

Are Social Network Correlates of Heavy Drinking Similar Among Black Homeless Youth and White Homeless Youth?

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ABSTRACT. Objective: Understanding factors associated with heavy drinking among homeless youth is important for prevention efforts. Social networks are associated with drinking among homeless youth, and studies have called for attention to racial differences in networks that may affect drinking behavior. This study investigates differences in network characteristics by the racial background of homeless youth, and associations of network characteristics with heavy drinking. (Heavy drinking was defined as having five or more drinks of alcohol in a row within a couple of hours on at least one day within the past 30 days.) **Method:** A probability sample of 235 Black and White homeless youths ages 13–24 were interviewed in Los Angeles County. We used chi-square or one-way analysis of variance tests to examine network differences by race and logistic regressions to identify network correlates of heavy drinking among Black and White homeless youth. **Results:** The networks

of Black youth included significantly more relatives and students who attend school regularly, whereas the networks of White youth were more likely to include homeless persons, relatives who drink to intoxication, and peers who drink to intoxication. Having peers who drink heavily was significantly associated with heavy drinking only among White youth. For all homeless youth, having more students in the network who regularly attend school was associated with less risk of heavy drinking. **Conclusions:** This study is the first to our knowledge to investigate racial differences in network characteristics and associations of network characteristics with heavy drinking among homeless youth. White homeless youth may benefit from interventions that reduce their ties with peers who drink. Enhancing ties to school-involved peers may be a promising intervention focus for both Black and White homeless youth. (*J. Stud. Alcohol Drugs*, 73, 885–889, 2012)

YOUTH WHO ARE HOMELESS and living on their own face multiple risks to their health, including substance use (Anooshian, 2005; National Coalition for the Homeless, 2008; Whitbeck, 2009). Among homeless youth in Los Angeles, 68% engaged in drinking during a past-30-day period (Wenzel et al., 2010). Given the multiple negative health consequences of drinking for youth (Herrick et al., 2011; Hingson and Zha, 2009; Miller et al., 2007; Sleet et al., 2010; Substance Abuse and Mental Health Services Administration [SAMHSA], 2003; West and West, 2007), understanding factors associated with heavy drinking among homeless youth is important for prevention efforts.

The social networks of homeless youth may influence drinking and other drug use (Duan et al., 2009; Rice et al., 2005; Tyler, 2008; Wenzel et al., 2010; Whitbeck et al., 1999). According to social learning theory, individuals' norms and behaviors may be influenced by people with whom they interact (Bandura, 1962). Relatives and network members who engage in pro-social behaviors (e.g., attend school regularly) may be protective against substance use (Rice et al., 2007; Tyler, 2008; Wenzel et al., 2010), whereas interacting with network members who engage in substance use is associated with greater use (Rice et al., 2005; Tyler,

2008; Wenzel et al., 2010; Whitbeck et al., 1999). Affiliating with other homeless youth may be associated with risk of using substances because of the communication of norms generally accepting of an alternative lifestyle (Johnson et al., 2005). Interventions that address social networks may have relevance in addressing substance use among homeless youth (Rice et al., 2008, 2011; Wenzel et al., 2010).

Among homeless youth, there has been no investigation of race-based differences in network characteristics and in the association of networks with substance use. The present study investigates differences in network characteristics between Black and White homeless youth and the association of network characteristics with drinking among these youth. Although rates of alcohol use are lower among Black than White youth (Johnston et al., 2003), Black youth experience more negative consequences, including school problems and risky sex (Belenko et al., 2004). Prevention science prioritizes culturally appropriate interventions, including attention to racial differences in social networks (Avalos and Mulia, 2011; Kumpfer et al., 2002).

The limited literature on racial differences in youths' homelessness, social ties, and drinking suggests several hypotheses. Because White homeless youth tend to be more accepting of the label and experience of homelessness than Black youth (Hickler and Auerswald, 2009), we hypothesize that Black youth will have fewer homeless persons in their networks than White youth, and that having homeless persons in the network will be associated with heavy drinking among White youth but not among Black youth. Some research involving nonhomeless Black youth suggests that

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both parental and peer consumption of alcohol or other drugs is associated with higher risk of substance use (Brook et al., 2010). Other research indicates that Black youth tend to maintain closer relationships with family and do not value affiliations with their peers as much as do White youth (Giordano et al., 1993). Therefore, we hypothesize that compared with White youth, Black youth will report more relatives in their networks. Because Black youth value their relationships with family members more than with their peers, they might therefore be less influenced by peer norms and more influenced by family norms regarding drinking. We therefore also hypothesize that relatives who drink will be more influential in Black youths' drinking than in White youths' drinking. Because previous studies on social network influences on homeless youths' drinking behavior suggests the importance of peer influences, and because research also suggests that Black youth value their affiliation with peers less than do White youth, we hypothesized that drinking behavior of peers in the network would be less associated with heavy drinking among Black youth than among White youth.

Method

Study design

We randomly sampled homeless youth ages 13–24 years from 41 shelters, drop-in centers, and street venues in Los Angeles County for a larger study investigating the social context of risky behaviors among homeless youth (Tucker et al., in press; Wenzel et al., 2010). We used a multistage design in which we selected sites and venues frequented by homeless youth and randomly sampled youth within sites and venues. Shelters and drop-in centers were eligible if the majority of clients were between ages 13 and 24 years and English speaking. The research protocol was approved by the RAND Institutional Review Board. A U.S. Department of Health and Human Services Certificate of Confidentiality was obtained.

Participants

Youth were eligible for the larger study if they were ages 13–24, not living with a parent or guardian, not getting most of their food and housing support from family or a guardian, were English speaking, and were homeless (Tucker et al., in press; Wenzel et al., 2010). Interviews were conducted between October 2008 and August 2009.

The present study focuses on the 235 youth, from the larger study sample of 419 youth, who self-identified as Black or African American (non-Hispanic) ($n = 116$) and White or Caucasian (non-Hispanic) ($n = 119$). Twenty-seven youth who identified with more than one race or were of mixed racial background were excluded. Thirteen

youth identified as being both Black or African American and White or Caucasian. Fourteen youth identified as being Black or African American and Asian, Native American, or Native Hawaiian. Individual, computer-assisted face-to-face structured interviews were conducted by trained interviewers and lasted an average of 60 minutes. Informed consents were collected from participants, who were paid \$25.

Measures

Outcome. We assessed heavy drinking behavior that is episodic (Centers for Disease Control and Prevention [CDC], 2008); for ease of reference, we refer to the outcome as “heavy drinking” throughout the article. Youth were asked on how many days in the past 30 days they had five or more drinks of alcohol in a row—that is, within a couple of hours (Centers for Disease Control and Prevention [CDC], 2008). A dichotomous variable indicated whether youth had engaged in heavy drinking on at least 1 day in the past 30 days.

Personal network characteristics of respondents. We asked respondents to provide first names of 20 individuals ages 13 or older that they knew, who knew them, and that they had contact with (in person, by phone, by internet, by mail) sometime during the past 3 months. Interviewers used standardized probes to assist participants in recalling 20 network members (McCarty et al., 1997; Tucker et al., 2009; Wenzel et al., 2009). Each participant nominated 20 social network members, as requested, and we concluded solicitation of names after the 20th person had been named. Ego-centric networks are the focus in this study and encompass the ties surrounding a single focal individual (Campbell and Lee, 1991; McCarty et al., 1997).

For this study, we included characteristics of network members in terms of types of persons and their drinking behavior. Types included individuals who are family, students who attend school regularly, employed persons, and homeless persons. We asked respondents about drinking behavior of their relatives and peers (i.e., persons other than relatives and adults in positions of responsibility); that is, “Who do you think drank alcohol to the point of being drunk during the past 3 months?” (Wenzel et al., 2010). We obtained the number of relatives and peers who drank to intoxication during the past 3 months and derived dichotomous variables for some of the measures given skewed distributions.

Background characteristics of respondents. We assessed age, biological sex, education level, past-30-day income, number of years homeless, and number of different states in which they had lived (Bellis et al., 2007; Elkington et al., 2010; Martino et al., 2011; Parriott and Auerswald, 2009).

Analysis

The analyses included weights to adjust for deviations from proportionate-to-size stratified random sampling

TABLE 1. Results of multivariate logistic regressions examining the association of social network characteristics with any heavy drinking days during the past 30 days, among Black homeless youth ($n = 116$) and among White homeless youth ($n = 119$), controlling for background characteristics

Network characteristics ^a	Black OR [95% CI]	White OR [95% CI]
Type of person		
Relatives (3 or more)	0.96 [0.26, 3.51]	0.48 [0.19, 1.23]
Students who attend school regularly (4 or more)	0.29 [0.08, 0.99]*	0.20 [0.05, 0.81]*
Employed persons (4 or more)	0.47 [0.13, 1.68]	1.80 [0.67, 4.80]
Homeless persons (2 or more) ^b	2.53 [0.62, 10.30]	9.82 [2.66, 36.31]*
Drinking behavior		
Relatives who drink to intox. (any)	1.18 [0.32, 4.33]	2.02 [0.81, 5.06]
Peers (neither relatives nor adults in positions of responsibility) who drink to intox. ^c	1.01 [0.88, 1.15]	1.23 [1.12, 1.34]**

Notes: OR = odds ratio; CI = confidence interval; intoxication. ^aEach social network characteristic was examined in a separate model to avoid multicollinearity problems. ^b“Homeless persons” was significant in the model for White youth but not for Black youth; however, the interaction between “peers who drink” and race was not statistically significant ($p < .05$) in the model for the combined sample of Black and White youth ($n = 335$; OR = 4.42, 95% CI [0.73, 26.61], $p < .10$). ^c“Peers who drink” was significant in the model for White youth but not in the model for Black youth; the interaction between “peers who drink” and race was also significant in the model for the combined sample of Black and White youths ($n = 335$; OR = 1.12, 95% CI [1.05, 1.41], $p < .01$).

* $p < .05$; ** $p < .01$.

(Skinner, 1989). We used chi-square or one-way analysis of variance to test for differences between the samples of Black youth and White youth in social network characteristics. Controlling for background characteristics, we conducted logistic regression analyses to examine network correlates of past-30-day heavy drinking among Black youth and White youth separately. For every network characteristic in these models that was significantly associated with heavy drinking in only one racial group (and thus suggestive of racial differences in the association of the network characteristic with heavy drinking), we tested significance of the observed difference using an interaction term in a regression model for the combined sample of Black and White youth ($N = 235$). Interaction terms were derived by multiplying race with the given network characteristic. In these models, we entered race, the network characteristic, and the interaction term, controlling for background characteristics.

Results

Youth differed significantly by race with respect to social network characteristics. Black youth, as opposed to White youth, reported more relatives (64.72% vs. 40.94%), $\chi^2(1) = 10.17$, $p < .001$, and more students attending school regularly (61.91% vs. 17.54%), $\chi^2(1) = 49.37$, $p < .001$. White youth were more likely than Black youth, however, to have homeless persons in their networks (88.68% vs. 56.81%), $\chi^2(1) = 35.55$, $p < .001$, to have relatives in their networks who drink to intoxication (39.07% vs. 33.77%), $\chi^2(1) = 8.08$, $p = .005$, and to have more peers who drink to intoxication ($M = 11.23$, $SD = 6.85$, vs. $M = 5.13$, $SD = 4.99$), $F(1, 233) = 60.86$, $p < .001$. A greater percentage of White than Black

youth drank heavily on at least 1 day during the past 30 days (52.87% vs. 17.90%), $\chi^2(1) = 24.10$, $p < .001$. (These results are not shown in the table).

Table 1 presents associations of the network characteristics with heavy drinking within each of the two racial groups. Controlling for background characteristics, both Black homeless youth and White homeless youth who had at least four persons in their networks who attend school regularly had lower odds of heavy drinking than their counterparts with fewer such persons (Black youth: odds ratio [OR] = 0.29, 95% CI [0.08, 0.99]; White youth: OR = 0.20, 95% CI [0.05, 0.81]). White youth were more likely to drink heavily when they had more peers in their network who drank to the point of being drunk (OR = 1.23, 95% CI [1.12, 1.34]), an observed difference between Black youth and White youth that was significant in analyses for the combined sample of youth. The presence of homeless persons in the network was associated with drinking among the White youth (OR = 9.82, 95% CI [2.66, 36.31]) but not among the Black youth; however, the interaction term was not significant in analyses for the combined sample of youth. Relatives in the network, relatives who drank to intoxication, and employed persons were not associated with heavy drinking in the separate models for either the Black youth or the White youth.

Discussion

Consistent with studies of nonhomeless youth (CDC, 2008, 2010; SAMHSA, 2009), Black homeless youth were less likely to engage in heavy drinking than their White counterparts. The greater consequences of drinking for Black

youth relative to White youth as shown in the study by Hingson and Zha (2009), however, underscore the importance of understanding and addressing heavy drinking among Black youth. The finding that Black youth have fewer homeless persons in their networks than White youth is consistent with previous research indicating that Black youth tend to not identify with the label or experience of homelessness (Hickler and Auerswald, 2009). That Black youth have more ties with relatives is consistent with research that Black youth maintain stronger affiliations with family (Giordano et al., 1993).

Network members who attend school regularly may have been influential in protecting against heavy drinking for both Black and White youth. This characteristic has been associated with lower rates of drinking and other drug use, as well as other risk behaviors, among homeless youth in other studies (Rice et al., 2007, 2011). The finding is consistent with social learning theory (Bandura, 1962), which posits that individuals' values and behaviors are influenced through observation of and learning from other people.

As hypothesized, drinking among peers was not associated with heavy drinking among Black youth but was associated with heavy drinking among White youth. Studies have shown that Black homeless youth value affiliation and closeness with their peers to a lesser degree than do White homeless youth (Giordano et al., 1993); thus, peer norms regarding drinking may be less influential among Black homeless youth. White youth in our study appear to be enmeshed in a network within which drinking is a prevalent and normative behavior engaged in by influential peers. Additional research may shed light on the conditions under which prevailing social norms about drinking are most and least influential in determining the drinking behavior of homeless youth from different cultural backgrounds. In contrast to our expectation, drinking by Black youth was not associated with relatives' drinking, perhaps due to our inability to distinguish parental behavior from that of other relatives in our data. Additionally, having homeless persons in the network was not associated with heavy drinking among White or Black youth.

A strength of this study is the probability sample of homeless youth in Los Angeles County, although results may not generalize to youth in other regions. The cross-sectional design, however, is a limitation that prevents us from understanding whether networks differ for Black youth and White youth over time. Longitudinal research has shown, however, that both social influence and social selection may operate concurrently among youth (Go et al., 2010; Mercken et al., 2007).

Although White youth were at higher risk for heavy drinking, this behavior requires attention in Black youth as well. Alcohol misuse carries risks for multiple negative consequences, including injury (Hingson and Zha, 2009; Sleet et al., 2010), risky sexual activity (Herrick et al., 2011), and poor physical health (West and West, 2007). Minority youth

are more likely than White youth to experience serious consequences of heavy drinking, such as school problems, risky sex, and involvement in the criminal justice system (Belenko et al., 2004). To the extent that homeless youths' drinking is influenced by their social networks (e.g., people who attend school regularly, peers who drink to intoxication), enhancing or reducing certain network ties may be important points of leverage for intervention (Rice et al., 2011; Valente et al., 2007; Wenzel et al., 2010).

This study is the first to our knowledge to investigate racial differences in understanding the association of social network characteristics with heavy drinking among homeless youth. Previous research has shown that homeless youth of different racial backgrounds define their needs differently, suggesting the importance of appropriately tailoring services (Hickler and Auerswald, 2009). Our findings support that for both Black and White youth experiencing homelessness, investments should be made in enhancing youths' ties to students who are regularly attending school. Enhancing ties to students who regularly attend school might be achieved by reintegrating school-age homeless youth into appropriate academic environments and affording higher educational opportunities to homeless youth.

The results indicate that White homeless youth are in particular need of interventions that reduce their ties with peers who drink. Because White homeless youth appear to be enmeshed in a "drinking culture," in that they are drinking more than Black youth and spending time with peers who drink to intoxication, programs to reduce heavy drinking among White youth may need to address this culture through network-based interventions that go beyond academic integration. Racial differences in network characteristics deserve further attention in relation to health risk behaviors to ensure that network-based interventions to reduce risky behaviors achieve maximum benefit among all homeless youth.

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