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Substance use disorder prevention among sexual and gender minority youth

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Abstract

Substance Use Disorder (SUD) has a more prevalent effect on Sexual and Gender Minority Youth (SGMY), leading to a need for dedicated and specialized programs to reduce disparity. The review included 18 scholarly articles, ranging from the years 1992 to 2022. In the present review, we explored factors related to SGMY substance use, including those that protect and insulate this vulnerable population against a negative coping skill with a wide array of neurological, emotional, and societal adjustment problems. We concluded that SGMY experience SUD more than their straight, cisgender peers. Also, targeted interventions are necessary to curb maladaptive coping strategies and build resilience. Real-world implications of such research were discussed, and a path forward was presented to take care of a vulnerable population in need of intervention, assistance, and care.

Keywords: substance use, adolescent development, sexual and gender minority youth, prevention and intervention strategies, LGBTQ+

Substance Use Disorder Prevention Among Sexual and Gender Minority Youth

Substance Use Disorder (SUD) affects an upwards of 20 million Americans from ages 12 and up (National Center for Drug Abuse Statistics, 2020). According to The Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition, Text Revision (DSM-5-TR), SUD consists of three levels of severity (mild, moderate, or severe) depending upon individuals' number of symptoms out of the possible 11 listed (APA, 2022). Some of these symptoms include lack of control, impaired functioning, relationship deterioration, and increased tolerance (i.e., more substance is required to produce a similar effect). Research has shown that Sexual and Gender Minority Youth (SGMY) use substances at higher rates than their heterosexual, cisgender peers (Coulter et al., 2016; Felner et al., 2020; Watson et al., 2021).

The reasons for this disparity between cisgender, heterosexual youth and SGMY are complicated, but understanding can be aided by the minority stress model put forth by Meyer in 2003. The model describes the additional stress faced by Sexual and Gender Minorities (SGM) as a result of societal, structural oppression (Meyer, 2003). Using this theory, which was developed specifically with LGB (lesbian, gay, and bisexual) individuals in mind, the higher rates of substance use (including substance abuse and SUD) among individuals who are members of the LGBTQ+ (lesbian, gay, bisexual, transgender, queer, and others) community can be more easily understood. Considering these extra factors, new treatments and preventions can be devised to prevent these SGMY from engaging in illicit substance use and to dissuade them from abusing substances and risking the development of substance use disorders.

Adolescents undergo a critical period of cognitive and emotional growth (Steinberg, 2005). Thus, providing support and assistance at this age range can assist in nurturing positive development. Specifically, substance use is known to affect brain chemistry, notably reward

pathways involving dopamine (Volkow et al., 2007). Dopamine plays an important role in both cognition and mood (Diehl & Gershon, 1992), which further highlights the need for effective prevention and intervention strategies to be initiated at this developmental juncture. Additionally, known protective factors for SGMY are often identity-specific (Russell & Fish, 2016). Given that SGMY respond more effectively to identity-related interventions (Gillig et al., 2019), and that they suffer exacerbated rates of SUD (Green & Feinstein, 2012), it is valuable to explore methods to target this vulnerable population to reduce behavioral risks, enhance protective factors, and stimulate positive identity development.

By looking at specific protective factors and taking them into account when designing prevention and intervention strategies, the wellbeing of this vulnerable population may be more adequately supported. This paper reviewed the extant literature on SUD among SGMY and discuss the implications of these findings. First, we examined SUD to give an overview on what it means to be diagnosed with one. Next, we reviewed literature associated with SUD in the adolescent population at large, then narrow the focus to SGMY with a SUD to help showcase both the differences and similarities in the populations. Then, we discussed resilience and protective factors associated with SGMY as they relate to substance abuse and SUD. Also, the review addressed how to build those factors to protect this vulnerable population. Thereafter, the limitations of the current body of research, along with future research suggestions, was articulated. Lastly, the real-world implications of this review were discussed, specifically how they relate to improving quality of life for this marginalized population.

Methods for Literature Review

Articles were included based on relevance to the subject matter, as determined by a brief review of abstracts to evaluate pertinence, excluding articles that did not fit the subject matter.

Articles that were included were read to ensure accuracy, quality, and reliability. Articles were obtained through Google Scholar and the PsycINFO database by searches using the keywords “LGBTQ+,” “SGMY,” “SUD,” “Addiction,” and “Adolescent.” The conclusions of the literature review were reached based on the results of the studies included, and suggestions for future research were guided by an intent to reduce the harm caused by addiction on a vulnerable community.

Substance Use Disorder

DSM-5-TR Criteria

The DSM-5-TR orients SUD as containing at least two out of 11 listed criteria. The criteria generally encompass both former diagnoses of Substance Abuse and Substance Dependence from the Diagnostics & Statistical Manual, 4th Edition, Text Revision (DSM-IV-TR), rolling both elements of substance use into one comprehensive diagnosis. Further, the diagnosis specifies varying levels of severity based on the number of symptoms demonstrated by an individual (APA, 2022). For mild SUD, there must be two to three of the 11 symptoms present. For moderate, four to five of the criteria must be met. For severe, six or more criteria must be displayed. In general, the symptom criteria highlight lack of control, impaired daily functioning, development of withdrawal symptoms or tolerance, and relationship deterioration or strain.

Effects of Substance Use Disorder on Adolescents

Cognitive Effects

According to Thoma and others (2011), significant cognitive effects have been found regarding substance use and abuse. In their study, they had three groups: healthy control (HC), family history positive (FHP), and the final group all had a diagnosis of SUD. These groups were

compared on several cognitive variables, and the group with SUD had impaired memory, processing speed, and attention in comparison to their healthy peers (Thoma et al., 2011). Additionally, drinking intensity (measured as number of drinks per drinking day) was related to worse attention and executive functioning, and frequent marijuana use was linked with poorer memory. Notably, these are cognitive tasks requiring the use of the frontal lobe, a region of the brain known to undergo significant development in adolescence through young adulthood (Thoma et al., 2011). Given this region is supposed to be developing in this phase of life, and substance use and abuse appear to damage it, it can be deduced that substance use may be related to poorer cognition among adolescents that will last into their adult life. From this conclusion, it becomes clear that addressing adolescent substance use might prevent those deleterious effects before they cause long-lasting damage.

Emotional Effects

A review by Wilcox and colleagues (2016) categorizes four dimensions of emotional regulation: affect intensity/reactivity, affective modulation, cognitive modulation, and behavioral control. This review examined primarily neuropsychological literature as it relates to those dimensions, and thereby to emotional regulation. The researchers found negatively impacted regulatory activity, but the effects on the activating system were unclear (Wilcox et al., 2016). This implies that SUD patients tend to experience varying levels of amygdala activation, including no activation, hypo-activation, and hyper-activation, without a significant trend in one direction. Regardless of the lack of specified direction, it is important to note that addiction alters amygdala functioning, an important brain structure for emotional regulation. The disruptive effects of addiction on brain regions critical to emotion regulation make clear the debilitating effects of SUD during this critical time of emotional development (Kramer et al., 2003).

Substance Use Disorder among SGMY

Impact of Marginalized Identity

SGMY experience elevated and unique stressors related to the marginalization of their identity (Meyer, 2003). Homophobia and transphobia (discrimination against sexual and gender minorities) are pertinent, and intensity varies by location. For example, recent legislation in some Southern states (e.g., Florida's "Don't Say Gay" bill; Diaz, 2022) demonizes, degrades, and dismisses LGBTQ+ existence. Utilizing the minority stress model discussed earlier, the stress factors that could lead SGMY to substance use and abuse become easier to conceptualize and understand in the context of these publicly and systemically endorsed instances of discrimination.

Prevalence

SGMY tend to use substances at a higher rate than their heterosexual, cisgender peers. A review by Green and Feinstein (2012) on several studies examining drug and alcohol use compared LGB and straight-identifying adults. Most of the studies reviewed showed higher rates of substance use, problems, diagnosis with a use disorder, or treatment seeking in LGB populations than in heterosexual ones. While there were some exceptions, notably straight men showing more alcohol issues than gay men in a couple studies, these exceptions were not without similar research showing the opposite result (i.e., gay men demonstrated more alcohol issues than straight men). From this body of evidence, it can be concluded that LGBTQ+ individuals are more often affected by substance abuse and SUD than non-LGBTQ+ individuals. Further, Green and Feinstein (2012) discuss that several studies have demonstrated that substance issues are even higher among bisexual populations than those with sexual orientations exclusively focused on one gender (e.g., heterosexual, lesbian). While these findings indicate a need for

further research, they only contribute more to the idea that substance use, abuse, and disorder are more prevalent factors among the LGBTQ+ community, and could, therefore, be applicable to SGMY, as well.

SGMY-Specific Influences

Treatment and prevention strategies will be bolstered by considering SGMY-specific influences. For many youths, as reported by Felner and colleagues (2020), sexuality and/or gender identity and substance use are inherently intertwined. In the study, several participants made the direct connection between their substance use and their identity, often turning to substance use to self-medicate instances of family rejection (Felner et al., 2020). Such direct connections, however anecdotal, elucidate the idea that substance use for SGMY is often impossible to separate from the unique stresses and anxieties that they experience because of identity-related stigma.

Protective Factors and Resilience in SGMY

Prevention of Substance Abuse

SGMY both turn to and away from substances for reasons unique to their identity. Efforts to understand protective factors have uncovered important progressions in the pursuit of developing a SGMY-specific program. In 2020, Watson and colleagues examined school-aged children and found that, after considering school and demographic factors, community influences were related to lower rates of substance use. The combination of anecdotal accounts of substance use from SGMY and empirical data to validate those reports, strengthen each other and further the notion that community acceptance and validation plays a critical role in reducing substance misuse (and, SUD) in SGMY.

To address community concerns, one area to look at is legislation. Watson and others (2021) investigated the ways that LGBTQ+-friendly policies impacted SGMY substance use behavior. Findings were mixed, in that, LGBTQ+ policies were associated with a reduction in smoking, but an increase in binge drinking. Additionally, the same study showed that these policies were associated with decreased bullying. The results from this study show that community factors are more complicated than initially assumed. The researchers also encourage future work to focus on the role of macro factors on SGMY health (Watson et al., 2021). Community factors, however, were not the only factors explored in relation to the rates of substance use among SGMY.

Despite Watson (2020) specifying that community factors ranked above school and demographic factors, that is not to say that those factors do not matter. In particular, Coulter and colleagues (2016) found that alcohol consumption was associated with school climate data, which involved examining the number of schools with safe spaces and gay-straight alliances. More safe spaces and alliances were associated with a positive climate. Not only were there fewer binge drinking days for gay, lesbian, and questioning students in positive climates (i.e., climates affirming of SGMY), but they found that heterosexual students *also* binge-drank less (Coulter et al., 2016). This finding shows that creating a positive atmosphere for LGBTQ+ students is not solely for the benefit of those students alone, and only furthers the case for deliberately creating affirming and validating atmospheres.

SGMY and Resilience

To develop proper prevention programs specifically designed for SGMY, it is imperative to examine those factors that serve to increase resilience for this vulnerable population. Resilience can be defined as the ability to “respond effectively and bounce back in the face of

adverse circumstances” (Black & Hughes, 2001, p. 16). In the face of marginalization, oppression, and bias, developing resilience is an effective countermeasure for the unique stressors experienced by SGMY. Significant research has been performed on this idea and can be applied to create programming for this at-risk population. Schmitz and Tyler (2019) examined resilience development factors, which serve as buffers for SGMY substance use. Given the importance of resilience as a protective factor for SGMY, elucidating the development of this factor is critical. Schmitz and Tyler (2019) identified that, for LGBTQ+ students, perceiving their environment as supportive promoted resilience in the face of adversity pertaining to their sexual identity. The researchers highlight that social environment and context is a major factor in determining resilience development for youth. Therefore, fostering better senses of community and social situations is an evident path forward in the development of substance abuse programs directed at SGMY.

In examining resilience building through actual programming, Gillig and colleagues (2019) showcase the powerful effects of sexual and gender identity-specific interventions. Their study follows Camp Brave Trails, a summer camp designed specifically with the needs of LGBTQ+ adolescents in mind. According to the researchers, camp topics include courses in specific to queer experiences, including sex education (given parent approval). The camp is heralded for its ability to stimulate positive development in their campers (Gillig et al., 2019). The positive effects of this camp add to the notion that building community has healthful effects for SGMY. Community is consistently shown to be a major variable in developing prevention and treatment for SGMY, including for substance use and abuse. The study, which used a pre-post design questioning both campers and parents before and after their camp experience, found that campers reported increased identity affirmation, which in turn promoted their resilience

(Gillig et al., 2019). Such findings highlight the value of creating peer relationships, validating and affirming identity, and ensuring meaningful connection to others in the community.

Discussion

Limitations and Future Directions

While there has been significant research into protective and risk factors for SGMY relating to substance use, there are some limitations that must be discussed. In general, the research focused predominantly on White youth, focusing less so on youth of color. This bears mentioning because sexual and gender minorities are not exclusively White. Several LGBTQ+ cultural and societal icons are non-White (e.g., Marsha P Johnson, James Baldwin, Audre Lord), and to ignore that population creates a significant research gap. Moreover, holding multiple minority statuses is a unique challenge that is worthy of investigation. For example, being a queer person of color is not simply being both queer and a person of color, but a migration of those identities that come with their own stressors and unique challenges. Furthermore, there are sample size limitations in some of the studies conducting qualitative research. However, this limitation was expected given the greater intensity and investment in the single subjects of the study models. In other words, it would be costly and time consuming to conduct a qualitative study with larger sample sizes. Some studies also mentioned there were social desirability variables at play, notably Schmitz and Tyler (2019), which examined resilience in SGMY. It may be that these participants presented themselves as more resilient because it was protective for them to *appear* strong, despite being perhaps less resilient than admitted.

Future research should focus on interventions specific to SGMY, but that would require those specific interventions to exist in the first place. Further, research examining impacts of substance use should look to control for other variables that affect substance use rates in

adolescents; most studies accounted for a positive family history category, but not other risk factors such as location. Additionally, perceived parental religiosity has been shown to be a predictor of substance use among SGMY (Macbeth et al., 2022). Therefore, comprehensive and holistic research should look to account for these variables and determine what leads SGMY specifically to substance use as a coping skill. Previous research has demonstrated that these community factors are more important than demographics, but these findings need to be further explored (Watson et al., 2020).

Real-World Implications

SGMY use and abuse substances at higher rates than straight, cisgender adolescents. Moreover, substance abuse has been associated with reduced brain functioning and decreases in positive adjustment. Given these realities, the implications of research into this subject involve preventing an already vulnerable population from sustaining further damage to their well-being. These youth need help and support to develop positive coping skills, feel more comfortable in their communities, and improve their self-esteem, confidence, and self-efficacy. Furthermore, adolescence is a time period in which there is significant emotional and mental growth (Larson & Brown, 2007), and substance use and abuse deters that process. A proper prevention program needs to be developed for these youth to account for the unique stressors they experience and factors that are likely to contribute to their substance use, abuse, and disorder. As shown in the Gillig and others (2019) study about Camp Brave Trails, interventions for SGMY work well. However, tuning those interventions to substance abuse prevention will aid in removing a significant variable affecting SGMY and further putting them behind their straight, cisgender peers.

The reasons for SGMY substance use are due largely to external factors. As shown in several bodies of research discussed in this review (Coulter et al., 2016; Felner et al., 2020; Watson et al., 2020), SGMY turn to substances as a direct result of the treatment sustained from their communities, including their own families. Preventing substance abuse among SGMY cannot be complete without addressing these familial, societal, and communal concerns. It is vital to the prevention of SGMY substance use that the attitudes and treatment of the LGBTQ+ community be improved. Given an intervention program cannot be applied to an entire global population, current programs should focus on what *is* within their control. Those factors include resilience-building, identity affirmation, an intersectional approach, and decreasing self-stigma.

Conclusion

Interventions to decrease the disparity in substance abuse between SGMY and their straight, cisgender peers should be aimed at improving individual resilience factors, namely identity affirmation and community building. The development of these programs should account for and address the unique problems that SGMY face, and present viable solutions and positive coping skills for the prejudice that these adolescents are more likely to experience from members of their communities. Further, these programs should be backed by research that is diversely applicable and considers the intersectional experience of multiple minority statuses (e.g., being both queer and a person of color). Instituting systems and programs can be expected to have a better chance of preventing SGMY substance use than programs not specifically designed for that population, given that they address those unique challenges for that community.

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