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A Comparison of African-American versus Caucasian Men Screened for an Alcohol Administration Laboratory Study: Recruitment and Representation Implications

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Abstract

African-Americans are under-represented in alcohol research, especially alcohol administration laboratory studies. Specific recruitment of African-Americans into laboratory studies, however, may also inadvertently affect the generalizability of the findings. In the current study, we compared all African-American young adult men ($n = 53$) who volunteered and met criteria for an alcohol administration study to a sample ($n = 50$) of Caucasian men recruited for the same study. Groups were compared on variables including demographics, quantity and frequency of alcohol consumption and other substance use, consequences of use and psychopathology. Compared to their Caucasian counterparts, African-American men reported less drinking frequency and quantity, less use of other substances and fewer negative consequences, but their alcohol and drug use was more likely to be associated with various measures of psychopathology. Results suggest that even when recruiting participants using criteria that should minimize differences (i.e. all participants were “social drinkers”), differences on key variables were evident. These differences may have important implications for alcohol research.

Keywords

Alcohol Administration studies; African-Americans; Caucasians; Participant recruitment

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1. Introduction

Alcohol administration laboratory studies represent the most effective method of testing dose effects and other precisely measured variables on alcohol-related human behavior, such as likelihood to engage in risky sex or sexual aggression at different levels of intoxication. In the best of these studies, participants consume pre-determined doses of alcohol (or a placebo) in a double-blind procedure and their subsequent behavior is measured in a controlled environment. Although the strong internal validity of a laboratory study often produces valuable findings, alcohol administration studies are relatively scarce. In particular, researchers using them experience two limitations. First, a well-executed laboratory study requires much time, effort and, thus, financial support, to achieve the control needed (e.g. ensuring the double-blind) and deal with potential safety concerns (e.g. ensuring that participants do not leave intoxicated). Second, depending on the participant pool, generalizability of laboratory studies may be diminished. Related to this concern, alcohol administration studies have tested mostly Caucasian males (with some notable recent exceptions: e.g. Abbey et al, 2006; Davis et al, 2006, Testa et al, 2006). In fact, many early alcohol administration studies did not even report numbers of racial-minority participants, so probably their participation was negligible.

It seems obvious that increasing minority participation could increase generalizability of alcohol administration studies. However, Humphries, Weingart and Harris (2007) noted a somewhat germane concern in the parallel field of alcohol treatment research. Their review suggested that the strict inclusion and exclusion criteria needed to conduct well-controlled treatment studies may inadvertently affect generalizability of alcohol treatment research findings, particularly to minorities. The inclusion and exclusion criteria may exclude or include members of certain minorities disproportionately and may lead to a distortion of the sample that diminishes its representation of the population. Perhaps alcohol administration studies present parallel concerns, with similar limits and exclusions imposed on participant recruitment.

Recognizing the need for broader generalizability, alcohol treatment researchers gradually increased recruitment of minorities, especially African-Americans, over the last 20 years. In fact, the National Institutes of Health (NIH) mandates representation of minorities with a policy of inclusion (NIH, updated 2003) for NIH-funded research. Both the spirit and the letter of this policy influence recruiting for alcohol administration studies in our laboratory, so in the current paper we assessed recruitment and representation of minorities using the sample of African-American males from a recent laboratory alcohol study.

In developing the participant pool for this study of young (age 21–30) men's alcohol-related acceptance of sexual coercion (Noel et al, 2009), we made special efforts to recruit African-American males. For example, rather than targeting our university campus, we recruited participants in community settings where young men often gather, such as downtown, at local recreation and sports centers, at the beach, in bars and in clubs. All of our Graduate Laboratory Coordinators for the four years of the study were African-American graduate students who had an ideological commitment to more inclusion of minorities in alcohol research. Most of our "community recruiting teams" included at least one African-American graduate or undergraduate student and recruiters were reminded frequently that contacting African-American men who fit the age criterion was important. Nonetheless, even after three years, we were able to recruit and screen only 53 African-Americans male drinkers in the targeted age range who met our inclusion/exclusion criteria.

To assess how these men might compare and contrast with Caucasians who volunteered for the study, we compared the 53 African-American men with a sample of 50 Caucasian men

randomly drawn from the same pool of recruited participants. Our measures included drinking, drug use and psychological assessments.

2. Methods

2.1 Participants

The original participants were 539 men recruited from the local community over 3 ½ years. Inclusion criteria were age 21 to 30, regular alcohol consumption (light, moderate or heavy--no abstainers or infrequent drinkers) and heterosexual orientation (because we studied attitudes towards sexual coercion of women). Exclusion criteria were self-reported current or past alcohol abuse or dependence, severe psychiatric symptoms or medical conditions contraindicating alcohol consumption, and a history of excessive violent behavior while drinking (e.g. assaulting a police officer).

Mean age of the 539 participants was 22.9 (SD = 2.25). Most were single (334; 62%) or involved in a “steady dating” relationship (113; 21%). About 70% were students at the local state university or regional community college. They reported a mean of 39.5 (SD = 21.4) days drinking in the last 90, with 95 (17.7%) reporting daily drinking. Frequency of alcohol use, measured from “none” (0) to “everyday or almost everyday” (6), averaged 4.73 (SD = 1.1). Most (87%) reported 3–4 standard drinks or more, usually beer or hard liquor, when they drank. Scores on the RAPI averaged 42.4 (SD = 14.7) indicating that many had experienced some negative consequences of alcohol use in the last year (e.g., missing work or university classes, arguments with family members). About half (52%) reported using marijuana in the last 90 days, with 15.4% (83) reporting that they smoked pot “everyday or almost everyday.”

Participants selected for the current analysis included 1) all 53 African-American men (9.8% of the sample) we were able to recruit and screen; and 2) a comparison group of 50 Caucasian men selected randomly from the pool of 445 Caucasian men (82.6% of the sample) screened for the same study.

2.2 Procedure

2.2.1. Recruitment—Male and female teams of “recruiters” publicized the study by posting flyers around the community and making direct approaches to young men. We also maintained a website and dedicated telephone. As noted above, we made special efforts to maximize the number of African-American participants. All potential participants were told before screening that they must be age 21 and 30, physically healthy, willing to drink alcohol in a laboratory setting and that they would be paid \$15 for their time. Research Assistants scheduled screening sessions (about 45 minutes) in small group rooms on campus. Before his screening session, each participant signed a consent form approved by the UNCW IRB and was breath tested to ensure that he was completely sober while filling out the questionnaires.

2.2.2. Measures

Participants completed the following instruments

Drinking Frequency; Quantity and Problems: The Quantity-Frequency-Index (QFI) adapted from Cahalan, Cisin & Crossley, (1969) was used primarily to identify and exclude infrequent drinkers (less than once per month) and potential problem drinkers from the laboratory study. Participants reported their overall number of days drinking (of the last 90) and frequency and typical amounts of hard liquor, wine and beer they drank. The Rutgers Alcohol Problem Index (RAPI: White & Labouvie, 1989) screened for serious drinking

problems. The RAPI's 23 items assess frequency of specific negative consequences of drinking in the past 12 months (current study, $\alpha = 0.93$).

Drug Use and Problems: Since we did not plan to administer any psychoactive substances besides alcohol, screening for drug problems was limited to self-report of frequency of use of various drugs over the last 90 days and a set of generic questions regarding drug problems. Self-report of current drug problems disqualified a participant, but current drug use was acceptable. Drug use was rated for each substance on a scale of 0 (no use) to 6 (daily use).

Psychological Problems: The Symptom Checklist 90-R (SCL 90-R, Derogatis, 1977) screened for current psychological problems. The SCL-90-R is a 90-item self-report psychological symptom inventory designed to assess psychopathology along ten dimensions (e.g., somatization, obsessive compulsive, anxiety, depression, hostility and interpersonal sensitivity) and generates three summary scores including a Global Severity Index (GSI) of overall psychological impairment. In the current study, all scale α 's > 0.75 . Comparisons of the SCL 90-R scales with corresponding MMPI scales indicate a high concurrent validity (Derogatis, Rickels & Rock, 1976), yet it has the advantage of a shorter administration time than the MMPI.

3. Results

Sample differences were evident even at participant recruitment stage. We experienced difficulty recruiting African-American men into the study. About 50% (versus about 10% of the Caucasian men) approached by recruiting teams declined to participate because they were alcohol abstainers and, thus, ineligible for a laboratory study of drinking.

Further, demographic differences between the two samples emerged from the screening data. For example, although all participants were age 21–30, the 53 African Americans were older than the 50 Caucasians, M age = 24.4 ($sd = 2.9$) vs. 22.7 ($sd = 2.1$); and they were less likely to be attending college or university currently, 63.1% vs. 75.7%. Relationship status was similar: 79% of the African-American men reported being single or “steady dating” someone.

More importantly, analyses using hierarchical regression models (entering ethnicity and age first) revealed some drinking and drug use differences. Caucasians reported more drinking days in the last 90 ($M = 45.4$, $sd = 3.8$ vs. $M = 20.1$, $sd = 3.9$; $p < .0001$), and scored higher on the Rutgers Alcohol Problem Index (RAPI) ($M = 48.7$, $sd = 18.2$; $M = 38.3$; $sd = 17.7$; $p < .005$), indicating that they had experienced more negative consequences from drinking in the past year. Caucasians also reported more marijuana use overall (54% had used in the past 90 days vs. 35% of African-Americans) but the number who reported daily use of marijuana was similar (15% for both). Self-reported use of other illicit drugs was similar for both groups (about 4% of the sample). Thus, even though non-drinkers were excluded from screening, African-Americans overall reported less drinking and marijuana use than their Caucasian counterparts.

A MANOVA (SCL-90-R data) revealed no racial group differences on scores of the various indicators of psychological problems. However, further regression analyses revealed group-related differences in the relationships between substance use and psychological problems. For African-Americans only, the RAPI (the measure of alcohol negative consequences) was significantly correlated with the SCL-90-R Interpersonal Sensitivity and the Paranoia scale scores ($r = 0.47$, $p < .001$; 0.44 , $p < .002$). For Caucasians only, the number of days drinking was significantly correlated with Psychoticism ($r = 0.41$; $p < .006$). Finally, although African-

Americans' overall frequency of marijuana use in the last 90 days was lower than for Caucasians, African-Americans' marijuana use was significantly associated with Paranoia ($r = 0.45$, $p < .001$), Hostility ($r = 0.55$, $p < .0001$) and the SCL-90-R Summary Score, Global Severity Index ($r = 0.43$; $p < .001$).

4. Discussion

Results of this study are consistent with those of Humphreys et al (2007) in that they highlight the need to address subtle potential problems when recruiting for and generalizing from "representative" samples from different minority groups. Our intent during recruitment was that both the Caucasian and African-American participants would represent young adult alcohol-drinking men in the community and that findings from the study could generalize to that demographic. Perhaps they can, but our analyses suggest that there is also a division among the participants such that the African-American men are drawn from a different segment of the community population than the Caucasian men. For example, our analyses of the SCL-90 data, suggest that alcohol and marijuana use appear to relate to different psychological factors for the two groups of participants in the study.

National samples indicate that young adult Caucasian men are much more likely to be regular drinkers than young adult African-American men (USDHHS, 1998; Dawson, et al, 1995). Thus, perhaps drinking by young adult Caucasian men in our sample would be considered "mainstream" or likely to fall within usual social norms. On the other hand, the African-Americans who qualified for our study because of their drinking levels might have represented a group considered somewhat more socially "extreme" by families and friends within their social networks. In contrast to the Caucasians, their drinking behavior might represent violation of usual social norms regarding alcohol use and, further, suggests that they might be somewhat more likely to be "outsiders" in other ways. Even so, even when selected for drinking, overall they still report consuming less when they do drink, experiencing fewer negative consequences of drinking and using less marijuana than the Caucasians. Further, the African-American men in the sample were different than the Caucasian men in other possibly fundamental characteristics. They were older and less likely to be educated beyond high school.

In summary, although both groups of men were selected for factors important to the alcohol administration study, the pattern of their differences suggests that the Caucasian and African-American samples were not directly comparable. This highlights an important conundrum related to validity of alcohol administration studies, especially those researching alcohol's effects on social-cognitive and emotional factors. Similar to the point made by Humphreys et al (2007) about clinical trials, internal validity is the "selling point" of laboratory administration studies, but a subtle procedural decision such as participant selection may affect external validity or generalizability of results in unanticipated ways. Increasing the number of minority participants to the sample does not automatically make the results more generalizable. Yes, we need larger numbers of minority participants. However, before making general statements about their findings, researchers also must be aware of two intertwined variables: base rates and social norms for the studied behaviors within each population sampled and how their special recruitment efforts might affect the sample drawn.

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