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Sexual orientation, minority stress, social norms, and substance use among racially diverse adolescents

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ABSTRACT

Background: Sexual minority adolescents are more likely than their heterosexual peers to use substances. This study tested factors that contribute to sexual orientation disparities in substance use among racially and ethnically diverse adolescents. Specifically, we examined how both minority stress (i.e., homophobic bullying) and social norms (i.e., descriptive and injunctive norms) may account for sexual orientation disparities in recent and lifetime use of four substances: tobacco, alcohol, marijuana, and prescription drugs.

Procedures: A probability sample of middle and high school students (N = 3012; aged 11–18 years old; 71.2% racial and ethnic minorities) using random cluster methods was obtained in a mid-size school district in the Southeastern United States.

Results: Sexual minority adolescents were more likely than heterosexual adolescents to use substances, experience homophobic bullying, and report higher descriptive norms for close friends and more permissive injunctive norms for friends and parents. While accounting for sociodemographic characteristics, multiple mediation models concurrently testing all mediators indicated that higher descriptive and more permissive injunctive norms were significant mediators of the associations between sexual orientation and recent and lifetime use of the four substances, whereas homophobic bullying was not a significant mediator of the associations between sexual orientation and recent and lifetime use of any of the substances.

Conclusions: Descriptive and injunctive norms, in conjunction with minority stress, are important to consider in explaining sexual orientation disparities in substance use among racially diverse adolescents. These results have implications for substance use interventions among sexual minority adolescents.

1. Introduction

Numerous studies have found that sexual minority adolescents (SMA; e.g., lesbian, gay, bisexual) are at high risk of substance use and misuse. A meta-analysis found that SMA are 190% more likely to report a history of substance use compared to their heterosexual peers (Marshal et al., 2008). This disparity was recently highlighted by the Centers for Disease Control and Prevention, which found SMA at higher risk than their heterosexual counterparts of 11 of 13 tobacco use indicators and 18 of 19 alcohol and other drug use behaviors (Kann et al., 2016). Sexual orientation disparities in substance use are significant, especially because early age of onset is associated with an increased likelihood of addiction later in life (Grant et al., 2001). Moreover, research examining sexual minority substance use lacks racially and ethnically diverse samples (Institute of Medicine, 2011).

One prominent framework for understanding sexual orientation substance use disparities is minority stress theory (Meyer, 2003). This theory suggests that victimization, perceived and experienced discrimination, and internalized stigma related to their stigmatized sexual identity places SMA at risk of negative outcomes (Hatzenbuehler, 2009; Meyer, 2003), including substance use (Goldbach et al., 2014; Marshal et al., 2009). A recent meta-analysis by Goldbach et al. (2014) found that minority stressors, such as negative reactions to sexual orientation disclosure, sexual identity distress, internalized homophobia, and victimization, were positively correlated with substance use.

Although minority stress theory has been tested in numerous studies, including meta- analyses (Goldbach et al., 2014), it has been critiqued for a lack of attention to other factors that may influence the relationship between sexual identity and behavioral health outcomes. For example, Hatzenbuehler (2009) argued that while minority

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stressors lead to poor outcomes, factors such emotional dysregulation and maladaptive cognitive and coping processes should also be considered.

In the case of substance use, one factor independent of minority stress that has received little attention in the literature on SMA substance use disparities are social norms (Green and Feinstein, 2012). Social norms theory assumes that individuals incorrectly perceive that the attitudes, beliefs, and behaviors of others are different from their own and thus adjust their own behavior (Berkowitz, 2005). Both descriptive (i.e., perceptions of others' behavior) and injunctive (i.e., perceptions of whether a behavior is approved by others) social norms exist (Cialdini, 2003 Prentice and Miller, 1996), and the effects of these norms on the use of alcohol, tobacco, and other drugs are well documented (Berkowitz, 2005; Perkins, 2003).

Although social norms are considered a key intervention point for reducing substance use during adolescence (Berkowitz, 2005) and social networks have been a hallmark of substance use prevention research for nearly 30 years (Dishion et al., 2012; Hawkins et al., 1992 Oetting and Beauvais, 1987), there is a dearth of literature applying social norms theory to understanding sexual orientation substance use disparities. We identified only one study among adolescents which found that SMA girls had more descriptive norms regarding tobacco use than heterosexual girls, but these norms did not significantly mediate the association between sexual orientation and tobacco use; sexual orientation differences in tobacco norms were not found for boys (Austin et al., 2004). Limitations of this work include it being outdated as the data were collected in 19991, and it did not examine injunctive norms or substances other than tobacco.

Research involving young and middle adults has documented that alcohol use social norms specific to sexual minority communities were associated with more alcohol use among sexual minorities (Hatzenbuehler et al., 2008; Trocki et al., 2005). Another study found that sexual minority adult women perceived sexual minority women to drink more than heterosexual women and that more descriptive social norms (i.e., norms related to women in general and those specific to sexual minority women) and alcohol use were positively associated with each other over time (Litt et al., 2015). Moreover, a recent study found that sexual minority adults misperceived their sexual minority peers to be more likely to use alcohol and drugs to cope with minority stress (i.e., 2016 Orlando nightclub shooting), considering only a small portion of the sample was likely to do so (Boyle et al., 2017). These studies underscore the importance of examining social norms in understanding substance use; however, they did not clearly delineate between descriptive and injunctive norms, test the effects of norms on multiple substances, or examine these norms specifically among adolescents or with racially diverse samples. Adolescence is a critical period for substance use initiation featuring unique developmental factors and during which peers and parental influences are important; therefore, more research is needed to understand sexual orientation differences in descriptive and injunctive norms among adolescents and test how these norms may account for disparities in substance use.

The present study explored factors that contribute to sexual orientation disparities in substance use among adolescents. In an effort to test both minority stress and social norms theories, we examined how homophobic bullying (i.e., one form of minority stress) and descriptive and injunctive social norms may account for sexual orientation disparities in substance use, namely tobacco, alcohol, marijuana, and prescription drugs. Specifically, we (a) examined sexual orientation differences in homophobic bullying and descriptive and injunctive social norms regarding friends and parents; and (b) tested the mediating effects of minority stress and social norms on the relationship between sexual orientation and use of four substances (Fig. 1). Consistent with the literature on minority stress (Meyer, 2003) and research documenting more descriptive substance use norms among SMA compared to heterosexual adolescents (Austin et al., 20014), we hypothesized that SMA will experience more homophobic bullying and have more descriptive substance use friend norms than heterosexual adolescents, and that both of these factors would contribute to sexual orientation disparities in use of tobacco, alcohol, marijuana, and prescription drugs among adolescents. We also hypothesized similar patterns for injunctive substance use norms for friends and parents; however, given the lack of literature on SMA injunctive norms, these were exploratory hypotheses.

2. Methods

Secondary analyses were conducted using a dataset collected from the Youth Development Survey (YDS), a comprehensive cross-sectional survey of the primary school district of a large county in North Carolina. The YDS was originally developed in 1972 and has been conducted every two to four years using random cluster sampling. The institutional review board-approved survey covers topics including school bonding, relationships, bullying, substance use, and mental health.

2.1. Procedures

Following methods similar to other national U.S. adolescent surveys such as the Youth Risk Behavior Survey (Centers for Disease Control and Prevention, 2000) and Communities That Care (Substance Abuse and Mental Health Services Administration, 2004), all public middle and high schools in the county were invited to participate. Of the 67 schools invited, 66 schools participated in fall 2014. One school declined to participate because it served children with intensive special needs. To ensure a probability sampling frame, the survey was administered in classes where all students, regardless of achievement or other considerations, are required to participate. We randomly selected classrooms in the 6th, 8th, 10th, and 12th grades; in total, 219 classrooms were selected for participation. A passive parental consent was sent to parents that offered an overview of the study purpose and indicated they could contact the teacher or other school representative should they prefer their child not participate. No parents responded or declined participation of their child.

After classrooms were selected, opaque envelopes were stamped with basic classroom information (e.g., school name, teacher's name, number of students) and the appropriate number of blank surveys was placed inside the envelope. During a three-week period in late 2014, approximately 25 community volunteers were trained on best practices in survey research and went to schools to collect responses. Teachers were asked to leave the classroom during implementation to reduce response bias and adolescents were informed of their human subjects protections rights by trained proctors who administered the survey. Youth then completed the survey instrument independently and were instructed to place their survey into the opaque envelope directly. Prior to leaving the classroom, survey volunteers were instructed to seal the envelope in front of the students, and then returned the sealed envelope to the research team for data processing and analysis.

Surveyed youth returned 4259 surveys (94.5% response rate). Prior to modeling, the data was prepared and cleaned. Respondents that appeared to be actively dishonest or who responded incorrectly to validity checks were removed. These included those who endorsed use of a fictitious drug, daztrex, those who reported 30-day but not lifetime use of any substance, and those who reported an age of substance initiation that was greater than their reported current age. Of the remaining, 187 surveys were returned blank and 238 did not complete the sexual orientation measure and were removed from the sample. The final analytic sample was 3012 participants. Multiple imputation with chained equations was performed using IVEware (version 0.2) to create 20 datasets with no missing values on all outcome variables (Raghunathan et al., 2001).