johnson, 1996).

The temperance movement during the 18th century gave African Americans more reason to abstain from alcohol (Herd, 1991). Many Black leaders during the abolition and temperance movements were recorded as saying, "To keep sober was to strike a blow to slavery" (Herd, 1991). It was also recorded that prominent abolitionists encouraged abstinence among free Blacks by cautioning them to no sooner "put the intoxicating cup to his lips than he would give his back to the lash of the slave driver" (Herd, 1991). It has been noted that the growth of the African American church during this time also had a significant influence on the drinking behaviors of African Americans by promoting abstinence and moderate drinking patterns (James & Johnson, 1996). During the mid-19th century, after the prohibition of slavery, the frequency and quantity of use among African Americans remained for the most part unchanged. According to an 1880 census report, fewer African Americans compared to European Americans died from alcoholism: 0.7 per thousand deaths for African Americans, compared to 6.7 for Irish, 2.7 for Germans, and 2.5 for other Whites (U.S. Census Office (1886) cited in Herd, 1991 and James & Johnson, 1996), providing support for the view that drinking rates were low in the African American population.

From this history, it is understandable why many African Americans abstained from alcohol or were not frequent drinkers during post-Civil War America. Importantly, the pattern of restricted use among African Americans continues to the present day. The laws prohibiting alcohol use among African Americans have been removed, and African Americans have for the most part acculturated to American culture. Thus, it is important to understand what

current factors are present that place African Americans at lower risk for developing heavy episodic drinking behaviors and increase the likelihood of their abstaining from alcohol all together.

Cultural Norms and Attitudes towards Alcohol—Differences in cultural norms about alcohol use between African Americans and the dominant culture continue in present day society. Cultural norms can be understood to include both situational norms and attitudes. Situational norms have been defined as shared cultural beliefs about appropriate levels of behavior in specific contexts (e.g., Caetano & Clark, 1999; Greenfield & Room, 1997). In contrast, attitudes about drinking are general beliefs about drinking and how one personally evaluates the appropriateness of the behavior (e.g., Caetano & Clark, 1999; Fiske & Taylor, 1991). As has been true historically, for African Americans there continue to be relatively conservative norms for drinking across situations today, as well as relatively conservative attitudes toward consumption.

Among African Americans, there has been a general lack of integration of drinking into many aspects of social life, such as at regular mealtimes, religious activities, and secular occasions with political or social betterment goals (Borker, Hembrey, & Herd, 1980; Herd, 1997a; Herd & Grube, 1993, 1996). Specifically, Herd and Grube (1993) found that 80% of European American women compared to 46% of African American women reported drinking while at a restaurant at dinner. Moreover, the European American women also reported consuming over three times more than the average number of drinks consumed by African American women when at dinner at a restaurant. For adult African Americans who do drink, there also appear to be strong norms for maintaining social control and not showing signs of intoxication (Borker et al., 1980; Herd, 1997a). For example, Peralta and Steele (2009) found that compared to European American college students, African American students were less likely to drink heavily because they felt that they would be criticized for drinking more than four or more drinks in a row by their non-European American university peers. African Americans are also significantly less likely to endorse permissive attitudes about drinking, and are more likely to believe “there is nothing good about drinking” and that “drinking is not one of the pleasures of life” (Caetano & Clark, 1999; Herd, 1997a).

Parental Factors—African American youth appear to endorse similar conservative attitudes as their parents (Herd, 1994b; Ringwalt & Palmer, 1990; Wallace & Muroff, 2002). For example, they are more likely to perceive drug use as high risk and disapprove of use altogether than are European American youth (Wallace & Bachman, 1993). Three specific aspects of the African American family have been identified as protective factors against alcohol use among African American youth: providing more restricted access to alcohol, engaging in higher levels of parental monitoring of adolescent behaviors, and higher rates of sanctioning use, compared to what is observed among European American parents (James & Johnson, 1996). For example, Peterson and colleagues (1994) found that African American parents drank less (and were thus less likely to have alcohol in the home), held more negative views towards alcohol, and believed alcohol was more harmful than European American parents. Similarly, Johnson and Johnson (1999) reported that African American parents tend to be especially strict regarding alcohol use among their children, thus serving as an important buffer against use among African American adolescents. Studies have also shown that African American parents are more likely than parents of other ethnicities to closely monitor their adolescent’s activities and whereabouts (e.g., Borawski, Ievers-Landis, Lovegreen, & Trapl, 2003; Wallace & Muroff, 2002).

Racial Socialization—African American families may also be more vigilant in restricting alcohol use among their youth due to awareness of the particularly negative consequences

associated with drinking for African Americans (Peterson et al., 1994). As we noted above, African Americans simply *do* experience more negative consequences from alcohol use (e.g., financial hardship, health problems, and problems with the law) than European Americans (Grant, 1997). The same is true for African American youth compared to their European American peers (Stewart & Power, 2002). The recognition that problems are likely to occur from consuming alcohol may motivate members of the African American community to work to restrict consumption. Thus, it may not be surprising that African American youth are not only less likely to use alcohol compared to their European American peers, but are less likely to use all types of illegal substances (i.e., marijuana, inhalant, cocaine, hallucinogen, opioid, stimulant, tranquilizer: Johnston, O'Malley, Bauchman, & Schulenberg, 1997; Wu, Woody, Yang, Pan, & Blazer, 2011).

This phenomenon may result, in part, from racial socialization. Both African American adults and youth encounter racism on a daily basis (Brody, 2006a; Kessler, Mickelson, & Williams, 1999; Landrine & Klonoff, 1996). Racial socialization refers, in part, to the process in which African American parents discuss with children the reality of negative stereotypes and racial discrimination, the value of ethnic pride, and the need to manage one's behavior to reduce the likelihood of discriminatory actions; one example is to avoid substance use (Brody et al., 2006b; Thornton, Chatters, Taylor, & Allen, 1990).

There is evidence that racial socialization does occur among African American youth. For example, Wallace (1999a) found that African American youth were less likely to believe they could "get away with [substance use]" compared to European American youth, and perhaps accurately so. Although African Americans only represent 12% of the U.S. population, they account for approximately 50% of the juvenile correction institution population, predominately for drug possession charges and associated violence (Alexander, 1996). Conley (1994) reported that African American youth were more likely to get arrested for alcohol use compared to their European American peers, due, in part, to racial biases within law enforcement. Thus, one reason members of the African American community may constrain use is because they are attuned to the risks involved with consumption.

Religiosity—Studies have consistently shown that regardless of ethnic background, holding religious beliefs or attending religious services is associated with low rates of alcohol use and risk for problematic drinking behaviors (Brechting et al., 2010; Brown, Parks, & Zimmerman, 2001; Darrow, Russell, Cooper, Mudar, & Frone, 1992; Galen & Rogers, 2004; Wills, Gibbons, Gerrard, Murry, & Brody, 2003a). At the group level, it has been consistently shown that African Americans report higher levels of religiosity (e.g., holding religious beliefs, attending religious services, and prayer) than European Americans (Brown et al., 2001; Chatters, 2000; Chatters, Taylor, Bullard, & Jackson, 2008; Taylor, Mattis, & Chatters, 1999).

From a historical perspective, religion has consistently been an important component of daily living for individuals of African descent (Feagin & Feagin, 1999; Lincoln, 1995; Nobles, 1991). Throughout African American history in the United States, religion has played an important role as a preserver of African American heritage, an agent of reform, and an arena by which African Americans can develop and assert personal and organizational leadership skills that may be discouraged elsewhere (Billingsley, 1992; Lincoln & Mamiya, 1990; Mattis & Jagers, 2001; Pipes, 1988; Taylor et al., 1999). While millions of African Americans have embraced Christianity, with the Barna group (2009) reporting that 92% of African Americans sampled identified themselves as Christians, many other African Americans have turned to the Islamic faith. Of the approximately 7 to 8 million Muslims in the United States (Rassool, 2000), it has been estimated that 30–40% are African American (Cooper, 1999; Lumumba, 2003; Ohm, 2003).

The strong presence of religion, whether Christian, Muslim, or another faith, within the African American community may help explain mean group level differences in rates of drinking and abstinence from alcohol between African Americans and European Americans (Steinman & Zimmerman, 2004; Taylor et al., 1999; Wallace et al., 2003b; Wills, Yaeger, & Sandy, 2003b). For example, compared to European American youth, African American youth rated religion as more important, prayed more often, attended religious services more frequently, were more fundamentalist in their religious beliefs, and consumed less alcohol (Brown et al., 2001).

Biological Vulnerability and Response to Alcohol—Alcohol metabolism has been identified as one of several biological factors that can influence drinking behavior and negative health consequences from use (Yin & Agarwal, 2001). The metabolism of alcohol is primarily accomplished through two enzymes, alcohol dehydrogenase (ADH, on chromosome 4) and mitochondrial aldehyde dehydrogenase (ALDH2, on chromosome 12). ADH breaks down alcohol into acetaldehyde, which is then broken down by ALDH into acetate (Ehlers, 2007; Scott & Taylor, 2007). Both ADH and ALDH have several variations, or isoforms, which are encoded by different genes and differ in the rate at which they metabolize alcohol or acetaldehyde, respectively. Isoforms are also found at different frequencies across ethnic groups and thus may help explain variation in drinking behavior as a function of ethnicity (Osier et al., 2002).

ADH variants that metabolize alcohol more quickly and ALDH variants that metabolize acetaldehyde more slowly have been found to offer protection against alcohol dependence and heavy alcohol use (Luczak, Glatt, & Wall, 2006; Whitfield, 2002). The hypothesized mechanism for this protection is higher transient levels of acetaldehyde, which can produce stronger physiological and subjective responses at a given dose of alcohol. The most robust effects have been documented for a variant of the ALDH2 gene, ALDH2*2. Specifically, ALDH2*2 has been linked to increased sensitivity towards both the positive and negative effects of alcohol (Luczak, Elvine-Kreis, Shea, Carr, & Wall., 2002; Nishimura et al., 2001; Nishimura et al., 2002; Takeshita & Morimoto, 1999; Thomasson, Crabb, Edenberg, & Li, 1993; Wall, 2005; Wall, Thomasson, & Ehlers, 1996; Wall, Thomasson, Schuckit, & Ehlers., 1992) and lower levels of quantity and frequency of drinking (Luczak, Wall, Shea, Byun, & Carr, 2001; Takeshita & Morimoto, 1999; Wall, Shea, Chan, & Carr, 2001) among individuals of Asian descent.

Similar effects have been found for some variants of ADH genes, such as ADH1B (Cook et al., 2005; Crabb, 1995; Duranceaux et al., 2006; McCarthy, Pedersen, Lobos, Todd, & Wall, 2010). Specifically, ADH1B*3 appears to metabolize alcohol more efficiently, especially at high blood alcohol concentrations, leading to a more rapid lowering of blood alcohol levels, and simultaneously causing transiently higher levels of acetaldehyde (Ehlers et al., 2007; Lee, Hong, & Yin, 2004). There is evidence that the ADH1B*3 allele is present almost exclusively within individuals of African descent and has been estimated to be present in up to one-third of African Americans (Ehlers, Carr, Betancourt, & Montane-Jaime, 2003; Ehlers, Glider, Harris, & Carr, 2001; Luo et al., 2006; Thomasson, Beard, & Li, 1995; Wall, 2005). There is also evidence for the protective effects of the allele against alcohol dependence among African Americans based on both national (the Collaborative Study of the Genetics of Alcoholism, or COGA: Edenberg et al., 2006) and smaller community samples (n=150; Luo et al., 2006). Studies, though smaller scale convenience samples, have shown that the ADH1B*3 allele is associated with stronger positive alcohol expectancies (Ehlers et al, 2003), more pronounced physiological effects of alcohol (McCarthy et al., 2010), and negative family history of alcohol dependence (Ehlers et al., 2001). To date, no large scale genetic study has been conducted among African Americans to directly test the hypothesis that the presence of ADH1B*3 is associated with lower consumption per

occasion, reduced frequency of consumption, or less frequent membership in binge drinker or heavy drinker groups. Such tests are necessary in order to understand more fully the relationship between presence of the allele and alcohol consumption for African Americans, and thus to understand factors associated with ethnic differences in alcohol consumption between African Americans and European Americans.

Summary—African culture has been characterized by cultural restraints against heavy consumption: for many hundreds of years, it has *not* been normative to drink heavily in this cultural group (Christmon, 1995). That history has combined with the present day experience of African Americans in the United States, characterized by high levels of scrutiny by European Americans and high levels of social sanction against boisterous behavior which together have led to lower average levels of alcohol consumption for African Americans as a group (Bonilla-Silva, 1997; Herd, 1997a). Research conducted within the past two decades, based on both national randomized and community convenience samples, has documented several culturally specific protective factors within the African American community related to reduced risk for alcoholism, such as more conservative norms and attitudes towards alcohol use, higher levels of parental monitoring of youth's substance use behaviors, and higher levels of religiosity. These factors combine with the apparent presence of a protective genetic factor (the ADH1B*3 allele), which appears to reduce risk by accelerating the rate of metabolism of alcohol for some African Americans (Ehlers et al., 2003). Although the presence of the ADH1B*3 allele has not been researched as heavily as other alleles, such as ALDH2*2, the limited research conducted does suggest the allele offers protection against alcoholism among African Americans. However, more large scale studies need to be conducted to establish the reliability of this finding. Thus, it appears to be the case that African Americans drink less than European Americans for a combination of historical, contextual, cultural, and, perhaps, genetic reasons (Table 3 provides details on the studies reviewed in this section).

Explanations for Greater Negative Social Consequences of Alcohol Use among African Americans Compared to European Americans

Although it may seem that African Americans should be at a lowered risk for alcohol dependence and related problems given consistent findings that they engage in less heavy drinking than European Americans, the opposite appears to be true. African Americans appear to experience greater and more severe alcohol-related problems for drinking than European Americans who are drinking at comparative levels. In this next section, we summarize the body of findings that may help to explain the heightened risk of experiencing negative consequences that is found among African American drinkers.

Environmental Influences

Bonilla-Silva (1997) proposed a theory for the disproportionate level of negative consequences among African Americans. He argued that this effect is due to what he called the “racialized social system” in American society. Bonilla-Silva (1997) defines a racialized social system as a society in which the economic, political, and social structure within the society is built upon a racial hierarchy, in which some racial groups are ascribed superior positions and tend to receive better access to resources, employment opportunities, and political positions than other racial groups. One implication of a racialized social system is that the same behavior can be viewed differently as a function of one's race. Thus, moderate drinking may not be viewed as problematic when engaged in by European American drinkers, but may be regarded as a source of concern when engaged in by African American drinkers. Thus, the higher probability of experiencing negative consequences from drinking

for African Americans despite lower or equivalent use may be partly due to the racial structure of American society.

Data appear to support this view. For instance, Jones-Webb and colleagues (1997b) reported that among drinkers, although increased alcohol consumption is associated with increased negative drinking consequences (e.g., financial, health, family, work, legal problems or alcohol dependence symptoms) for European American men, there is no relationship for African American men; regardless of amount consumed, African American men are more likely to experience negative consequences for use. Moreover, Herd (1994) reported that African American men were more likely to report negative drinking consequences (e.g., dependence symptoms, problems with friends, and problems with relatives), even after accounting for drinking behavior, socioeconomic status and other social variables. It has also been observed that African Americans are more likely to be arrested for being intoxicated than European Americans regardless of the amount of alcohol consumed (Brown & Frank, 2006; Park, 1983 cited in Herd, 1994a; Neuspiel, 1996). The observation of differential treatment towards drinking based on the race of the drinker is not a new one. In 1981, Benjamin and Benjamin stated:

“moderate drinking may be tolerated if the drinker is White. A boss, foreman or policeman may ignore or simply “bear with” the White drinker, whereas the range of tolerable deviation may be narrower for the Black drinker, especially when he becomes enmeshed in the net of law enforcement. A Black drinker may become the object of racial hatred and intolerance in addition to any negative judgment toward the drinking behavior.” (p. 242)

Thus, it may be the case that studies showing higher rates of negative consequences from drinking, even at lower levels of use (e.g., Mulia et al., 2009), may be in part due to the higher likelihood of African Americans getting “in trouble” due to their skin color rather than their blood alcohol content (BAC) or behavior.

Racial discrimination—At the core of being immersed in a “racialized social system” is the influence of racial discrimination. Among all other ethnic minorities within the United States, African Americans tend to report experiencing markedly higher incidences of discrimination compared to the other groups (Landrine, Klonoff, Corral, Fernandez, & Roesch, 2006). Landrine and Klonoff (1996) found that 98% of the African American adults sampled reported that they had experienced a racist event during the past year. Racism has been conceptualized as a chronic stressor in the lives of African Americans (Clark, Anderson, Clark, & Williams, 1999), with racial discrimination being documented in almost every aspect of African American life, from home mortgage lending, to housing discrimination and residential segregation, to employment practices, to health care access and responsiveness (Smedley & Smedley, 2005).

Racial discrimination has also been identified as an important source of stress influencing health and psychological well-being (Kessler et al., 1999; Ren, Amick, & Williams, 1999; Williams & Mohammed, 2009; Williams, Neighbors, & Jackson, 2003; Williams, Yu, Jackson, & Anderson, 1997), including drinking problems among African Americans (Caetano et al., 1998; Caetano & Clark, 2000; Herd, 1994a; Gibbons et al., 2004; Gibbons et al., 2007; Gibbons et al., 2010; Jones-Webb, 1998; Jones-Webb, Hsiao, & Hannan., 1995; Kwate, Meyer, Eniola, & Dennis, 2010; Mulia et al., 2008; Taylor & Jackson, 1990; Yen, Ragland, Greiner, & Fisser, 1999). Martin and colleagues (2004) found that among employed African American men, those who reported high levels of economic distress and who perceived racial discrimination were significantly more likely to engage in stress related drinking and problem drinking behaviors. These studies suggest that although African Americans as a group drink less than European Americans, those African

Americans who report more experiences of discrimination are at greater risk for problem drinking than are other African Americans.

However, not all studies have found a positive association between alcohol use and discrimination. For example, Borrell and colleagues (2007) found no relationship between drinking and self-reported experiences of discrimination among young African American adults. The authors found that African Americans were more likely to report multiple indications of extreme disadvantage than European Americans, but current drinking status and at-risk drinking were unrelated to that disadvantage. Broman (2007) found that although African American college students reported perceiving themselves as more exposed to discriminatory experiences than their European American peers, they were no more likely to engage in drinking behaviors in response to experiencing discrimination. Similarly, Kwate and colleagues (2003) found that among African American women, those who experienced *less* racism were more likely to be drinkers. The authors speculated that it may be the case that those individuals who have more individual experiences with racism may be more vigilant in avoiding substances that are readily connected to the negative stereotypes attributed to African Americans. Discrepancies in findings concerning the influence of racial discrimination on drinking among African Americans may also be due to the inclusion or exclusion of other covarying factors associated with drinking, such as racial identity, religiosity, and level of distress (e.g., Gibbons et al., 2010; Kwate et al., 2003; Mulia et al., 2008; Stock et al., 2011)

Residential factors/drinking context—Although African Americans, as a whole, drink less than European Americans, alcohol venues are more prevalent in African American communities (Duncan, Duncan, & Strycker, 2002; Jones-Webb et al., 2008) and lower-income neighborhoods (Bluthenthal et al., 2008; Duncan et al., 2002; LaVeist & Wallace, 2000; Romley, Cohen, Ringel, & Sturm, 2007). Furthermore, the amount of physical shelf space in convenient stores allotted for alcohol display is higher in minority and low-income neighborhoods (Bluthenthal et al., 2008). LaVeist and Wallace (2000) found that after controlling for socioeconomic status, African American residential communities had eight times as many liquor stores per capita as predominately European American communities, and the venues were often located in close proximity to African American churches, hospitals, schools, homes and recreational parks.

Thus, although African Americans are less likely to drink, for those African Americans who do consume alcohol, greater access to alcohol beverages may place them at higher risk for engaging in heavy or risky drinking behaviors. Reasons for heightened risk have been documented by several researchers. Theall and colleagues (2011) suggested that neighborhood alcohol venue density is problematic because it exposes neighborhood residents to cues related to alcohol consumption more frequently and provides residents with high levels of alcohol availability (Theall et al., 2011). Similarly, LaVeist and Wallace (2000) noted that the disproportionate concentration of liquor stores was significant because these venues typically sold larger quantities of alcohol than bars or restaurants, and the alcohol is ready for immediate consumption on street corners, nearby parks, or in motor vehicles. These concerns appear to be accurate, with evidence indicating that for African Americans who do consume alcohol, the higher concentration of liquor stores in African American neighborhoods is significantly associated with at-risk alcohol consumption (James & Johnson, 1996; Theall et al., 2011).

Additionally, drinking in low-income neighborhoods can also place African Americans at increased risk for experiencing negative consequences from drinking compared to European Americans who drink in similar contexts (Caetano & Herd, 1988 cited in Jones-Webb et al., 1995; Jones-Webb et al., 1997a). This phenomenon appears in part to be due to the cultural

norm that African Americans are more likely to drink in public, such as on street corners, compared to European Americans (Herd & Grube, 1993; Nyaronga, Greenfield, & McDaniel, 2009; Stewart & Power, 2002), coupled with data indicating that police surveillance is more common in low-income African American neighborhoods than in low-income European American neighborhoods (Conley, 1994; Mastroski, Parks, Reiss, & Worden, 1999). Thus, to the degree that African Americans consume alcohol outdoors, and to the degree that such behavior is deemed as inappropriate or excessive, drinking among this group could result in more negative consequences from drinking (e.g., citations from law enforcement) (LaVeist & Wallace, 2000; Park, 1983).

Alcohol Preference and Content

Two factors that must be considered when exploring the higher rate of negative consequences among African Americans are differences in the type of alcoholic beverage consumed and the accuracy of one's self report of the amount of alcohol consumed. African Americans have been identified as one of the biggest consumers of malt liquor (Miller Brewing Company, 2001). Compared to lager beer, malt liquor is less expensive, has a higher alcohol content, is typically sold in larger containers (i.e., 40 oz versus 12 oz), and is packaged so that it cannot be resealed, providing a strong message to consume the beverage in one sitting (Bradizza, Collins, Vincent, & Falco, 2006; Chen & Paschall, 2003). Moreover, malt liquor is readily available and heavily marketed in low-income African American neighborhoods (Bradizza et al., 2006; Duncan et al., 2002; Herd, 2000; Jones-Webb et al., 1997a).

It is possible that some African Americans, especially youth and young adults, may be more prone to consume malt liquor over other alcoholic beverages due to the portrayal of malt liquor as a sign of masculinity among some rap artists and other African American celebrities (Chambers, 2006; Herd, 2000, 2005; Lamont & Molnar, 2001). Some researchers have suggested that this preference contributes to the higher rate of alcohol related problems in this group (Bluthenthal, Brown, Taylor, Guzman-Becerra, & Robinson, 2005; Bradizza et al., 2006; Graves & Kaskutas, 2002). However and not surprisingly, there is evidence for considerable variability in preferred alcoholic beverages among African Americans, suggesting a limited role for malt-liquor in explaining alcohol related problem rates among African Americans (Bradizza et al., 2006; Chen & Paschall, 2003; National Institute of Alcohol Abuse and Alcoholism (NIAAA), 2000; Sempos et al., 2003). To date, there have been no large population-based studies that have found a relationship between ethnic differences in alcoholic beverage preference and risk for alcohol related problems. Bradizza and colleagues (2006) studied a small sample of 53 young adults (43% African American), and found that among the entire sample, relatively few reported experiencing problems as a result of consuming malt liquor and no ethnic differences were found among those who did report problems from drinking malt liquor. There is a need for more research into this possibility before confident conclusions can be drawn.

Another possibility is that African Americans may be more likely to underestimate the amount of alcohol they consume, thus indicating a lower level of consumption than is actually the case (Kaskutas & Graves, 2000; Kerr, Patterson, & Greenfield, 2009). For example, Kerr and colleagues (2009) found when examining the type, quantity, and frequency of alcohol consumption based on ethnicity and sex, African American men were the most likely to underestimate their intake, by 31%, and had the largest overall mean drink alcohol content at 0.79 oz of alcohol, compared to 0.66 oz for the European American men sampled. The authors speculated that the higher alcohol content in African Americans' drinks may partially explain the higher rate of alcohol problems found in this group compared to their European American counterparts. This proposed explanation also merits further empirical investigation.

Social Sanctions for Alcohol Use

A protective factor that can also work as a risk factor for negative social consequences from consumption is the conservative set of norms and values found within the African American community. As stated earlier, the African American community generally holds norms of restricted use of alcohol with discouragement of drunkenness and intoxication (Borker et al., 1980; Herd, 1997a). It follows that African Americans who do engage in heavier drinking would be subject to greater within-group negative social consequences. Indeed, Herd (1994a) found that the specific negative social consequences most commonly reported by African Americans were within-group social consequences, such as more disagreements with family and friends, trouble with one's spouse, and disapproval of one's drinking by peers. It may be the case that some of the alcohol dependence symptoms endorsed by African Americans are related to social disapproval of this kind.

Vulnerability to Alcohol Effects

Another protective factor that may serve as a risk factor is the genetic vulnerability to alcohol based on the presence of the ADH1B*3 allele. There is evidence that individuals with the ADH1B*3 allele who drink alcohol are more likely to report more positive expectancies for drinking, such as expectancies for enhanced sexual performance, physical/social pleasure, and increased social assertiveness (Ehlers et al., 2003). Because expectancies are understood to represent summaries of individuals' learning histories (Bolles, 1972; Goldman, 1999; Goldman, Brown, Christiansen, & Smith., 1991), it appears that individuals with this allele may be experiencing these effects more strongly and more quickly than others, given the faster ethanol metabolism rate for these individuals. Based on this research, it may be the case that stronger expectancies experienced among African Americans with ADH1B*3 may result in more overt behaviors associated with intoxication, even at lower levels of use (Ehlers et al., 2003).

The expression of more intoxicated behaviors by some African Americans, in the face of (a) more negative within-group social consequences from intoxication and (b) more frequent surveillance of alcohol-related behaviors engaged in by African Americans on the part of law enforcement officials, may contribute to higher levels of alcohol-related problems for those African American drinkers with the ADH1B*3 allele. Thus, even though presence of the allele could protect against progression to heavier consumption, it may increase risk for problems stemming from even moderate consumption. Support for this hypothesis is provided by a study by Pedersen and McCarthy (2009), who examined the acute subjective response to alcohol among African American young adults in an alcohol administration study. They found that African American male participants experienced sharper increases in stimulation on the ascending limb of the blood alcohol curve compared to African American females at a moderate dose of alcohol. Moreover, recent work by Pedersen and McCarthy (2012) found that African Americans experienced a sharper increase in stimulation on the ascending limb compared to European Americans at the same dose of alcohol administered. These increases in stimulation were more strongly associated with higher levels of alcohol related problems, such as legal problems, blackouts, and trouble with friends for the African American participants compared to the European American participants. These findings suggest the possibility that some African Americans may have a heightened sensitivity to alcohol that result in more pronounced negative effects and negative consequences from drinking at comparable and potentially even at lower levels of use.

It is also possible that African Americans' increased risk for mortality from liver cirrhosis (Greenfield, 2001; Stinson et al., 1993; Yoon et al., 2001) may involve the ADH1B*3 allele. Ehlers and colleagues (2007) found that in their sample of Afro-Trinidadian participants the ADH1B*3 allele served as a protective factor against alcoholism; however, among those

individuals who did become alcohol dependent, the allele was associated with an enhanced risk for liver disease. This is speculated to be due to increased activity of the liver to process alcohol, which is metabolized at a faster rate among individuals with the ADH1B*3 allele (Ehlers et al., 2007).

Summary

It has been observed that African Americans report higher rates of negative consequences related to drinking compared to European Americans (studies reviewed are detailed in Table 4); this finding is particularly noteworthy because it occurs even at lower levels of use. We propose that this occurs for several reasons. First, based on a relatively small number of genetic studies using laboratory analogue designs, it appears that some African Americans may have a higher biological sensitivity to alcohol, which results in a more intense reaction to alcohol at lower quantities of use (Ehlers et al., 2003; Pedersen & McCarthy, 2012). Their stronger reaction to alcohol may lead to more alcohol-related problems, because their quicker, more intense behavior changes could result in social disapproval, both within and outside the African American community. Second, as indicated by findings from both national and community based randomized samples, cultural norms within the African American community of limited alcohol use, low tolerance for intoxication, and conservative attitudes towards drinking may result in more negative social consequences from drinking from within their own racial group than is true for European Americans (Herd, 1994a). This important finding needs to be replicated in additional samples. Third, studies that involve primarily relatively small sample, community based randomized designs have been conducted showing that African Americans are more likely to encounter legal problems and other negative consequences from drinking than European Americans, even at similar levels of use (Mulia et al., 2009). Perhaps this occurs both because of extra tight controls over African American behavior by the dominant culture, and perhaps also because the same level of alcohol consumption is likely to lead to more impairment for some African Americans than for European Americans. To date, there is little empirical information on the process by which African Americans experience more legal problems and negative consequences from similar levels of consumption; further research in this area would prove helpful.

Up to this point, we have reviewed the literature examining group differences in drinking patterns. Of course, it is certainly true that risk levels vary within African Americans. In order to pursue a comprehensive theory of African American drinking, it is important to consider group-level processes like those considered above and also processes that contribute to individual differences in drinking behavior among African Americans. In the next section of the paper, we propose a risk model that we believe helps explain variability in drinking behavior among African Americans, in the hope that it leads to a greater focus on this aspect of African American drinking. Although this part of our model concerns individual differences, it also helps explain the apparent paradox between lower levels of drinking and higher levels of problems for African Americans.

Explaining Individual Differences in Risk among African Americans

African Americans vary in their risk for problem drinking as a function of genetic vulnerability, demographic factors, environmental factors, and learning history. Some of these risk factors (e.g., sex, family history, peer use, expectancies) have similar associations with drinking for African Americans as for European Americans. There are other risk factors that are likely to be more important for the African American community (i.e., ethnic identity, Africentrism, and exposure to discrimination) than to the European American community. Our discussion of individual differences will also include factors we have already described as important for understanding overall group differences between African

Americans and European Americans; we consider them briefly again in this section because they also contribute to individual differences among African Americans (studies reviewed in this section are detailed in Table 5). We present these findings with the important caveat that, to date, there have been too few studies of individual differences within African Americans, as researchers have tended to focus on differences between races. Of the studies reviewed in this section, a majority were conducted among community-based convenience samples. Further empirical studies need to be conducted to determine the generalizability of the findings among all African Americans.

Learning and Motives

Another set of factors that can influence risk for alcoholism are those related to psychosocial learning. One prominent psychosocial learning model emphasizes alcohol expectancies, which are thought to reflect the influence of psychosocial learning on current drinking behavior. A substantial body of research with general population samples has demonstrated that positive alcohol expectancies predict increased drinking (Barnow et al., 2004; Cumsille, Sayer, & Graham, 2000; Ouellette, Gerrard, Gibbons, & Reis-Bergan, 1999; Settles, Cyders, & Smith, 2010; Smith, Goldman, Greenbaum, & Christiansen, 1995) and the onset of adolescent problem drinking (Christiansen, Smith, Roehling, & Goldman, 1989; Smith & Goldman, 1994). Although some studies have found no relationship between positive expectancies and drinking onset for African American youth (Chartier, Hesselbrock, & Hesselbrock, 2009), most studies have found a positive relationship that is often comparable in magnitude to what has been observed among European Americans (Flory, Lynam, Milich, Leukefeld, & Clayton, 2004; McCarthy, Miller, Smith, & Smith, 2001). It is possible that the inconsistency in findings may be in part due to differences in which additional variables are included in model tests; in particular, the inclusion of childhood conduct problems may be important. Chartier et al.'s (2009) study included the influence of both conduct disorder and positive alcohol expectancies on age of onset of drinking; they found that childhood conduct problems predicted age of onset for African American youth, but not for European American youth, whereas positive expectancies significantly predicted age of onset for European American youth, but not for African American youth. Overall, it appears to be the case that at least some African American youth who have learned to associate drinking with positive consequences are more likely to drink and to drink heavily compared to African Americans who hold fewer positive expectancies about alcohol; however, this effect may depend on whether or not they experience conduct problems during childhood.

A construct related to alcohol expectancies is that of motives for drinking: most researchers understand motives to include both expected effects of alcohol consumption and one's interest in achieving those effects (Cooper et al., 2008). Studies on adolescent motives for drinking suggest that alcohol consumption among African Americans appears to be rooted in regulation of negative mood (Bradizza, Reifman, & Barnes, 1999; Brannock, Schandler, & Oncley, 1990). Jones-Webb (1998) found that even though African American women were less likely to drink, stress had a direct and positive relationship with their drinking, especially for those who cope with stress primarily through avoidance. Thus, it appears to be the case that one influence on individual differences in drinking among African Americans is variation within that group in the motive to drink to cope with distress (Harper, 1999; Martin, Tuch, & Roman, 2003).

Environmental Risk Factors

Family factors and alcohol use—There is evidence that family composition can play an important role in alcohol initiation and use among adolescents. Donovan (2004) reported that adolescents are at a greater risk of alcohol initiation if they are living with stepparents versus intact families, if their immediate family members use substances, if they perceive

parental approval or less parental disapproval of teen drinking, if they perceive lower levels of parental support, or if they perceive greater levels of parental alcohol and drug use. Specifically, Bossarte and Swahn (2008) found that adolescents who live in households with less parental supervision are more likely to engage in deviant behaviors and use substances. Likewise, greater parental monitoring is associated with decreased substance use among African American youth (Rai et al., 2003; Stanton et al., 2002; Tebes et al., 2011; Wallace & Muroff, 2002). Moreover, among adolescents who drink heavily, African American youth are significantly more likely than their European American peers to be concerned about their parents' disapproval of their drinking alcohol (Ringwalt & Palmer, 1990). It is thought that due to the higher level of constraints placed on youth by their parents, parental influence may in fact be a stronger determinant of drug use than peer influence for African American youth compared to other racial groups (Clark, Belgrave, & Abell, 2012; Wallace & Muroff, 2002).

Another factor is exposure to violence in the home. For example, Bossarte and Swahn (2008) reported that for African American youth, exposure to violence within the home before the age of ten was associated with a threefold increase in the probability of early initiation of alcohol use. Similar findings were reported by Wallace and colleagues (1999a) for African American youth; these authors also found that the prevalence of alcohol use decreased as a function of how many parents were present in the African American adolescent's home.

Parental substance use behaviors can also affect age of initiation and level of use among adolescents. It has been shown that having a positive family history of alcohol dependence or problem drinking increases risk for adolescent alcohol use and dependence symptoms (Chassin, Rogosch, & Barrera, 1991; Sher, 1991; Sher, Walitzer, Wood, & Brent, 1991). More broadly, children with a family history of alcohol or drug dependence are more likely to follow various deviant pathways, one of which is alcohol use (Hesselbrock & Hesselbrock, 2006; Moss, Lynch, & Hardie, 2003; Sher, Grekin, & Williams, 2005). In some studies, it has been shown that parent drinking interacts with peer behavior. For example, Jones and colleagues (2008) found no main effect for whether an adolescent consumed alcohol based on his or her parents' level of use. However, adolescents whose peers use alcohol are at the greatest risk for drinking if their parents experienced problems from drinking and the least risk if their parents experienced few problems from drinking. This effect was observed for African Americans, as well as for European Americans.

Peer group—In general, the extent to which an adolescent's peers engage in deviant behavior and substance use significantly influences the likelihood that the teen will also engage in such behaviors (Epstein, Botvin, Baker, & Diaz, 1999; Epstein, Williams, & Botvin, 2002; Jaccard, Blanton, & Dodge, 2005; Li, Barrera, Hops, & Fischer, 2002; Nasim et al., 2007). Specifically, peer substance use is positively associated with early age of initiation (D'Amico & McCarthy, 2006; Fite, Colder, & O'Connor, 2006; Li, Barrera, Hops, & Fischer, 2006), lifetime use (Rohde, Lewinsohn & Seeley, 1996), current use (Kuntshe & Jordan, 2006), heavy use or binge drinking (Jaccard, Blanton, & Dodge, 2005; Sher & Rutledge, 2007) and other alcohol abuse disorders (Moss et al., 2003). Bossarte and Swahn (2008) found that African American youth who reported that a few of their peers drank were 2.95 times more likely to drink than those whose peers did not drink; those who reported that most of their peers drank were 8.29 times more likely to drink. It should be noted that there is evidence that the converse is also true; perceiving less substance use among one's peer group is associated with a lower probability of binge drinking (Stevens-Watkins & Rostovsky, 2010). Specifically, the authors found that for every unit decrease in the perception of best friend's substance use, the probability of binge drinking in high school among African American males decreased by 85%.

Ethnic identity—Ethnic identity, defined variously as self-identification with one's ethnic group; the sense of belonging and attachment to such a group; the perceptions, behaviors, and feelings one has due to such membership; and involvement in the cultural and social practices of the group (Phinney & Kohatsu, 1997), has been associated with lower levels of substance use (Brook & Pahl, 2005; Szapocznik, Prado, Burlew, Williams, & Santisteban, 2007). Amongst African Americans, studies have consistently shown that those who strongly identify with African American culture are less likely to consume alcohol (Brook, Brook, & Pahl, 2006; Burlew, Neely, & Johnson, 2000; Caldwell, Sellers, Bernat, & Zimmerman, 2004; Herd & Grube, 1996; Klonoff & Landrine, 1999; Martin, Tuch, Roman, & Dixon, 2004; Nasim, Belgrave, Jaegers, Wilson, & Owens, 2007) and more likely to hold conservative views toward drug use (Belgrave, Brome, & Hampton, 2000; Belgrave, Cherry, Cunningham, Letlaka-Rennert, & Phillips, 1994; Burlew, Neely, & Johnson, 2000; Klonoff & Landrine, 1999; Townsend & Belgrave, 2000). Moreover, African Americans who are more immersed in African American culture (Klonoff & Landrine, 1999), have a strong preference for African American people, and a strong connection to their families (Herd & Grube, 1996) are more likely to be abstainers.

Ethnic identity has also been identified as a buffer against substance use by mitigating the effects of racial discrimination on perceived stress, depression, problem behavior, involvement with deviant peers, and psychological well-being (Greene, Way, & Pahl, 2006; Sellers, Caldwell, Schmeelk-Cone, & Zimmerman, 2003; Stock, Gibbons, Walsh, & Gerrard, 2011; Williams, Neighbors, & Jackson, 2003). Stock and colleagues (2011) suggested that possible reasons for the buffering effect of ethnic identity against substance abuse, specifically when racial discrimination is present, include the following: a) heightened racial identity eliciting positive feelings about the self as a minority; b) endorsement of African American cultural norms, which emphasize bonds with family and racial group, which in turn, enhance feelings of belonging and social support; and c) being salient of one's racial identity may motivate one to debunk stereotypes of African Americans as users while embracing a positive identification. Understanding the role of protective factors, such as racial identity, in the midst of risk factors, such as racial discrimination, is important in understanding the mechanisms by which certain African Americans are at increased or decreased risk for alcoholism.

Africentric world view—Holding strong Africentric world views (e.g., values, beliefs, behaviors, and consciousness deriving from an African cultural heritage) has also been associated with reduced risk of alcohol use. Nasim and colleagues (2007) summarized Africentric values as reflecting the primacy of family, community, interdependent relationships and shared responsibilities. Values characteristic of an Africentric world view include: spirituality, sensitivity to emotional cues (including synthesis of the verbal and nonverbal), expressive communication (e.g., oral communication), harmony (e.g., emphasis on integrating parts of one's life into a whole), time as a social phenomenon (e.g., fluidity of time), rhythmic movement, stylistic expression (e.g., all manners of expressing oneself), interpersonal orientation and communalism (e.g., emphasis of the group over the individual), multimodal perception and learning (e.g., perception and learning involve using visual, auditory, tactile perceptions and motor skills simultaneously, a preference for stimulus variety), and negativity to positivity (e.g., seeing the good in all situations: Randolph & Banks, 1993).

African Americans who hold stronger Africentric world views are less likely to use alcohol (Brook & Pahl, 2005) and are more likely to hold negative views towards drugs, including alcohol (Belgrave et al., 1994; Belgrave, Townsend, Cherry, & Cunningham, 1997; Belgrave et al., 2000) than are other African Americans. Likewise, Herd and Grube (1996) found that high levels of Black awareness and greater involvement in Black social networks

was associated with reduced drinking and reduced heavy drinking among African Americans. When considered together, both ethnic identity and Africentric world views appear to operate as protective factors (Nasim et al., 2007): adolescents with strong ethnic identities were less likely to engage in heavy drinking even with increases in peer drinking behaviors, and holding strong Africentric beliefs was associated with later age of onset, lower lifetime use, less peer risk behaviors (i.e., having fewer peers that engaged in risky behaviors) and reduced effect of peer pressure on initiation (i.e., the more Africentric one was, the less likely peer drinking would influence alcohol initiation).

Religiosity—Holding religious beliefs appears to provide additional protection, helping to identify those African Americans who are at reduced risk for alcohol or substance use (Brook & Pahl, 2005; Nasim et al., 2007; Stevens-Watkins & Rostosky, 2010; Zimmerman & Maton, 1992). For example, Belgrave and colleagues (1997) found that among at-risk African American youth from an inner city population, those with greater spiritual beliefs (i.e., attending religious services and discussing religion or spiritual topics within the home) reported less drug use than those with fewer spiritual beliefs. Moreover, religiosity has also been shown to buffer the impact negative life events have on heavy drinking behaviors among youth in seventh through tenth grade (Wills et al., 2003b). It has also been speculated that as African Americans reach their thirties and separate more from family and parental influences and the church, their tendency to consume alcohol increases (James & Johnson, 1996).

Religious participation does also appear to be stronger among women (Barna, 2010), particularly within the African American community (Levin & Taylor, 1993; Levin, Taylor, & Chatters, 1994; Taylor, 1992; Taylor et al., 1999). The African American church may be particularly important for African American women because it provides them with a framework to reconstruct and reinterpret their roles and identities, given the multiple forms of oppression present in their lives (Grant, 1989; Levin & Taylor, 1993; McKay, 1989). Taylor and colleagues (1999) also proposed that gender differences in religiosity among African Americans may be a consequence of the gender socialization process that emphasizes many of the qualities and traits (e.g., patience, forbearance, restraint) that are consistent with religious orientation. As we discuss further below, African American women tend to drink significantly less than African American men (SAMHSA, 2009). Given that religious involvement is associated with lower rates of alcohol consumption, it is possible that sex differences in religious involvement contribute to sex differences in drinking behavior.

Demographic Variables

Sex—When comparing drinking levels among African Americans, African American women are consistently found to report lower levels of use and higher rates of abstinence compared to African American men (e.g., Caetano & Clark, 1998a; Ford et al., 2007). For example, Caetano and Clark (1998a) found that 21% of African American men compared to 10% of African American women reported drinking at least one drink in the past year. African American women also reported higher rates of abstinence (i.e., drink less than once a year or have never drunk: 55%) compared to African American men (36%). Similar findings have been reported using either convenience samples or large, representative national samples (Ford et al., 2007; Parker, Weaver, & Calhoun, 1995; SAMHSA, 2010, 2011). There is certainly heterogeneity in the drinking behavior of African American women, and researchers have begun to examine predictors and risk for alcoholism and substance abuse within this specific population (e.g., Curtis-Boles & Jenkins-Monroe, 2000). Nonetheless, African American men are, as a whole, at greater risk for problem drinking than are African American women.

Sex and income—It has been suggested that across race, income is positively associated with alcohol consumption (Grant, 1997; Moore et al., 2005; Parker, Weaver, & Calhoun, 1995; Zarkin, French, Mroz, & Bray, 1998). However, the opposite appears to be true for a subset of African American men (e.g., Jones-Webb et al., 1995; Jones-Webb et al., 1997). Studies of very poor individuals that differentiate among levels of poverty indicate that extremely poor African American men appear to be at markedly elevated risk for alcohol abuse (e.g., Ford et al., 2007; Gilman et al., 2008). Barr and colleagues (1993) found similar results: African American men who were severely impoverished (annual family income less than \$15,000) were significantly more likely to report high levels of alcohol consumption than were African American women (and, interestingly, European Americans) at similar incomes. Similarly, Herd (1990) found the highest rates of heavy drinking among very low-income African American men (incomes between \$10,001 and \$15,000). Thus, there appears to be something specific about this subgroup of African American men that places them at higher risk of drinking, even despite their reduced income.

Not only does this subset of severely impoverished African American men appear to drink more than their counterparts, but problems from consumption appear to be more pronounced for them. African American men in lower socioeconomic classes (i.e., greater than 20% below the poverty line) were significantly more likely than comparably poor African American women (and European American men) to report greater numbers of negative drinking consequences, including problems in areas such as legal charges, finances, health, family, and work (Jones-Webb et al., 1997a). Others have reported similar findings, suggesting that African Americans who are both male and have lower income are most likely to engage in heavy or problematic drinking behaviors and experience the most problems related to use (James & Johnson, 1996; Wallace, 1999a, 1999b; Welte & Barnes, 1992). To provide a further context for our theoretical explanation of this set of findings, we next consider the joint effects of age and sex with respect to developmental trajectories of drinking.

Age, sex, and drinking trajectories—The developmental trajectory for drinking among African American men has been shown to differ significantly from their female counterparts, as well as from the drinking trajectories of male European Americans. For African American men, heavy drinking is associated with older age (Caetano, 1984; Caetano & Clark, 1998a; Caetano et al., 1998; Herd, 1990), and thus becomes more frequent than what is observed among other groups (i.e., African American women and European American men) as they age. Although somewhat dated, national survey research on heavy drinking found that for African American men, heavy drinking remained steady (although lower than European American levels) for ages 18–49, peaked during the ages 50–59, and did not drop off until the early 60s (Herd, 1990). Others have similarly noted that steady levels of drinking persist into the 50s for African American men, which is found to a much less degree for African American women (Caetano & Clark, 1998a).

To the degree that those African American men who are drinking heavily during their mid-20s continue to drink heavily well into late adulthood, they risk experiencing more severe health consequences associated with heavy drinking during this stage of life (NIAAA, 1998). Engaging in such drinking patterns may be particularly detrimental for lower income African Americans, given research indicating they tend to have less access to, and make less use of, health care, even when controlling for income and health insurance coverage compared to other ethnic groups (Schmidt et al., 2007; Weinick, Zuvekas, & Cohen, 2000).

Summary

Among African Americans, there are two subgroups that have consistently shown higher rates of heavy drinking and related problems: low-income African American men and older African American men. We next argue that the typical experience of these groups includes limited access to standard life reinforcers (SLRs) and little perception that increased access to SLRs is available through sobriety. To make this argument, we will present data on the limited access to SLRs among low-income African American men compared to both low-income European American men and low-income African American women, and then present our theory as to how these factors significantly influence the risk of alcoholism and related problems among low-income and older African American men.

Theory of Heightened Risk of Drinking and Problems among Low-Income African American Men

We next present our theoretical explanation for why (a) African American men are at higher risk for problem drinking than African American women; (b) African American men of very low incomes are at the greatest risk within their ethnic group for heavy drinking and the problems that result; (c) drinking levels remain more stable later into adulthood for African American men than for other groups; and (d) low-income African American men are at the highest risk of experiencing negative health complications from drinking. The theory involves an integration of historical considerations with a novel application of a well-established, well supported theory developed from behavioral psychology.

We argue that a series of societal changes over the last century resulted in the emergence of a class of very poor African Americans, whose experiences were quite different from those of poor European Americans and wealthier African Americans. Within this group of very poor African Americans, women had continued access to a fundamentally important life role, that of mother and/or care-giver. That role enabled them to meet basic personal needs such as for relatedness and competence (Ryan & Deci, 2002) and provided them with important incentives not to pursue the reinforcement associated with heavy alcohol consumption. In contrast, very poor African American men experienced extraordinarily high rates of unemployment, fundamental disruptions in their capacity to meet the basic life needs of competence and autonomy (Ryan & Deci, 2002), very few sources of reinforcement, and hence little incentive not to pursue the reinforcement associated with heavy drinking; placing them at heightened risk for problematic drinking and related problems.

Historical Perspective

A series of social and economic events across the 20th century led to the emergence of a class of very poor African Americans whose experiences were different from those of other African Americans and others considered disadvantaged (Farley & Frey, 1994; Massey, Gross, & Shibuya, 1994; Kasarda, 1995; Squires, Velez & Taeuber, 1991; Wilson, Tienda, & Wu, 1995). In the early 20th century, over 1.3 million African Americans relocated from the Southern United States to the Northern, Midwestern, and Western areas to escape hardships, prejudice, and to pursue jobs, particularly those then available in factories, due to the large increase in the manufacturing industry (Christmon, 1995; Harper, 1976; James & Johnson, 1996). Policies were developed during this time to ensure the physical separation of African Americans from European Americans in residential areas, restricting housing options for African Americans to the least desirable residential areas (Cell, 1982; Fix & Struyk, 1993), thus leading to physical segregation. In the mid-1970s an era of deindustrialization took place, during which many jobs disappeared or left the inner city, resulting in a reduction in the kind of well-paying, low skill based blue-collar jobs that

African American men had found when they migrated north (Squires, 1992; Wilson, 1987). As a result, many African American men who had earned good wages in the factories found that they were not well-qualified for the remaining jobs in the inner city and were often unable to afford the commute to suburban settings where many of the more plausible employment opportunities existed.

Moreover, the residential structure of inner-city communities was vastly different based on race: poor African Americans were more likely to reside in isolated poor urban neighborhoods where a majority of residents were also unemployed and impoverished, whereas poor European Americans rarely lived in such neighborhoods (Wilson, 1987). Additionally, social services were more likely to be located in predominately European American areas compared to neighborhoods with higher concentrations of African Americans (Lin & Harris, 2009). Subsequently, the inaccessibility of resources and employment opportunities, together with the spatial concentration and social isolation of poor African Americans, resulted in the emergence of an underclass African American population.

Artifacts of the residential segregation that occurred beginning in the early 1900s are still present today (e.g., Osypuk, Galea, McArdle, & Acevedo-Garcia, 2009; Williams, 1999). McKinnon and Humes (2000) reported that although Non-Hispanic European Americans account for approximately 70% of the total U.S. population, only one-fifth (21.7%) live in inner cities; in contrast, while African Americans account for about 12% of the total U.S. population, more than one-half of them (55%) live in inner cities. Acevedo-Garcia and colleagues (2008) examined opportunities for growth and development of children in the 100 largest metropolitan areas in the United States where children reside and found that 76% of African American children lived under worse conditions than the worst off European American children. Similarly, Sampson and Wilson (1995) concluded that the worst urban context in which European Americans reside is significantly better than the average context of African American communities.

In sum, African Americans have experienced dramatically different circumstances in relation to employment, adequate housing arrangements, and overall poverty than European Americans. Within this difficult context, African Americans had a reduced capacity to meet important life needs (Ryan & Deci, 2002). Furthermore, the isolation of poor African Americans from others during the deindustrialization period of the 1970s resulted in less frequent interactions with individuals or family members who resided in more stable urban areas or in the suburbs. Additionally, lower income African Americans faced more difficulties in access to welfare or social assistance programs. Together, this state of affairs describes limited access to many important life reinforcers, which can create conditions that increase the likelihood of heavy, problematic alcohol consumption. As we describe next, this lack of access to life reinforcers appears to be greater for African American men compared to their female counterparts, which places this subgroup of individuals at a heightened risk for heavy drinking and related problems.

Access to Standard Life Reinforcers

Standard life reinforcers (SLRs) have been defined as “a basic set of rewarding circumstances or experiences that persons ... strive for” (Spillane & Smith, 2007 p. 405). They include housing, economic security, work opportunity, knowledge, and relationships. Spillane and Smith’s (2007) theory of how SLRs influence risk for alcoholism involves an adaptation of the behavioral choice theory (Rachlin, Logue, Gibbon, & Frankel, 1986; Vuchinich & Tucker, 1988). According to behavioral choice theory, the behavior one engages in should be understood as representing a choice among a range of possible alternative behaviors (Rachlin, Logue, Gibbon, & Frankel, 1986). One chooses a particular

behavior, and the reinforcement associated with that behavior, because other reinforcers are more costly, less accessible, or unavailable. From this perspective, the choice to consume alcohol will vary as a function of (a) the constraints that are placed on access to alcohol and (b) access to and costs of alternative reinforcers (Vuchinich & Tucker, 1988). Because constraints on access to alcohol in the United States are relatively minor for adults, the availability of alternative reinforcers is thought to be central to alcohol consumption (Vuchinich & Tucker, 1988). Consistent with this view, laboratory studies have shown that alcohol consumption increases when access to alternative reinforcers is constrained, and alcohol and drug use decreases when reinforcement for drug-free activities is readily available (Carroll, 1996; Correia, Simons, Carey, & Borsari, 1998).

We believe that this behavioral choice perspective sheds light on the high level of problem drinking among low-income African American men. As a group, poor African American men have profoundly reduced access to alternative sources of reinforcement, such as financial stability (e.g., employment opportunities, equality in earnings), adequate housing, and access to social support services relative to the level of access available to European American men and African American women in similar living environments (U.S. Department of Health & Human Services, 2009; McKinnon, 2003; Stratton, 1993). Our model holds that this reality contributes to the frequency with which alcohol consumption is chosen for two reasons. First, important, alternative sources of reinforcement are less available, leading to more frequent selection of alcohol consumption as a source of reinforcement. Second, because SLRs tend not to be available, heavy drinking cannot cost access to them (e.g., there is no job to lose due to drunkenness). There is reduced disincentive to drink and hence higher levels of problem drinking. The hypothesis that limited SLR access for poor African American men contributes to their higher rates of problem drinking has not been tested, but there is clear evidence of reduced access to SLRs for this group. We next consider that evidence.

African American men versus African American women—As we noted above, African American women are less likely to consume alcohol than African American men. One reason may be increased access to some SLRs for African American women. Current research shows that among African Americans, African American women are more likely to be the sole caregiver for children (Holzer et al., 2005). McKinnon (2003) reported that 43% of African American families were maintained by women with no spouse present compared to 9% that were maintained solely by men. We believe the responsibility of caring for dependents reduces the risk of substance abuse in three ways. First, as we noted above, the role of caring for offspring enables African American women to meet the basic needs of relatedness and competence (Deci & Ryan, 2002): caring for one's children is profoundly meaningful and hence reinforcing. Second, sobriety must be maintained to effectively care for one's children. Third, because African American communities typically have a strong female presence, it is likely that many African American women care for other children, even if they are not their biological offspring (Burton et al., 1995; Fuller-Thomson & Minkler, 2000) and thus must maintain sobriety in order to adequately care of those who are dependent on them.

In addition, because African American women are more likely to care for dependents, they have more access to government assistance than do African American men. As limited as the government assistance is, it provides African American women a means to reinforcement that is not as readily available to African American men. Indeed, as reported by the U.S. Department of Health and Human Services, African American women compared to African American men are more likely to utilize government resources, such as the Temporary Assistance for Needy Families (TANF) program, which provides assistance in obtaining SLRs such as employment, housing, child-care, and financial stability (U.S.

Department of Health & Human Services, 2009). Beginning in 1996, following welfare reform, government financial assistance became more time limited and contingent on seeking and obtaining employment (U.S. Department of Health & Human Services, 2009). For instance, TANF requirements state that “failure to participate in work requirements can result in reduction or termination of family benefits.” Participation in work requirements involves demonstrable efforts to find and maintain employment. Sobriety surely facilitates efforts to maintain employment, both in the short-term to retain TANF benefits and in the long-term once TANF assistance is finished. Indeed, empirical findings have supported the claim that TANF assistance and employment are related to reduced substance use (Corman, Dave, Richman, & Das, 2010). Thus, it appears that poor African American women face different circumstances with respect to both access to SLRs and incentives for sobriety than do poor African American men.

African American men versus European American men—Compared to European Americans, the rates of unemployment and poverty are higher among African Americans (Holzer, Offner, & Sorensen, 2005). African Americans are more likely than European Americans to be impoverished, 23% compared to 8%, respectively (McKinnon, 2003), and they experience unemployment rates that are twice as high (McKinnon, 2003; Stratton, 1993). Strikingly, over the past forty years, rates of unemployment have steadily increased among lower income African American men (Western & Pettit, 2000). Consistent with these findings, a *Wall Street Journal* analysis of over 35,000 U.S. companies found that African Americans were the only racial group to experience a net job loss during the 1990–1991 economic downturn: African Americans had a net job *loss* of 59,000 jobs, compared with a net *gain* of 71,000 for European Americans, 55,100 for Asian Americans, and 60,000 for Latinos (Sharpe, 1993 cited in Williams, 1999).

European American men have a better chance of employment, even at similarly low income and educational levels as African American men. Considering 20-year old high school dropouts living in low-income areas, unemployment rates were found to be 62.8% for African American men compared to 24.5% for European American men (Stratton, 1993). In experimental research in which the name on a job resume is varied to “sound African American” or “sound European American” (e.g., Jamal versus Greg; Lakisha versus Emily), European American sounding names (using identical resumes) yielded as many more callbacks as an additional eight years of work experience. Moreover, for those men who do find employment, European American men are likely to have higher earnings than African American men at similar positions (Cohen, 1998; Eller, 1994; Orzechowski, 2003).

Another issue concerning access to employment is that of incarceration. It has been well documented that African American men are overrepresented within the penal system (e.g., Bureau of Justice Statistics, 2003). Western and Pettit (2000) reported that in the mid-1990s, just under half of all male convicts were African American men. The probability of being convicted of a felony is higher for African Americans than European Americans: African Americans comprise 12% (versus 82% for European Americans) of the adult population in the United States, but make up 38% (versus 49% for European Americans) of those convicted of felonies within the prison system (Rosenmerkel, Durose, & Farole, 2009).

Among individuals with a criminal record, African Americans have more difficulty obtaining employment than do European Americans (Holzer et al., 2005). Pager (2003) found striking racial differences in the rate of callbacks among both convicted and non-convicted individuals: African Americans without a criminal record received callbacks 14% of the time, compared to 34% for European Americans. Among those with criminal records, rates of callbacks were 5% for African Americans compared to 17% for European

Americans. Strikingly, European Americans with criminal records received more favorable responses (17%) than African Americans with no criminal record (14%).

SLR access, race, sex, and age—As documented above, access to the SLR of employment appears to be greater for low-income African American women and European American men than for low-income African American males. It is also plausible that because the limited access to SLRs is not likely to improve with age, this subgroup of African American men are also more likely to drink and drink heavily well into later adulthood (James & Johnson, 1996). This may partially account for the stable percentage of heavy alcohol drinkers found among African American men into later adulthood (SAMSHA, 2010). These percentages of heavy alcohol consumption outnumber both African American women and European American men and women, especially in later adulthood (SAMSHA, 2010). Although no longitudinal study examining the course of alcohol use among African American men with extreme disadvantage (i.e., limited SLR access) from adolescence to later adulthood has been conducted, findings from cross-sectional studies provide a partial picture of the risk that is consistent with our model. Lifetime substance use among African Americans is significantly associated with increasing age, male sex, little education (i.e., having less than 12 years of education), and low income (Ford et al., 2007; Gillman et al., 2008; Herd, 1990).

Problems associated with the higher rates of substance use in this group appear to be compounded by reduced access to and/or reduced utilization of health care services within low-income neighborhoods (e.g., Lin & Harris, 2009). Poor African American men drink more, they have few disincentives to drink, they drink while older, and they tend not to utilize health care services. This subgroup of African Americans appears to be at increased risk for enduring prolonged and potentially fatal consequences from their alcohol use. Alcohol-related liver disease mortality rates have been found to be considerably higher among African American men (7.4 per 100,000) compared to European American men (5.2 per 100,000: Kim, Brown, Terrault, & El-Serag, 2003; Stinson, Nephew, Dufour, & Grant, 1996), and the highest level of risk was for those African American men who were single, urban residents, unemployed, and had low educational attainment and family income (Singh & Hoyert, 2000). It is possible that increased access to, and utilization of, health care could mitigate these effects.

Summary

Although there is certainly a need for more national, randomized sample studies of this problem and longitudinal studies directly examining the complex interplay of access to SLRs on drinking behaviors among African American men across development, it appears to be the case that very impoverished and older African American men represent one group of African Americans at high risk for problem drinking (Jones-Webb et al., 1997a; Wallace, 1999b). We theorize that lower-income African American men are at increased risk due to (a) the experiences of distress associated with racial inequities; (b) lack of accessibility to important life reinforcers, such as employment, financial stability, adequate housing, and responsibility for child-care; and thus (c) difficulty meeting basic needs for competence and autonomy. We suggest that because these factors are likely to persist over time, there is a higher rate of heavy drinking in older low-income African American men, thus placing them at further increased risk for health problems from their drinking (NIAAA, 1998).

CONCLUSIONS AND IMPLICATIONS

Conclusions

Compared to their European American counterparts, African Americans, when considered as an overall group, report higher rates of abstinence and report lower rates of alcohol use based on both current and lifetime use (SAMHSA, 2010, 2011). These findings hold across development, with African Americans reporting lower rates of use and later initiation of drinking during adolescence, report lower rates of drinking and binge drinking during college, and report lower rates of heavy drinking into adulthood (Caetano & Clark, 1998a; Faden, 2006; Wallace et al., 2003a). Despite lower rates of this risky behavior, African Americans, as a whole, report higher rates of alcohol related problems (Mulia et al., 2009; Yoon et al., 2001). Specifically, they report more negative social consequences from drinking, higher rates of alcohol-related illness and injuries, and, possibly, higher rates of alcohol dependence diagnosis and symptoms compared to European Americans.

Based on an extensive review of literature in the areas of history, sociology, behavioral psychology, and biology, we help to explain the following: a) Why African Americans are more likely to abstain from alcohol or drink at lower levels compared to European Americans; b) Among individuals who drink, why African American drinkers are more likely to experience negative consequences from drinking compared to European Americans; and c) Which African American subgroup is at the greatest risk for alcoholism and alcohol related problems. In short, African Americans have a long history of abstinence or restricted use of alcohol dating back to African culture, pre-slavery. These practices have been maintained in the present day due to a combination of cultural norms and attitudes toward restricted use, high regard to religious beliefs and customs disapproving of alcohol use, and genetic vulnerability limiting the amount of alcohol necessary to experience the effects of alcohol. Evidence indicates that the negative consequences experienced by African Americans who do consume alcohol are at least in part due to (a) stronger concerns about African American drinking than European American drinking by the dominant society and law enforcement; (b) a higher level of social sanctions for use within the African American community, which, though a protective factor, appears to result in more within-group negative social consequences for African American drinkers; (c) characteristics of typical drinking contexts and the location of liquor stores; (d) possible underestimates of amount consumed by African Americans; and (e) a genetic vulnerability that, though protective, may result in signs of intoxication after only moderate consumption, thus triggering both within-group and societal social sanctions.

To address the third question, which African American subgroup is at the greatest risk for alcoholism and alcohol related problems, we began by examining those risk factors that help explain variability in alcohol use within the African American community. We felt that doing so was crucial; the past emphasis on contrasting African Americans and European Americans provides little information on who is at particular risk within the African American community. We found clear evidence that very low income African American men appeared to be at the highest risk for heavy problematic drinking and, in turn, for experiencing the highest rate of negative problems from drinking. We invoked behavioral choice theory (Rachlin et al., 1986; Vuchinich & Tucker, 1988) to help explain these findings. We theorized that, because these men have restricted or limited access to standard life reinforcers (SLRs), such as adequate employment opportunities, financial stability, adequate housing, and responsibility for health care, they (a) are more likely to pursue the reinforcement associated with heavy drinking and (b) have fewer disincentives for such heavy drinking. We theorized that the high level of negative health consequences found among African Americans may be due to two factors. The first is that the heavy drinking characteristic of some members of this group is sustained into late middle age. If findings

suggesting an association between the ADH1B*3 allele and negative health complications are accurate, then the subset of these individuals who have the genetic vulnerability to alcohol are a significantly high risk of liver disease and cirrhosis (Ehlers et al., 2007). The second is that, overall, African Americans are less likely to have health care or utilize health services, such that if problems were to develop from use, they would be less likely to get needed treatment, resulting in higher severity and frequency of health problems from use (Schmidt et al., 2007). Overall, there appear to be several social, biological, and behavioral factors that place African Americans at higher risk of more severe consequences from drinking than European Americans, and for some the consequences are present regardless of level of consumption.

Implications

We believe there are a number of implications of the theory we have offered, and we hope this paper proves generative of theoretical advances beyond what we have offered as well as new, informative empirical research. Many further theoretical advances are necessary to improve our understanding of African American drinking. For example, there is considerable room to elaborate on the process by which individuals choose the reinforcement associated with alcohol use when faced with limited access to SLRs. One body of theory and research that may prove relevant is that concerning the pursuit of immediate versus delayed rewards. One important skill for adaptive functioning is to have the capacity not to respond to immediate urges or immediately available reinforcement, if doing so undermines one's important long-term goals and interests (Davidson, 2003). Developmental science emphasizes the ongoing formation of the capacity to organize one's behavior around important goals (Lerner, Freund, Stefanis, & Habermas, 2001). When, as we have argued here, circumstances are such that one does not perceive a way to pursue important, long-term interests (one sees limited access to SLRs), perhaps what is thought of as a normal developmental process of learning to pursue long-term goals does not occur in the same way. In the absence of perceived access to both immediate and long-term rewards, it is perhaps unlikely that one develops the skills necessary to balance pursuit of the two types of rewards. If so, then a crucially important aspect of prevention might involve provision of access to both forms of reward. Whether this can occur on an individual level, or instead requires societal change, is unclear.

A number of implications of the theory we have offered can be tested empirically. Tests of the theory would require epidemiological research, laboratory studies, and field studies. For example, one implication of our model is that changes in unemployment among African American males should alter perceived access to SLRs, and thus alter drinking levels. The U.S. experienced a sharp increase in the overall unemployment rate in the late 2000's, and the unemployment rate was considerably higher for African American males (U.S. Bureau of Labor Statistics, 2011). Our theory would suggest that one result of this trend would be a sharper increase in alcohol consumption among unemployed African American males compared to unemployed European American males and African American females.

Moreover, based on theory, we would speculate that a decrease in access to SLRs among any subgroup of individuals, regardless of ethnicity, would also be associated with increased risk for alcoholism (Caetano & Clark, 1998a). This has been shown among substance using women. For example, Turner and Wallace (2003) found that compared to women who do not report substance use, drug-using women are more likely to be single, separated, or divorced; have less than a high school education; and have fewer sources of social support. Moreover, Turner and Wallace (2003) speculated that the relationship between stressful life events and risk behaviors may be intensified in low-income, ethnic minority groups. We would hypothesize that this is due to more limited access to SLRs, as well as the compounded effect of racism and poverty.

Laboratory studies are needed to further investigate response to alcohol in African Americans. For example, we reviewed evidence that African Americans experience a sharper increase in stimulation compared to European Americans. In European Americans, experiencing increased response to the rewarding effects of alcohol (e.g., stimulation) is related to experiencing increased behavioral disinhibition while intoxicated (e.g., Assaad et al., 2006). Further, increased behavioral disinhibition while intoxicated has been related to increased alcohol use (Marczinski, Combs, & Fillmore, 2007). African Americans may experience more alcohol problems at lower blood alcohol concentrations as a result of increased response to alcohol leading to reduced behavioral control. This important pathway has not been examined in African Americans.

Research on pharmacological interventions for problem drinking among African Americans may be important. To the degree that some African Americans experience more stimulation from alcohol, pharmacological agents that reduce alcohol's reinforcing or pleasurable properties might prove beneficial for those individuals. Interestingly, Naltrexone, which is thought to have those effects, has not reduced stimulation levels among African American drinkers (Plebani, Oslin, & Lynch, 2011; Ray & Olsin, 2009); there is a clear need for further research to develop effective interventions for this group.

Contextual factors such as where African Americans drink, what type of alcohol they drink and their experiences while they are drinking need to be further examined, in part with respect to how they influence African Americans' responses to alcohol. This research would be informative both through laboratory and field studies. The field studies could be particularly useful to test implications of the heightened responsivity to alcohol experienced by some African Americans: perhaps heightened responsivity implies faster learning about alcohol's effects, such that during the earliest exposure to alcohol African American children will form stronger expectancy-drinking relationships than European American children. If that does occur, is it the case that conservative African American cultural norms work against such early expectancy formation to mitigate risk?

In relation to problems experienced by African Americans, based on our theory, we speculate that at least some of the problems experienced by African Americans are more social in nature (e.g., disapproval from peer and family for drinking alcohol and/or becoming intoxicated), and may be less likely due to very heavy levels of consumption or physiological problems (i.e., increased tolerance and withdrawal symptoms) from alcohol use. For example, a study by Keyes and colleagues (2009) found that when weekly at-risk drinking was included as a necessary condition for an alcohol dependence diagnosis, risk for dependence was significantly reduced for African Americans, controlling for socioeconomic status. Moreover, a study by Caetano, Clark, and Greenfield (1998) reported that among treatment seeking individuals, African American men reported the lowest prevalence of withdrawal symptoms, preceded by European American and Hispanic men. Thus, there appears to be some evidence that the problems experienced by African American drinkers may be less physiological and more social in nature. There is a need for further research to examine the nature of the alcohol dependence symptoms endorsed by African Americans versus those endorsed by other groups. If a difference does exist, then different treatment interventions may be necessary in order to address the specific problems that are experienced by African Americans who do engage in drinking behaviors.

Can differences in cultural norms be measured as group differences in motives not to drink (Metrik, McCarthy, Frissell, MacPherson, & Brown, 2004)? Does the nature of motives not to drink differ between the two ethnic groups (Cooper et al., 2008)? Are there longer-term goals that are valued by African Americans that provide motives not to engage in heavy consumption, such as a motive to be faithful to one's religious commitments? Are there

other such goals? If cultural norms regarding alcohol among African Americans, perhaps expressed as motives not to drink, are more healthy than European American norms, can they be used to improve prevention programs for other groups? How might that occur? How does the current analysis inform efforts to understand alcohol-related behavior in other ethnic groups?

Advances in many relevant fields have made it possible to develop this integrative theory of risk. We believe researchers are closer than ever to understanding the complexity of African American drinking, and we offer this theory in order to stimulate new research and further theoretical advances so that this important problem can be understood.

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References

- Acevedo-Garcia D, Ospuk T, McArdle N, Williams DR. Toward a policy relevant analysis of geographic and racial/ethnic health disparities. *Health Affairs*. 2008; 27:321–333. [PubMed: 18332486]
- Alexander R. African American youths and drugs: A time to pursue a mental health approach. *Journal of Black Psychology*. 1996; 22:374–387.
- Assaad J, Pihl RO, Seguin JR, Nagin DS, Vitaro F, Tremblay RE. Intoxicated behavioral disinhibition and the heart rate response to alcohol. *Experimental and Clinical Psychopharmacology*. 2006; 14:377–388. [PubMed: 16893280]
- Bachman J, Wallace J, O'Malley P, Johnston L, Kurth C, Neighbors H. Racial/Ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976–89. *American Journal of Public Health*. 1991; 81:372–377. Retrieved from <http://ajph.aphapublications.org/cgi/reprint/81/3/372>. [PubMed: 1994746]
- Barna Group. How the faith of African-Americans has changed. 2009 Retrieved from www.barna.org.
- Barna Group. Who is active in “group” expressions of faith? Barna study examines small groups, sunday school, and house churches. 2010 Retrieved from www.barna.org.
- Barnow S, Shultz G, Lucht M, Ulrich I, Preuss UW, Freyberger HJ. Do alcohol expectancies and peer delinquency/substance use mediate the relationship between impulsivity and drinking behaviour in adolescence? *Alcohol & Alcoholism*. 2004; 39:213–219. [PubMed: 15082458]
- Barr KM, Farrell MP, Banes GM, Welte JW. Race, class, and gender differences in substance abuse: Evidence of middle-class/underclass polarization among Black males. *Social Problems*. 1993; 40:314–327. Retrieved from <http://www.jstor.org/stable/3096882>.
- Belgrave FZ, Brome D, Hampton C. The contributions of Africentric values and racial identity to the prediction of drug knowledge, attitudes, and use among African American youth. *Journal of Black Psychology*. 2000; 26:386–401.
- Belgrave FZ, Cherry VR, Cunningham D, Walwyn S, Letlaka-Rennert K, Phillips R. The influence of Africentric values, self-esteem, and Black identity on drug attitudes among African American fifth graders. *Journal of Black Psychology*. 1994; 20:143–156.
- Belgrave FZ, Townsend TG, Cherry VR, Cunningham DM. The influence of an Africentric world-view and demographic variables on drug knowledge, attitudes, and use among African American youth. *Journal of Community Psychology*. 1997; 25:421–433.
- Benjamin R, Benjamin M. Sociocultural correlates of black drinking: Implications for research and treatment. *Journal of Studies on Alcohol*. 1981; (Supplemental 9):241–245. Retrieved from <http://www.jsad.com>.
- Billingsley, A. *Climbing Jacob's ladder: The enduring legacy of African-American families*. New York, NY: Simon & Schuster; 1992.

- Bluthenthal RN, Brown-Taylor D, Guzman-Becerra N, Robinson PL. Characteristics of malt liquor beer drinkers in a low-income, racial minority community sample. *Alcoholism: Clinical & Experimental Research*. 2005; 29:402–409.
- Bluthenthal RN, Cohen D, Farley T, Scribner R, Beighley C, Schonlau M, Robinson P. Alcohol availability and neighborhood characteristics in Los Angeles, California and southern Louisiana. *Journal of Urban Health*. 2008; 85:191–205. [PubMed: 18228148]
- Bolles RC. Reinforcement, expectancy and learning. *Psychological Review*. 1972; 79:394–409.
- Bonilla-Silva E. Rethinking racism: Toward a structural interpretation. *American Sociological Review*. 1997; 62:465–480. Retrieved from <http://www.jstor.org/stable/2657316>.
- Borawski EA, Ievers-Landis CE, Lovegreen LD, Trapl ES. Parental monitoring, negotiated unsupervised time, and parental trust: The role of perceived parenting practices in adolescent health risk behaviors. *Journal of Adolescent Health*. 2003; 33:60–70. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3142794/pdf/nihms246850.pdf>. [PubMed: 12890596]
- Borker, K.; Hembrey, K.; Herd, D. Berkeley, CA: Source, Inc.; 1980. *Black Drinking Practices Study*, Report of Ethnographic Research to the Department of Alcohol and Drug Programs, State of California. Contract No. A-0259-8.
- Borrell LN, Jacobs DR Jr, Williams DR, Pletcher MJ, Houston TK, Kiefe CI. Self-reported racial discrimination and substance use in the coronary artery risk development in adults study. *American Journal of Epidemiology*. 2007; 166:1068–1079. [PubMed: 17698506]
- Bossarte R, Swahn M. Interactions between race/ethnicity and psychosocial correlates of preteen alcohol use initiation among seventh grade students in an urban setting. *Journal of Studies on Alcohol and Drugs*. 2008; 69:660–665. Retrieved from <http://www.jsad.com>. [PubMed: 18781240]
- Bradizza CM, Collins RL, Vincent PC, Falco DL. It does the job: Young adults discuss their malt liquor consumption. *Addictive Behaviors*. 2006; 31:1159–1577.
- Bradizza CM, Reifman A, Barnes GM. Social and coping reasons for drinking: Predicting alcohol misuse in adolescents. *Journal of Studies on Alcohol*. 1999; 60:491–499. Retrieved from <http://www.jsad.com>. [PubMed: 10463805]
- Brannock JC, Schandler SL, Oncley PR. Cross-cultural and cognitive factors examined in groups of adolescent drinkers. *Journal of Drug Issues*. 1990; 20:427–442.
- Bray JH, Adams GJ, Getz JG, McQueen A. Individuation, peers, and adolescent alcohol use: A latent growth analysis. *Journal of Consulting and Clinical Psychology*. 2003; 71:553–564. [PubMed: 12795578]
- Brechting EH, Brown TL, Salsman JM, Sauer SE, Holeman VT, Carlson CR. The role of religious beliefs and behaviors in predicting underage alcohol use. *Journal of Child and Adolescent Substance Abuse*. 2010; 19:324–334.
- Brody GH, Chen Y, Murry VM, Ge X, Simons RL, Gibbons FX, Gerrard M, Cutrona C. Perceived discrimination and the adjustment of African American youths: A five-year longitudinal analysis with contextual moderation effects. *Child Development*. 2006a; 77:1170–1189. [PubMed: 16999791]
- Brody GH, Murry VM, Kogan SM, Gerrard M, Gibbons FX, Molgarrd V, Brown AC, Anderson T, Chen Y, Luo Z, Wills TA. The strong African American families program: A cluster-randomized prevention trial of long-term effects and a meditational model. *Journal of Consulting and Clinical Psychology*. 2006b; 74:356–366. [PubMed: 16649880]
- Broman C. Perceived discrimination and alcohol use among Black and White college students. *Journal of Alcohol and Drug Education*. 2007; 51:8–16. Retrieved from <http://www.unomaha.edu/~healthed/JADE.html>.
- Brook, JS.; Brook, DW.; Pahl, K. The developmental context for adolescent substance use intervention. In: Liddle, HA.; Row, CL., editors. *Adolescent substance abuse: Research and clinical advances*. New York: NY: Cambridge University Press; 2006. p. 25-51.
- Brook JS, Pahl K. The protective role of ethnic and racial identity and aspects of an Afrocentric orientation against drug use among African American young adults. *Journal of Genetic Psychology*. 2005; 166:329–345. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1315285/pdf/nihms2504.pdf>. [PubMed: 16173675]

- Brown RA, Frank J. Race and officer decision making: Examining differences in arrest outcomes between black and white officers. *Justice Quarterly*. 2006; 23:96–126.
- Brown TL, Parks GS, Zimmerman RS. The role of religion in predicting adolescent alcohol use and problem drinking. *Journal of Studies on Alcohol*. 2001; 62:696–705. Retrieved from <http://www.jsad.com>. [PubMed: 11702809]
- Buka SL. Disparities in health status and substance use: Ethnicity and socioeconomic factors. *Public Health Reports*. 2002; 117:S118–S125. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1913692/pdf/pubhealthrep00207-0123.pdf>. [PubMed: 12435835]
- Bureau of Justice Statistics. 2003. Web site: www.ojp.usdoj.gov/bjs/crimoff.htm
- Burlew K, Neely D, Johnson C, Hucks C, Purnell B, Butler J, Burlew R. Drug attitudes, racial identity, and alcohol use among African American adolescents. *Journal of Black Psychology*. 2000; 26:402–420.
- Burton L, Kasper J, Shore A, Cagney K, LaVeist T, Cubbin C, German P. The structure of informal care: Are there differences by race? *The Gerontologist*. 1995; 35:744–752. [PubMed: 8557202]
- Byles J, Young A, Furuya H, Parkinson L. A drink to healthy aging: The association between older women's use of alcohol and their health-related quality of life. *Journal of the American Geriatrics Society*. 2006; 54:769–774.
- Caetano R. Ethnicity and drinking in northern California: A comparison among Whites, Blacks and Hispanics. *Alcohol and Alcoholism*. 1984; 19:31–44. [PubMed: 6497950]
- Caetano R. Prevalence, incidence and stability of drinking problems among Whites, Blacks, and Hispanics: 1984–1992. *Journal of Studies on Alcohol*. 1997; 58:565–572. Retrieved from <http://www.jsad.com>. [PubMed: 9391915]
- Caetano R. Alcohol-related health disparities and treatment-related epidemiological findings among Whites, Blacks, and Hispanics in the United States. *Alcoholism: Clinical and Experimental Research*. 2003; 27:1337–1339.
- Caetano R, Baruah J, Chartier KG. Ten-year trends (1992 to 2002) in sociodemographic predictors and indicators of alcohol abuse and dependence among Whites, Blacks, and Hispanics in the United States. *Alcoholism: Clinical and Experimental Research*. 2011; 35:1458–1466.
- Caetano R, Clark CL. Trends in alcohol consumption patterns among Whites, Blacks, and Hispanics: 1984 and 1995. *Journal of Studies on Alcohol*. 1998a; 59:659–668. Retrieved from <http://www.jsad.com>. [PubMed: 9811087]
- Caetano R, Clark CL. Trends in alcohol-related problems among Whites, African Americans, and Hispanics: 1984–1995. *Alcoholism: Clinical and Experimental Research*. 1998b; 22:534–538.
- Caetano R, Clark CL. Trends in situational norms and attitudes toward drinking among Whites, Blacks, and Hispanics: 1984–1995. *Drug and Alcohol Dependence*. 1999; 54:45–56. [PubMed: 10101616]
- Caetano R, Clark CL. Hispanics, Blacks and Whites driving under the influence of alcohol: Results from the 1995 National Alcohol Survey. *Accident Analysis and Prevention*. 2000; 32:57–64. [PubMed: 10576676]
- Caetano R, Clark CL, Greenfield TK. Prevalence, trends, and incidence of alcohol withdrawal symptoms: Analysis of general population and clinical samples. *NIAAA Epidemiologic Bulletin*. 1998; 22:73–79. Retrieved from <http://pubs.niaaa.nih.gov/publications/arh22-1/73-80.pdf>.
- Caetano R, Clark CL, Tam T. Alcohol consumption among racial/ethnic minorities: Theory and research. *Alcohol, Health, and Research World*. 1998; 22:233–241. Retrieved from <http://pubs.niaaa.nih.gov/publications/arh22-4/233.pdf>. [PubMed: 15706749]
- Caetano R, Kaskutas L. Changes in drinking patterns among Whites, Blacks, and Hispanics, 1984–1992. *Journal of Studies on Alcohol*. 1995; 56:558–565. Retrieved from <http://www.jsad.com>. [PubMed: 7475037]
- Caetano R, Kaskutas L. Changes in drinking problems among Whites, Blacks, and Hispanics, 1984–1992. *Substance Use and Misuse*. 1996; 31:1547–1571. [PubMed: 8908707]
- Caldwell CH, Sellers RM, Bernat DH, Zimmerman MA. Racial identity, parental support, and alcohol use in a sample of academically at-risk African American high school students. *American Journal of Community Psychology*. 2004; 34:71–82. [PubMed: 15495795]

- Carroll, ME. Reducing drug abuse by enriching the environment with alternative non-drug reinforcers. In: Green, L.; Kagel, J., editors. *Advances in behavioral economics*. Vol. Vol.3. Norwood, NJ: Ablex; 1996. p. 37-68.
- Catalano RF, Hawkins JD, Krenz C, Gillmore M, Morrison D, Wells E, Abbott R. Using research to guide culturally appropriate drug abuse prevention. *Journal of Consulting and Clinical Psychology*. 1993; 61:804–811. [PubMed: 8245277]
- Ceballos R, Mcloyd VC. Social support and parenting in poor, dangerous neighborhoods. *Child Development*. 2002; 73:1310–1321. [PubMed: 12146749]
- Cell, J. *The highest stage of White supremacy: The origin of segregation in South Africa and the American South*. New York, NY: Cambridge University Press; 1982.
- Chambers J. Equal in every way: African Americans, consumption and materialism from reconstruction to the civil rights movement. *Advertising & Society Review*. 2006; 7:1–20. Retrieved from <http://muse.jhu.edu/journals/asr/v0007/7.1chambers.html>.
- Chartier K, Hesselbrock M, Hesselbrock V. Ethnicity and adolescent pathways to alcohol use. *Journal of Studies on Alcohol and Drugs*. 2009; 70:337–345. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2670742/>. [PubMed: 19371484]
- Chassin L, Rogosch R, Barrera M. Substance use and symptomatology among adolescent children of alcoholics. *Journal of Abnormal Psychology*. 1991; 100:449–463. [PubMed: 1757658]
- Chatters LM. Religion and health: Public health research and practice. *Annual Review of Public Health*. 2000; 21:335–367.
- Chatters LM, Taylor RJ, Bullard KM, Jackson JS. Spirituality and subjective religiosity among African Americans, Caribbean Blacks, and Non-Hispanic Whites. *Journal for the Scientific Study of Religion*. 2008; 47:725–737. [PubMed: 21052481]
- Chen MJ, Paschall MJ. Malt liquor use, heavy/problem drinking and other problem behaviors in a sample of community college students. *Journal of Studies on Alcohol*. 2003; 64:835–842. Retrieved from: <http://www.jsad.com>. [PubMed: 14743947]
- Christiansen BA, Smith GT, Roehling PV, Goldman MS. Using alcohol expectancies to predict adolescent drinking behavior after one year. *Journal of Consulting and Clinical Psychology*. 1989; 57:93–99. [PubMed: 2925979]
- Christmon K. Historical overview of alcohol in the African American community. *Journal of Black Studies*. 1995; 25:318–330.
- Clark R, Anderson NB, Clark VR, Williams DR. Racism as a stressor for African Americans: A biopsychosocial model. *American Psychologist*. 1999; 54:805–816. [PubMed: 10540593]
- Cohen PN. Black concentration effects on Black-White and gender inequality: Multilevel analysis for U.S. metropolitan areas. *Social Forces*. 1998; 77:207–229.
- Conley DJ. Adding color to a Black and White picture: Using qualitative data to explain racial disproportionality in the juvenile justice system. *Journal of Research on Crime and Delinquency*. 1994; 31:135–148.
- Cook TAR, Luczak SE, Shea SH, Ehlers CL, Carr LG, Wall TL. Association of ALDH2 and ADH1B genotypes with response to alcohol in Asian Americans. *Journal of Studies on Alcohol*. 2005; 66:196–204. Retrieved from: <http://www.jsad.com>. [PubMed: 15957670]
- Cooper MH. Muslims in America. *The National Law Journal*. 1999; 17:363–367.
- Cooper ML, Krull JL, Agocha BV, Flanagan ME, Orcutt HK, Grabe S, Jackson M. Motivational pathways to alcohol use and abuse among Black and White adolescents. *Journal of Abnormal Psychology*. 2008; 117:485–501. [PubMed: 18729604]
- Correia CJ, Simons J, Carey KB, Borsari BE. Predicting drug use: Application of behavioral theories of choice. *Addictive Behaviors*. 1998; 23:705–709. [PubMed: 9768306]
- Corman H, Dave DM, Reichman NE, Das D. Effects of welfare reform on illicit drug use of adult women. National Bureau of Economic Research, working paper 16072. 2010:1–52. Retrieved from <http://www.nber.org/papers/w16072>.
- Crabb DW. Ethanol oxidizing enzymes: Roles in alcohol metabolism and alcoholic liver disease. *Progress in Liver Disease*. 1995; 13:151–172. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/9224501>.

- Crum RM, Helzer JE, Anthony JC. Level of education and alcohol abuse and dependence in adulthood: A further inquiry. *American Journal of Public Health*. 1993; 83:830–837. [PubMed: 8498620]
- Cumsille PE, Sayer AG, Graham JW. Perceived exposure to peer and adult drinking as predictors of growth in positive alcohol expectancies during adolescence. *Journal of Consulting and Clinical Psychology*. 2000; 68:531–536. [PubMed: 10883572]
- Curtis-Boles H, Monroe-Jenkins V. Substance abuse in African American women. *Journal of Black Psychology*. 2000; 26:450–469.
- D’Amico EJ, McCarthy DM. Escalation and initiation of younger adolescent’s substance use: The impact of perceived peer use. *Journal of Adolescent Health*. 2006; 39:481–487. [PubMed: 16982381]
- Davidson RJ. Darwin and the neural basis of emotion and affective style. *Annals of the New York Academy of Science*. 2003; 1000:316–336.
- Darrow S, Russell M, Cooper L, Mudar P, Frone M. Sociodemographic correlates of alcohol consumption among African-American and White women. *Women and Health*. 1992; 18:35–51. [PubMed: 1462601]
- Dawson D. Beyond Black, White, and Hispanic: Race, ethnic origin, and drinking patterns in the United States. *Journal of Substance Abuse*. 1998; 10:321–339. [PubMed: 10897287]
- Dawson D. Alcohol consumption, alcohol dependence, and all-cause mortality. *Alcoholism: Clinical and Experimental Research*. 2000; 24:72–81.
- Donovan JE. Adolescent alcohol initiation: A review of psychosocial risk factors. *Journal of Adolescent Health*. 2004; 35:529.e7–529.e18. [PubMed: 15581536]
- Donovan JE, Jessor R, Jessor L. Problem drinking in adolescence and young adulthood: A follow-up study. *Journal of Studies on Alcohol*. 1983; 44:109–137. Retrieved from: <http://www.jsad.com>. [PubMed: 6865420]
- Drummond DC. The relationship between alcohol dependence and alcohol-related problems in a clinical population. *British Journal of Addiction*. 1990; 85:357–366. [PubMed: 2334822]
- Duncan SC, Duncan TE, Strycker LA. A multilevel analysis of neighborhood context and youth alcohol and drug problems. *Prevention Science*. 2002; 3:125–133. [PubMed: 12088137]
- Duncan SC, Duncan TE, Strycker LA. Alcohol use from ages 9 to 16: A cohort-sequential latent growth model. *Drug and Alcohol Dependence*. 2006; 81:71–81. [PubMed: 16006054]
- Duranceaux NC, Schuckit MA, Eng MY, Robinson SK, Carr LG, Wall TL. Associations of variations in alcohol dehydrogenase genes with the level of response to alcohol in non-Asians. *Alcoholism: Clinical and Experimental Research*. 2006; 30:1470–1478.
- Edenberg HJ, Xuei X, Chen HJ, Huijun T, Wetherill LF, Dick DM, Foroud T. Association of alcohol dehydrogenase genes with alcohol dependence: A comprehensive analysis. *Human Molecular Genetics*. 2006; 15:1539–1549. [PubMed: 16571603]
- Ehlers CL. Variations in ADH and ALDH in Southwestern California Indians. *Alcohol Research & Health*. 2007; 30:14–17. Retrieved from <http://pubs.niaaa.nih.gov/publications/arh30/14-17.htm>. [PubMed: 17718395]
- Ehlers CL, Carr L, Betancourt M, Montane-Jaime K. Association of the ADH2*3 allele with greater alcohol expectancies in African-American young adults. *Journal of Studies on Alcohol*. 2003; 64:176–181. Retrieved from: <http://www.jsad.com>. [PubMed: 12713190]
- Ehlers CL, Glider DA, Harris L, Carr L. Association of the ADH2*3 allele with a negative family history of alcoholism in African American young adults. *Alcoholism: Clinical and Experimental Research*. 2001; 25:1773–1777.
- Ehlers CL, Montane-Jaime K, Moore S, Shafe S, Joseph R, Carr LG. Association of the ADH1B*3 allele with alcohol-related phenotypes in Trinidad. *Alcoholism: Clinical and Experimental Research*. 2007; 31:216–220.
- Eller, TJ. U.S. Bureau of the Census, Current Population Reports, P70-34. Washington, D.C: US Government Printing Office (USGPO); 1994. Household wealth and asset ownership: 1991.
- Epstein JA, Botvin GJ, Baker E, Diaz T. Impact of social influences and problem behavior on alcohol use among inner-city Hispanic and Black adolescents. *Journal of Studies on Alcohol*. 1999;

60:595–604. Retrieved from <http://www.med.cornell.edu/ipr/PDF/Epstein-et-al-1999-JSA.pdf>. [PubMed: 10487728]

- Epstein JA, Williams C, Botvin GJ. How universal are social influences to drink and problem behaviors for alcohol use? A test comparing urban African-American and Caribbean-American adolescents. *Addictive Behaviors*. 2002; 27:75–86. [PubMed: 11800226]
- Faden VB. Trends in initiation of alcohol use in the United States 1975 to 2003. *Alcoholism: Clinical and Experimental Research*. 2006; 30:1011–1022.
- Farley R, Frey WH. Changes in the segregation of Whites from Blacks during the 1980s: Small steps toward a more integrated society. *American Sociological Review*. 1994; 59:23–45.
- Feagin, JR.; Feagin, CB. *Racial and Ethnic Relations*. 6th Ed.. Upper Saddle River, NJ: Prentice Hall; 1999.
- Fiske, ST.; Taylor, SE. *Social Cognition*. New York, NY: McGraw Hill; 1991.
- Fite PJ, Colder CR, O’Conner RM. Childhood behavior problems and peer selection and socialization: Risk for adolescent alcohol use. *Addictive Behaviors*. 2006; 31:1454–1459. [PubMed: 16266788]
- Fix, M.; Struyk, RJ. *Clear and convincing evidence: Measurement of discrimination in America*. Washington, D.C: Urban Institute Press; 1993.
- Flory K, Lynam D, Milich R, Leukefeld C, Clayton R. Early adolescent through young adult alcohol and marijuana use trajectories: Early predictors, young adult outcomes, and predictive utility. *Developmental and Psychopathology*. 2004; 16:193–213.
- Ford BC, Bullard KM, Taylor RJ, Toler AK, Neighbors HW, Jackson JS. Lifetime and 12-month prevalence of Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition disorders among older African Americans: Findings from the National Survey of American Life. *American Journal of Geriatric Psychiatry*. 2007; 15:652–659. [PubMed: 17504908]
- Fuchs FD, Chambless LE, Welton PK, Nieto FJ, Heiss G. Alcohol consumption and the incidence of hypertension: The atherosclerosis risk in communities study. *Hypertension*. 2001; 37:466–474.
- Fuller-Thomson E, Milker M. African American grandparents raising grandchildren: A national profile of demographic and health characteristics. *Health and Social Work*. 2000; 25:109–118. [PubMed: 10845145]
- Galen LW, Rogers WM. Religiosity, alcohol expectancies drinking motives and their interaction in the prediction of drinking among college students. *Journal of Studies on Alcohol*. 2004; 65:469–476. Retrieved from <http://www.jsad.com>. [PubMed: 15376822]
- Galvan F, Caetano R. Alcohol use and related problems among ethnic minorities in the United States. *Alcohol Research and Health*. 2003; 27:87–94. Retrieved from: <http://www.niaaa.nih.gov/Publications/AlcoholResearch/default.htm>. [PubMed: 15301403]
- Gibbons FX, Etcheverry PE, Stock ML, Gerrard M, Weng C-Y, Kiviniemi M, O’Hara RE. Exploring the link between racial discrimination and substance use: What buffers? *Journal of Personality and Social Psychology*. 2010; 99:785–801. [PubMed: 20677890]
- Gibbons FX, Gerrard M, Cleveland M, Wills TA, Brody GH. Perceived discrimination and substance use in African American parents and their children: A panel study. *Journal of Personality and Social Psychology*. 2004; 86:517–529. [PubMed: 15053703]
- Gibbons FX, Yeh H, Gerrard M, Cleveland MJ, Cutrona C, Simons RL, Brody GH. Early experience with discrimination and conduct disorder as predictors of subsequent drug use: A critical period hypothesis. *Drug and Alcohol Dependence*. 2007; 88:S27–S37. [PubMed: 17275213]
- Gilman S, Breslau J, Conron K, Koenen K, Subramanian S, Zaslavsky A. Education and race-ethnicity differences in the lifetime risk of alcohol dependence. *Journal of Epidemiology and Community Health*. 2008; 62:224–230. [PubMed: 18272737]
- Globetti G, Globetti E, Lo C, Brown C. Alcohol and other drug use among African-American students in a southern university. *Journal of Multicultural Counseling and Development*. 1996; 24:118–128.
- Goldman MS. Risk for substance abuse: Memory as a common etiological pathway. *Psychological Science*. 1999; 10(3):196–198.
- Goldman MS, Brown SA, Christiansen BA, Smith GT. Alcoholism and memory: Broadening the scope of alcohol-expectancy research. *Psychological Bulletin*. 1991; 110:137–146. [PubMed: 1891515]

- Grant BF. Prevalence and correlates of alcohol use and DSM-IV alcohol dependence in the United States: Results of the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Studies on Alcohol*. 1997; 58:464–473. Retrieved from <http://www.jsad.com>. [PubMed: 9273910]
- Grant BF, Dawson DA, Stinson FS, Chou SP, Dufour MC, Pickering RP. The 12-month prevalence and trends in DSM-IV alcohol abuse and dependence: United States, 1991–1992 and 2001–2002. *Drug and Alcohol Dependence*. 2004; 74:223–234. [PubMed: 15194200]
- Grant, J. *White women's Christ and Black women's Jesus: Feminist Christology and womanist response*. Atlanta, GA: Scholars Press; 1989.
- Greene ML, Way N, Pahl K. Trajectories of perceived adult and peer discrimination among Black, Latino, and Asian American adolescents: Patterns and psychological correlates. *Developmental Psychology*. 2006; 42:218–238. [PubMed: 16569162]
- Greenfield, L.A. Washington, D.C.: US. Department of Justice; 1998. *Alcohol and crime: An analysis of national data on the prevalence of alcohol involvement in crime*. Retrieved from <http://bjs.ojp.usdoj.gov/content/pub/pdf/ac.pdf>
- Greenfield TK. Health disparities in alcohol-related disorders, problems, and treatment use by minorities. *Front Lines: Linking Alcohol Services Research and Practice*. 2001 Jun.(3):3–7.
- Greenfield TK, Room R. Situational norms for drinking and drunkenness: Trends in the US adult population, 1970–1990. *Addiction*. 1997; 92:33–47. [PubMed: 9060196]
- Harper, F. *Alcohol abuse and black America*. Washington, D.C.: Douglass Publishers; 1976.
- Herd D. Subgroup differences in drinking patterns among Black and White men: Results from a national study. *Journal of Studies on Alcohol*. 1990; 51:221–232. Retrieved from <http://www.jsad.com>. [PubMed: 2342362]
- Herd, D. The paradox of temperance: Blacks and the alcohol question in nineteenth century America. In: Barrows, S.; Room, R., editors. *Drinking. Behavior and Belief in Modern History*. Berkeley: University of California Press; 1991. p. 354-375.
- Herd D. Predicting drinking problems among Black and White men: Results from a national study. *Journal of Studies on Alcohol*. 1994a; 55:61–71. Retrieved from <http://www.jsad.com>. [PubMed: 8189728]
- Herd D. The effects of parental influence and respondent's drinking norms and attitudes on Black and White drinking patterns. *Journal of Substance Abuse*. 1994b; 6:137–154. [PubMed: 7804014]
- Herd D. Racial differences in women's drinking norms and drinking patterns: A national study. *Journal of Substance Abuse*. 1997a; 9:137–149. [PubMed: 9494945]
- Herd D. Sex ratios of drinking patterns and problems among blacks and whites: Results from a national survey. *Journal of Studies on Alcohol*. 1997b; 58:75–82. www.jsad.com. [PubMed: 8979215]
- Herd, D. Report on high alcohol content malt beverages and related products. Rockville, MD: National Institute of Alcohol Abuse and Alcoholism; 2000. Video presentation: Buying the hard sell, from ABC's 20/20; p. 14-16.
- Herd D. Changes in the prevalence of alcohol use in rap song lyrics, 1979–97. *Addiction*. 2005; 100:1258–1269. [PubMed: 16128715]
- Herd D, Grube J. Drinking contexts and drinking problems among Black and White women. *Addiction*. 1993; 88:1101–1110. [PubMed: 8401164]
- Herd D, Grube J. Black identity and drinking in the US: A national study. *Addiction*. 1996; 91:845–857. [PubMed: 8696247]
- Hesselbrock, VM.; Hesselbrock, MN. Developmental perspectives of the risk of developing substance problems. In: Miller, KM.; Carroll, WR., editors. *Rethinking substance abuse: What the science shows, and what we should do about it*. New York, NY: Guilford Press; 2006. p. 97-114.
- Holzer HJ, Offner P, Sornensen E. Declining employment among young Black less-educated men: The role of incarceration and child support. *Journal of Policy Analysis and Management*. 2005; 24:329–350.
- Jaccard J, Blanton H, Dodge T. Peer influence on risk behavior: An analysis of the effects of close friends. *Developmental Psychology*. 2005; 41:135–147. [PubMed: 15656744]
- Jackson KM, Sher KJ, Gotham HJ, Wood PK. Transitioning into and out of large-effect drinking in young adulthood. *Journal of Abnormal Psychology*. 2001; 110:378–391. [PubMed: 11502081]

- James, SH.; Johnson, SL. *Doing drugs: Patterns of African American addiction*. Austin, TX: University of Texas Press; 1996.
- Johnson F, Gruenewald P, Treno A, Taff GA. Drinking over the life course with gender and ethnic groups: A hyperparametric analysis. *Journal of Studies on Alcohol*. 1998; 59:568–580. Retrieved from <http://www.jsad.com>. [PubMed: 9718110]
- Johnson PB, Johnson HL. Cultural and familial influences that maintain the negative meaning of alcohol. *Journal of Studies on Alcohol*. 1999; 13(supplement):79–83. Retrieved from: <http://www.jsad.com/jsad/>.
- Johnson PB, Richter L, Kleber HD, McLellan AT, Carise D. Telescoping of drinking-related behaviors: Gender, racial/ethnic, and age comparisons. *Substance Use & Misuse*. 2005; 40:1139–1151. [PubMed: 16040374]
- Johnston, LD.; O'Malley, PM.; Bachman, JG. *National survey results on drug use from the Monitoring the Future study, 1975–1993: Volume II college students and young adults*. Rockville, MD: National Institute on Drug Abuse; 1994. Retrieved from http://monitoringthefuture.org/pubs/monographs/mtf-vol2_1993.pdf
- Johnston, LD.; O'Malley, PM.; Bachman, JG.; Schulenberg, JE. *Monitoring the Future national results on adolescent drug use: Overview of key findings, 2006*. Bethesda, MD: National Institute on Drug Abuse; 2007. (NIH Publication No. 07-6202). Retrieved from <http://monitoringthefuture.org/pubs/monographs/overview2006.pdf>
- Jones D, Hussong A, Manning J, Sterrett E. Adolescent alcohol use in context: The role of parents and peers among African American and European American youth. *Cultural Diversity and Ethnic Minority Psychology*. 2008; 14:266–273. [PubMed: 18624591]
- Jones-Webb RJ. Drinking patterns and problem among African-Americans: Recent findings. *Alcohol Health & Research World*. 1998; 22:260–264. Retrieved from: <http://www.niaaa.nih.gov/Publications/AlcoholResearch/default.htm>. [PubMed: 15706752]
- Jones-Webb RJ, Hsiao C, Hannan P. Relationships between socioeconomic status and drinking problems among Black and White men. *Alcoholism: Clinical and Experimental Research*. 1995; 19:623–627.
- Jones-Webb RJ, Hsiao C, Hannan P, Caetano R. Predictors of increases in alcohol-related problems among Black and White adults: Results from the 1984 and 1992 National Alcohol Surveys. *American Journal of Drug and Alcohol Abuse*. 1997b; 23:281–299. [PubMed: 9143639]
- Jones-Webb RJ, McKee P, Hannan P, Wall M, Pham L, Erickson D, Wagenaar A. Alcohol and malt liquor availability and promotion and homicide in inner cities. *Substance Use & Misuse*. 2008; 43:159–177. [PubMed: 18205086]
- Jones-Webb RJ, Snowden L, Herd D, Short B, Hannan P. Alcohol-related problems among Black, Hispanic, and White men: The contribution of neighborhood poverty. *Journal of Studies on Alcoholism*. 1997a; 58:539–545. <http://www.jsad.com>.
- Kandel D, Chen K, Warner L, Kessler R, Grant B. Prevalence and demographic correlates of symptoms of last year dependence on alcohol, nicotine, marijuana, and cocaine in the U.S. population. *Drug and Alcohol Dependence*. 1997; 44:11–29. [PubMed: 9031816]
- Kasarda, JD. Industrial restructuring and the changing location of jobs. In: Farley, Reynolds, editor. *State of the Union: America in the 1990s*. Vol. Volume 1. Russell Sage Foundation: 1995. p. 215-267.
- Kaskutas L, Graves K. An alternative to standard drinks as a measure of alcohol consumption. *Journal of Substance Abuse*. 2000; 12:67–78. [PubMed: 11288475]
- Kerr WC, Patterson D, Greenfield TK. Differences in the measured alcohol content of drinks between Black, White, and Hispanic men and women in a US national sample. *Addiction*. 2009; 104:1503–1511. [PubMed: 19438419]
- Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Achieves of General Psychiatry*. 2005a; 62:593–602.
- Kessler RC, Chiu WT, Demler O, Walters E. Prevalence, severity, and comorbidity of twelve-month DSM-IV disorders in the National Comorbidity Survey Replication (NCS-R). *Achieves of General Psychiatry*. 2005b; 62:617–627.

- Kessler RC, Mickelson KD, Williams DR. The prevalence, distribution, and mental health correlates of perceived discrimination in the United States. *Journal of Health and Social Behavior*. 1999; 40:208–230. <http://www.jstor.org/stable/2676349>. [PubMed: 10513145]
- Keyes KM, Geier T, Grant BF, Hasin DS. Influence of a drinking quantity and frequency measure on the prevalence and demographic correlates of DSM-IV alcohol dependence. *Alcoholism: Clinical and Experimental Research*. 2009; 33:761–771.
- Kim WR, Brown RS, Terrault NA, El-Serag H. Burden of liver disease in the United States: Summary of a workshop. *Hepatology*. 2003; 36:227–242. [PubMed: 12085369]
- Klonoff EA, Landrine H. Acculturation and alcohol use among Blacks: The benefits of remaining culturally traditional. *The Western Journal of Black Studies*. 1999; 23:211–216.
- Kochanek KD, Murphy SL, Anderson RN, Scott C. Deaths: Final data for 2002. Center for Disease Control (CDC). *National Vital Statistics Reports*. 2004; 53(5):1–116. Retrieved from http://www.cdc.gov/nchs/data/nvsr/nvsr53/nvsr53_05acc.pdf. [PubMed: 15587328]
- Kogan SM, Berkel C, Chen YF, Brody G, Murry VM. Adolescent health brief: Metro status and African American adolescents' risk for substance use. *Journal of Adolescent Health*. 2005; 38:454–457. [PubMed: 16549312]
- Kuntsche E, Jordan MD. Adolescent alcohol and cannabis use in relation to peer and school factors: Results of multilevel analysis. *Drug and Alcohol Dependence*. 2006; 84:167–174. [PubMed: 16542799]
- Kwate NOA, Meyer IH, Eniola F, Dennis N. Individual and group racism and problem drinking among African American women. *Journal of Black Psychology*. 2010; 36:446–457.
- Kwate NOA, Valdimarsdottir HB, Guevarra JS, Bovbjerg DH. Experiences of racist events are associated with negative health consequences for African American women. *Journal of the National Medical Association*. 2003; 95:450–460. [PubMed: 12856911]
- Lamont M, Molnar V. How blacks use consumption to shape their collective identity. *Journal of Consumer Culture*. 2001; 1:31–45. Retrieved from <http://joc.sagepub.com/cgi/content/abstract/1/1/31>.
- Landrine H, Klonoff EA. The schedule of racist events: A measure of racial discrimination and a study of its negative physical and mental health consequences. *Journal of Black Psychology*. 1996; 22:144–168.
- Landrine H, Klonoff EA, Corral I, Fernandez S, Roesch S. Conceptualizing and measuring ethnic discrimination in health research. *Journal of Behavioral Medicine*. 2006; 29:79–94. [PubMed: 16470345]
- LaVeist TA, Wallace JM. Health risk and inequitable distribution of liquor stores in African American neighborhood. *Social Science & Medicine*. 2000; 51:613–617. [PubMed: 10868674]
- Lee SL, Hoog JO, Yin SJ. Functionality of allelic variations in human alcohol dehydrogenase gene family: Assessment of a functional window for protection against alcoholism. *Pharmacogenetics*. 2004; 14:425–432.
- Lerner RM, Freund AM, Stefanis ID, Habermas T. Understanding developmental regulation in adolescence: The use of the selection, optimization, and compensation model. *Human Development*. 2001; 44:29–50.
- Levin JS, Taylor RJ. Gender differences in religiosity over the life cycle among Black Americans. *The Gerontologist*. 1993; 33:16–23. [PubMed: 8440497]
- Levin JS, Taylor RJ, Chatters LM. Race and gender differences in religiosity among older adults: Findings from four national surveys. *Journals of Gerontology: Social Sciences*. 1994; 49:S137–S145.
- Li F, Barrera M, Hops H, Fischer KJ. The longitudinal influence of peers on the development of alcohol use in late adolescence: A growth mixture analysis. *Journal of Behavioral Medicine*. 2002; 25:293–315. [PubMed: 12055779]
- Lillie-Blanton M, MacKenzie E, Anthony JC. Black–White differences in alcohol use by women: Baltimore survey findings. *Public Health Reports*. 1991; 106:124–133. Retrieved from <http://www.jstor.org/stable/4596851>. [PubMed: 1902304]

- Lin AC, Harris DR. The colors of poverty: Why racial & ethnic disparities persist. National Poverty Center Policy Brief, #16. 2009:1–4. Retrieved from http://www.npc.umich.edu/publications/policy_briefs/brief16/index.php.
- Lincoln, CE. Black religion and racial identity. In: Harris, HW.; Blue, HC.; Griffith, EEH., editors. Racial and ethnic identity: Psychological development and creative expression. New York, NY: Routledge; 1995. p. 209-211.
- Lincoln, CE.; Mamiya, L. The Black church in the African American experience. Durham, NC: Duke Press; 1990.
- Luczak SE, Elvine-Kreis B, Shea SH, Carr LG, Wall TL. Genetic risk for alcoholism relates to level of response to alcohol in Asian American men and women. *Journal of Studies on Alcohol*. 2002; 63:74–82. Retrieved from <http://www.jsad.com>. [PubMed: 11925062]
- Luczak SE, Glatt SJ, Wall TL. Meta-analyses of ALDH2 and ADH1B with alcohol dependence in Asians. *Psychological Bulletin*. 2006; 132:607–621. [PubMed: 16822169]
- Luczak SE, Wall TL, Shea SH, Byun SM, Carr LG. Binge drinking in Chinese, Korean, and White college students: Genetic and ethnic group differences. *Psychology of Addictive Behaviors*. 2001; 15:306–309. [PubMed: 11767261]
- Lumumba H. The impact of Al-Islam on the African American population. *Counseling and Values*. 2003; 47:210–219.
- Luo X, Kranzler HR, Zuo L, Wang S, Schork N, Gelernter J. Diplotype trend regression analysis of the ADH gene cluster and the ALDH2 gene: Multiple significant associations with alcohol dependence. *The American Journal of Human Genetics*. 2006; 78:973–987.
- Luo X, Zuo L, Kranzler HR, Wang S, Anton RF, Gelernter J. Recessive genetic mode of an ADH4 variant in substance dependence in African-Americans: A model of utility of the HWD test. *Behavioral and Brain Functions*. 2008; 4:42–54. [PubMed: 18801187]
- Marczinski CA, Combs SW, Fillmore MT. Increased sensitivity to the disinhibiting effects of alcohol in binge drinkers. *Psychology of Addictive Behaviors*. 2007; 21:346–354. [PubMed: 17874885]
- Martin JK, Tuch S, Roman PA. Problem drinking patterns among African Americans: The impacts of reports of discrimination, perceptions of prejudice, and “risky” coping strategies. *Journal of Health and Social Behavior*. 2003; 44:408–425. [PubMed: 14582316]
- Martin JK, Tuch SA, Roman PA, Dixon J. Patterns of problem drinking among employed African American men: Preliminary results from a national study. *Challenge: A Journal of Research on African-American Men*. 2004; 11:33–66.
- Massey DS, Gross AB, Shibuya K. Migration, separation, and the geographic concentration of poverty. *American Sociological Review*. 1994; 59:425–445. Retrieved from <http://www.jstor.org/stable/2095942>.
- Mastroski, S.; Parks, R.; Reiss, A.; Worden, R. Policing neighborhoods: A report from St. Petersburg. Washington, DC: National Institute of Justice; 1999.
- Mattis JS, Jagers RJ. A relational framework for the study of religiosity and spirituality in the lives of African Americans. *Journal of Community Psychology*. 2001; 29:519–539.
- McCarthy DM, Miller TL, Smith GT, Smith JA. Disinhibition and expectancy in risk for alcohol use: Comparing Black and White college samples. *Journal on Studies on Alcohol*. 2001; 62:313–321. Retrieved from <http://www.jsad.com>.
- McCarthy DM, Pedersen SL, Lobos EA, Todd RD, Wall TL. ADH1B*3 and response to alcohol in African-Americans. *Alcoholism: Clinical and Experimental Research*. 2010; 34:1274–1281.
- McKay, NY. Nineteenth-century Black women’s spiritual autobiographies: Religious faith and self-empowerment. In: Personal Narratives Group. , editor. *Interpreting women’s lives: Feminist theory and personal narratives*. Bloomington, IN: University Press; 1989. p. 139-154.
- McKinnon, J. U.S. Census Bureau, Current Population Reports, Series P20-541. Washington, DC: 2003. The Black population in the United States: March 2002. Retrieved from <http://www.census.gov/prod/2003pubs/p20-541.pdf>
- McKinnon, J.; Humes, K. U.S. Census Bureau, Current Population Report, Series P20-530. Washington, DC: The Black population in the United States: March 1999. Retrieved from <http://www.census.gov/prod/2000pubs/p20-530.pdf>

- Meilman P, Presley C, Cashin J. The sober social life at the historically black colleges. *Journal of Blacks in Higher Education*, Autumn. 1995:98–100. Retrieved from <http://www.jstor.org/stable/2962645>.
- Meilman P, Presley C, Lyerla R. Black college students and binge drinking. *Journal of Blacks in Higher Education*. 1994; 4:70–71. Retrieved from <http://www.jstor.org/stable/2963376>.
- Metrik J, McCarthy DM, Frissell KC, MacPherson L, Brown SA. Adolescent alcohol reduction and cessation expectancies. *Journal of Studies on Alcohol*. 2004; 65:217–226. Retrieved from: <http://www.jsad.com>. [PubMed: 15151353]
- Midanik LT, Clark WB. Drinking-related problems in the United States: Description and trends, 1984–1990. *Journal of Studies on Alcohol*. 1995; 56:395–402. Retrieved from <http://www.jsad.com>. [PubMed: 7674673]
- Miller Brewing Company. Behavioral Tracking Study 2000. Milwaukee: Author; 2001.
- Moore A, Gould R, Reuben D, Greendale G, Carter K, Zhou K, Karlamangla A. Longitudinal patterns and predictors of alcohol consumption in the United States. *American Journal of Public Health*. 2005; 95:458–465. [PubMed: 15727977]
- Moss HB, Lynch KG, Hardie TL. Affiliation with deviant peers among children of substance dependent fathers from pre-adolescence into adolescence: Associations with problem behaviors. *Drug and Alcohol Dependence*. 2003; 71:117–125. [PubMed: 12927649]
- Mulia N, Ye Y, Zemore S, Greenfield T. Social disadvantage, stress, and alcohol use among Black, Hispanic, and White Americans: Findings from the 2005 U.S. National Alcohol Survey. *Journal of Studies on Alcohol and Drugs*. 2008; 69:824–833. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2583375/>. [PubMed: 18925340]
- Mulia N, Ye Y, Greenfield TK, Zemore SE. Disparities in alcohol-related problems among White, Black, and Hispanic Americans. *Alcoholism: Clinical and Experimental Research*. 2009; 33:654–662.
- Nasim A, Belgrave F, Jaegers R, Wilson K, Owens K. The moderating effects of culture on peer deviance and alcohol use among high-risk African-American adolescents. *Journal of Drug Education*. 2007; 37:335–363. [PubMed: 18047186]
- National Institute on Alcohol Abuse and Alcoholism (NIAAA). Alcohol and Aging. Alcohol Alert. 1998; 40 Retrieved from <http://pubs.niaaa.nih.gov/publications/aa40.htm>.
- National Institute on Alcohol Abuse and Alcoholism (NIAAA). Report on high alcohol content malt beverages and related products. Rockville, MD: National Institute on Alcohol Abuse and Alcoholism; 2000.
- National KIDS COUNT Program. Children in single-parent families by race (percent) – 2010. 2012 Jan. Retrieved from <http://datacenter.kidscount.org/data/acrossstates/Rankings.aspx?ind=107>.
- Neuspiel DR. Racism and perinatal addiction. *Ethnicity and Disease*. 1996; 6:47–55. [PubMed: 8882835]
- Nishimura FT, Fukunaga T, Kajiura H, Umeno K, Takakura H, Ono T, Nishijo H. Effects of aldehyde dehydrogenase-2 genotype on cardiovascular and endocrine responses to alcohol in young Japanese subjects. *Autonomy Neuroscience*. 2002; 102:60–70.
- Nishimura FT, Fukunaga T, Nishijo H, Ono T, Kajiura H, Yokomukai Y. Electroencephalogram spectral characteristics after alcohol ingestion in Japanese men with aldehyde dehydrogenase-2 variations: Comparison with peripheral changes. *Alcohol Clinical and Experimental Research*. 2001; 25:1030–1036.
- Nobles, WW. African philosophy: Foundations of Black psychology. In: Jones, RL., editor. *Black Psychology*. Berkley, CA: Cobb and Henry; 1991. p. 47-63.
- Nyaronga D, Greenfield T, McDaniel P. Drinking context and drinking problems among Black, White, and Hispanic men and women in the 1984, 1995, and 2005 U.S. National Alcohol Surveys. *Journal of Studies on Alcohol and Drugs*. 2009; 70:16–26. Retrieved from <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2629631/>. [PubMed: 19118387]
- Ohm R. The African American experience in the Islamic faith. *Public Health Nursing*. 2003; 20:478–486. [PubMed: 14629679]

- O'Malley PM, Johnston LD, Bachman JG. Alcohol use among adolescents. *Alcohol Health & Research World*. 1998; 22:85–93. Retrieved from <http://search.proquest.com/docview/222385837/fulltextPDF?accountid=11836>. [PubMed: 15706782]
- Orzechowski, SSP. *New Worth and Asset Ownership of Households: 1998 and 2000*. US Census Bureau; 2003.
- Osier MV, Pakstis AJ, Soodyall H, Comas D, Goldman D, Odusni A, Kidd KK. A global perspective on genetic variation at the *ADH* genes reveals unusual patterns of linkage disequilibrium and diversity. *American Journal of Human Genetics*. 2002; 71:84–99. [PubMed: 12050823]
- Osypuk TL, Galea S, McArdle N, Acevedo-Garcia D. Quantifying separate and unequal: Racial-ethnic distributions of neighborhood poverty in metropolitan America. *Urban Affairs Review*. 2009; 45:25–65. [PubMed: 20160903]
- Ouellette JA, Gerrard M, Gibbons FX, Reis-Bergan M. Parents, peers, and prototypes: Antecedents of adolescent alcohol expectancies, alcohol consumption, and alcohol-related problems in rural youth. *Psychology of Addictive Behaviors*. 1999; 13:183–197.
- Pager D. The mark of a criminal record. *The American Journal of Sociology*. 2003; 108:937–975.
- Park, P. Social-class factors in alcoholism. In: Kissin, B.; Begleiter, H., editors. *The biology of alcoholism*. Vol. 6. New York, NY: Plenum Press; 1983. p. 365-404.
- Parker KD, Weaver G, Calhoun T. Predictors of alcohol and drug use: A multiethnic comparison. *The Journal of Social Psychology*. 1995; 135:581–590.
- Paschall MJ, Bersamin M, Flewelling RL. Racial/ethnic differences in the association between college attendance and heavy alcohol use: A national study. *Journal of Studies on Alcohol*. 2005; 66:266–274. www.jsad.com. [PubMed: 15957678]
- Pedersen SL, McCarthy DM. An examination of subjective response to alcohol in African Americans. *Journal of Studies on Alcohol and Drugs*. 2009; 70:288–295. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC2653614/>. [PubMed: 19261241]
- Pedersen SL, McCarthy DM. Differences in acute response to alcohol between African Americans and European Americans. *Alcoholism: Clinical and Experimental Research*. (in press).
- Peralta RL, Steele JL. On drinking styles and race: A consideration of the socio-structural determinants of alcohol use behavior. *Journal of Ethnicity in Substance Abuse*. 2009; 8:146–162. [PubMed: 19459122]
- Peterson P, Hawkins J, Abboy R, Catalano R. Disentangling the effects of parental drinking, family management, and parental alcohol norms on current drinking by African American and European adolescents. *Journal of Research on Adolescents*. 1994; 4:203–227.
- Phinney, JS.; Kohatsu, E. Ethnic and racial identity development and mental health. In: Schulenberg, J.; Maggs, JL.; Herrelmann, K., editors. *Health risks and developmental transitions during adolescence*. Cambridge, United Kingdom: Cambridge University Press; 1997. p. 420-443.
- Pipes, WH. Old-time religion: Benches can't say "amen". In: McAdoo, HP., editor. *Black Families*. 2nd ed.. Thousand Oaks, CA: Sage; 1988. p. 54-76.
- Plebani JG, Oslin DW, Lynch KG. Examining naltrexone and alcohol effects in a minority population: Results from an initial human laboratory study. *The American Journal of Addictions*. 2011; 20:330–336.
- Pletcher MJ, Varosy P, Kiefe CI, Lewis CE, Sidney S, Hulley SB. Alcohol consumption, binge drinking, and early coronary calcification: Findings from the coronary artery risk development in young adults (CARDIA) study. *American Journal of Epidemiology*. 2005; 161:423–433. [PubMed: 15718478]
- Poulin J. Racial differences in the use of drugs and alcohol among low income youth and young adults. *Journal of Sociology and Social Welfare*. 1991; 18:159–166. Retrieved from <http://www.heinonline.org/HOL/Page?handle=hein.journals/jrlsasw18&id=1&size=2&collection=journals&index=journals/jrlsasw>.
- Rachlin H, Logue AW, Gibbon J, Frankel M. Cognition and behavior in studies of choice. *Psychological Review*. 1986; 93:33–45.
- Rai AA, Stanton B, Wu Y, Li X, Galbraith J, Cottrell L, Pack R, Harris C, D'Alessandri D, Burns J. Relative influences of perceived parental monitoring and perceived peer involvement on adolescent risk behaviors: An analysis of six cross-sectional data sets. *Journal of Adolescent*

- Health. 2003; 33:108–118. Retrieved from http://www.math.wvu.edu/~ywu/Paper_pdf/Alia%20-%202003%20IAH%20%20six%20datasets.pdf. [PubMed: 12890602]
- Randolph SM, Banks D. Making a way out of no way: The promise of Africentric approaches to HIV prevention. *Journal of Black Psychology*. 1993; 19:406–422.
- Rassool HG. The crescent and Islam: Healing, nursing and the spiritual dimension. Some considerations towards an understanding of the Islamic perspective on caring. *Journal of Advanced Nursing*. 2000; 32:1476–1484. [PubMed: 11136416]
- Ray LA, Oslin DW. Naltrexone for the treatment of alcohol dependence among African Americans: Results from the COMBINE Study. *Drug and Alcohol Dependence*. 2009; 105:256–258. [PubMed: 19717248]
- Ren XS, Amick BC, Williams DR. Racial/ethnic disparities in health: The interplay between discrimination and socioeconomic status. *Ethnicity and Disease*. 1999; 9:151–165. Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/10421078>. [PubMed: 10421078]
- Rhem J, Room R, Graham K, Monteiro M, Gmel G, Sempos CT. The relationship of average volume of alcohol consumption and patterns of drinking to burden of disease – an overview. *Addiction*. 2003; 98:1209–1228. [PubMed: 12930209]
- Ringwalt CL, Palmer JH. Differences between white and black youth who drink heavily. *Addictive Behaviors*. 1990; 15:455–460. [PubMed: 2248119]
- Riolo SA, Nguyen TA, Greden JF, King CA. Prevalence of depression by race/ethnicity: Findings from the National Health and Nutrition Examination Survey III. *American Journal of Public Health*. 2005; 95:998–1000. [PubMed: 15914823]
- Rodney HE, Mupier R, Crafter B. Predictors of alcohol drinking among African American adolescents: Implications for violence prevention. *The Journal of Negro Education*. 1996; 65:434–444. Retrieved from <http://www.jstor.org/stable/2967146>.
- Rohde P, Lewinsohn PM, Seeley JR. Psychiatric comorbidity with problematic alcohol use in high school students. *Journal of the American Academy of Child & Adolescent Psychiatry*. 1996; 35:101–109.
- Romley JA, Cohen D, Ringel JS, Sturm R. Alcohol and environmental justice: The density of liquor stores and bars in urban neighborhoods in the United States. *Journal of Studies on Alcohol and Drugs*. 2007; 68:48–55. Retrieved from <http://www.rand.org/pubs/reprints/RP1323>. [PubMed: 17149517]
- Rosenmerkel, S.; Durose, M.; Farole, D. Felony sentences in state courts, 2006-statistical tables; Bureau of Justice Statistics. 2009. p. 1-34. NCJ 226846, Retrieved from <http://bjs.ojp.usdoj.gov/index.cfm?ty=pbdetail&iid=2152>.
- Ryan, RM.; Deci, EL. Overview of self-determination theory: An organismic dialectical perspective. In: Deci, RL.; Ryan, RM., editors. *Handbook of self-determination research*. Rochester, NY: University Rochester Press; 2002. p. 3-36.
- Sampson, RJ.; Wilson, WJ. Toward a theory of race, crime, and urban inequality. In: Hagan, J.; Peterson, RD., editors. *Crime and Inequality*. Stanford: Stanford University Press; 1995. p. 37-54.
- Schmidt LA, Ye Y, Greenfield TK, Bond J. Ethnic disparities in clinical severity and services for alcohol problems: Results from the national alcohol survey. *Alcoholism: Clinical and Experimental Research*. 2007; 31:48–56.
- Schulenberg J, O'Malley PM, Bachman JG, Wadsworth KN, Johnston LD. Getting drunk and growing up: Trajectories of frequent binge drinking during the transition to young adulthood. *Journal of Studies on Alcoholism*. 1996; 57:289–304. Retrieved from <http://www.jsad.com>.
- Scott DM, Taylor RE. Health-related effects of genetic variations of alcohol-metabolizing enzymes in African Americans. *Alcohol Research and Health*. 2007; 30:18–21. Retrieved from: <http://www.niaaa.nih.gov/Publications/AlcoholResearch/default.htm>. [PubMed: 17718396]
- Sellers RM, Caldwell CH, Schmeelk-Cone KH, Zimmerman MA. Racial identity, racial discrimination, perceived stress, and psychological distress among African American young adults. *Journal of Health and Social Behavior*. 2003; 43:302–317. Retrieved from: <http://www.jstor.org/stable/1519781>. [PubMed: 14582310]

- Sempos C, Rehm J, Wu T, Crespo C, Trevisan M. Average volume of alcohol consumption and all-cause mortality in African Americans: The NHEFS cohort. *Alcoholism: Clinical and Experimental Research*. 2003; 27:88–92.
- Settles RF, Cyders MA, Smith GT. Longitudinal validation of the acquired preparedness model of drinking risk. *Psychology of Addictive Behaviors*. 2010; 24:198–208. [PubMed: 20565146]
- Shedler J, Block J. Adolescent drug use and psychological health. *American Psychologist*. 1990; 45:612–630. [PubMed: 2350080]
- Sher, KJ. *Children of alcoholics: A critical appraisal of theory and research*. Chicago, IL: University of Chicago Press; 1991.
- Sher KJ, Walitzer KS, Wood PK, Brent EE. Characteristics of children of alcoholics: Putative risk factors, substance use and abuse, and psychopathology. *Journal of Abnormal Psychology*. 1991; 100:427–448. [PubMed: 1757657]
- Sher KJ, Grekin ER, Williams NA. The development of alcohol use disorders. *Annual Review of Clinical Psychology*. 2005; 1:493–523.
- Sher KJ, Rutledge PC. Heavy drinking across the transition to college: Predicting first-semester heavy drinking from pre-college variables. *Addictive Behaviors*. 2007; 32:819–835. [PubMed: 16860940]
- Siebert D, Wilke D. High risk drinking among young adults: The influence of race and college enrollment. *The American Journal of Drug and Alcohol Abuse*. 2007; 33:843–850. [PubMed: 17994480]
- Singh GK, Hoyert DL. Social epidemiology of chronic liver disease and cirrhosis mortality in the United States, 1935–1997: Trends and differentials by ethnicity, socioeconomic status, and alcohol consumption. *Human Biology*. 2000; 72:801–820. [PubMed: 11126726]
- Smedley A, Smedley BD. Race as biology is fiction, racism as a social problem is real: Anthropological and historical perspectives on the social construction of race. *American Psychologist*. 2005; 60:16–26. [PubMed: 15641918]
- Smith GT. Psychological expectancy as mediator of vulnerability to alcoholism. *Annals of the New York Academy of Sciences*. 1994; 708:165–171. [PubMed: 8154677]
- Smith GT, Goldman MS. Alcohol expectancy theory and the identification of high-risk adolescents. *Journal of Research on Adolescence*. 1994; 4:229–247.
- Smith GT, Goldman MS, Greenbaum P, Christiansen BA. The expectancy for social facilitation from drinking: The divergent paths of high-expectancy and low-expectancy adolescents. *Journal of Abnormal Psychology*. 1995; 104:32–40. [PubMed: 7897051]
- Spillane NS, Smith GT. A theory of reservation-dwelling American Indian alcohol use risk. *Psychological Bulletin*. 2007; 133:395–418. [PubMed: 17469984]
- Spillane NS, Smith GT, Kahler CW. Perceived access to important reinforcers as a function of alcohol consumption among American Indians. *Alcoholism: Clinical and Experimental Research*. (in press).
- Squires, GD. *From Redlining to Reinvestment: Community responses to urban disinvestment*. Temple University Press; 1992.
- Squires GD, Velez W, Taeuber KE. Insurance redlining, agency location and the process of urban disinvestment. *Urban Affairs Review*. 1991; 26:457–588.
- Stanton B, Li X, Pack R, Cottrell L, Harris C, Burns JM. Longitudinal influence of perceptions of peer and parental factors on African American adolescent risk involvement. *Journal of Urban Health*. 2002; 79:536–548. [PubMed: 12468673]
- Steinman KJ, Zimmerman MA. Religious activity and risk behavior among African American adolescents: Concurrent and developmental effects. *American Journal of Community Psychology*. 2004; 33:151–161. [PubMed: 15212175]
- Stevens-Watkins D, Rostosky S. Binge drinking in African American males from adolescence to young adulthood: The protective influence of religiosity, family connectedness, and close friends' substance use. *Substance Use & Misuse*. 2010; 45:1435–1451. [PubMed: 20438340]
- Stewart C, Power TG. Identity patters of adolescent drinking: A tri-ethnic study. *Journal of Studies on Alcohol*. 2002; 63:156–168. Retrieved from www.jasd.com. [PubMed: 12033692]

- Stewart C, Power TG. Ethnic, social class, and gender differences in adolescent drinking: Examining multiple aspects of consumption. *Journal of Adolescent Research*. 2003; 18:575–598.
- Stinson F, Dufour M, Steffens R, DeBakey S. Alcohol-related mortality in the United States, 1979–1989. *Alcohol Health and Research World*. 1993; 17:251–260.
- Stinson, FS.; Nephew, TM.; Dufour, MC.; Grant, BF. U.S. Alcohol Epidemiologic Data Reference manual. Bethesda: National Institute on Alcohol Abuse and Alcoholism; 1996.
- Strada MJ, Donohue B. Substance use in ethnic minority youth. *Journal of Ethnicity in Substance Abuse*. 2006; 5:67–89. [PubMed: 16537338]
- Stratton LS. Racial differences in men's unemployment. *Industrial and Labor Relations Review*. 1993; 46:451–463. <http://www.jstor.org/stable/2524546>.
- Stock ML, Gibbons FX, Walsh LA, Gerrard M. Racial identification, racial discrimination, and substance use vulnerability among African American young adults. *Personality and Social Psychology Bulletin*. 2011; 37:1349–1361. [PubMed: 21628598]
- Substance Abuse and Mental Health Services Administration. Results from the 2009 National Survey on Drug Use and Health: Volume I. summary of national findings. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2010. (Office of Applied Studies, NSDUH Series H-38A, HHS Publication No. SMA 10-4586Findings). Retrieved from <http://www.oas.samhsa.gov/nsduh/2k8nsduh/2k8results.cfm>
- Substance Abuse and Mental Health Services Administration. Results from the 2010 National Survey on Drug Use and Health: Summary of National Findings. Rockville, MD: Substance Abuse and Mental Health Services Administration; 2011. (Office of Applied Studies, NSDUH Series H-41, HHS Publication No. (SMA) 11-4658)
- Szapocznik J, Guillermo P, Burlew AK, Williams RA, Santisteban DA. Drug use in African American and Hispanic adolescents: Culture, development, and behavior. *Annual Review of Clinical Psychology*. 2007; 3:77–105.
- Takeshita T, Morimoto K. Self-reported alcohol-associated symptoms and drinking behavior in three ALDH2 genotypes among Japanese university students. *Alcoholism: Clinical and Experimental Research*. 1999; 23:1065–1069.
- Taylor, RJ. Religion and religious observations among aging Black Americans. In: Jackson, JS.; Chatters, LM.; Taylor, RJ., editors. *Aging in Black America*. Newbury Park, CA: Sage; 1992. p. 101-123.
- Taylor RJ, Chatters LM. Non-organizational religious participation among elderly Blacks. *Journal of Gerontology: Social Science*. 1991; 46:S103–S111.
- Taylor J, Jackson B. Factors affecting alcohol consumption in black women: Part II. *Substance Use & Misuse*. 1990; 25:1415–1427.
- Taylor RJ, Mattis J, Chatters LM. Subjective religiosity among African Americans: A synthesis of findings from five national samples. *Journal of Black Psychology*. 1999; 25:524–543.
- Tebes JK, Cook EC, Vanderploeg JJ, Feinn R, Chinman MJ, Shepard JK, Brabham T, Connell CM. Parental knowledge and substance use among African American adolescents: Influence of gender and grade level. *Journal of Children and Family Studies*. 2011; 20:406–413.
- Theall KP, Lancaster BP, Lynch S, Haines RT, Scribner S, Scribner R, Kishore V. The neighborhood alcohol environment and at-risk drinking among African Americans. *Alcoholism: Clinical and Experimental Research*. 2011; 35:996–1003.
- Thomasson HR, Beard JD, Li TK. ADH2 gene polymorphisms are determinants of alcohol pharmacokinetics. *Alcoholism: Clinical and Experimental Research*. 1995; 19:1494–1499.
- Thomasson HR, Crabb DW, Edenberg HJ, Li T-K. Alcohol and aldehyde dehydrogenase polymorphisms and alcoholism. *Behavior Genetics*. 1993; 23:131–136. [PubMed: 8512527]
- Thornton MC, Chatters LM, Taylor RJ, Allen WR. Sociodemographic and environmental correlates of racial socialization by Black parents. *Child Development*. 1990; 61:401–409. [PubMed: 2344778]
- Tolman, EG. *Purposive behavior in animals and men*. New York: Century Company; 1932.
- Townsend TG, Belgrave FZ. The impact of personal identity and racial identity on drug outcomes among African American children. *Journal of Black Psychology*. 2000; 46:421–436.

- Turner WL, Wallace B. African American substance use: Epidemiology, prevention, and treatment. *Violence Against Women*. 2003; 9:576–589.
- U.S. Bureau of Labor Statistics. 2011. Retrieved from <http://www.bls.gov/news.release/empsit.t02.htm>
- U.S. Census Bureau. Income, Poverty, and Health Insurance Coverage in the United States: 2009, Current Population Reports. 2012. Retrieved from <http://www.census.gov/compendia/statab/2012/tables/12s0713.pdf>
- U.S. Department of Health & Human Services. Drug use among racial/ethnic minorities. 1995. Retrieved from <http://archives.drugabuse.gov/pdf/minorities03.pdf>
- U.S. Department of Health & Human Services, Administration for Children and Families (ACF). Office of Family Assistance (OFA) Fact Sheet. 2009. Retrieved from http://www.acf.dhhs.gov/opa/fact_sheets/tanf.html
- Vuchinich RE, Tucker JA. Contributions from behavioral theories of choice to an analysis of alcohol abuse. *Journal of Abnormal Psychology*. 1988; 97:181–195. [PubMed: 3133403]
- Wall TL. Genetic associations of alcohol and aldehyde dehydrogenase with alcohol dependence and their mechanisms of action. *Therapeutic Drug Monitoring*. 2005; 27:700–703. [PubMed: 16404797]
- Wall TL, Shea SH, Chan KK, Carr LG. A genetic association with the development of alcohol and other substance use behavior in Asian Americans. *Journal of Abnormal Psychology*. 2001; 110:173–178. [PubMed: 11261392]
- Wall TL, Thomasson HR, Ehlers CL. Investigator-observed alcohol induced flushing but not self-report of flushing is a valid predictor of ALDH2 genotype. *Journal of Studies on Alcohol*. 1996; 57:267–272. Retrieved from <http://www.jsad.com>. [PubMed: 8709585]
- Wall TL, Thomasson HR, Schuckit MA, Ehlers CL. Subjective feelings of alcohol intoxication in Asians with genetic variations of ALDH2 alleles. *Alcoholism: Clinical and Experimental Research*. 1992; 16:991–995.
- Wallace JM. Explaining race differences in adolescent and young adult drug use: The role of racialized social systems. *Drugs & Society*. 1999a; 14:21–36.
- Wallace JM. The social ecology of addiction: Race, risk and resilience. *Pediatrics*. 1999b; 103:1122–1127. [PubMed: 10224199]
- Wallace JM, Bachman JG. Validity of self-reports in student based studies on minority populations: Issues and concerns. NIDA Research Monograph. 1993; 130:167–200. Retrieved from <http://archives.drugabuse.gov/pdf/monographs/130.pdf#page=174>. [PubMed: 8413506]
- Wallace JM, Bachman JG, O'Malley PM, Schulenberg JE, Cooper SM, Johnston LD. Gender and ethnic differences in smoking, drinking, and illicit drug use among American 8th, 10th, and 12th grade students, 1976–2000. *Addiction*. 2003a; 98:225–234. [PubMed: 12534428]
- Wallace J, Brown T, Bachman J, Laveist T. The influence of race and religion on abstinence from alcohol, cigarettes and marijuana among adolescents. *Journal of Studies on Alcohol*. 2003b; 64:843–848. Retrieved from <http://www.jsad.com>. [PubMed: 14743948]
- Wallace JM, Forman TA, Guthrie BJ, Bachman JG, O'Malley PM, Johnston LD. The epidemiology of alcohol, tobacco and other drug use among Black youth. *Journal of Studies on Alcohol*. 1999; 60:800–809. Retrieved from <http://www.jsad.com>. [PubMed: 10606492]
- Wallace JM, Muroff JR. Preventing substance abuse among African American children and youth: Race differences in risk factor exposure and vulnerability. *The Journal of Primary Prevention*. 2002; 22:235–261.
- Warheit GJ, Vega WA, Khoury EL, Gil AA, Elfenbein PH. A comparative analysis of cigarette, alcohol and illicit drug use among an ethnically diverse sample of Hispanic, African American, and Non-Hispanic White adolescents. *Journal of Drug Issues*. 1996; 26:901–922.
- Watt TT. Race/Ethnic differences in alcohol abuse among youth: An examination of risk-taking attitudes as a mediating factor. *Journal of Ethnicity in Substance Abuse*. 2004; 3:33–47.
- Weinick RM, Zuvekas SH, Cohen JW. Racial and ethnic differences in access to and use of health care services, 1977 to 1996. *Medical Care Research and Review*. 2000; 57(Suppl):36–54. [PubMed: 11092157]
- Welte JW, Barnes GM. Drinking among homeless and marginally housed adults in New York State. *Journal of Studies on Alcohol*. 1992; 53:303–315. [PubMed: 1619924]

- Western B, Pettit B. Incarceration and racial inequality in men's employment. *Industrial and Labor Relations Review*. 2000; 54:3–16. Retrieved from <http://www.jstor.org/stable/2696029>.
- Whitfield JB. Alcohol dehydrogenase and alcohol dependence: Variation in genotype-associated risk between populations. *American Journal of Human Genetics*. 2002; 71:1247–1250. Retrieved from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC385114/pdf/AJHGv71p1247.pdf>. [PubMed: 12452180]
- Williams DR. Race, socioeconomic status, and health: The added effects of racism and discrimination. *Annals New York Academy of Sciences*. 1999; 896:173–188.
- Williams DR, Mohammed SA, Leavell J, Collins C. Race, socioeconomic status, and health: Complexities, ongoing challenges, and research opportunities. *Annals of the New York Academy of Sciences*. 2010; 1186:69–101. [PubMed: 20201869]
- Williams DR, Mohammed SA. Discrimination and racial disparities in health: Evidence and needed research. *Journal of Behavioral Medicine*. 2009; 32:20–47. [PubMed: 19030981]
- Williams DR, Neighbors HW, Jackson JS. Racial/ethnic discrimination and health: Findings from community studies. *American Journal of Public Health*. 2003; 93:200–208. Retrieved from <http://ajph.aphapublications.org/cgi/reprint/93/2/200>. [PubMed: 12554570]
- Williams DR, Yu Y, Jackson JS, Anderson NB. Racial differences in physical and mental health: Socio-economic status, stress, and discrimination. *Journal of Health Psychology*. 1997; 2:335–351. [PubMed: 22013026]
- Wills TA, Gibbons FX, Gerrard M, Murry VM, Brody GH. Family communication and religiosity related to substance use and sexual behavior in early adolescents: A test for pathways through self-control and prototype perceptions. *Psychology of Addictive Behaviors*. 2003a; 17:312–323. [PubMed: 14640827]
- Wills TA, Yaeger AM, Sandy JM. Buffering effect of religiosity for adolescent substance use. *Psychology of Addictive Behaviors*. 2003b; 17:24–31. [PubMed: 12665078]
- Wilson FD, Tienda M, Wu L. Race and unemployment: Labor market experiences of Black and White men, 1968–1988. *Work and Occupations*. 1995; 22:245–270.
- Wilson, WJ. *The truly disadvantaged*. Chicago: University of Chicago Press; 1987.
- Windsor LC, Negi N. Substance abuse and dependence among low income African Americans: Using data from the National Survey on Drug Use & Health to demystify assumptions. *Journal of Addictive Diseases*. 2009; 28:258–268. [PubMed: 20155595]
- Wu L, Woody GE, Yang C, Pan J, Blazer DG. Racial/Ethnic variations in substance-related disorders among adolescents in the United States. *Achieves of General Psychiatry*. 2011; 68:1176–1185.
- Yen IH, Ragland DR, Breiner BA, Fisher JM. Racial discrimination and alcohol-related behavior in urban transit operations: Findings from the San Francisco Muni Health and Safety Study. *Public Health Republic*. 1999; 114:448–458.
- Yin, SJ.; Agarwal, DP. Functional polymorphism of alcohol and aldehyde dehydrogenases: Alcohol metabolism, alcoholism, and alcohol-induced organ damage. In: Agarwal, DP.; Seitz, HK., editors. *Alcohol in health and disease*. New York, NY: Marcel Dekker; 2001. p. 1-26.
- Yoon, Y-H.; Yi, H-Y.; Grant, BF.; Dufour, MC. National Institute on Alcohol Abuse and Alcoholism Surveillance Report #57. Rockville, MD: Division of Biometry and Epidemiology, Alcohol Epidemiologic Data System; 2001. Liver cirrhosis mortality in the United States. 1970–1998.
- Zarkin GA, French MT, Mroz T, Bray JW. Alcohol use and wages: New results from the national household survey on drug abuse. *Journal of Health Economics*. 1998; 17:53–68. [PubMed: 10176315]
- Zimmerman MA, Maton KI. Life-style and substance use among male African-American urban adolescents: A cluster analytic approach. *American Journal of Community Psychology*. 1992; 20:121–138. [PubMed: 1562001]

Table 1
 Summary of Studies Comparing African American and European American Alcohol Consumption, by Age

Authors	Recruitment	Data Source	Sample	Gender (M/F)	Age	Results
Youth						
Alcohol Initiation						
Catalano et al., 1993	Community, convenience sample	Seattle, WA public schools	AA:98 EA:218	50/50	10–11	AA<EA
Johnson et al., 2005	National sample	National Drug & Alcoholism Treatment Unit Survey (NDATUS)	AA:854 EA:892	Data not provided	18+	AA<EA
Peterson et al., 1994	Convenience sample, public schools in Seattle, WA	Seattle Social Development Project (SSDP), 1988–1990	AA:142 EA:308	50/50	12–15	AA<EA
Consumption						
Poulin, 1991	Community, nonrandom stratified sampling	Low income urban community, Chester, PA	AA:273 EA:111	54/46	12–25	AA<EA current
SAMHSA, 2010	National randomized sample	National Survey on Drug Use & Health (NSDUH), 2008	AA:29556 EA:169423	AA:45/55 EA:49/51	12–17	AA<EA current and lifetime
Wallace & Bachman, 1993	National, randomized sample	Monitoring the Future/ National Senior Study, 1980–1989	AA:17146 EA:119021	AA:44/56 EA:49/51	HS seniors	AA<EA current and heavy
Wallace et al., 2003	National randomized sample	MTF (1996–2000)	AA:26160 EA:140653	AA:45/56 EA:49/51	Grade 8,10,12	AA<EA current, lifetime, and heavy
Wallace & Muroff, 2002	National, randomized sample	Monitoring the Future (MTF), 1998–1999	Data not provided	Data not provided	HS seniors	AA<EA heavy
Warheit et al., 1996	Community, nonrandom sampling	Dade County, Florida Public Schools (Miami, FL)	AA:618 EA:632	79/21	10–15	AA<EA lifetime
Watt, 2004	National randomized sample	National Household Survey of Drug Abuse, 2001	AA:4557 EA:23400	50/50	12–25	AA<EA heavy
Wills et al., 2003b	Community, convenience sample	Public schools in New York metro area	AA: 343 EA: 434	Total: 53/47	Grade 7–10	AA<EA
Wu et al., 2011	National, randomized, multi-stage area probability sampling	NSDUH, 2005–2008	AA:10109 EA:43778	Data not provided	12–17	AA<EA past year
Young Adults						
Consumption						

Authors	Recruitment	Data Source	Sample	Gender (M/F)	Age	Results
Globetti et al., 1996	Community based - stratified cluster, random sampling of class sample	Mid-size public university in the South	AA:104 EA:803	49/52	college	AA<EA current
Meilman et al., 1995	Community-based randomized sample	The Core Alcohol and Drug Survey	Total:12351	Data not provided	college	AA<EA current
Peralta & Steele, 2009	Community based convenience sample	Midwestern university	AA:70 EA:259	38/62	18+	AA<EA binge AA>EA abstainer/ non-binge
Siebert & Wilke, 2007	National, randomized, multistage probability sample	NHSDA, 2001	AA:931 EA:4963	AA:43/58 EA:48/52	18-21	AA<EA heavy
Adulthood						
Abstinence						
Caetano & Clark, 1998a	National randomized sample	Institute for Survey Research of Temple University., 1995	AA:1582 EA:1636	AA:41/59 EA:46/54	18-60	AA>EA
Caetano & Kaskutas, 1995	National, randomized multistage area probability sample	Not provided	AA:723 EA:788	AA:44/56 EA:49/51	18+	AA>EA
Lillie-Blanton et al., 1991	Community-based, multi-stage probability sampling	Baltimore Epidemiologic Catchment Area (ECA) Household Survey	AA:809 EA:1374	Females only	18-59	AA>EA
Consumption						
Caetano & Clark, 1998a	National randomized sample	Institute for Survey Research of Temple University., 1995	AA:1582 EA:1636	AA:41/59 EA:46/54	18-60	AA<EA heavy
Chen & Paschall, 2003	Community convenience sample	University sample	AA: 61 EA: 391	Total: 42/58	18-25	AA<EA
Dawson, 1998	National randomized sample	National Long. Alcohol Epidemiology. Survey (NLAES), 1991	Data not provided	Data not provided	18-55	AA<EA past year
Fuchs et al., 2001	Community-based, longitudinal random sample	Atherosclerosis Risk in Communities (ARIC) Study, 1987-1995	AA:1320 EA:6817	AA:34/66 EA:45/55	45-64	AA<EA current
Gilman, 2008	Nationally representative household survey	National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), 2001-2002	AA:5826 EA:20278	Data not provided	18-60	AA<EA lifetime
Grant, 1997	National, randomized multistage sampling	NLAES, 1992	Total:42862	Data not provided	18-55	AA<EA lifetime
Herd & Grube, 1993	National randomized sample	Institute for Survey Research of Temple University, 1995	AA:635 EA:663	Females only	18+	AA<EA

Authors	Recruitment	Data Source	Sample	Gender (M/F)	Age	Results
Johnson et al., 2005	National sample	National Drug & Alcoholism Treatment Unit Survey (NDATUS)	AA:854 EA:892	Data not provided	18+	AA>EA later age regular use
Kandel et al., 1997	National, randomized multistage area probability sample	NHSDA, 1991–1993	AA: 20744 EA: 42206	AA:41/59 EA:46/54	12–50	AA<EA past year
Mulia et al., 2008	National randomized sample	U.S. National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	AA:45/56 EA:48/52	18–50	AA<EA current
Mulia et al., 2009	National, randomized sample	National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	Data not provided	18+	AA<EA current
Peralta & Steele, 2009	Community based convenience sample	Midwestern university	AA:70 EA:259	Total: 38/62	18+	AA<EA heavy
Peterson et al., 1994	Convenience sample, public schools in Seattle, WA	Seattle Social Development Project (SSDP), 1988–1990	AA:142 EA:308	Total: 50/50	18+	AA parents<EA parents current
Pletcher et al., 2005	Information not provide in article, other articles referenced	Coronary Artery Risk Development in Young Adults (CARDIA) Study, 2000–2001	AA:1374 EA:1663	AA:42/58 EA:48/52	32–47	AA<EA current AA=EA binge
SAMHSA, 2010	National randomized sample	National Survey on Drug Use & Health (NSDUH), 2009	AA:29556 EA:169423	AA:45/55 EA:49/51	12–65	AA<EA current, binge, and heavy
SAMHSA, 2011	National randomized sample	National Survey on Drug Use & Health (NSDUH), 2010	AA:30233 EA:170049	AA:45/56 EA:49/51	12–65	AA<EA current, binge, and heavy
Welte & Barnes, 1992	Community, randomized sample	New York Statewide Survey, 1986	AA:214 EA: 87	Total: 71/29	18–34	AA>EA heavy

Note. The racial categories included are African American (AA) and European American (EA). Gender categories are male (M) and female (F). Current: current alcohol use, typically past month. Binge: binge alcohol use defined as five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy: heavy alcohol use defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on each of 5 or more days in the past 30 days. Lifetime: defined as drinking at any time throughout life.

Table 2
 Summary of Studies Comparing African Americans and European Americans on Alcohol Related Problems

Authors	Recruitment	Data Source	Sample	Gender (M/F)	Age	Results
Alcohol Abuse						
Grant et al., 2004	National, randomized sample	NESARC, 2001–2002; NLAES, 1991–1992	AA:756 EA:7511	AA:76/24 EA:70/30	18–65	AA<EA
Lillie-Blanton et al., 1991	Community-based, multi-stage probability sampling	Baltimore Epidemiologic Catchment Area (ECA) household survey	AA:809 EA:1374	Females only	18–59	AA>EA
Schmidt et al., 2007	National randomized sample	NAS, 2000	Data not provided	Data not provided	18+	AA<EA
Wu et al., 2011	National randomized, multi-stage area probability sampling	NSDUJH, 2005–2008	AA:10109 EA:43778	Data not provided	12–17	AA<EA
Alcohol Dependence Symptoms						
Caetano et al., 2001	National randomized sample	Information not provided	AA:358 EA:555	Data not provided	18+	AA>EA
Grant et al., 2004	National, randomized sample	NESARC, 2001–2002; NLAES, 1991–1992	AA:756 EA:7511	AA:76/24 EA:70/30	18–65	AA=EA
Herd, 1994	National, randomized sample	Alcohol Research Group, 1984	AA:494 EA:568	Males only	18+	AA>EA
Herd, 1997	National randomized sample	Alcohol Research Group, 1984	AA:1947 EA:1777	AA:38/62 EA:41/59	18+	AA>EA
Jones-Webb et al., 1997a	National randomized sample	National Alcohol Survey (NAS), 1992	AA:208 EA:280	Men only	18+	AA>EA
Jones-Webb et al., 1997b	National randomized sample	National Alcohol Survey (NAS), 1992	AA:436 EA:575	AA:51/49 EA:52/48	18+	AA>EA
Midanik & Clark, 1995	National randomized household probability sample	Alcohol Research Group's 1990 survey	Data not provided	Data not provided	18–60	AA>EA
Mulia et al., 2008	National randomized sample	U.S. National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	AA:45/56 EA:48/52	18–50	AA>EA
Mulia et al., 2009	National, randomized sample	National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	Data not provided	18+	AA>EA
Schmidt et al., 2007	National randomized sample	NAS, 2000	Data not provided	Data not provided	18+	AA<EA
Alcohol Dependence Diagnosis						
Gilman, 2008	Nationally representative household survey	National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), 2001–2002	AA:5826 EA:20278	Data not provided	18–60	AA<EA lifetime

Authors	Recruitment	Data Source	Sample	Gender (M/F)	Age	Results
Grant, 1997	National, randomized multistage sampling	NLAES, 1992	Total:42862	Data not provided	18–55	AA<EA lifetime AA>EA past year
Kandel et al., 1997	National, randomized multistage area probability sample	NHSDA, 1991–1993	AA:20744 EA:42206	AA:41/59 EA:46/54	12–50	AA>EA past year
Lillie-Blanton et al., 1991	Community-based, multi-stage probability sampling	Baltimore Epidemiologic Catchment Area (ECA) household survey	AA:809 EA:1374	Females only	18–59	AA>EA lifetime
Mulia et al., 2008	National randomized sample	U.S. National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	AA:45/56 EA:48/52	18–50	AA>EA past year
Mulia et al., 2009	National, randomized sample	National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	Data not provided	18+	AA>EA past year
Wu et al., 2011	National randomized, multi-stage area probability sampling	NSDUH, 2005–2008	AA:10109 EA:43778	Data not provided	12–17	AA<EA past year
General Problems						
Caetano & Clark, 1998b	National, randomized probability sample	Information not provided	AA:1580 EA:1637	AA:41/59 EA:46/54	18+	AA>EA
Caetano & Kaskutas, 1996	National, randomized probability sample	NAS, 1992	AA:723 EA:788	AA:44/56 EA:49/51	18+	AA males >EA males
Herd, 1997	National randomized sample	Alcohol Research Group, 1984	AA:1947 EA:1777	AA:38/62 EA:41/59	18+	AA>EA
Jones-Webb et al., 1997a	National randomized sample	National Alcohol Survey (NAS), 1992	AA:208 EA:280	Men only	18+	AA>EA
Jones-Webb et al., 1997b	National randomized sample	National Alcohol Survey (NAS), 1992	AA:436 EA:575	AA:51/49 EA:52/48	18+	AA>EA
Health Problems						
Fuchs et al., 2001	Community-based, longitudinal random sample	Atherosclerosis Risk in Communities (ARIC) Study, 1987–1995	AA:1320 EA:6817	AA:34/66 EA:45/55	45–64	AA>EA hypertension
Kochanek et al., 2002	National, database	U.S. Census Bureau	AA:286573 EA:1981973	AA:51/50 EA:48/52	0–85	AA>EA alcohol-induced causes of death
Pletcher et al., 2005	Information not provide in article, other articles referenced	Coronary Artery Risk Development in Young Adults (CARDIA) Study, 2000–2001	AA:1374 EA:1663	AA:42/58 EA:48/52	32–47	AA males>EA coronary calcification
Sempos et al., 2003	National randomized sample	NHANES Epidemiologic Follow-up Study (NHEFS), 1971–1992	AA: 2054	AA: 37/63	25–75	No beneficial effects of moderate drinking compared to lifetime abstainers for AA.
Stinson et al., 1993	National clinical sample	U.S. Vital Statistics published by NCHS, 1983–1989	AA:4339 EA:14689	AA:74/26 EA:76/24	15–85	AA>EA alcohol-induced causes of death

Authors	Recruitment	Data Source	Sample	Gender (M/F)	Age	Results
Yoon et al., 2010	National sample	National Center for Health Statistics (NCHS), 1970–2007	AA:2580 EA:22211	AA:65/35 EA:64/36	0–85	2001: AA>EA alcohol-related cirrhosis 2007: EA>AA alcohol-related cirrhosis
Social Problems						
Caetano et al., 2001	National randomized sample	Information not provided	AA:358 EA:555	Data not provided	18+	AA>EA
Caetano, 1997	National, randomized probability sample	NAS, 1992	AA:723 EA:788	AA:44/56 EA:49/51	18+	AA>EA
Herd, 1994	National, randomized sample	Alcohol Research Group, 1984	AA:494 EA:568	Males only	18+	AA>EA
Herd, 1997	National randomized sample	Alcohol Research Group, 1984	AA:1947 EA:1777	AA:38/62 EA:41/59	18+	AA>EA
Jones-Webb et al., 1997a	National randomized sample	National Alcohol Survey (NAS), 1992	AA:208 EA:280	Males only	18+	AA>EA
Jones-Webb et al., 1997b	National randomized sample	National Alcohol Survey (NAS), 1992	AA:436 EA:575	AA:51/49 EA:52/48	18+	AA>EA
Midanik & Clark, 1995	National randomized household probability sample	Alcohol Research Group's 1990 survey	Data not provided	Data not provided	18–60	AA>EA
Mulia et al., 2008	National randomized sample	U.S. National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	AA:45/56 EA:48/52	18–50	AA>EA
Mulia et al., 2009	National, randomized sample	National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	Data not provided	18+	AA>EA

Note. The racial categories included are African American (AA) and European American (EA). Gender categories are male (M) and female (F). Lifetime: defined as drinking at any time throughout life; Past Year: defined as consuming alcohol within the past 12 months.

Table 3

Summary of Studies Explaining Protective Factors of Alcohol Consumption among African Americans Compared to European Americans

Authors	Recruitment	Data Source	Sample	Gender (M/F)	Age	Results
Conservative Norms/Attitudes						
Caetano & Clark, 1999	National multistage area probability sampling	Institute for Survey Research of Temple University, 1995	AA:1582 EA:1636	Data not provided	18+	AA>EA
Herd & Grube, 1993	National randomized sample	Alcohol Research Group, 1984	AA:635 EA:663	Females only	18+	AA>EA
Herd, 1994a	National, randomized sample	Alcohol Research Group, 1984	AA:494 EA:568	Males only	18+	AA>EA
Herd, 1997	National, randomized, multistage, Probability sample, 1984	Information not provided	AA:1224 EA:1034	Females only	Data not provided	AA>EA
Jones-Webb et al., 1997b	National randomized sample	National Alcohol Survey (NAS), 1992	AA:436 EA:575	AA:51/49 EA:52/48	18+	AA>EA
Peralta & Steele, 2009	Community based convenience sample	Midwestern university	AA:70 EA:259	Total: 38/62	18+	AA>EA
Peterson et al., 1994	Convenience sample, public schools in Seattle, WA	Seattle Social Development Project (SSDP), 1988–1990	AA:142 EA:308	Total: 50/50	12–15	AA>EA
Ringwalt & Palmer, 1990	Community, randomized cluster design	Public schools in North Carolina	AA:2462 EA:7407	Total: 50/50	Grade 7–12	AA>EA
Wallace & Bachman, 1993	National randomized sample	Monitoring the Future (MTF)/ National Senior Study, 1980–1989	AA:17146 EA:119021	AA:44/56 EA:49/51	Seniors	AA>EA
Wallace & Muroff, 2002	National, randomized sample	Monitoring the Future (MTF), 1998–1999	Data not provided	Data not provided	HS seniors	AA>EA
Parental Monitoring						
Borawski et al., 2003	Community, convenience sample	Midwest urban high school	AA:249 EA:284	AA:23/38 EA:42/40	Grade 9–10	AA>EA negotiated unsupervised time
Religiosity						
Brown et al., 2001	Community based convenience sample	Northern Ohio and Kentucky schools	AA:361 EA:500	AA:45/55 EA:47/53	14–19	AA>EA
Chatters et al., 2008	National, randomized probability sample	National Survey of American Life: Coping with Stress in the 21 st Century (NSAL)	AA:3570 EA:891	AA:44/56 EA:47/53	18+	AA>EA

Authors	Recruitment	Data Source	Sample	Gender (M/F)	Age	Results
Taylor et al., 1999	National randomized samples	Americans Changing Lives; General Social survey; MTF; National Black Election Survey; National Survey of Black Americans	Total: 3617,26265, 16843,1151, 2107	Data not provided	Youth and adults	AA>EA
Wallace & Muroff, 2002	National, randomized sample	Monitoring the Future (MTF)	Data not provided	Data not provided	HS seniors	AA>EA
Wallace et al., 2003	National randomized sample	MTF, 1997–2001	AA:8266 EA:47738	Data not provided	Grade 10	AA>EA
Wills et al., 2003b	Community, convenience sample	Public schools in New York metro area	AA: 343 EA: 434	Total: 53/47	Grade 7–10	AA>EA religiosity AA<EA alcohol use

Note. The racial categories included are African American (AA) and European American (EA). Gender categories are male (M) and female (F). Alcohol Use: defined as consuming alcohol within the past month.

Table 4
 Summary of Studies Explaining Risk Factors of Alcohol Problems among African Americans Compared to European Americans

Authors	Recruitment	Data Source	Sample	Gender	Age	Results
Environment						
Police Presence						
Conley, 1994	Community, randomized sample	Juvenile justice system	Total:41 youth	Data not provided	Data not provided	AA>EA
Mastrofski et al., 1999	Community convenience (police) and random (residents) sample	Project of Policing Neighborhoods St. Petersburg, FL	Total: 240 officers, 37 supervisors, and 1900 residents	Data not provided	Data not provided	AA>EA
Arrest for Drinking						
Brown & Frank, 2006	Convenience sample	Cincinnati Police Division, 1997–1998	AA:252 EA:82	Data not provided	Data not provided	AA>EA
Caetano & Clark, 2000	National randomized sample	Information not provided	AA:1582 EA:1636	Data not provided	18–60	AA>EA
Conley, 1994	Community, randomized sample	Juvenile justice system	Total: 41 youth	Data not provided	Data not provided	AA>EA
Racial Discrimination						
Borrell et al., 2007	National randomized sample	Coronary Artery Risk Dev. in Young Adults (CARDIA) Study, 1985–2001	AA:1507 EA:1813	Data not provided	18–30	AA>EA
Mulia et al., 2008	National randomized sample	U.S. National Alcohol Survey (NAS), 2005	AA:1054 EA:3967	AA:45/55 EA:48/52	18–50	AA>EA problem drinking, via racial stigma, rate decreases once adjusted for distress EA>AA problem drinking, via unfair treatment, controlling for distress
Yen et al., 1990	Community convenience sample	Muni Health and Safety Study, Transit operators; San Francisco	AA:476 EA:120	Total: 84/16	25–55	AA>EA discrimination
Residential Factors						
Bluthenthal et al., 2008	Community randomized sample	Los Angeles County and Southeastern L.A	AA:54 EA:62	Data not provided	N/A	↑Malt liquor shelf space=↓EA population percentage
Bradizza et al., 2006	Community convenience sample	University of Buffalo area	AA:23 EA:30	Total: 72/28	18–35	↑drinking malt liquor= ↑ enjoying outdoor activities

Authors	Recruitment	Data Source	Sample	Gender	Age	Results
Duncan et al., 2002	Community, convenience sample	Metro city in Pacific Northwest	AA:486 EA:700	Total: 43/57	7–61	↑ liquor stores = ↑ poverty neighborhoods
Jones-Webb et al., 2008	National sample	Malt Liquor and Homicide Study, 2003	AA:230 EA:220	Data not provided	N/A	AA neighborhoods > EA malt liquor and exterior storefront ads for malt liquor
LaVeist & Wallace, 2000	Community, convenience sample	Baltimore, MD, 1990 US Census	AA:435720 EA:28778	Data not provided	N/A	AA neighborhoods > EA liquor stores, controlling for SES
Alcohol Content						
Bluthenthal et al., 2005	Community randomized sample	South Los Angeles, Watts and surrounding areas	AA:259 EA:3	Total: 72/28	29–50	malt liquor drinkers = ↑ homeless, receive public assistance, unemployed, and drink outdoors
Bradizza et al., 2006	Community convenience sample	University of Buffalo area	AA:23 EA:30	Total: 72/28	18–35	AA=EA problems from malt liquor
Chen & Paschall, 2003	Community convenience sample	University sample	AA:61 EA:391	Total: 42/58	18–25	AA < EA drink malt liquor
Graves & Kaskutas, 2002	Community, probability sample	Clinics in Los Angeles and San Francisco Bay Area, CA	AA:185 EA:34	Females only	18+	AA > EA, females
Estimated Level of Consumption						
Kerr et al., 2009	National randomized sample	NAS, 2005–2006	AA:115 EA:119	Data not provided	18+	AA > EA underestimate intake
Social Sanctioning						
Herd, 1994a	National, randomized sample	Alcohol Research Group, 1984	AA:491 EA:560	Data not provided	18+	AA > EA problem with relatives and friends from drinking
Peralta & Steele, 2009	Community based convenience sample	Midwestern university	AA:70 EA:259	Total: 38/62	18+	AA > EA feel criticized for binge drinking by their non-EA peers

Note. The racial categories included are African American (AA) and European American (EA). Gender categories are male (M) and female (F). Problem drinking: defined as having experienced 1+ negative social consequences of drinking and/or multiple symptoms meeting alcohol dependence criteria as defined by the DSM-IV in the past 12 months

Table 5
 Summary of Studies Explaining Risk of Alcohol Consumption and Problems among African Americans

Authors	Recruitment	Data Source	Sample	Gender	Age	Results
Genetic Differences						
Edenberg et al., 2006	National, randomized sample	COGA	Data not provided	Data not provided	Data not provided	ADH1B*3=↓alcohol dependence
Ehlers et al., 2003	Community, convenience sample	San Diego county	AA: 66	32/68	18–25	ADH2*3 >ADH2*1 positive alcohol expectancies
Ehlers et al., 2001	Community, convenience sample	Information not provided	AA: 97	42/58	18–25	ADH2*3= negative family history of alcoholism.
Ehlers et al., 2007	International, community sample	West Indies	AA: 231 (East Indian or African ancestry)	88/12	18+	↑ADH1B*3 allele=↓use and alcohol dependent
Luo et al., 2006	Community convenience sample	University of CT Health Center/VA CT Healthcare System	AA: 150	Data not provided	18+	ADH1B=↓liver disease
McCarthy et al., 2010	Community convenience sample	Columbia, MO	AA: 91	42/58	21–26	ADH1B*3=↑sedation and pulse rate after alcohol consumption
Thomasson et al., 1995	Community convenience sample	5 universities in Memphis, TN	AA: 326	50/50	21+	ADH2*3>ADH2*1 faster blood ethanol disappearance rate and shorter time to reach zero blood ethanol concentration
Parental Monitoring						
Herd & Grube, 1996	National, randomized sample	Alcohol Research Group, 1984	AA: 1947	Data not provided	18+	↑ involvement in black networks, ↓ heavy drinking ↑ religiosity, ↓ heavy drinking
Clark et al., 2012	Community, convenience sample	Southeastern U.S.	AA: 567	Data not provided	9–21	↓pro-drinking norms, ↓heavy drinking ↑ parental monitoring=↓30-day alcohol use
Rai et al., 2003	Community convenience Sample	Eastern urban area	AA: 1478	48/52	13–16	↑parental monitoring=↓alcohol use
Stanton et al., 2002	Community, convenience sample	Low-income areas of Baltimore City, MD	AA: 383	56/44	9–15	↑Parental monitoring=↓drug use
Tebes et al., 2011	Community, convenience sample	Northeastern U.S., afterschool program	AA: 207	54/46	6–11	↑Parental knowledge=↓substance use
Ethnic Identity						
Belgrave et al., 2000	Community, convenience sample	Elementary school in urban metro area in eastern U.S., 1995–1997	AA: 195	52/ 48	8–12	↑racial identity=↓use

Authors	Recruitment	Data Source	Sample	Gender	Age	Results
Brook & Pahl, 2005	Community, convenience sample	Public school in East Harlem New York City, 1990,1995,2000	AA: 333	49/51	Grade 7-10	↑ racial identity=↓ use
Burlew et al., 2000	National study	Center for Substance Abuse and Prevention (CSAP)	AA: 311	42/54	Grade 6	↑ racial identity=↓ alcohol use
Caldwell et al., 2004	Community, convenience sample	Public high schools in Midwestern city, 1994-1998	AA: 488	46/54	Grade 9-12	↑ racial identity=↓ alcohol use
Martin et al., 2004	National, randomized sample	National Survey of Black Workers (NSBW), 1998-2000	AA: 826	Males Only	18-96	↑ racial identity=↓ alcohol use ↑ Black culture=↓ alcohol use and problems
Nasim et al., 2007	Community, convenience sample	Large metro area in Northeast U.S.	AA: 114	53/47	13-20	↑ racial identity=↓ heavy use
Townsend & Belgrave, 2000	Community, convenience sample	Inner-city public school, 1994-1995	AA: 104	51/49	9-12	↑ racial identity=↑ conservative drug attitudes
Africentric Values						
Belgrave et al., 1994	Community, convenience sample	Public school in Washington, DC	AA: 54	37/63	9.5-12.5	↑ Africentric values=↑ conservative drug attitudes
Belgrave et al., 1997	Community, convenience sample	Public school in Baltimore City & Washington, DC, 1992-1994	AA: 189	44/56	8.5-13	↑ Africentric values=↑ intolerant attitudes of drug use and drug harmfulness
Belgrave et al., 2000	Community, convenience sample	Elementary school in urban metro area in eastern U.S., 1995-1997	AA: 195	52/48	8-12	↑ Africentric values=↑ drug knowledge
Brook & Pahl, 2005	Community, convenience sample	Public school in East Harlem New York City, 1990,1995,2000	AA: 333	49/51	Grade 7-10	↑ Africentric=↓ drug use risk
Nasim et al., 2007	Community, convenience sample	Large metro area in Northeast U.S.	AA: 114	53/47	13-20	↑ Africentric beliefs=↓ alcohol use
Herd & Grube, 1996	National, randomized sample	Alcohol Research Group, 1984	AA: 1947	Data not provided	18+	↑ involvement in Black networks and Black awareness=↓ heavy use; via increased religiosity or decreased pro-drinking norms
Klonoff & Landrine, 1999	Community randomized sample	San Bernardino County, CA	AA: 520	47/53	18-79	↑ involvement in Black networks=↓ heavy use
Religiosity						
Klonoff & Landrine, 1999	Community randomized sample	San Bernardino County, CA	AA: 520	243M; 277F	18-79	↑ religious=↓ alcohol use

Authors	Recruitment	Data Source	Sample	Gender	Age	Results
Martin et al., 2004	National, randomized sample	National Survey of Black Workers (NSBW), 1998–2000	826 AA	Males only	18–96	↑church attendance and religiosity=↓consumption and problems
Nasim et al., 2007	Community, convenience sample	Large metro area in Northeast U.S.	AA: 114	53/47	13–20	↑religiosity=↓heavy use
Steinman & Zimmerman, 2004	Community, convenience sample	Public high schools in mid-sized city in Midwest	AA: 705	49/51	Grade 9–12	↑religious=↓alcohol use, for males
Wills et al., 2003a	Community, convenience sample	Information not provided	AA: 297	47/ 53	10–14	↑religiosity=↓substance use
Sex						
Caetano & Clark, 1998a	National randomized sample	Institute for Survey Research of Temple University, 1995	AA: 1582	41/59	18–60	males>females
Ford et al., 2007	National randomized sample	National Survey of American Life (NSAL)	AA: 837	40/60	55–93	males>females
Kandel et al., 1997	National, randomized multistage area probability sample	National Survey on Drug Use and Health (NHSDA), 1991–1993	AA: 20744	AA: 41/59	12–50	males>females
Parker et al., 1995	National randomized sample	NHSDA, 1988	AA: 1888	Data not provided	12+	males>females
SAMHSA, 2010	National randomized sample	NSDUH, 2009	AA: 29556	45/55	12–65	males>females
SAMHSA, 2011	National randomized sample	NSDUH, 2010	AA: 30233	45/55	12–65	males>females
Income						
Barr et al., 1993	Community randomized sample	New York State	AA: 777	43/57	18+	lower>higher males>females
Ford et al., 2007	National randomized sample	National Survey of American Life (NSAL)	AA: 837	40/60	55–93	lower>higher
Gilman et al., 2008	National randomized sample	NESARC, 2001–2002	AA: 5282	Data not provided	18–60	lower>higher
Herd, 1990	National randomized sample	Information not provided	AA: 723	Males only	18–60	lower>higher, heavy
Jones-Webb et al., 1995	National randomized sample	NAS, 1984	AA: 723	Males only	Data not provided	lower>higher, males
Age						
Caetano & Clark, 1998a	National randomized sample	Institute for Survey Research of Temple University, 1995	AA: 1582	AA: 41/59	18–60	older>younger, heavy use
Herd, 1990	National randomized sample	Information not provided	AA: 723	Males only	18–60	older>younger
Johnson et al., 1998	National randomized sample	Fighting Back community evaluation, 1992–1994	AA: 4691	Total: 43/57	12–80	older>younger

Authors	Recruitment	Data Source	Sample	Gender	Age	Results
Kandel et al., 1997	National, randomized multistage area probability sample	NHSDA, 1991–1993	Data not provided	Data not provided	12–50	older>younger alcohol dependence, males younger>older alcohol dependence, females

Note. The racial categories included are African American (AA) and European American (EA). Gender categories are male (M) and female (F). Current: current alcohol use, typically past month. Binge: binge alcohol use defined as five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy: heavy alcohol use defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on each of 5 or more days in the past 30 days. Lifetime: defined as drinking at any time throughout life.