



Original article

Social Context of Sexual Minority Adolescents and Relationship to Alcohol Use


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A B S T R A C T

Purpose: Peer relationships are especially relevant during adolescence and may contribute to sexuality-based disparities in substance use. This study uses social network analysis to examine how social networks may serve as risk or protective factors for sexual minority youth in the context of alcohol use.

Methods: Social network analysis was applied to 11th to 12th graders in three diverse high schools in a rural area of the Southeast United States. The network consists of 1,179 students, 607 of whom were participants in the study and nominated friends. Regression models were used to examine how potential predictors of alcohol use may function differently for sexual minority and majority students.

Results: Approximately one fourth of students were classified as sexual minorities, inclusive of students who self-identified or reported any same-sex romantic attraction or sexual experience. These students did not use alcohol in greater amounts than students in the sexual majority. They received fewer incoming friendship nominations ($p < .05$) although a higher percentage of friendships were reciprocated ($p < .05$). They exhibited lower eigenvector centrality ($p = .01$), and their networks were less cohesive ($p < .001$). However, low centrality and low density did not predict greater alcohol consumption. Sexual minorities appeared to be influenced less strongly by peers' alcohol use, and friendships with sexual minorities further mitigated peer influence.

Conclusion: Sexual minorities occupied less prominent positions within their social networks. However, these network differences did not place sexual minorities at increased risk of alcohol use.

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IMPLICATIONS AND CONTRIBUTION

Sexual minority adolescents were in less central positions and had fewer friends on average; on the other hand, their friendships were more likely to be reciprocated, and they appeared less susceptible to the influence of peer alcohol use. Friendships with sexual minority students lowered the likelihood of drinking alcohol for all students.

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Sexual minority adolescents are a diverse population who may endorse same-sex romantic attraction, same-sex romantic or sexual behaviors, and/or a nonheterosexual identity [1]. Studies suggest sexual minority youth are at increased risk of participation in certain health risk behaviors, such as alcohol consumption [2,3]. This disparity is thought to result at least in part from minority stress experiences, such as stigma and discrimination [4–6]. However, factors other than identity-related victimization,

such as social and peer influence processes, may also contribute to risk differences [7].

Peer influence is a prominent factor in adolescent decision-making, including participation in health risk behaviors such as drinking alcohol [8]. Peers determine what behavior is socially acceptable through reinforcement, norms, and behavioral opportunities [9]. Most young people who consume alcohol have friends who do so as well, and the likelihood of drinking appears to increase in proportion to the number of friends who drink [10]. The positioning of adolescents within their social networks is also important—the degree to which adolescents are influenced by their peers varies as a function of both the individual's and their friends' popularity [11,12]. However, the social context of sexual minority youth has not been adequately explored. Better understanding of the social networks of sexual minorities and how those networks differ from the sexual majority may prove instrumental for understanding why sexual minorities have increased participation in certain risky behaviors.

At least one study has attempted to address this gap in the literature. Hatzenbuehler et al. [13] applied social network analysis to National Longitudinal Study of Adolescent to Adult Health (Add Health) data, collected from 1994 to 1995, to determine the extent to which peers of sexual minority youth use substances and how influential those substance-using peers actually are. They determined that same-sex or both-sex-attracted youth had more tobacco users in their networks, and that both-sex-attracted youths' networks had more alcohol users, relative to heterosexuals. Furthermore, they showed that these differences mediated sexual orientation–related disparities in tobacco and alcohol use.

Social acceptance of lesbian, gay, bisexual, and transgender (LGBT) persons has grown significantly over the past two decades [14], even in traditionally conservative areas of the United States [15]. New legal rights and protections have been enacted, including the freedom to marry, and LGBT persons are increasingly visible in mainstream news and popular media [16]. Although negative attitudes may still be prevalent in many areas, it is possible greater acceptance has contributed to quite a different school environment in recent years, with important implications for sexual minorities' peer relationships. Therefore, there is a need to examine peer relationships and how they relate to risky behaviors in contemporary and heterogeneous samples of sexual minority youth.

Social network analysis includes a powerful set of tools that can be used to illuminate peer relationships and social processes that influence substance use. We aim to use social network analysis to investigate 11th- and 12th-grade students from three diverse high schools in a rural area of the Southeast United States. We focus on three social factors we hypothesize are related to peer substance use, as well as potentially interacting with sexual minority status—popularity, peer group cohesion, and friendships with sexual minority peers. Popularity connotes peer group visibility, power, and prestige [17]. Both high and low popularity have been linked to adolescent substance use [18]. For example, research suggests that adolescents who are relatively isolated from the broader network are at increased risk of smoking [19,20]. Although less work examines peer group cohesion and its impact on peer influence, a more cohesive peer group could amplify peer influence processes. Cohesive groups are thought to provide consistent norms and behavioral modeling and impose greater sanctions for nonconformity [9,21]. Finally, we hypothesize friendships with sexual minority peers

are an important source of support for sexual minorities and may be associated with less alcohol use [22]. To operationalize these three social factors, we use three network metrics: eigenvector centrality (a measure of how popular and centrally located an individual is in their social network), egocentric density (a measure of how cohesive an individual's immediate friend group is), and sexual minority friend count. These metrics are then related to alcohol use. Alcohol use was selected as an exemplar risky behavior, given its substantial impact on adolescents and society [23].

We hypothesize, consistent with minority stress theories and with findings reported in the nationally representative Youth Risk Behavior Survey (YRBS) System [3], sexual minorities will use more alcohol than heterosexual students. Although stigma associated with sexual minority identities may have decreased in recent years, we also predict that sexual minority adolescents will be in less prominent positions within the school-based networks. Finally, we predict network differences will at least partially explain the higher frequency of alcohol use. Thus, we seek to (1) characterize the distribution of students with different sexualities, (2) examine differences in alcohol use by sexuality, (3) characterize the social networks of sexual majority and minority students, and (4) determine if network differences can explain differences in alcohol use. Therefore, social network factors will be considered as potential risk or protective factors in determining alcohol use.

Methods

Participants and procedure

Participants in the present study include 607 adolescents in the 11th and 12th grade (M age = 13.79, standard deviation = .71; 54.5% female) who were enrolled in a longitudinal study focused on adolescent peer relationships and health-risk behaviors. Participants were recruited for the broader study by distributing consent forms to all families of students in the seventh and eighth grade in three middle schools ($n = 1,463$) located in a rural, ethnically heterogeneous, middle-to-low income community in the Southeast United States. Of the targeted students, approximately 82.4% returned consent forms ($n = 1,205$), and 74.7% of parents granted consent for their children to participate ($n = 900$). Adolescent assent was obtained at the start of data collection, following written and verbal descriptions of the study procedures. Data for the present study were drawn from the fifth wave of data collection, during which 72.6% of the original consented sample participated ($n = 607$).

Trained research assistants administered questionnaires on laptop computers to small groups of participants during the school hours. Privacy screens were used to encourage honest responses and ensure participants' privacy during data collection. Participants received a small gift card for their participation. The study received approval by the human subjects committee of the university.

To derive their social networks, participants were asked to nominate friends from a list of all students in their grade in their current school. Student names were listed on the rosters in alphabetical order by last name; half of the rosters listed names A to Z, and half listed names Z-A. No limits were placed on the number of friends that a participant could nominate, and participants were not told to order their nominations in any particular way. Participants were allowed to nominate students

Table 1
Sexual minority students by identity, attraction, and sexual experience

| Gender ^a | Self-identification | | Romantic attraction | | Sexual experience | | Sexual minority status ^b | |
|---------------------|------------------------------|-------------------------------------|--------------------------|---------------------|--------------------|---------------------|-------------------------------------|------------------------|
| | Heterosexual/straight, n (%) | Sexual minority, ^c n (%) | Opposite sex only, n (%) | Any same sex, n (%) | No same sex, n (%) | Any same sex, n (%) | Sexual majority, n (%) | Sexual minority, n (%) |
| Male | 248 (92.2) | 21 (7.8) | 246 (91.4) | 23 (8.6) | 254 (94.4) | 15 (5.6) | 237 (88.1) | 32 (11.9) |
| Female | 261 (80.8) | 62 (19.2) | 237 (73.4) | 86 (26.6) | 233 (72.1) | 90 (27.9) | 205 (63.5) | 118 (36.5) |
| Total | 509 (86.0) | 83 (14.0) | 483 (81.6) | 109 (18.4) | 487 (82.3) | 105 (17.7) | 442 (74.7) | 150 (25.3) |

^a Fifteen participants declined to report their gender. These individuals were coded as sexual minorities only on the basis of self-identification, two of which met that criterion.

^b Sexual minorities are inclusive of all students who identified as a sexual minority or reported any same-sex romantic attraction or sexual experience.

^c 1.7% of all participants identified as gay/lesbian, 5.2% as bisexual, .8% as unsure, 3.0% as other, and 3.5% declined to use any label.

who were not part of the study. Given that some students moved outside the school district, matriculated to high schools outside of the study, were no longer enrolled in school, or were non-participants who received no nominations, the full network at T5 consists of 1,179 students. Among these students, 607 (51.5%) were study participants who nominated friends. Previous research suggests that a >50% participation rate combined with an unlimited nomination procedure leads to acceptable reliability of peer effects [24]. Furthermore, this rate of response compares favorably for a low-income rural sample.

Measures

Sexual minority status. Sexual orientation identity label was assessed by asking participants to respond to the following question: “Which of the following best describes how you think about yourself:” with the following answer categories: “heterosexual/straight,” “gay/lesbian,” “bisexual,” “I am not sure yet,” “I do not use a label,” and “other.” Students were asked to describe their romantic attraction using the following responses: (1) I am 100% attracted to boys, (2) I am mostly attracted to boys, but a little attracted to girls, (3) I am equally attracted to boys and girls, (4) I am mostly attracted to girls, but a little attracted to boys, and (5) I am 100% attracted to girls. Students were asked to report whether they had any romantic or sexual experience (kissing, sexual touching, and having sex) with either boys or girls. Students were classified as sexual minorities if they met any of the following criteria: non-heterosexual identity, any same-sex romantic attraction, or any same-sex sexual experience.

Alcohol use. Alcohol consumption was measured with a single ordinal item, also used in the YRBS [25]. Students were asked, “In the past year, on how many days have you had at least one drink?” with the following response categories: 1: “0 days,” 2: “1–2 days,” 3: “3–5 days,” 4: “6–9 days,” and 5: “10 or more days.”

Indegree, outdegree, and reciprocity. Indegree is a count of the number of incoming nominations an individual has, whereas outdegree is a count of the number of outgoing nominations an individual made. Reciprocity is the percentage of outgoing or incoming nominations an individual has that were reciprocated.

Eigenvector centrality. This network statistic assesses the “importance” of an individual within the social network [26]. Individuals who are highly connected with other highly connected individuals have high eigenvector centrality. Eigenvector

centrality is affected by nonresponse [27], in that with increasing levels of nonresponse, eigenvector centrality can differ wildly from the theoretical true eigenvector centrality of the whole network. Therefore, the calculation of eigenvector centrality is restricted to the subnetwork formed only by study participants, rather than also including nonparticipants.

Egocentric density. This network statistic assesses the cohesion of an individual’s immediate peer group and is calculated as the percentage of possible edges present within the subgraph formed by the individual and all individuals they nominate or are nominated by. This network statistic is calculated using both participants and nonparticipants, as it is based on in/out degree that has been shown to be less affected by nonresponse [27].

Sexual minority friend count. This is the raw number of friends who are sexual minorities, including both incoming and outgoing nominations.

Peer alcohol use count. Peer alcohol use was operationalized as the number of friends (incoming or outgoing nominations) that used any amount of alcohol.

Statistical analysis

Comparison of alcohol use and network statistics. Average alcohol use and mean network statistics were compared between the

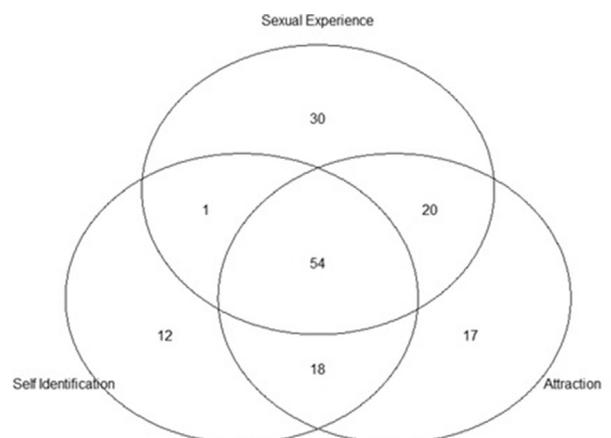


Figure 1. Identity, attraction, and behavior overlap in sexual minority students. A plurality of sexual minority students (54) reported same-sex sexual identity, attraction, and sexual experience, but the second largest group (30) reported same-sex sexual experience only.

sexual majority and minority using independent samples *t*-tests.

Regression models. To examine potential differences in predictors of alcohol use between the sexual majority and minority, linear regression models were used with sexual minority status as a moderator. We predicted individual alcohol use with main effects of centered peer use count, sexual minority status coded as 0/1, and a *Z*-scored network statistic, along with all two-way interaction terms. Models were fit separately to each network statistic, resulting in three total models (egocentric density, eigenvector centrality, and sexual minority friend count). Fitting models separately for each network statistic was chosen as each network statistic, whereas a priori related has a specific substantive interpretation. Effect sizes are calculated using standardized β , where both outcome and continuous predictors are standardized.

Results

Approximately one fourth of the entire sample ($n = 150$) was considered to be sexual minority on the basis of at least one of the three indicators (identity, attraction, and experience) (Table 1). More females were classified as sexual minorities than males. Interestingly, although a plurality of sexual minorities (54) endorsed all three indicators, there was substantial heterogeneity (Figure 1). For example, 67 students reported either same-sex romantic attraction and/or sexual experience but did not identify as sexual minorities. For the purposes of this study, to understand the broader sexual minority community and maintain adequate power, subsequent analyses combine sexual minorities into a single category.

Approximately half of all students consumed at least one alcoholic beverage in the past year. Amount of consumption did not differ significantly between sexual majority and sexual minority students. On average, sexual minority students drank on 2.24 days over the past year (one or more servings), whereas sexual majority students drank on 2.11 days (Table 2).

The networks of the three schools are depicted in Figure 2. Network statistics of sexual minority and majority students are

Table 2
Demographic characteristics and alcohol use of sexual majority and minority students

| | Sexual majority ($n = 442$), n (%) | Sexual minority ($n = 150$), n (%) |
|------------------------|---|---|
| Age at baseline (mean) | 13.76 | 13.87 |
| Gender | | |
| Male | 237 (88.1) | 32 (11.9) |
| Female | 205 (63.5) | 118 (36.5) |
| Race/ethnicity | | |
| White | 214 (47.0) | 60 (39.4) |
| African-American | 81 (17.8) | 51 (33.5) |
| Hispanic/Latino | 120 (26.4) | 26 (17.1) |
| Other | 26 (5.6) | 13 (8.5) |
| NA | 14 (3.0) | 2 (1.3) |
| Alcohol use (d) | | |
| 0 | 248 (54.6) | 66 (43.4) |
| 1–2 | 79 (17.4) | 34 (22.3) |
| 3–5 | 31 (6.8) | 20 (13.1) |
| 6–9 | 20 (4.4) | 13 (8.5) |
| ≥ 10 | 76 (16.7) | 19 (12.5) |

NA = persons who did not list any race/ethnicity.

compared in Table 3. Sexual minorities had a significantly higher percentage of friends who were also sexual minorities ($p < .001$). However, they were not more likely to nominate alcohol users as friends. Sexual minorities had significantly lower in-degree ($p = .005$) and out-degree ($p = .002$), but more friendships were reciprocated ($p = .04$). This suggests a smaller number of friendships, but that those friendships also tend to be closer. Eigenvector centrality was 75% lower for sexual minorities ($p = .01$), suggesting they occupy less prestigious, more peripheral positions within the network. Finally, their networks were less dense ($p < .001$), indicating their immediate ties are not as well connected to each other as seen in the sexual majority.

Three separate models were run to determine how egocentric density, eigenvector centrality, and presence of sexual minority friends were related to alcohol use (Table 4). All three models indicated that sexual minority status was not associated with alcohol use. As expected, all three models showed that having more peers who drank alcohol increased the likelihood of alcohol use ($\beta = .39, .25, .35$ respectively, $p < .001, .001, .001$).

Higher egocentric density was positively associated with alcohol use ($\beta = .13, p < .05$). Furthermore, there was evidence of an interaction between egocentric density and peer alcohol use ($\beta = .17, p < .05$). Students who belonged to dense networks whose friends also used alcohol had a higher likelihood of alcohol use above what would be expected from the sum of independent peer effects. Simple slopes analysis indicated that the effect of peer alcohol use at ± 1 SD away from mean egocentric density was significant (peer use $\beta = .22, .58, p < .05, .05$, for +1, –1 SD egocentric density, respectively).

Higher eigenvector centrality predicted alcohol use as well, but the effect was only marginally significant ($\beta = .13, p < .1$). As with egocentric density, there was an interaction with peer substance use, this time in the opposite direction—students with higher eigenvector centrality were impacted less by peer substance use (marginally significant, $\beta = -.06, p < .1$).

Greater numbers of sexual minority friends predicted less alcohol use for all students ($\beta = -.12, p < .05$). Furthermore, students with more sexual minority friends were influenced less by peer substance use ($\beta = -.12, p < .05$). A simple slopes analysis of this interaction indicated that the effect of peer alcohol use at ± 1 SD away from mean sexual minority friends was significant (peer use $\beta = .47, .23, p < .05, .05$, for +1, –1 SD sexual minority friends, respectively).

In all three models, the network variables operated similarly for sexual minority and majority students—no variable was more or less salient for sexual minorities. In two of the three models, however, there was a negative interaction between sexual minority status and peer substance use ($\beta = -.31, -.23, p < .05, .05$). This suggests alcohol use among peers was not associated with individual alcohol use for sexual minority students. In both cases, simple slopes analyses showed that although peer alcohol use was associated with alcohol use for sexual majority students ($\beta = .39, .25, p < .05, .05$), peer alcohol use was not associated with alcohol use for sexual minority students ($\beta = .07, .02, p = .51, .84$).

Discussion

Although sexual minority and majority students did not differ significantly in the amount of alcohol consumed, several interesting findings emerged from this social network analysis. First, the social position of sexual minority students was, on average, quite different. Although more friendships were reciprocated

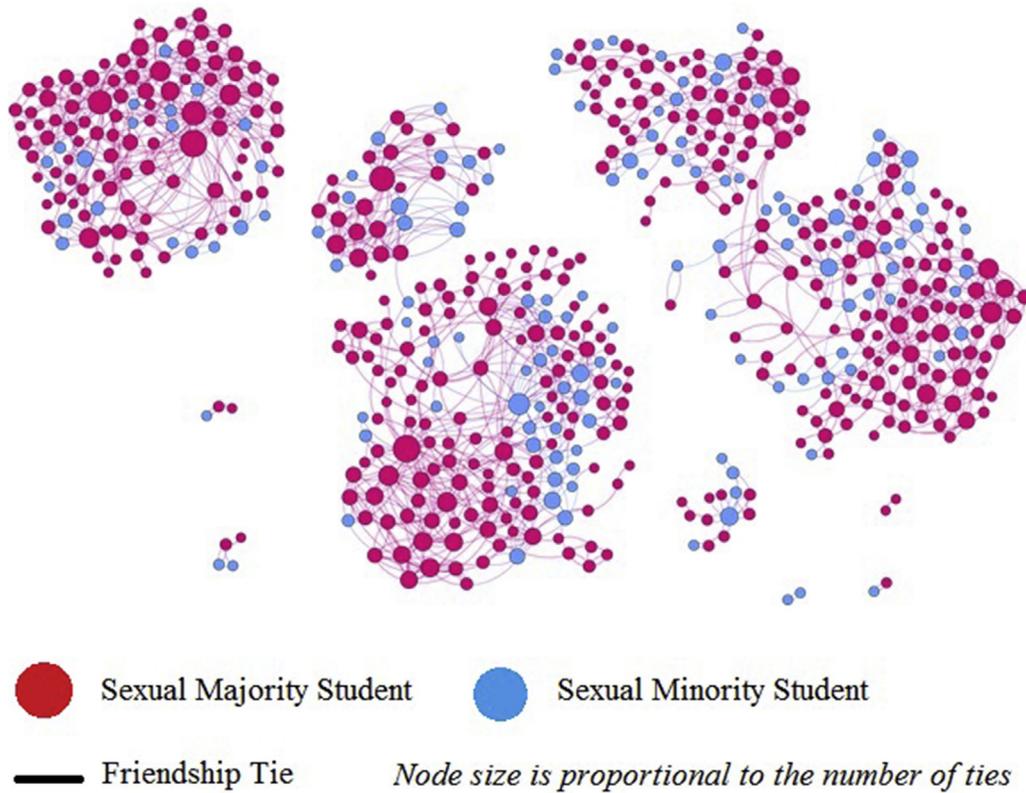


Figure 2. Network diagrams of three study schools. Red nodes represent sexual majority students, and blue nodes represent sexual minority students. Edges reflect friendship ties. Node size is proportional to the number of ties.

and a higher percentage of friendships were with other sexual minorities, they had fewer total friendships, less cohesive personal networks, and were in less prominent positions. This study did not attempt to investigate the numerous factors that may underlie these network differences, but we speculate lower objective social standing could partially reflect societal stigma toward sexual minorities. School-based victimization is common (i.e., 20.2% of all students bullied over the past year in the 2015 YRBS) [25], and sexual minorities are disproportionately affected [28,29]. The higher friendship reciprocity and greater tendency to form friendships with other sexual minorities may reflect coping mechanisms of sexual minority adolescents.

Table 3
Network characteristics of sexual majority and sexual minority students

| | Sexual majority | Sexual minority | <i>p</i> value |
|--|-----------------|-----------------|----------------|
| In-degree (mean) | 2.76 | 2.26 | .005 |
| Out-degree (mean) | 2.83 | 2.03 | .002 |
| % Sexual minority | 20.1 | 33.4 | .0007 |
| % Alcohol user | 53.6 | 48.8 | .24 |
| Eigenvector centrality | .020 | .005 | .01 |
| Egocentric density | .477 | .395 | .0002 |
| Sexual minority friends | 1.00 | 1.30 | .03 |
| Reciprocal friendships | .907 | .796 | .25 |
| % of total friendship nominations reciprocated | 20.7 | 26.7 | .04 |

Bold text denotes $p < .05$.

We hypothesized that, had alcohol use differed, network differences might help explain this disparity. Specifically, lower centrality, indicative of low prestige, might be associated with alcohol use as either a coping mechanism or attempt to increase popularity. Contrary to expectations, *higher* eigenvector centrality was marginally predictive, and *higher* egocentric density was significantly predictive of alcohol consumption. These results may reflect that having more friendships and more cohesive friendships creates and amplifies pathways through which peers can exert influence [30,31]. Occupying a central position may confer heightened sensitivity and awareness of peer norms [32].

Hatzenbuehler et al. [13] hypothesized that social isolation and rejection from the center of the social network would lead sexual minorities to join peer groups that may be antisocial or delinquent in nature, as these nonconformists would be more accepting of sexual minorities than the mainstream. Indeed, they found that sexual minorities were more likely to nominate substance users as friends but were not more likely to be friends with other sexual minorities [13]. We found the opposite, which is that sexual minorities were no more likely to nominate alcohol users as friends but were more likely to report friendships with other sexual minority adolescents. We speculate the difference may be at least partially attributable to significant attitudinal changes in regards to sexual minorities that have occurred since the mid-1990s. As an example, in 1988, nationwide support for same-sex marriage stood at only 11%. By 2010, a slight plurality of respondents (46% vs. 40%) supported same-sex marriage [14]. Although bullying and prejudice

Table 4

Regression models for network variables egocentric density, eigenvector centrality, and sexual minority friend count predicting alcohol use

| Effect | Egocentric density | Eigenvector centrality | Sexual minority friend count |
|---|--------------------------|--------------------------|------------------------------|
| Intercept | 2.19 (.07) | 2.11 (.07) | 2.13 (.07) |
| Sexual minority status | .14 (.14) [.09] | .15 (.14) [.09] | .24 (.14) [.16] |
| Peer use | .21 (.03) [.39] | .14 (.02) [.25] | .19 (.02) [.35] |
| Network variable | .19 (.08) [.13] | .2 (.12) [.13] | -.13 (.06) [-.12] |
| Sexual minority status × peer use | -.17 (.07) [-.31] | -.13 (.06) [-.23] | -.11 (.07) [-.20] |
| Sexual minority status × network variable | -.07 (.14) [-.04] | -.2 (.29) [-.13] | .09 (.1) [.08] |
| Peer use × network variable | .09 (.03) [.17] | -.04 (.02) [-.06] | -.05 (.01) [-.12] |

Unstandardized effect estimates with standard error are shown in parentheses. Effect sizes (standardized β s) are shown in brackets. Bold numbers reflect significance $p < .05$. Italicized numbers reflect marginal significance $.05 < p < .1$.

remain major challenges, greater acceptance has likely mitigated centrifugal movement of adolescents toward so-called “deviant” groups.

In addition, friendships with sexual minorities appeared to ameliorate the influence of peers who drink alcohol. Studies suggest that sexual minorities’ friendships with other sexual minorities provide multiple benefits, especially in terms of sexuality support [22,33]. Support from these friendships may lessen the appeal of drinking alcohol to conform to peer expectations. However, having more friendships with sexual minorities was associated with less alcohol consumption for all students. This raises the interesting question of why heterosexual students would also drink less. Antisocial bullying or teasing may adversely affect members of the sexual majority as well as minority [34]. It is possible friendships with sexual minorities mitigate the impact of such victimization for all students, regardless of sexuality [35]. The benefits of social connectedness between sexual minority students lend further support to making school-based organizations (e.g., gay-straight alliances) for LGBTQ+ (lesbian, gay, bisexual, transgender, queer, and related identities) youth available [36]. These initiatives can benefit students in multiple ways, including by serving as social outlets and safe spaces.

Another interesting finding pertains to the magnitude of influence of substance use by peers. Two of the three models indicated sexual minorities were less susceptible to influence in this regard. Peer substance use may have been less impactful because of the lower number of friendships or because those friendships that were present tended to be with less influential persons (eigenvector centrality reflects the standing of persons to whom one is connected).

Alternatively, perhaps the experience of being a sexual minority reduces one’s susceptibility to peer influence. Sexual minorities already transgress the “norm” of sexual identity. Perhaps then they experience less pressure to follow other social norms (less need to “fit in”). Given that students often are motivated to use substances to increase their social standing [37], sexual minorities may not feel the same pressure because substance use may be less salient than sexual orientation in determining their social standing. Compared with heterosexuals, sexual minorities may have more “cultural heterogeneity,” an ability to draw on different experiences and perspectives to facilitate their decision-making [38]. According to McGloin et al. [9], individuals who encounter only one set of normative values see fewer options when making behavioral choices, whereas “individuals who have been exposed to diverse norms have the ‘normative tools’ to evaluate and choose among a greater range of behavioral options” (p. 43).

This study has some notable limitations. We were unable to account for social ties to persons outside of school, as is typical of sociocentric network approaches. Furthermore, student participation could be biased in that students who were more likely to drink alcohol were also less likely to participate in the study. Generalizability of the results is limited because of the unique nature (rural and Southern) of the schools from which data were collected. In addition, the analytic strategy has a limitation. Although the use of network statistics does in part control for the dependency between individuals within a network and allows for analysts to specifically target certain network features for analysis, this approach does not fully control for the non-independence of the observations. However, more complex network analysis methods for examining peer homophily such as stochastic actor-oriented modeling require longitudinal network data and are less capable of targeting the specific network features we used here [39]. Furthermore, the decision was made to model an ordinal outcome using a linear regression framework. Although this is a limitation, such an approach avoids the assumption of drinking as an underlying, normally distributed latent factor and simplifies interpretation of estimates, effect sizes, and simple slopes. Although responses were assumed to be equally different from one another, findings resembled the results of ordinal regression.

Future studies should seek to elucidate network differences between distinct subgroups of sexual minorities. Prior evidence suggests same-sex-attracted and both-sex-attracted persons may differ in regards to important network variables [40], and that network variables may operate differently for males and females [32]. Our conceptualization of sexual minorities was intentionally broad and included adolescents who endorsed same-sex attraction or romantic experience but did not endorse a specific label. Adolescents with same-sex attraction may not feel comfortable using a label such as gay or bisexual for various reasons, especially in this rural area. Also, many adolescents do not “come out” to themselves or others (i.e., formally identify as a sexual minority) until closer to high school graduation or later [1]. The high percentage of students who were categorized as sexual minorities may reflect both the nature of adolescence, a period of identity development, and increasing acceptance of non-heterosexuality. Given the substantial heterogeneity in terms of identity, attraction, and behavior (Figure 1), our findings suggest that any study of sexual minorities should carefully consider the construct of the target population.

Contemporary high schools include a sizeable percentage of sexual minorities. Despite advances in LGBT rights and equality, from a network perspective, sexual minorities still occupy less prestigious social positions. Although sexual minority

adolescents were in less central and less cohesive locations, they were also more likely to experience reciprocated friendships. Contrary to previous research, sexual minority adolescents in this study did not report elevated levels of alcohol use and also appeared to be less influenced by alcohol-using peers compared with sexual majority adolescents.

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