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The Mental Health Of Sexual And Gender Minority Adolescents Living In Texas

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THE MENTAL HEALTH OF SEXUAL AND GENDER MINORITY

ADOLESCENTS LIVING IN TEXAS

by

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DEDICATION

To my mother, Norma Z. Morales

THE MENTAL HEALTH OF SEXUAL AND GENDER MINORITY

ADOLESCENTS LIVING IN TEXAS

by

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THE MENTAL HEALTH OF SEXUAL AND GENDER MINORITY

ADOLESCENTS LIVING IN TEXAS

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The University of Texas
School of Public Health, 2019

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Sexual and gender (SGM) adolescents face a higher burden of mental health disorders than their heterosexual and cisgender peers. SGM adolescents living in Texas are vastly understudied. Using three papers, this dissertation aimed to address this gap in knowledge concerning SGM adolescents in Texas. The aim of paper 1 was to analyze data from an online state-wide survey of SGM adolescents and adults in Texas to: 1) estimate the prevalence of anxiety, depression, and suicidal ideation; and 2) to determine which demographic, social support, and discrimination variables are associated with self-reported measures of depression, anxiety, and suicidal ideation. The aim of paper 2 was to: 1) conduct a secondary analysis of cross-sectional data from a drop-in center serving SGM adolescents to estimate the prevalence of depression and suicidal ideation in this sample; and 2) to examine associations between depression and suicidal ideation with measures examining their experience at school. The aim of paper 3 was to use qualitative data from parent-adolescent dyadic interviews to develop a concise explanatory model of the association between adverse childhood experiences (ACEs), maladaptive coping skills, and poor mental health among SGM adolescents. In Paper 1, our findings reflected similar findings from national samples. Poor mental health was positively

associated with identifying as non-monosexual, not being out to most or all people, not feeling at home with heterosexual peers or the SGM community, and experiencing discrimination in the past month. We also found identifying as Hispanic and non-Hispanic Black was protective. In Paper 2, we found SGM adolescents who were at a very high risk for suicidal ideation appeared to benefit from participating in a drop-in center. However, even with the support of peers, role models, and mentors provided by the drop-in center, we found school connectedness to be an important aspect of SGM adolescents' mental health. In paper 3, we found ACEs appeared to be the primary precursor to poor mental health. As a result of these adverse childhood experiences, adolescents developed poor coping skills when dealing with stress and anxiety. Inability to trust adults and be open about their needs were related to symptoms of mental distress. Given the implications of our findings, future research on SGM youth in Texas should include examining racial and ethnic differences among SGM adolescents' mental health, developing school-based interventions for promoting school connectedness, and adapting trauma-informed, family-focused interventions for SGM adolescents.

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Introduction to Sexual Orientation and Gender Identity

Sexual Orientation

The term Sexual and Gender Minority (SGM) encompasses individuals who identify as lesbian, gay, bisexual, transgender, genderqueer, queer, questioning, and with other non-heterosexual, non-cisgender identities. Research suggests youth may start becoming aware of their sexuality and attraction to others around age 10 (Carver, Egan, & Perry, 2004; Floyd & Stein, 2002; Herdt & McClintock, 2000). In the United States, this is typically when youth are in the fourth or fifth grade. Attraction may involve sexual, emotional, and/or erotic feelings for others. Attraction to members of the opposite sex is referred to as heterosexual orientation. Attraction to the same sex is associated with a homosexual orientation, while attraction to more than one sex is associated with bisexual orientation. Developing one's sexual orientation is a process that occurs over time and may be marked by some fluidity throughout one's life (Adelson, Stroeh, & Ng, 2016). However, research suggests adolescents are "coming out" or disclosing their sexual orientation at a younger age each decade, with the current average age of first disclosure at 14 years old (D'Augelli, Grossman, Starks, & Sinclair, 2010).

Gender Identity

Gender is considered a socially constructed concept that provides individuals with expectations of behavior most often attributed to being male or female. Gender identity refers to how an individual perceives themselves—their individual sense of gender. Gender

expression refers to the way individuals present themselves to society. Gender can be expressed in the way one chooses to dress, their mannerisms, or the way they interact with others (Adelson et al., 2016).

In the United States, gender has traditionally been assumed to be binary (male or female). While other societies embrace a third gender or have historically acknowledged that some individuals do not conform to a binary concept of gender, gender nonconformity is still met with some controversy in the United States (Adelson et al., 2016). However, gender nonconformity is more likely to be accepted when a female takes on more masculine attributes. Often, this is viewed as being a "tomboy" in youth. When males take on more feminine attributes, they are subject to more intense ridicule (being referred to as "sissy," or "mama's boy") and negative pushback (Coyle, Fulcher, & Trubutschek, 2016).

For transgender individuals, gender identity differs from the gender assigned for them at birth. When transgender individuals experience distress due to noncongruence, it is referred to as gender dysphoria. However, not all transgender individuals experience gender dysphoria. A non-heterosexual orientation, gender nonconformity, and gender dysphoria are independent of one another. While an individual may identify as bisexual and may exhibit some degree of gender nonconformity, that person may not identify as transgender (Adelson et al., 2016).

Factors Associated with Poor Mental Health among SGM Adolescents

Symptoms of mental disorders, such as major depressive disorder, most often begin directly proceeding and during young adulthood (Avenevoli, Swendsen, He, Burstein, & Merikangas, 2015). Compared to heterosexual, cisgender adolescents, researchers have

reported SGM adolescents are at an increased risk for depression and suicidality (Marshal et al., 2011). Other research indicates SGM adolescents are four times more likely than their heterosexual, cisgender peers to attempt suicide, and nearly half of transgender adolescents have considered suicide (Kann, Olsen, et al., 2016).

Adverse Childhood Experiences

One possible explanation for the higher rates of poor mental health outcomes among SGM adolescents is adverse childhood experiences (ACEs). SGM individuals report ACEs, such as physical and emotional abuse, neglect, or household violence, more frequently than heterosexual and cisgender individuals (Finkelhor, Shattuck, Turner, & Hamby, 2013; Schneeberger, Dietl, Muenzenmaier, Huber, & Lang, 2014). Individuals who report ACEs are at a greater risk for mental health disorders such as depression and anxiety (Hamilton et al., 2016). ACEs have also been used to explain physical health disparities among sexual minorities when compared to heterosexual individuals (Andersen, Zou, & Blosnich, 2015).

Stigma, Bullying, and Minority Stress

Generally, stigma is defined as being identified as disgraceful or dishonorable. From a social perspective, stigma refers to the difference in the way those of minority groups are presented and treated by society, which often results in less access to resources, less influence over others, and less control in the minority group members' lives. Stigma that occurs as the result of hegemonic heterosexuality is referred to as heterosexism (Herek, 2009). For SGM persons, stigma can lead to poor mental health and psychological distress, and stigmatizing events can have long-lasting effects on stigmatized individuals (Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009). A study of the effect of discrimination

on minorities found that across minority groups (Black, SGM, Hispanic, and female), discrimination was associated with mood disorders (OR = 2.1–3.1), anxiety (OR = 1.8–3.3), and substance use (OR = 1.6–3.5) disorders (McLaughlin, Hatzenbuehler, & Keyes, 2010).

Enacted stigma refers to the expression of stigma against minority populations. This includes discrimination, violence, harassment, and bullying (Herek, 2009). Consequences of enacted stigma against SGM adolescents are lower grade point averages, educational aspirations, and self-esteem when compared to heterosexual peers (Kosciw, Greytak, Giga, Villenas, & Danischewski, 2016). The most common form of enacted stigma is bullying against SGM adolescents and often occurs at school. The effects of bullying have been shown to last throughout adulthood, resulting in an increase of risky behavior and poor physical and mental health (Diaz, Kosciw, & Greytak, 2010; Earnshaw, Bogart, Poteat, Reisner, & Schuster, 2016; S. Russell, Ryan, Toomey, Diaz, & Sanchez, 2011).

According to the most recent GLSEN (formerly Gay, Lesbian, and Straight Education Network) survey of SGM adolescents attending school in the United States (Kosciw et al., 2016), nine out of ten students reported being harassed at school, most commonly due to their sexual orientation and gender expression. Seventy-five percent of students were verbally harassed because of their sexual orientation, and more than half were verbally harassed because of their gender expression. Over 25% of students were physically harassed because of their sexual orientation, and 20% were physically harassed because of their gender expression. Approximately one in six students were physically assaulted at school, most often due to their sexual orientation or gender expression.

Minority Stress Theory

The Minority Stress Theory (Meyer, 2003) is a framework for understanding how stigma affects the health of SGM adolescents. The Minority Stress Theory posits that individuals in minority groups are exposed to "excess stress" because of their stigmatized position in society. The stress felt by stigmatized individuals requires an adaptation to society not required by those in the majority. The stress is also a result of structural stigma, which is reflected in laws and policies that exclude or limit the rights of the minority group. According to the Minority Stress Theory, health disparities, whether physical or mental, are the result of this chronic stress on minority groups.

According to the Minority Stress Theory , stress experienced by minority populations is additive. The more minority statuses individuals hold (whether through sexual orientation, race/ethnicity, or gender), the more likely individuals are to experience social stigma and have a greater number of stressors. Indeed, researchers have found racial and ethnic disparities exist among SGM populations, with Black and Hispanic individuals experiencing higher rates of depression, suicidality, and other poor mental health outcomes (Borowsky, Ireland, & Resnick, 2001; Budge, Thai, Tebbe, & Howard, 2016; Consolacion, Russell, & Sue, 2004; Kuper, Coleman, & Mustanski, 2014; Ryan, Huebner, Diaz, & Sanchez, 2009).

However, despite disparities among Black and Hispanic SGM populations, other research suggests holding multiple identities may benefit individuals by allowing them to switch among different social identities in accordance with goals, needs, or contexts (Johnson et al., 2006; Kang & Bodenhausen, 2015). This suggests that SGM individuals, when feeling stigmatized due to their sexual orientation or gender expression/identity, may rely more on

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other identity groupings to assist in coping. When SGM individuals feel stigmatized because of their race/ethnicity, they may rely more on their friends, family, peers, and other support networks to assist in coping.

Hendricks and Testa (2012) adapted the Minority Stress Theory to create a conceptual framework for clinicians working with transgender and gender nonconforming clients. Because transgender individuals who have been subjected to negative life events are at an increased risk for anxiety, mood disorders, and suicidal behaviors (Goldblum et al., 2012; Testa et al., 2012), the researchers advocate for the evaluation of discrimination and victimization experiences when clinicians assess clients' needs. Additionally, they recommend clinicians should encourage transgender patients to engage with others in the transgender community to help create positive coping mechanisms for stressful life events (Hendricks & Testa, 2012).

Research among sexual minority adolescents reflects similar findings. Lesbian, gay, and bisexual adolescents who report more ACEs are more likely to have suicidal ideation than heterosexual adolescents (Kristen Clements-Nolle et al., 2018). Maladaptive coping mechanisms to stressful situations have been used to explain the effects of ACEs on mental health disorders. For example, avoidant coping and withdrawal are associated with depression and anxiety (Seiffge-Krenke, 2000).

Protective Factors for SGM Adolescents' Mental Health

Social Support

Social Ties theory posits that social support from primary ("significant others": family, relatives, close friends) and/or secondary ("similar others": peers, co-workers,

organization members) groups act as a buffer between stress and physical and mental health. According to Social Ties theory, primary and secondary ties buffer stress by providing emotional sustenance and active coping assistance. Additionally, secondary ties allow for social influence/social comparison that encourages positive health outcomes among similar individuals (Thoits, 2011).

Primary ties are thought to offer emotional sustenance by being caring, offering sympathy during times of distress, and offering comfort simply by being present. By offering emotional sustenance, primary ties increase an individual's self-worth and acceptance. Primary ties provide active coping assistance in several ways. They can provide food, housing, financial support and other forms of instrumental support. They offer advice and information, and they encourage coping. Thoits suggests instrumental support benefits SGM individuals most, because friends and family may not be directly affected by the same stresses and may not be able to provide tailored and/or useful advice.

In contrast, secondary ties, though possibly less emotionally or financially invested in the individual than primary ties, are thought to offer emotional sustenance by empathizing, enabling an individual to vent about their stressors, validating an individual's feelings or concerns, and being emotionally "there" for distressed individuals. Secondary ties assist in active coping by offering tailored and useful information, advice, feedback, and encouragement. Secondary ties have the benefit of shared experience not often present among primary ties.

Secondary groups can also serve as role models for the individual. This allows for social influence/social comparison to occur. Similar others who have experienced and

overcome similar stressors can help an individual generate hope for the future and motivate them to achieve similar goals through a sense of personal control.

Among SGM adolescents, research suggests social support from one's family, peers, and significant others is protective against loneliness, hopelessness, depression, and other poor mental health outcomes. Although SGM adolescents benefit from a combination of all sources of support, non-family support appears to be protective against hopelessness and anxiety even in the absence of family support (McConnell, Birkett, & Mustanski, 2015). While McConnel, Birkett, and Mustanski (2015) studied the impact of these relationships on SGM adolescents together, most research on the role of social support and SGM adolescents has focused on family and non-family relationships separately.

Family Support

SGM adolescents differ from non-SGM adolescents based on perceived life challenges. When asked what challenges SGM adolescents face due to their sexual orientation or gender expression/identity, the majority of SGM adolescents reported their primary challenge was non-accepting families. In contrast, the majority of non-SGM adolescents reported classes/exams/grades as their primary challenge (Human Rights Campaign, 2012).

The Family Acceptance Project (FAP) (Ryan, Russell, Huebner, Diaz, & Sanchez, 2010) was a multiphase study conducted with SGM adolescents and their parents/primary caregivers in California. The FAP was conceptualized as a research, education, intervention, and policy initiative that aimed to: 1) help diverse families support their SGM children; 2) improve the health and well-being of SGM children and adolescents; 3) prevent

homelessness among SGM adolescents; 4) inform policy regarding SGM adolescents and

their families; and 5) develop a family-based model of wellness, prevention, and care to

promote the well-being of SGM adolescents and decrease risk behaviors. The researchers

found family acceptance of SGM adolescents predicted higher levels of self-esteem, social

support, and overall health. Family support also protected against depression, substance

abuse, and suicidality (Ryan et al., 2010).

Based on findings from the FAP, Ryan et al. (2010) summarized which family

behaviors were more likely to increase SGM adolescents' risk behaviors and which family

behaviors reduced SGM adolescents' risk behaviors and promoted well-being. Behaviors that

increased risk behaviors were physically assaulting SGM adolescents because of their

identity, verbal harassment of SGM adolescents, excluding SGM adolescents from activities

with family members, restricting access to other SGM adolescents, blaming adolescents for

victimization from others, pressuring adolescents to conform to society's standards of

masculinity and femininity, using religious beliefs to instill fear or intimidation for

adolescents' sexual identity or gender expression, and expressing shame for SGM

adolescents. Behaviors that promoted well-being included talking with adolescents about

their SGM identity, supporting identity despite possible discomfort, expecting respect for

adolescents' identity from other family members, helping adolescents find positive role

models, ensuring that one's religious community was welcoming of SGM populations,

welcoming other SGM adolescents to events and into one's home, supporting an adolescent's

gender expression, and believing that SGM adolescents will grow up to be happy and

successful.

Despite Ryan's suggestions and other research indicating the importance of parental support to the mental health of SGM adolescents (McConnell, Birkett, & Mustanski, 2016; Russell & Fish, 2016; Simons, Schrager, Clark, Belzer, & Olson, 2013), current research is lacking regarding whether parents are engaging in these behaviors and whether adolescents agree that parents express their support in the best way possible. For example, to our knowledge, no research exists examining parental support among parent-adolescent dyads. To continue supporting SGM adolescents and their families, future research should further examine how families support SGM adolescents.

School Support

Social support from peers often develops in school, and these school-based connections can be protective against depression and foster academic achievement (Schwartz, Gorman, Duong, & Nakamoto, 2008). Additionally, schools can have a positive effect on adolescents' mental health by creating a positive school climate. School climate is based on the norms, values, relationships, teaching styles, and organizational structures of a school (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013). A positive school climate can create feelings of school connectedness among students (Ruus et al., 2007; Shochet, Dadds, Ham, & Montague, 2006; Thapa et al., 2013).

School connectedness is defined as the extent to which students feel acceptance, respect, care, and support from their school environment (Joyce & Early, 2014). School connectedness is negatively correlated with depressive symptoms and suicidality (Anderman, 2002; Langille, Asbridge, Cragg, & Rasic, 2015; Resnick et al., 1997). Although school connectedness is protective against poor mental health, it may be difficult for SGM

adolescents to develop feelings of school connectedness due to high rates of discrimination, violence, harassment, and bullying (Diaz et al., 2010). These negative school experiences can lead to lower grade point averages, educational aspirations, and self-esteem among SGM youth (Kosciw et al., 2016). Additionally, bullying may have long-term effects which can last throughout adulthood and result in increased risky behavior and poor physical and mental health (Diaz et al., 2010; Earnshaw et al., 2016; Russell et al., 2011).

Although a positive school environment is important to SGM adolescents' mental health (Denny et al., 2016; Kosciw et al., 2016; Marx & Kettrey, 2016; Russell et al., 2011), it is less clear how Texas schools are addressing the needs of SGM adolescents. In Houston, previous research on social support among SGM adolescents attending a drop-in center have not included school variables (Romijnders et al., 2017; Wilkerson, Lawler, Romijnders, Armstead, & Bauldry, 2018; Wilkerson, Schick, Romijnders, Bauldry, & Butame, 2017). Therefore, it is important to examine how the school environment impacts SGM adolescents' mental health to help tailor potential interventions that foster social support in Houston-area schools.

Genders and Sexualities Alliances

When SGM adolescents were asked who among family, heterosexual friends, or SGM friends provided the best sexuality-related support for coping with stressors, they rated SGM friends highest (Doty, Willoughby, Lindahl, & Malik, 2010). This finding emphasizes the importance of facilitating friendships with other SGM adolescents. One way this has been accomplished is through Genders and Sexualities Alliances (GSAs; formerly Gay-Straight Alliances) in schools.

In a systematic review of 15 studies examining GSAs, it was found GSA presence at schools was associated with significantly lower levels of self-reported victimization, fear for safety, and overhearing of homophobic remarks among SGM adolescents (Marx & Kettrey, 2016). Presence of GSAs has also been associated with a decreased risk of suicidality (Goodenow, Szalacha, & Westheimer, 2006), more positive school experiences, and decreased alcohol consumption and psychological distress (Heck, Flentje, & Cochran, 2013).

Drop-In Centers

Community-based drop-in centers are another way to connect SGM adolescents with other SGM peers. In their study of a drop-in center in Houston, Texas, researchers found SGM adolescents participating in *Hatch Youth* experienced in an increase in bonding with family and friends, self-esteem, and empowerment (Romijnders et al., 2017). SGM adolescents who attended *Hatch Youth* for six months or longer reported higher amounts of social support compared to adolescents who attended for a month or less. Social support was associated with lower depressive symptoms, higher self-esteem, and greater coping abilities (Wilkerson, Schick, Romijnders, Bauldry, & Butame, 2017).

Hatch Youth's programming is unique because it places strong emphasis on adult role models and mentors who are advocates in Houston's adult SGM community. *Hatch Youth* participants are encouraged to be part of Houston's greater SGM community and be proud to represent SGM adolescents (Romijnders et al., 2017). Consistent with Thoits's (2011) Social Ties theory, findings from *Hatch Youth* and other research concerning role models (Bird, Kuhns, & Garofalo, 2012) and mentoring (Johnson & Gastic, 2015) illustrate the importance of role models to SGM adolescents' empowerment.

A theoretical framework was developed to explain how community-based organizations can empower SGM adolescents (Wagaman, 2016). Wagaman argues community engagement and critical consciousness are key components to empowerment. However, research on community-based organizations is sparse, and more research is needed to determine if other programming components also help encourage empowerment.

SGM Adolescents Living in Texas

While no data exist on the proportion of adolescent Texans who identify as a sexual or gender minority, data from the 2015 Youth Risk Behavior Surveillance System indicate that nationwide, 88.8% of high school students in the United States identified as heterosexual, 2.0% identified as gay or lesbian, 6.0% identified as bisexual, and 3.2% were not sure of their sexual identity (Kann, Olsen, et al., 2016). In a multicity cohort study that included 10th graders from Houston, researchers found 21% of girls and 8% of boys reported they did not identify as only heterosexual or straight, nor were they only attracted to the opposite sex (Schuster et al., 2015).

Some states, such as California, Iowa, Maryland, New York, New Jersey, and others, have developed laws requiring school boards to create anti-harassment policies which include sexual orientation and gender expression/identity. However, Texas currently does not have laws prohibiting against harassment, bullying, or discrimination of students based on sexual orientation or gender expression/identity (Human Rights Campaign, 2017; Movement Advancement Project, 2018). Additionally, Texas has a "Don't Say Gay" or "No Promo Homo" law, which explicitly prohibits health educators from discussing SGM issues with students in kindergarten through the 12th grade (Movement Advancement Project, 2018).

SGM adolescents living in states with similar laws, such as Oklahoma, Arizona, Utah, and Louisiana, are less likely to report having supportive teachers or staff in their schools. They also report less SGM resources in school, less intervention when bullied, and more homophobic remarks from staff than adolescents living in states without similar laws (Kosciw, Greytak, Diaz, & Bartkiewicz, 2010). Alternatively, research suggests enacting policies that protect SGM students from harassment, bullying, or discrimination may have a positive effect on the mental health of SGM adolescents (Hatzenbuehler & Keyes, 2013).

To help determine the needs of SGM individuals in Texas, the *Tell Us, Texas* survey was an online survey of SGM adolescents and adults living in Texas. Preliminary findings suggest that identifying as Hispanic or Latin/o/a/x may be protective against suicidality (Lawler, Wilkerson, DiPaola, & Schick, 2017). A possible explanation for this finding is that because Hispanic culture is so prevalent in Texas, being Hispanic fulfills a need for in-group affiliation despite SGM identity. Future research is needed to determine if this finding is replicable in a solely adolescent sample, if the preliminary model remains significant for other mental health outcomes, and why identifying as Hispanic may be protective.

PUBLIC HEALTH SIGNFICANCE

There is a high burden of mental health disorders among SGM adolescents. Although research suggests enacting policies that protect SGM students from harassment, bullying, or discrimination may have a positive effect on the mental health of SGM adolescents (Hatzenbuehler & Keyes, 2013), Texas's political climate is unfriendly to SGM adolescents (Human Rights Campaign, 2017; Movement Advancement Project, 2018). Therefore, SGM adolescents living in Texas may be at an increased risk for mental health disorders compared

to SGM adolescents who live in more tolerant, accepting environments. Findings from this dissertation could help researchers, clinicians, and SGM-serving community organizations better understand the mental health of SGM adolescents living in Texas.

This dissertation included data from the *Tell Us, Texas* survey. The *Tell Us, Texas* survey was designed to reach SGM individuals throughout Texas by using an online format. This format allowed researchers to reach individuals who may not be easily accessible to researchers, such as those located in rural areas. To our knowledge, there have been no other online studies of SGM adults or adolescents in Texas.

Additionally, this dissertation used data from *Hatch Youth*, a drop-in center serving SGM adolescents living in Houston. By partnering with *Hatch Youth*, we were able to locate and recruit SGM adolescents who also may not have been easy to reach. *Hatch Youth* participants can offer valuable insight into school experiences in the greater Houston area.

By examining parental support for SGM adolescents from both an adolescent and parent perspective, findings from this dissertation could help foster closer relationships between SGM adolescents and their parents. Additionally, examining family dynamics could uncover adverse childhood experiences faced by SGM youth. Interviewing adolescents and their parents could provide valuable insight into the impact of childhood experiences on the mental health of SGM adolescents.

To our knowledge, no studies have been conducted that examined parental support using dyadic interviews. Although previous research has examined the role of secondary ties among adolescents attending *Hatch Youth* (Romijnders et al., 2017; Wilkerson et al., 2018; Wilkerson, Schick, Romijnders, Bauldry, & Butame, 2017), research has not examined how

parents of *Hatch Youth* participants provide support to their SGM children, nor have previous studies examined adolescents' early childhood experiences. Findings from this dissertation could impact how clinicians and SGM-serving community organizations present information to families with SGM adolescents to help strengthen family communication.

SPECIFIC AIMS

For this dissertation, three aims were addressed in three separate papers. Aim 1 was to analyze data from an online state-wide survey of SGM adolescents and adults in Texas (*Tell Us, Texas*) to estimate the prevalence of anxiety, depression, and suicidal ideation and to determine which demographic, social support, and discrimination variables are associated with self-reported measures of depression, anxiety, and suicidal ideation.

Aim 2 was to conduct a secondary analysis of cross-sectional data from a drop-in center serving SGM adolescents to: 1) estimate the prevalence of depression and suicidal ideation in this sample; and 2) to examine associations between depression and suicidal ideation with measures examining their experience at school.

Aim 3 was to use qualitative data from parent-adolescent dyadic interviews to develop a concise explanatory model of the association between ACEs, maladaptive coping, and poor mental health among SGM adolescents. A concise theoretical model may be helpful in the development and evaluation of interventions for the mental health of SGM adolescents.

PAPER 1: DEPRESSION, ANXIETY, AND SUICIDAL IDEATION AMONG SEXUAL AND GENDER MINORITY (SGM) ADOLESCENTS IN TEXAS

ABSTRACT

Little is known about sexual and gender minority (SGM) adolescents living in Texas. The purpose of this paper was to analyze data from an online survey of SGM persons (i.e., lesbian, gay, bisexual, and non-cisgender individuals) living in Texas to estimate the prevalence of anxiety, depression, and suicidal ideation among adolescents aged 13-19 and to determine which demographic, social support, and discrimination variables were associated with these mental health outcomes. We found the prevalence of depression, anxiety, and suicidal ideation to be 40.55%; 50.23%; and 23.40%, respectively. Using multivariate logistic regression, we found depression was associated with: 1) not being out to most or all people; 2) not feeling at home with the SGM community; and 3) experiencing discrimination based on gender or sexuality in the past month. Anxiety was associated with: 1) identifying as non-cisgender; 2) identifying as non-monosexual (i.e., bisexual or pansexual); 3) not being out to most or all people; 4) not feeling at home with the SGM community; 5) not feeling at home with heterosexual peers; and 6) experiencing discrimination based on gender or sexuality in the past month. Suicidal ideation was associated with: 1) being a younger adolescent; 2) not feeling at home with heterosexual peers; and 3) experiencing discrimination based on sexuality in the past month. Identifying as Hispanic was protective for depression and anxiety. Identifying as Black, non-Hispanic was protective for anxiety. The high rates of depression, anxiety, and suicidal ideation reflects literature on SGM adolescents nationwide. However, it is unclear why identifying as Hispanic or Black, non-Hispanic was protective. For SGM adolescents in Texas, interventionists should find

innovative ways to reach SGM adolescents who may be experiencing more frequent

instances of discrimination to connect them with other SGM community members.

BACKGROUND

Symptoms of mental disorders, such as major depressive disorder (MDD) and anxiety disorders, often begin in adolescence (Avenevoli et al., 2015). Compared to heterosexual, cisgender adolescents, sexual and gender minority (SGM) adolescents (including those who identify as lesbian, gay, bisexual, and non-cisgender) are at an increased risk for depression (Marshal et al., 2011). SGM adolescents are also four times more likely than their heterosexual, cisgender peers to attempt suicide, and nearly half of transgender adolescents have considered suicide (Di Giacomo, Krausz, Colmegna, Aspesi, & Clerici, 2018; Kann, Olsen, et al., 2016).

Prevalence of suicidal ideation among high school students in the United States is 17.7% (Kann, McManus, et al., 2016). In a cohort study of adolescents, researchers found presence of an anxiety disorder increased the odds of suicidal ideation by almost eight times when controlled for confounding variables, such as mood disorders and social support. An increase in the number of co-occurring anxiety disorders was also associated with suicidal behavior (Boden, Fergusson, & John Horwood, 2007). However, depression is still considered the primary predictor of suicidal ideation (Gould et al., 1998; Reinherz et al., 1995). Suicidal ideation during adolescence increases the risk of psychiatric disorders in adulthood, suggesting that suicidal ideation could have lifelong implications on mental health (Cash & Bridge, 2009).

Symptoms of depression and anxiety are often predicted by interpersonal stressors, such as peer victimization and family maltreatment (Hamilton et al., 2016). The Minority Stress Theory (Meyer, 2003) is a framework for understanding how stigma affects the health

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of sexual and gender minority (SGM) adolescents. The Minority Stress Theory posits that individuals in minority groups are exposed to excess stress because of their stigmatized position in society. The stress felt by stigmatized individuals requires an adaptation to society not required by those in the majority. The stress is also a result of structural stigma, or societal-level factors, norms, institutional policies and practices that exclude or limit the rights of the minority groups (Hatzenbuehler, Jun, Corliss, & Austin, 2015). According to the Minority Stress Theory, health disparities, whether physical or mental (e.g., depression, anxiety, and suicidal ideation), are the result of this chronic stress on minority groups. In line with the Minority Stress Theory, researchers have suggested disparities in suicidality and depression among SGM adolescents could be caused by discrimination and victimization (Marshal et al., 2011; Mustanski & Liu, 2013).

SGM adolescents living in Texas are a vastly understudied population. However, Texas-specific data from the 2017 Youth Risk Behavior Surveillance System (YRBS) indicated that 58.85% of gay or lesbian and 56.91% of bisexual students felt sad or helpless almost every day for two weeks within the past year, compared to 30.23% of heterosexual students. Additionally, while 13.53% of heterosexual students reported seriously considering suicide in the year before the survey, 43.64% of gay or lesbian and 42.04% of bisexual students reported they had considered suicide (Centers for Disease Control and Prevention, 2017).

Our study used an online, social media-based approach to recruitment, which allowed us to reach individuals who might traditionally be difficult to reach, especially those located

in more rural areas of Texas. To our knowledge, prior to this study, there were no internet-based data on the mental health of SGM adolescents living in Texas.

Because demographic, social support, and discrimination variables have been found to be associated with poor mental health among SGM adolescents in other parts of the U.S. (Consolacion et al., 2004; Goldblum et al., 2012; Le, Arayasirikul, Chen, Jin, & Wilson, 2016), it is important for researchers to understand these factors to help develop tailored mental health interventions for SGM adolescents in Texas. The purpose of this paper is to analyze data from an online state-wide survey of SGM adolescents and adults in Texas (*Tell Us, Texas*) to estimate the prevalence of anxiety, depression, and suicidal ideation and to determine which demographic, social support, and discrimination variables are associated with self-reported measures of depression, anxiety, and suicidal ideation.

METHODS

Study Design

The *Tell Us, Texas* survey was an online survey of SGM adolescents and adults living in Texas. Eligibility criteria for *Tell Us, Texas* included: being 13 years of age or older, identifying as a sexual or gender minority, and living in Texas. Recruitment occurred online via Facebook advertisements. Data were collected between March 14, 2016 and January 4, 2017. Prior to beginning the survey, eligible participants were asked to provide their consent to participate. To avoid unwanted disclosure of sexual identity or gender expression/identity, parental consent for those under 18 was waived. Participants were offered a $5 Starbucks gift card to compensate them for their time. This study was approved by The University of Texas Health Science Center at Houston Committee for the Protection of Human Subjects.

To protect against fraudulent survey submissions, a protocol used with other studies was adapted to implement a number of logic checks regarding location and age at the beginning of the survey (Grey et al., 2015). Deviations in the logic of responses were flagged. If it was deemed that the survey may have been fraudulent, the survey was removed from the database. We also screened for overactive IP addresses, which could have indicated a person taking the survey more than once. After screening for duplicate or fraudulent submissions, the final sample of adolescents and adults was 1,363. For these analyses, only adolescents between 13 and 19 years old were included (n = 651).

Measures

Depression and Anxiety: The Patient Health Questionnaire-4 (PHQ-4) was used to screen for depression and anxiety. The PHQ-4 is comprised of the PHQ-2 to screen for depression and the Generalized Anxiety Disorder scale (GAD-2) to screen for anxiety (Kurt Kroenke, Spitzer, Williams, & Löwe, 2009). The PHQ-2 is a two-item screening tool for depressive symptoms in the two weeks prior to administration. PHQ-2 scores can range from 0 to 6. Scores of three or more on the PHQ-2 have a sensitivity of 83% and a specificity of 92% for Major Depressive Disorder (K. Kroenke, Spitzer, & Williams, 2003). Those who had a score of three or more were coded as positive for depressive symptoms. The Generalized Anxiety Disorder scale (GAD-2) was used to screen for anxiety. The GAD-2 is a two-item screening tool for detecting symptoms of anxiety in the two weeks prior to administration. Like the PHQ-2, GAD-2 scores can range from 0 to 6. The GAD-2 has a sensitivity of 86% and a specificity of 83% for General Anxiety Disorder; a sensitivity of 76% and a specificity of 81% for Panic Disorder; a sensitivity of 70% and a sensitivity of

81% for Social Anxiety Disorder; and a sensitivity of 59% and a specificity of 81% for Post-Traumatic Stress Disorder (Kroenke, Spitzer, Williams, Monahan, & Lowe, 2007). Those who had a score of three or more were coded as positive for anxiety symptoms.

Suicidal Ideation: Participants were asked to indicate the most recent time, if ever, they had considered suicide. To be consistent with the YRBS (Centers for Disease Control and Prevention, 2017), suicidal ideation was operationalized as having considered suicide within the past year.

Demographic Characteristics: Race/ethnicity was categorized as: White, non-Hispanic; Hispanic; Black, non-Hispanic; and Other, non-Hispanic. Age was treated as a continuous variable. Gender was categorized as: cisgender female; cisgender male; and non-cisgender, which included responses of transgender male, transgender female, gender queer, or non-binary. Sexual identity was categorized as: 1) monosexual, which included responses of gay, lesbian, straight, or queer, and 2) non-monosexual, which included responses who identified as bisexual or pansexual. The degree to which friends and family were aware of individuals' sexual identity (outness) was measured by a single item (Wilkerson, Noor, Galos, & Rosser, 2016). Outness was operationalized as being out to most or all friends or family members.

Social Support: Perceived social support was assessed by three items adapted from a single item measure (Blake & McKay, 1986) to delineate the sources of support. Participants were asked if they were able to feel at home with: 1) their family; 2) heterosexual peers; and 3) the LGBTQ community. All three social support items were dichotomized.

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Discrimination: Discrimination was assessed by two items adapted from the Experiences of Discrimination (EOD) instrument (Krieger, Smith, Naishadham, Hartman, & Barbeau, 2005). One item measured discrimination based on gender in the past month, and the second item measured discrimination based on sexuality. Response categories were: 1) never; 2) rarely; 3) sometimes; and 4) often.

Data Analysis

To describe participant characteristics (Table 1) and identify differences between those with and without depression, anxiety, and suicidal ideation, we performed a student *t*-test on the continuous variable and chi-square tests of independence for categorical variables (Tables 2-4). Multivariate logistic regression was used to estimate the odds of experiencing depression, anxiety, or suicidal ideation. To ensure variables were not excluded too early in the analysis (Hosmer Jr, Lemeshow, & Sturdivant, 2013), variables with *p*-values less than 0.10 from the bivariate analysis were included in multivariate logistic regression models (Tables 5 and 6). To determine which variables were most salient to our population, demographic, social support, and discrimination variables were first included in separate block models (Table 5). Variables significant at $p < 0.05$ were included in the final model for each outcome (Table 6). Stata 15 (StataCorp, 2017) was used for all analyses.

<div align="center">RESULTS</div>

Participant Characteristics

Participant characteristics are reported in Table 1. A little less than half of participants identified as White, non-Hispanic (46.61%). The mean age was 15.70 (SD = 1.95). A little more than half of participants identified as cisgender female (51.31%) and monosexual

(58.28%). Approximately half were out to most or all people (53.70%), and they felt at home

with their family (51.16%), the SGM community (53.04%), and with heterosexual peers

(56.06%). In the previous month, 41.27% of participants sometimes or often experienced

discrimination because of their gender, and 38.54% sometimes or often experienced

discrimination because of their sexuality.

Depression

The prevalence of depression among SGM adolescents was 40.55%. All variables

were significantly associated with depression ($p < 0.10$) at the bivariate level (Table 2). In the

logistic regression block model examining demographic characteristics (Table 5),

race/ethnicity, gender, and outness were significant ($p < 0.05$). All variables in the social

support and discrimination block models were significant. All significant variables were

included in the final model (Table 6).

Depression was negatively associated with identifying as Hispanic (aOR=0.60; 95%

CI [0.39-0.91]). Depression was positively associated with not being out to most or all people

(aOR=2.39, 95% CI [1.62, 3.53]; not feeling at home with the SGM community (aOR=1.95,

95% CI [1.31, 2.88]); often experiencing discrimination in the past month based on gender

(aOR=2.06, 95% CI [1.05,4.07]); and experiencing discrimination based on sexuality rarely

(aOR=1.77, 95% CI [1.06, 4.07]) or often (aOR=4.63, 95% CI [2.31-9.26]).

Anxiety

The prevalence of anxiety was 50.23%. All variables except age were significantly

associated with anxiety ($p < 0.10$) at the bivariate level (Table 3). In the logistic regression

block model examining demographic characteristics (Table 5), race/ethnicity, gender, sexual

identity, and outness were significant ($p < 0.05$). All variables in the social support and discrimination block models were significant. All significant variables were included in the final model (Table 6).

Anxiety was negatively associated with identifying as Hispanic (aOR=0.57, [0.37-0.88]) or Black, non-Hispanic (aOR=0.31, [0.14-0.67]). Anxiety was positively associated with identifying as non-cisgender (aOR=1.95, 95% CI [1.04-3.63]) and non-monosexual (aOR=2.78, 95% CI [1.76-4.39]). Additionally, anxiety was associated with not being out to most or all people (aOR=1.76, 95% CI [1.15-2.68]; not feeling at home with the SGM community (aOR=1.64, 95% CI [1.09-2.46]); not feeling at home with heterosexual peers (aOR=1.84, 95% CI [1.20-2.83]); sometimes experiencing discrimination based on gender (aOR=1.78, 95% CI [1.01-3.14]); and often experiencing discrimination based on sexuality (aOR=5.40, 95% CI [2.43-12.01]).

Suicidal Ideation

The prevalence of suicidal ideation was 23.40%. All variables except race/ethnicity and feeling at home with the SGM community were significantly associated with suicidal ideation ($p < 0.10$) at the bivariate level (Table 4). In the logistic regression block model examining demographic characteristics (Table 5), age and gender were significant ($p < 0.05$). In the block model examining perceived social support, feeling at home with family and feeling at home with heterosexual peers were significant. In the block model examining discrimination, both measures of discrimination were significant. All significant variables were included in the final model (Table 6).

Suicidal ideation was negatively associated with increased age (aOR=0.89, 95% CI [0.80-0.99]). Suicidal ideation was positively associated with identifying as non-cisgender (aOR=2.41, 95% CI [1.41-4.14]), not feeling at home with heterosexual peers (aOR=1.63, 95% CI [1.05-2.52]), and often experiencing discrimination based on sexuality (aOR=2.13, 95% CI [1.09-4.15]).

DISCUSSION

Our findings reflect previous research regarding high rates of depression, anxiety, and suicidal ideation among SGM adolescents living in the U.S. (Centers for Disease Control and Prevention, 2017; Kann, Olsen, et al., 2016; Marshal et al., 2011) and underscore the need for targeted interventions among this population, especially among non-cisgender and non-monosexual adolescents (Kann, Olsen, et al., 2016).

An online (or internet-based) survey allows adolescents to take the survey at their own pace and with more privacy than a school-based or in-person survey. The online format also allowed researchers to reach a large number of participants who may have been difficult to find otherwise, especially those located in more rural areas of Texas. Due to our ability to reach a wide-ranging sample, our sample had similar proportions of White, non-Hispanics and Hispanics compared to the state of Texas overall. Our sample was 46.61% White, non-Hispanic and 33.55% Hispanic. Comparatively, Texas is approximately 49% White, non-Hispanic and 39% Hispanic (U.S. Census Bureau, 2017).

Though not anticipated, we found adolescents who identified as Hispanic to be less likely to screen positive for depression. Similarly, Hispanic and Black, non-Hispanic adolescents were less likely to screen positive for anxiety. These findings are surprising

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because the Minority Stress Theory posits minority stressors are additive, which would result in an increased likelihood of negative mental health outcomes (Meyer, 2003). Indeed, researchers have found racial and ethnic disparities exist among SGM populations, with Black and Hispanic individuals experiencing higher rates of depression, suicidality, and other poor mental health outcomes (Borowsky et al., 2001; Budge et al., 2016; Consolacion et al., 2004; Kuper et al., 2014; Ryan et al., 2009).

Despite disparities among Black and Hispanic SGM populations, other research suggests holding multiple identities may benefit individuals by allowing them to switch among different social identities in accordance with goals, needs, or contexts (Johnson et al., 2006; Kang & Bodenhausen, 2015). This suggests that SGM individuals, when feeling stigmatized due to their sexual orientation or gender expression/identity, may rely more on other identity groupings to assist in coping. When SGM individuals feel stigmatized because of their race/ethnicity, they may rely more on their friends, family, peers, and other support networks to assist in coping. Research targeting racial and ethnic minorities in Texas is needed to examine differences in mental health needs compared to non-Hispanic Whites and to develop culturally-relevant interventions.

To help protect against depression, anxiety, and suicidal ideation, our findings indicate a need to strengthen connectedness to the SGM community among SGM adolescents. SGM adolescents also need to feel more comfortable about their sexual orientation or gender identity among their heterosexual peers. Genders and Sexualities Alliances (GSAs; formerly Gay Straight Alliances) in schools have been found to have many positive effects on the mental health of SGM adolescents, including a decreased risk of

suicidality (Goodenow et al., 2006; Heck, Flentje, & Cochran, 2011; Marx & Kettrey, 2016). However, to our knowledge, no research exists about Texas schools' receptivity to creating and sustaining GSAs.

Currently, Texas does not have laws prohibiting against harassment, bullying, or discrimination of students based on sexual orientation or gender expression/identity (Human Rights Campaign, 2017; Movement Advancement Project, 2018). Additionally, Texas has a "Don't Say Gay" or "No Promo Homo" law, which explicitly prohibits health educators from discussing SGM issues with students in kindergarten through the 12th grade (Movement Advancement Project, 2018). SGM adolescents living in states with similar laws, such as Oklahoma, Arizona, Utah, and Louisiana, are less likely to report having supportive teachers or staff in their schools. They also report less SGM resources in school, less intervention when bullied, and more homophobic remarks from staff than adolescents living in states without similar laws (Kosciw et al., 2010).

The challenges of Texas's social and political environment make mental health interventions for SGM youth difficult to implement. Drop-in centers may be a good alternative to school-based interventions (Romijnders et al., 2017; Wilkerson et al., 2018; Wilkerson, Schick, Romijnders, Bauldry, Butame, et al., 2017). However, drop-in centers are rare in Texas. Future research should explore internet- or app-based interventions, which may be helpful to adolescents living in more rural areas of Texas.

One limitation of our study was the reliance on Facebook ads to obtain our sample. Due to the vast number of social media outlets (e.g., Twitter or YouTube) available to adolescents, it is possible our sample was biased based on the platform used to recruit

participants. Utilizing a multi-platform approach could have allowed us to reach a more diverse sample. More research is needed on the best ways to utilize social media to attract adolescent SGM participants.

A second limitation is the use of the PHQ-4 to screen for depression and anxiety. While useful to researchers, screening tools do not provide a medical diagnosis. Without formal diagnoses from medical professionals, use of screening tools may result in false-positives (Khubchandani, Brey, Kotecki, Kleinfelder, & Anderson, 2016). Another challenge in using screening tools for mental health research is determining which screening tool to use. Measures of mental health outcomes can vary by study. Since scales can measure mental health outcomes differently, it is difficult to make comparisons concerning prevalence rates between studies.

A third limitation of our study was the use of a cross-sectional study design. Cross-sectional studies are prone to bias due to possible differences between those who agree to participate and those who do not. The cross-sectional design also does not allow researchers to track individuals over time (Sedgwick, 2014).

Our findings provide missing data on anxiety and provide insight into SGM adolescents' social support needs. To meet the mental health needs of SGM adolescents in Texas, interventionists must find innovative ways to reach SGM adolescents who may be experiencing more frequent instances of discrimination to connect them with other SGM community members. Additionally, screening for depression and anxiety should be conducted regularly to ensure that SGM adolescents are receiving the help they need. Our

findings highlight the need for additional research of SGM adolescents in Texas to help

reduce negative mental health outcomes.

Table 1. Participant Characteristics (N=651)

Demographics	
Race/Ethnicity	
White, non-Hispanic	282 (46.61)
Hispanic	203 (33.55)
Black, non-Hispanic	47 (7.77)
Other, non-Hispanic	73 (12.07)
Age (Mean, SD)	15.70 (1.95)
Current Gender	
Cisgender female	332 (51.31)
Cisgender male	220 (34.00)
Non-cisgender	95 (14.68)
Sexual Identity	
Monosexual	367 (58.28)
Non-monosexual	249 (40.42)
Out to most or all	
Yes	348 (53.70)
No	300 (46.30)
Social Support	
Feels at home with family	
Yes	331 (51.16)
No	316 (48.84)
Feels at home with SGM community	
Yes	340 (53.04)
No	301 (46.96)
Feels at home with heterosexual peers	
Yes	361 (56.06)
No	283 (43.94)
Discrimination in Past Month	
Based on gender	
Never	241 (37.25)
Rarely	139 (21.48)
Sometimes	179 (27.67)
Often	88 (13.60)
Based on sexuality	
Never	203 (31.67)
Rarely	191 (29.80)
Sometimes	164 (25.59)
Often	83 (12.95)

Note: Differences in counts are the result of missing data

Table 2. Bivariate Associations Between Participant Characterists and Depression (N=651)

	No (n=387) (59.45%)	Yes (n=264) (40.55%)	p-value
Demographics			
Race/Ethnicity			**0.07**
White, non-Hispanic	155 (43.06)	127 (51.84)	
Hispanic	134 (37.22)	69 (28.16)	
Black, non-Hispanic	25 (6.94)	22 (8.98)	
Other, non-Hispanic	46 (12.78)	27 (11.02)	
Age (Mean, SD)	15.82 (1.97)	15.51 (1.90)	**0.04**
Current Gender			**0.00**
Cisgender female	197 (50.90)	135 (51.92)	
Cisgender male	153 (39.53)	67 (25.77)	
Non-cisgender	37 (9.56)	58 (22.31)	
Sexual Identity			**0.00**
Monosexual	245 (60.76)	122 (49.00)	
Non-monosexual	122 (33.24)	127 (51.00)	
Out to most or all			**0.00**
Yes	248 (64.25)	100 (38.17)	
No	138 (35.75)	162 (61.83)	
Social Support			
Feels at home with family			**0.00**
Yes	218 (56.62)	113 (43.13)	
No	167 (43.38)	149 (56.87)	
Feels at home with SGM community			**0.00**
Yes	232 (60.57)	108 (41.86)	
No	151 (39.43)	150 (58.14)	
Feels at home with heterosexual peers			**0.00**
Yes	236 (61.46)	125 (48.08)	
No	148 (38.54)	135 (51.92)	
Discrimination in Past Month			
Based on gender			**0.00**
Never	171 (44.53)	70 (26.62)	
Rarely	80 (20.83)	59 (22.43)	
Sometimes	100 (26.04)	79 (30.04)	
Often	33 (8.59)	55 (20.91)	
Based on sexuality			**0.00**
Never	139 (36.29)	64 (24.81)	
Rarely	120 (31.33)	71 (27.52)	
Sometimes	99 (25.85)	65 (25.19)	
Often	25 (6.53)	58 (22.48)	

Note: Bold *p*-values indicate $p < 0.10$; differences in counts are the result of missing da

Table 3. Bivariate Associations Between Participant Characterists and Anxiety (N=651)

	No (n=324) (49.77%)	Yes (n=327) (50.23%)	p-value
Demographics			
Race/Ethnicity			**0.02**
White, non-Hispanic	122 (40.80)	160 (52.29)	
Hispanic	117 (39.13)	86 (28.10)	
Black, non-Hispanic	25 (8.36)	22 (7.19)	
Other, non-Hispanic	35 (11.71)	38 (12.42)	
Age (Mean, SD)	15.81 (1.98)	15.58 (1.91)	0.14
Current Gender			**0.00**
Cisgender female	194 (62.78)	128 (40.76)	
Cisgender male	64 (20.71)	113 (35.99)	
Non-cisgender	51 (16.50)	73 (23.25)	
Sexual Identity			**0.00**
Monosexual	217 (71.10)	150 (47.23)	
Non-monosexual	87 (28.90)	162 (52.77)	
Out to most or all			**0.00**
Yes	208 (64.40)	140 (43.08)	
No	115 (35.60)	185 (56.92)	
Social Support			
Feels at home with family			**0.00**
Yes	186 (57.59)	145 (44.75)	
No	137 (42.41)	179 (55.25)	
Feels at home with SGM community			**0.00**
Yes	192 (60.19)	148 (45.96)	
No	127 (39.81)	174 (54.04)	
Feels at home with heterosexual peers			**0.00**
Yes	204 (63.75)	157 (48.46)	
No	116 (36.25)	167 (51.54)	
Discrimination in Past Month			
Based on gender			**0.00**
Never	159 (49.38)	82 (25.23)	
Rarely	67 (20.81)	72 (22.15)	
Sometimes	70 (21.74)	109 (33.54)	
Often	26 (8.07)	62 (19.08)	
Based on sexuality			**0.00**
Never	122 (38.24)	81 (25.16)	
Rarely	100 (31.35)	91 (28.26)	
Sometimes	81 (25.39)	83 (25.78)	
Often	16 (5.02)	67 (20.81)	

Note: Bold p-values indicate $p < 0.10$; differences in counts are the result of missing data

Table 4. Bivariate Associations Between Participant Characterists and Suicidal Ideation (N=651)

	No (n=491) (76.60%)	Yes (n=150) (23.40%)	*p*-value
Demographics			
Race/Ethnicity			0.34
White, non-Hispanic	203 (44.91)	75 (52.08)	
Hispanic	158 (34.96)	41 (28.47)	
Black, non-Hispanic	34 (7.52)	13 (9.03)	
Other, non-Hispanic	57 (12.61)	15 (10.42)	
Age (Mean, SD)	15.79 (1.98)	15.34 (1.82)	**0.01**
Current Gender			**0.00**
Cisgender female	252 (51.64)	75 (50.34)	
Cisgender male	188 (38.52)	27 (18.12)	
Non-cisgender	48 (9.84)	47 (31.54)	
Sexual Identity			**0.01**
Monosexual	288 (61.57)	72 (49.65)	
Non-monosexual	176 (38.43)	71 (50.35)	
Out to most or all			**0.01**
Yes	278 (56.85)	65 (43.62)	
No	211 (43.15)	84 (56.38)	
Social Support			
Feels at home with family			**0.00**
Yes	270 (55.33)	57 (38.26)	
No	218 (44.67)	92 (61.74)	
Feels at home with SGM community			0.21
Yes	253 (52.06)	84 (57.93)	
No	233 (47.94)	61 (42.07)	
Feels at home with heterosexual peers			**0.00**
Yes	298 (61.32)	57 (38.51)	
No	188 (38.68)	91 (61.49)	
Discrimination in Past Month			
Based on gender			**0.00**
Never	197 (40.45)	42 (28.00)	
Rarely	116 (23.82)	21 (14.00)	
Sometimes	124 (25.46)	50 (33.33)	
Often	50 (10.27)	37 (24.67)	
Based on sexuality			**0.00**
Never	159 (32.92)	89 (27.03)	
Rarely	161 (33.33)	90 (18.92)	
Sometimes	120 (24.84)	97 (28.38)	
Often	43 (8.90)	60 (25.68)	

Note: Bold *p*-values indicate *p* < 0.10; differences in counts are the result of missing dat

Table 5. Logistic Regression Block Models of Depression, Anxiety, and Suicidal Ideation (N=651)

	Depression	Anxiety	Suicidal Ideation
	aOR [95% CI]	aOR [95% CI]	aOR [95% CI]
Model 1: Demographics			
Race/Ethnicity			
White, non-Hispanic	Referent	Referent	--
Hispanic	**0.63 [0.42-0.95]**	**0.60 [0.40-0.90]**	--
Black, non-Hispanic	0.84 [0.42-1.66]	**0.44 [0.23-0.88]**	--
Other, non-Hispanic	0.72 [0.40-1.29]	0.87 [0.49-1.53]	--
Age (13-19)	0.91 [0.83-1.00]	--	**0.89 [0.80-0.99]**
Gender			
Cisgender female	Referent	Referent	Referent
Cisgender male	0.81 [0.52-1.25]	0.73 [0.48-1.11]	0.60 [0.35-1.03]
Non-cisgender	**2.42 [1.43-4.08]**	**2.92 [1.67-5.12]**	**4.35 [2.59-7.31]**
Sexual Identity			
Monosexual	Referent	Referent	Referent
Non-monosexual	1.28 [0.85-1.93]	**2.13 [1.41-3.20]**	1.34 [0.85-2.10]
Out to most or all			
Yes	Referent	Referent	Referent
No	**2.67 [1.83-3.89]**	**2.05 [1.41-3.01]**	1.33 [0.87-2.03]
Model 2: Social Support			
Feels at home with family			
Yes	Referent	Referent	Referent
No	**1.61 [1.15-2.62]**	**1.49 [1.07-2.06]**	**1.64 [1.11-2.43]**
Feels at home with SGM community			
Yes	Referent	Referent	--
No	**2.08 [1.50-2.88]**	**1.77 [1.28-2.44]**	--
Feels at home with heterosexual peers			
Yes	Referent	Referent	Referent
No	**1.54 [1.10-2.16]**	**1.70 [1.22-2.37]**	**2.27 [1.53-3.36]**
Model 3: Discrimination in Past Month			
Based on gender			
Never	Referent	Referent	Referent
Rarely	**1.69 [1.08-2.66]**	**2.02 [1.29-3.13]**	0.86 [0.48-1.56]
Sometimes	**1.63 [1.06-2.51]**	**2.64 [1.73-4.02]**	**1.68 [1.02-2.76]**
Often	**3.10 [1.78-5.38]**	**3.50 [1.98-6.19]**	**2.67 [1.48-4.81]**
Based on sexuality			
Never	Referent	Referent	Referent
Rarely	1.15 [0.75-1.78]	1.16 [0.77-1.77]	0.65 [0.38-1.13]
Sometimes	1.17 [0.74-1.83]	1.18 [0.76-1.82]	1.34 [0.68-1.91]
Often	**3.52 [1.96-6.33]**	**4.00 [2.10-7.63]**	**2.41 [1.32-4.41]**

Note: aOR = adjusted odds ratio; 95% CI = 95% confidence interval. Bolded values indicate $p < 0.05$.

Table 6. Final Logistic Regression Model of Depression, Anxiety, and Suicidal Ideation (N=651)

	Depression	Anxiety	Suicidal Ideation
	aOR [95% CI]	aOR [95% CI]	aOR [95% CI]
Race/Ethnicity			
White, non-Hispanic	Referent	Referent	--
Hispanic	**0.60 [0.39-0.91]**	**0.57 [0.37-0.88]**	--
Black, non-Hispanic	0.83 [0.41-1.70]	**0.31 [0.14-0.67]**	--
Other, non-Hispanic	0.76 [0.41-1.38]	0.95 [0.51-1.76]	--
Age (13-19)	--	--	**0.89 [0.80-0.99]**
Gender			
Cisgender female	Referent	Referent	Referent
Cisgender male	0.78 [0.48-1.27]	0.92 [0.54-1.56]	0.59 [0.33-1.04]
Non-cisgender	1.50 [0.86-2.62]	**1.95 [1.04-3.63]**	**2.41 [1.41-4.14]**
Sexual Identity			
Monosexual	--	Referent	--
Non-monosexual	--	**2.78 [1.76-4.39]**	--
Out to most or all			
Yes	Referent	Referent	--
No	**2.39 [1.62-3.53]**	**1.76 [1.15-2.68]**	--
Feels at home with family			
Yes	Referent	Referent	Referent
No	1.25 [0.85-1.84]	1.21 [0.81-1.80]	1.43 [0.93-2.19]
Feels at home with SGM community			
Yes	Referent	Referent	--
No	**1.95 [1.31-2.88]**	**1.64 [1.09-2.46]**	--
Feels at home with heterosexual peers			
Yes	Referent	Referent	Referent
No	1.28 [0.85-1.92]	**1.84 [1.20-2.83]**	**1.63 [1.05-2.52]**
Discrimination based on gender			
Never	Referent	Referent	Referent
Rarely	1.17 [0.68-2.01]	1.47 [0.85-2.55]	0.68 [0.36-1.30]
Sometimes	1.13 [0.66-1.96]	**1.78 [1.01-3.14]**	1.02 [0.57-1.84]
Often	**2.06 [1.05-4.07]**	1.75 [0.84-3.65]	1.35 [0.67-2.71]
Discrimination based on sexuality			
Never	Referent	Referent	Referent
Rarely	**1.77 [1.06-2.94]**	1.62 [0.96-2.73]	0.72 [0.41-1.29]
Sometimes	1.36 [0.80-2.30]	1.24 [0.72-2.14]	1.02 [0.58-1.80]
Often	**4.63 [2.31-9.26]**	**5.40 [2.43-12.01]**	**2.13 [1.09-4.15]**

Note: aOR = adjusted odds ratio; 95% CI = 95% confidence interval. Bolded values indicate $p < 0.05$.

PAPER 2: DEPRESSION AND SUICIDAL IDEATION AMONG SEXUAL AND GENDER MINORITY ADOLESCENTS ATTENDING A DROP-IN CENTER

ABSTRACT

Although sexual and gender minority (SGM) adolescents are at an increased risk for poor mental health outcomes, such as depression and suicidal ideation, social support can help prevent or alleviate symptoms. For SGM adolescents, a positive school climate can help foster close relationships among peers and can result in greater school connectedness. School connectedness is negatively correlated with depressive symptoms and suicidality. The purpose of this paper was to analyze survey data from SGM adolescents attending a drop-in center in Houston, TX to estimate the prevalence of depression and suicidal ideation and to determine which school-related experiential factors were associated with these mental health outcomes using multivariate logistic regression. We found the prevalence of depression and suicidal ideation to be 75.40% and 45.57%, respectively. Depressive symptoms and suicidal ideation were positively associated with identifying as non-cisgender and having poor school attendance. School connectedness was negatively associated with depression and suicidal ideation. Attending the drop-in center for over six months was also negatively associated with suicidal ideation. Our sample had a higher rate of depression compared to national samples, though this is likely due to the drop-in center's focus on mental health and referrals to the center from therapists and counselors. Our findings underscore the importance of school connectedness to lessen depression and suicidal ideation. More research is needed to determine which factors can increase perceptions of school connectedness among SGM adolescents in the Greater Houston region.

BACKGROUND

Compared to heterosexual, cisgender adolescents, sexual and gender minority (SGM) adolescents are at an increased risk for depression, suicidal ideation and attempts, and other mental health comorbidities (Kann, Olsen, et al., 2016; Marshal et al., 2011; Mustanski, Garofalo, & Emerson, 2010). Adolescents who identify as transgender or bisexual are at an even greater risk for poor mental health outcomes compared to cisgender (those who identify with the sex assigned at birth) or same-sex attracted peers (Clements-Nolle, Marx, & Katz, 2006; Marshal et al., 2011; Pompili et al., 2014).

Social support from SGM adolescents' family, peers, and significant others is protective against loneliness, hopelessness, depression, and other poor mental health outcomes (McConnell, Birkett, & Mustanski, 2015). Further, SGM adolescents who believe their environment to be more tolerant experience less psychological distress and substance use and higher perceived social support, self-esteem, and better overall health (Hatzenbuehler, 2011; Hatzenbuehler, Birkett, Van Wagenen, & Meyer, 2014; Ryan, Russell, Huebner, Diaz, & Sanchez, 2010; Simons, Schrager, Clark, Belzer, & Olson, 2013). Social Ties Theory (Thoits, 2011) posits that social support from primary groups (e.g., family, close friends) and/or secondary groups (e.g., teachers, peers) act as a buffer between stress and physical and mental health. According to Social Ties Theory, primary and secondary ties buffer stress by providing emotional sustenance and active coping assistance.

For adolescents, school is often where peer-based social support develops, and these school-based connections with peers are often protective against depression while fostering academic achievement (Schwartz, Gorman, Duong, & Nakamoto, 2008). In addition to peer support, schools can positively impact adolescents' mental health through the development of a

positive school climate, which is based on the norms, values, relationships, teaching styles, and organizational structures of a school (Thapa, Cohen, Guffey, & Higgins-D'Alessandro, 2013), and by facilitating feelings of school connectedness among their students (Ruus et al., 2007; Shochet, Dadds, Ham, & Montague, 2006; Thapa et al., 2013). School connectedness is defined as the extent to which students feel acceptance, respect, care, and support from their school environment (Joyce & Early, 2014). Researchers have found feelings of school connectedness is negatively correlated with depressive symptoms and suicidality (Anderman, 2002; Langille, Asbridge, Cragg, & Rasic, 2015; Resnick et al., 1997)

While school connectedness is protective, developing feelings of school connectedness can be difficult for SGM adolescents (Diaz, Kosciw, & Greytak, 2010). SGM adolescents often experience discrimination, violence, harassment, and bullying at school at greater rates than their cisgender, heterosexual peers, which can lead to lower grade point averages, educational aspirations, and self-esteem (Kosciw, Greytak, Giga, Villenas, & Danischewski, 2016). Additionally, the effects of bullying may last throughout adulthood, resulting in increased risky behavior and poorer physical and mental health (Diaz et al., 2010; Earnshaw, Bogart, Poteat, Reisner, & Schuster, 2016; Russell, Ryan, Toomey, Diaz, & Sanchez, 2011).

The influence of school climate on the mental health of SGM adolescents is profound (Denny et al., 2016; Kosciw et al., 2016; Marx & Kettrey, 2016; Russell et al., 2011). While we know a positive school environment is important to SGM adolescents' mental health, what is less clear is how schools in Texas are addressing the needs of SGM adolescents. Additionally, although previous research has focused on social support among adolescents attending a drop-in center in Houston, the studies did not include school variables (Romijnders et al., 2017; Wilkerson, Lawler, Romijnders, Armstead, & Bauldry, 2018; Wilkerson, Schick, Romijnders,

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Bauldry, & Butame, 2017). Therefore, it is imperative to understand the role of school environment on a local level to help tailor potential interventions that foster social support in Houston-area schools. The purpose of this paper was to conduct a secondary analysis of cross-sectional data from a drop-in center serving SGM adolescents to: 1) estimate the prevalence of depression and suicidal ideation in this sample; and 2) to examine associations between depression and suicidal ideation with measures examining experiences at school.

<div align="center">METHODS</div>

Data Collection

This secondary data analysis used survey data from *Hatch Youth* participants. *Hatch Youth* is a community-based drop-in center located in Houston, TX that hosts weekly social and peer support meetings for SGM adolescents with the overall goal of decreasing risk behaviors and poor mental health outcomes. Data for these analyses were collected from April, 2014 to April, 2018. Adolescents who attended *Hatch Youth* meetings during the months of April and October were asked to complete a self-administered paper survey. Of those adolescents, 313 completed the survey. Participation in *Hatch Youth* surveys was voluntary, and participants granted their consent to *Hatch Youth* staff at the time the surveys were conducted. They received no compensation for completing the surveys. A *Hatch Youth* staff member entered responses to the survey into an Excel spreadsheet, and a member of research team checked for any inconsistencies in the data. The data were then imported into STATA 15 (StataCorp, 2017) for analysis. This study was approved by The University of Texas Health Science at Houston Committee for the Protection of Human Subjects.

Measures

Depression: To screen for depression, participants were given the 10-item Center for Epidemiologic Studies Depression Revised Scale (CESDR-10) (Andresen, Malmgren, Carter, & Patrick, 1994). In a large sample of adolescents in the U.S., the CESDR-10 internal consistency was found to be between 0.90-0.91 (Haroz, Ybarra, & Eaton, 2014). Responses were dichotomized. Scores greater than 10 were coded as positive for depression.

Suicidal Ideation: To assess suicidal ideation, participants were asked whether they had considered killing themselves in the past 90 days. Responses were dichotomized.

Demographic Characteristics: Race/ethnicity was categorized as: White, non-Hispanic; Other, non-Hispanic; and Hispanic. Age was treated as a continuous variable. Gender was categorized as: 1) cisgender (adolescents who identify with the sex assigned to them at birth), which included cis female and cis male; and 2) non-cisgender (adolescents who do not identify with the sex assigned to them at birth), which included responses of trans male, trans female, gender queer, or non-binary/agender. Sexual orientation was categorized as: 1) monosexual, which included responses of gay, lesbian, queer, or heterosexual; 2) non-monosexual, which included participants who identified as bisexual or pansexual; and 3) questioning. The degree to which other people were aware of participants' sexual orientation or gender identity (outness) was adapted from a single measure of outness (Wilkerson, Noor, Galos, & Rosser, 2016). Using two separate items, participants were asked how out they were at school or to their family. For each item, outness was operationalized as out to at least half of all people. One item was used to assess how long adolescents had been attending *Hatch Youth*. Response options were on a five-point Likert-type scale ranging from less than 1 month to more than 1 year. Previous research on *Hatch Youth* attendees found that adolescents who attended for six months or more had better

mental health than adolescents who attended for less than six months (Wilkerson et al., 2018).

Therefore, for this analysis, responses were dichotomized as yes or no for those who attended at

least six months.

School Experience: School experience items were developed by *Hatch Youth* staff. To

assess school experience, participants were asked how strongly they agreed with the statements:

1) I feel connected to my school; 2) I have a peer group at school; 3) I have support at school;

and 4) In the past 90 days, I had good school attendance. Responses to the four items were on a

five-point Likert-type scale ranging from strongly disagree to strongly agree. Due to low

variation in responses, for this analysis, the four items were dichotomized. Responses of agree

and strongly agree were operationalized as yes.

Data Analysis

To describe participant characteristics (Table 7) and identify differences between those

with and without depression and suicidal ideation, we performed a student t-test on the

continuous variable (age) and chi-square tests of independence or Fisher's exact test for

categorical variables (Table 8). Multivariate logistic regression was used to estimate the odds of

depression and suicidal ideation associated with demographics and school experience variables.

To ensure variables were not excluded too early in the analysis (Hosmer, Lemeshow, &

Sturdivant, 2013), variables significant at the $p < 0.10$ level were included in two separate

logistic regression block models examining demographics and school experience variables

(Table 9). The use of block modeling was used to determine which demographic and school

support variables were most salient to our population. Variables significant at $p < 0.05$ were

included the final model for each outcome (Table 10). Stata 15 (StataCorp, 2017) was used for

these analyses.

RESULTS

Participant Characteristics

Demographic characteristics of *Hatch Youth* participants are reported in Table 7. Most participants identified as White, non-Hispanic (62.50%). Their mean age was 16.46 (SD = 1.72). Approximately half of participants identified as non-cisgender, and the majority identified as monosexual (67.44%). Most were out to their family (65.81%) and at school (59.18%). Slightly more participants had been attending *Hatch Youth* for less than six months (54.02%) compared to those who had been attending for more than six months.

Depression

The prevalence of depression in this sample was 75.40%. Of the demographic variables, age, outness to family, and outness at school were significantly associated with depression in bivariate analysis ($p < 0.10$; Table 8). All school experience variables were significant. Variables significant at the bivariate level were included in block logistic regression models (Table 9). In model one, which examined demographic characteristics, only gender was significant ($p < 0.05$). Model two, which examined school experience variables, indicated feeling connected to one's school and good school attendance were significant. Significant variables were included in the final model (Table 10).

Depressive symptoms were positively associated with identifying as non-cisgender (aOR=2.55, 95% CI [1.32-4.91]) and not having good school attendance in the past 90 days (aOR=5.48, 95% CI [2.02-14.88]). Depressive symptoms were negatively associated with feeling connected to school (aOR=0.32, 95% CI [0.17-0.61]).

Suicidal Ideation

The prevalence of suicidal ideation in this sample was 45.57%. Of the demographic variables, only gender and length of time attending *Hatch Youth* were significantly associated with suicidal ideation at the bivariate level ($p < 0.10$; Table 8). All school experience variables were significant. Variables significant at the bivariate level were included in block logistic regression models (Table 9). Model one, which examined demographic characteristics, indicated only gender and length of time attending *Hatch Youth* were both significant ($p < 0.05$). Model two, which examined school experience variables, indicated feeling connected to one's school and good school attendance were significant. Significant variables were included in the final model (Table 10).

Suicidal ideation was positively associated with identifying as non-cisgender (aOR=2.61, 95% CI [1.48-4.60]) and not having good school attendance in the past 90 days (aOR=3.06, 95% CI [1.63-5.77]).Suicidal ideation was negatively associated with attending *Hatch Youth* for more than six months (aOR=0.48, 95% CI [0.27-0.86]) and feeling connected to school (aOR=0.45, 95% CI [0.24-0.84]).

DISCUSSION

Our findings reflect the results of previous literature regarding high rates of depression and suicidal ideation among SGM adolescents. Also consistent with previous literature, we found identifying as non-cisgender increased the odds of depression and suicidal ideation (Clements-Nolle et al., 2006; Marshal et al., 2011).

The YRBS is a national survey of high school students that monitors health-risk behaviors (Kann, McManus, et al., 2016). In their national sample, YRBS researchers found that the prevalence of feeling sad or hopeless almost every day for two or more than two weeks

during the twelve months before the survey was 26.4% for heterosexual students; 60.4% for gay, lesbian, and bisexual students; and 46.5% for students who were unsure or questioning. In the same sample, 14.8% of heterosexual students; 42.8% of gay, lesbian, or bisexual students; and 31.9% of unsure or questioning students had seriously considered suicide in the twelve months before the survey (Kann, Olsen, et al., 2016).

The prevalence of depressive symptoms in our sample (75.40%) was significantly higher than that found in the Youth Risk Behavior Surveillance System (YRBS). This difference is likely because many referrals to Hatch Youth are provided by counselors and therapists who feel a student or client may need extra LGBT-focused support. However, despite the higher risk for depression among Hatch Youth adolescents, the prevalence of suicidal ideation (45.57%) found in our sample was similar to that found in the YRBS. These findings are significant because they demonstrate the benefits of attending a drop-in center for very high-risk SGM adolescents, and they underscore the importance of school connectedness.

Previous studies of SGM adolescents who attend Hatch Youth have focused on the organization's role of increasing social support to reduce depression and increase self-esteem (Romijnders et al., 2017; Wilkerson et al., 2018; Wilkerson et al., 2017). It was found that being in Hatch Youth for at least six months was associated with increased self-esteem (Wilkerson et al., 2017). Our current findings suggest attendance for more than six months is also protective against suicidal ideation.

Our findings are also in line with previous research suggesting school connectedness is protective for depression among SGM students (Wilson, Asbridge, & Langille, 2018) and provide missing insight into Hatch Youth attendees' school experience in the greater Houston area. Also worth noting is the self-reported absenteeism from school among students with

depressive symptoms and suicidal ideation. While it is difficult to determine the exact causes of absenteeism in our sample, some research suggests discrimination and peer victimization may be precursors for chronic school absence (Lara, Noble, Pelika, & Coons, 2018). Chronic absenteeism is associated with poor school performance and eventual dropout (Henderson, Hill, & Norton, 2014).

To address the association between school connectedness, mental health, and academic success, the CDC has suggested six strategies to help increase school connectedness (Centers for Disease Control and Prevention, 2009): 1) facilitate decision-making processes that allows for student, family, and community engagement; 2) provide opportunities for families to be involved with the school; 3) assist students in developing academic, emotional, and social skills necessary for positive school engagement; 4) create a positive learning environment in the class room through effective class management; 5) ensure teachers and other school staff receive adequate training and development to meet the needs of diverse students; 6) create open, trusting relationships between school administrators, families, students, and community members. On a local level, more research is needed to examine how schools in the Greater Houston region can increase school connectedness among SGM students.

Our study had a number of strengths. We were able to analyze five years of Hatch Youth data to gain valuable insight into the school experiences of SGM adolescents. Additionally, our findings are consistent with the literature about the importance of school connectedness. We were also able to fill in the gap of previous Hatch Youth studies that did not include school variables.

A limitation of our study was the use of items developed by Hatch Youth staff and researchers. While working with community-based organizations can provide unique insights

into specific populations, evaluations are often conducted to serve the needs of the organization and its community. Therefore, there is less reliance on validated measures when examining the needs of the community. We also used a cross-sectional study design, which is prone to bias due to possible differences between individuals who did or did not agree to participate. We were also not able to track individuals over time (Sedgwick, 2014).

Another limitation was the use of a self-reported measure of depression with no formal diagnosis. Use of screenings for research can be useful but may result in false positives (Khubchandani, Brey, Kotecki, Kleinfelder, & Anderson, 2016). Screening tools measuring the same mental health outcome can vary by study. it difficult to comare prevalence rates between studies when different screening tools are used.

Lastly, determining good school attendance in the past 90 days was subjective and could vary based on the individual. It may be more appropriate to ask students to provide an estimation of how many days they were absent in a given time period to obtain a more objective account of school attendance.

School experiences are an important part of SGM adolescents' mental health. Our findings underscore the importance of school connectedness to depression and suicidal ideation. More research is needed on determining the most effective ways to increase school connectedness among SGM adolescents in the Greater Houston region.

Table 7. Participant Characteristics (N=313)

Demographics	
Race	
White, non-Hispanic	185 (62.50)
Other, non-Hispanic	44 (14.92)
Hispanic	66 (22.37)
Age (Mean, SD)	16.46 (1.72)
Gender	
Cisgender	146 (50.69)
Non-cisgender	142 (49.31)
Sexual Identity	
Monosexual	180 (67.44)
Non-monosexual	63 (24.42)
Questioning	21 (8.14)
Out to family	
Yes	204 (65.81)
No	106 (34.19)
Out at school	
Yes	174 (59.18)
No	120 (40.82)
Hatch attendance	
Less than 6 months	168 (54.02)
More than 6 months	143 (45.98)
School Experience	
Feels connected to school	
Yes	105 (36.71)
No	181 (63.29)
Has peer group at school	
Yes	165 (58.51)
No	117 (41.49)
Has support at school	
Yes	156 (55.32)
No	126 (44.68)
Good school attendance	
Yes	196 (69.75)
No	85 (30.25)

Note: Differences in cell counts are due to missing data

Table 8. Bivariate Associations of Participant Characteristics with Depression and Suicidal Ideation (N=313)

	Depression			Suicidal Ideation		
	No (n=77) (24.60%)	Yes (n=236) (75.40%)	p-value	No (n=166) (54.43%)	Yes (n=139) (45.57%)	p-value
Demographics						
Race			0.87			0.97
White, non-Hispanic	44 (60.27)	141 (63.51)		101 (63.52)	81(63.28)	
Other, non-Hispanic	12 (16.44)	32 (14.41)		22 (13.84)	19 (14.84)	
Hispanic	17 (32.29)	49 (22.07)		36 (22.64)	28 (21.88)	
Age (Mean, SD)	16.49 (1.71)	16.44 (1.73)	0.83	16.58 (1.67)	16.35 (1.80)	0.23
Gender			**0.00**			**0.00**
Cisgender	48 (66.67)	98 (45.37)		96 (61.54)	47 (37.90)	
Non-cisgender	24 (33.33)	118 (54.63)		60 (38.46)	77 (62.10)	
Sexual Identity			0.30			0.32
Monosexual	44 (63.77)	136 (69.74)		97 (67.83)	78 (67.83)	
Non-monosexual	21 (30.43)	42 (21.54)		32 (22.38)	31 (26.96)	
Questioning	4 (5.80)	17 (8.72)		14 (9.79)	6 (5.22)	
Out to family			**0.05**			0.11
Yes	57 (75.00)	147 (62.82)		113 (69.33)	84 (60.43)	
No	19 (25.00)	87 (37.18)		50 (30.67)	55 (39.57)	
Out at school			**0.08**			0.50
Yes	49 (68.06)	125 (56.31)		90 (57.32)	79 (61.24)	
No	23 (31.94)	97 (43.69)		67 (42.68)	50 (38.76)	
Hatch attendance			0.18			**0.04**
Less than 6 months	36 (47.37)	132 (56.17)		80 (48.78)	84 (60.43)	
More than 6 months	40 (52.63)	103 (43.83)		84 (51.22)	55 (39.57)	
School Experience						
Feels connected to school			**0.00**			**0.00**
Yes	46 (65.71)	59 (27.31)		159 (50.33)	82 (22.40)	
No	24 (34.29)	157 (72.69)		76 (49.67)	97 (77.60)	
Has peer group at school			**0.00**			**0.09**
Yes	55 (78.57)	110 (51.89)		95 (63.33)	66 (53.23)	
No	15 (21.43)	102 (48.11)		55 (36.67)	58 (46.77)	
Has support at school			**0.00**			**0.03**
Yes	53 (75.71)	103 (48.58)		93 (61.59)	60 (48.78)	
No	17 (24.29)	109 (51.42)		58 (38.41)	63 (51.22)	
Good school attendance			**0.00**			**0.00**
Yes	65 (92.86)	131 (62.09)		124 (82.12)	71 (58.20)	
No	5 (7.14)	80 (37.91)		27 (17.88)	51 (41.80)	

Note: Bold p-values indicate p < 0.10; differences in counts are due to missing data

Table 9. Logistic Regression Block Models of Depression and Suicidal Ideation (N=313)

	Depression	Suicidal Ideation
	aOR [95% CI]	aOR [95% CI]
Model 1: Demographics		
Gender		
Cisgender	Referent	Referent
Non-cisgender	**2.70 [1.48-4.92]**	**2.77 [1.68-4.57]**
Out to family		
Yes	Referent	--
No	1.88 [0.94-3.72]	--
Out at school		
Yes	Referent	--
No	1.19 [0.62-2.28]	--
Hatch attendance		
Less than 6 months	--	Referent
More than 6 months	--	**0.48 [0.29-0.79]**
Model 2: School Experience		
Feels connected to school		
Yes	**0.39 [0.20-0.74]**	**0.37 [0.20-0.67]**
No	Referent	Referent
Has peer group at school		
Yes	Referent	Referent
No	1.79 [0.86-3.70]	0.93 [0.52-1.68]
Has support at school		
Yes	Referent	Referent
No	1.62 [0.79-3.35]	1.02 [0.56-1.85]
Good school attendance		
Yes	Referent	Referent
No	**5.01 [1.87-13.42]**	**2.43 [1.36-4.35]**

Note: aOR = adjusted odds ratio and 95% CI = 95% confidence interval. Bolded values indicate $p < 0.05$.

Table 10. Final Logistic Regression Model (N=313)

	Depression	Suicidal Ideation
	aOR [95% CI]	aOR [95% CI]
Gender		
Cisgender	Referent	Referent
Non-cisgender	**2.55 [1.32-4.91]**	**2.61 [1.48-4.60]**
Hatch attendance		
Less than 6 months	--	Referent
More than 6 months	--	**0.48 [0.27-0.86]**
Feels connected to school		
Yes	**0.32 [0.17-0.61]**	**0.45 [0.24-0.84]**
No	Referent	Referent
Good school attendance		
Yes	Referent	Referent
No	**5.48 [2.02-14.88]**	**3.06 [1.63-5.77]**

Note: aOR = adjusted odds ratio and 95% CI = 95% confidence interval. Bolded values indicate $p < 0.05$.

PAPER 3: ADVERSE CHILDHOOD EXPERIENCES AS A PATHWAY TO POOR

MENTAL HEALTH AMONG SEXUAL AND GENDER MINORITY

ADOLESCENTS: A QUALITATIVE STUDY

ABSTRACT

Sexual and gender minority (SGM) individuals are more likely than heterosexual and cisgender individuals to experience adverse childhood experiences (ACEs), such as physical and emotional abuse, neglect, or household violence. ACEs often predict mental health disorders, such as depression and anxiety. The purpose of this paper was to use qualitative data from parent-adolescent dyadic interviews to develop a concise conceptual model of the relationship between ACEs, maladaptive coping, and poor mental health among SGM adolescents. We found three pathways helped to explain the relationship between adverse childhood experiences and poor mental health. In Pathway 1, we found maladaptive coping helps explain the relationship between adverse childhood experiences and poor mental health. In Pathway 2, we found minority stress influences the severity of poor mental health. In Pathway 3, we found poor mental health contributes to negative behavioral outcomes. Our model can help clinicians and SGM-serving organizations conceptualize how ACEs affect mental health and help provide a theoretical basis for intervention. For SGM adolescents who have experienced ACEs or other forms of discrimination or victimization, maladaptive coping, such as withdrawal and avoidance, may be a barrier to diagnosis and treatment. Therefore, implementing a trauma-informed approach for all SGM adolescents may be the best way to ensure that adolescents who are not ready or willing to disclose past experiences get the care they need.

BACKGROUND

Sexual and gender minority (SGM) adolescents present with higher rates of depression, suicidal ideation and attempts, and other mental health comorbidities compared to their cisgender or heterosexual peers (Kann et al., 2016; Marshal et al., 2011; Mustanski, Garofalo, & Emerson, 2010). Transgender and bisexual adolescents are at an even greater risk for poor mental health outcomes compared to cisgender or same-sex attracted peers (Marshal et al., 2011; Clements-Nolle, Marx, & Katz, 2006; Pompili et al., 2014).

The Minority Stress Theory (Meyer, 2003) posits that being in a minority group creates excess stress on individuals due to stigmatization. According to this theory, health disparities are the result of chronic stress on minority groups. In support of the theory, researchers have found disparities in suicidality and depression among SGM adolescents could be caused by discrimination and victimization (Marshal et al., 2011; Mustanski & Liu, 2013).

Additionally, researchers have found SGM individuals are more likely than heterosexual and cisgender individuals to experience adverse childhood experiences (ACEs), such as physical and emotional abuse, neglect, or household violence (Finkelhor, Shattuck, Turner, & Hamby, 2013; Schneeberger, Dietl, Muenzenmaier, Huber, & Lang, 2014). ACEs often predict mental health disorders, such as depression and anxiety (Hamilton et al., 2016).

Hendricks and Testa (2012) adapted the Minority Stress Theory to create a conceptual framework for clinicians working with transgender and gender nonconforming clients. They argued clinicians should evaluate prior discrimination and victimization when assessing clients' needs, since research has indicated that transgender individuals who have been

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subjected to negative life events are at an increased risk for anxiety, mood disorders, and suicidal behaviors (Goldblum et al., 2012; Testa et al., 2012). Additionally, clinicians should encourage community support to help transgender individuals create positive coping mechanisms for stressful life events (Hendricks & Testa, 2012).

Researchers have found similar results among sexual minority adolescents. Lesbian, gay, and bisexual adolescents with more incidents of ACEs are more likely to have suicidal ideation compared to heterosexual adolescents (Clements-Nolle et al., 2018). To help explain the effects of ACEs on mental health disorders, some research has focused on maladaptive coping. Avoidant coping and withdrawal are common maladaptive coping strategies related to depression and anxiety (Seiffge-Krenke, 2000).

Researchers have argued that when studying ACEs, it is beneficial to consider parent-child dyads, since parental attachment plays a large role in child development (Center on the Developing Child at Harvard University, 2016). However, to our knowledge, there have been no studies that have triangulated parent-adolescent interview data to provide a clearer picture of the relationship between ACEs, maladaptive coping, and poor mental health among SGM adolescents. To better inform researchers, community organizations, and clinicians working with SGM adolescents, the purpose of this paper is to use qualitative data from the Family VOICES study, consisting of parent-adolescent dyadic interviews, to develop a concise conceptual model of the relationship between ACEs, maladaptive coping, and poor mental health among SGM adolescents. Results from this qualitative analysis could help identify areas of intervention for SGM adolescents.

Data Collection

The Family VOICES (Valuing Openness, Involvement, Communication, and Emotional Support) Study consisted of interviews with SGM adolescents and one of their parents to examine the role of parental support to the mental health of SGM adolescents. Recruitment for the study occurred between July 2018 and January 2019 during *Hatch Youth* and *Hatch Junior* meetings. Adolescents recruited from *Hatch Youth* were asked to send a letter home to their parents asking if they would be willing to participate in a study with their child. Interested parents were contacted by the research team to schedule interviews. Participants were recruited from *Hatch Junior* meetings by discussing the project with families. Inclusion criteria for adolescents were: 1. Attend *Hatch Youth* or *Hatch Junior* meetings; 2. Be able to be interviewed for approximately one hour; and 3. Be out to a parent willing to participate in a one-hour interview. Other than their willingness to participate, there were no other inclusion criteria for parents.

Hatch Youth is a community-based drop-in center located in Houston, TX that hosts weekly social and peer support meetings for SGM adolescents with the overall goal of decreasing risk behaviors and poor mental health outcomes. Currently, *Hatch Youth* has two programs available to SGM adolescents. The traditional *Hatch Youth* program serves adolescents between the ages of 13 to 19. A newer program, *Hatch Junior*, was developed for SGM children aged 7 to 12. To participate in *Hatch Junior*, a parent or guardian must also attend meetings.

To ensure privacy, parents and adolescents were interviewed separately. Before the interviews, assent was obtained from adolescents, and consent was obtained from their parents. Each interview lasted approximately one hour. Each participant was compensated $20 for their participation. This study was approved by The University of Texas Health Science at Houston Committee for the Protection of Human Subjects.

Data Analysis

Interview transcripts were analyzed using NVivo 12 (QSR International, 2018). The first author coded interview data based on recurring words or phrases (Denzin & Lincoln, 2003). To triangulate data, adolescent and parent data were coded separately and cross-referenced as dyads to check for consistency. Codes were examined to create distinct themes. During coding, Hendricks and Testa's (2012) framework, an adapted version of the Minority Stress Model, was found to be useful for data interpretation. After coding, a model of ACEs and bullying victimization was found to be an easily adaptable model for the findings of this study (Bifulco, Schimmenti, Jacobs, Bunn, & Rusu, 2014). The first author validated findings by conducting peer debriefings with adult staff who supervised the program and with members of the research team.

To respect the variation in preferred gender pronouns, for this analysis, all participants are referred to as "they". To protect the privacy of adolescents and their parents, sexual orientation and/or gender identity are only revealed if relevant to adolescents' experiences. No other identifying information is provided.

RESULTS

Participant Characteristics

Eleven adolescent and parent dyads were interviewed. Adolescent and parent participant characteristics are provided in Tables 11 and 12, respectively. The average age of adolescent participants was 15.45 (SD = 2.1). About half of adolescents identified as White, non-Hispanic (45.5%). The majority identified non-cisgender (transgender or non-binary; 72.7%). About half of adolescents identified as non-monosexual (bisexual/pansexual; 54.6%).

The average age of parent participants was 45.9 (SD = 4.0). Nine parents (81.8%) identified as cisgender female, and two (18.2%) identified as cisgender male. Most parents identified as straight (63.6%) and non-Hispanic White (63.6%).

Pathways Between ACEs and Poor Mental Health

Codes derived from Hendricks and Testa's (2012) framework were: 1) Stressful Events (ACEs, physical violence, sexual abuse, bullying); and 2) Proximal Minority Stress Factors (expectations of discrimination, anticipated loss of resources). An additional code for Coping Mechanisms (co-dependence and avoidance/withdrawal) was added. Example themes were: Social Challenges for Transgender Adolescents; and Experiences of Discrimination at School. We found multiple ACEs reported by adolescents. Table 13 indicates frequency of ACEs reported. The most frequent ACEs reported were divorce/separation of parents (63.6%) and parental mental illness (63.6%).

Figure 1 is our conceptual model of how ACEs influence the mental health of SGM adolescents. In Pathway 1, we found maladaptive coping helps explain the relationship between adverse childhood experiences and poor mental health. In Pathway 2, we found

minority stress influences the severity of poor mental health. In Pathway 3, we found poor mental health contributes to negative behavioral outcomes. The three pathways are detailed below:

Pathway 1: Maladaptive coping helps explain the relationship between adverse childhood experiences and poor mental health. Participants' stories about adverse childhood experiences often highlighted their learned method of coping with stressful situations. One participant was highly dependent on their mother for security and would suffer from severe panic attacks when she was not present to help. It appeared this dependence developed due in part to their father's inability to be a stable source of support. The participant stated:

"He loves me to death, but he's just not the best father, you know? My mom does everything for me. She's the one that takes me to my appointments and everything. He can't. He can't do that. He loves me. He's just not capable of showing it. I'll say I hate him, but I really don't. He just doesn't think right with his brain because it's so scrambled from drinking."

Many adolescents discussed mistrust and emotional suppression due to emotional abuse, emotional neglect, or physical abuse in the household. Inability to express emotions or trust anybody was related to depression, social isolation, and social anxiety. One adolescent recounted an experience with their mother:

"I would try to clean my room, and she was very strict about how clean it was. I could never seem to do it right. She didn't teach me how to do it. She just told me what I was doing was wrong over and over. If I messed up too many times, she would get really, really angry at me and start shouting, and that scared me. I would start crying, and she would only get angrier if I cried. That definitely caused some issues with me and suppressing my emotions."

They stated that they felt their father was emotionally withdrawn and would not get involved or provide support. As a result, the adolescent developed a fear of expressing their emotional needs. This was echoed by another adolescent whose father had moved out of the country and had little to no contact with them. They stated:

"I'm a little more guarded when it comes to trusting people. So when people suggest, 'Oh, if you're feeling bad, talk to the school counselor. Talk to a teacher you can trust.' I don't understand. I don't really trust anybody."

Discomfort with expressing emotions meant the adolescent was hesitant to reach out to adults who could help them with their mental health issues or traumatic events. This was also illustrated by a participant whose father was physically and emotionally abusive. They recalled an incident that required them to get into a physical altercation with their father: "I remember he hit [my mother] with a shovel on her face. She couldn't eat. She couldn't talk." The adolescent withdrew themselves so much from others that they did not feel they had any real friends. They stated they were worried they would get close to someone who would leave.

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They revealed numerous traumatic incidents that they had not disclosed to anyone else previously. They did not wish to tell their mother, because they felt "she has enough to deal with."

When adolescents were open to their parents about traumatic incidents, parents provided objective accounts of how ACEs resulted in poor mental health. In two instances, parents disclosed their child had been sexually abused by the other parent or the other parent's partner, which they believed contributed to their child's diagnosed mental disorders (e.g., depression, PTSD, and disordered eating). In both cases, the adolescent's other parent denied the children's accounts of abuse. One parent stated, "It's hurtful to [my child] to have this person that's supposed to have your back not only let this happen to you, but then pretend it didn't happen to you." These examples highlighted how ACEs contributed to poor coping skills, such as avoidance and withdrawal, making it difficult for adolescents to trust and reach out to people who could provide additional support.

Pathway 2: Minority stress influences the severity of poor mental health. Discrimination and direct or indirect harassment based on sexual identity was common among sexual minority adolescents. One participant became emotionally distraught when recalling how a bully outed them at school before they were ready to disclose. However, most participants were unphased when they overheard homophobic slurs at school and considered them a normal part of being surrounded by their peers. A few adolescents were empowered enough to confront their peers and educate them about why their slurs were inappropriate. Instead of concern about discrimination and harassment due to sexual orientation, parents and

adolescents felt discrimination, harassment, and victimization was a bigger concern for transgender adolescents. One participant stated:

"As far as discrimination goes, it's more trans people, I think, that face the brunt force of it, just because...well, you know: 'You haven't had your birth certificate changed, so you're going to have to go to this bathroom or do this.' Which is ridiculous, let's be honest."

Indeed, the most severe accounts of discrimination, harassment, and victimization were from transgender adolescents. One trans-girl worried about being out due to expected, or anticipated, discrimination. They feared being out while still having a masculine body, because they felt they would "look stupid". Their mother recalled an incident when she was trying to be supportive of their child and suggested they go shopping for feminine clothing. The adolescent became so anxious at the mall about how they would be perceived that they threw up and could not purchase anything. Additionally, both the mother and adolescent worried about the adolescent's grandfather finding out about the adolescent's gender identity, because they did not want to jeopardize losing financial support for the adolescent's private school.

Another transgender participant had to leave traditional school because they were being fetishized and stalked online and at school by a peer. For their safety, school administrators suggested the adolescent attend an alternative school to finish their last year of high school, which required the adolescent to spend all day at a computer with minimal interaction with other students. To their knowledge, there were no academic consequences for the perpetrator.

In the most extreme experience of victimization, one participant recalled being sexually assaulted by boys in the sixth grade. The boys taunted, "If you're gonna act like a girl, we're gonna treat you like a girl." The adolescent stated, "I just started crying after they got done. I was just laying on the floor. I didn't know what to do." The participant stated they had not disclosed the event to anyone else.

When cisgender, sexual minority adolescents were able to recount experiences of bullying and teasing, they were often presented as annoyances. However, the effect of these experiences on transgender adolescents' mental health was clear. All participants who reported suicidal ideation were transgender. Additionally, transgender adolescents reported more negative behavioral outcomes than their cisgender or non-binary peers.

Pathway 3: Poor mental health contributes to negative behavioral outcomes. Adolescents reported numerous negative behavioral outcomes resulting from their poor mental health, such as suicidality, self-harm, poor school performance, and running away from home. One adolescent reported suicidal ideation and self-harm. They had not yet received a formal diagnosis of a mental disorder but stated, "I've had multiple shitty days and suicidal thoughts, and it's kind of getting to a dangerous point…not enough that I'd actually kill myself, but I have self-harmed." Their regular doctor was told about the depression but did not think it was severe enough to suggest medication. Their mother was aware of the adolescent's mental health concerns and was actively looking for a therapist.

The same adolescent also reported issues at school. They felt that "school is stressful and stupid." When asked why they felt their grades were low, they stated: "Sometimes I don't understand, and I don't want to bother to understand. Other times, my mental health will just

plummet, and I enter this state of apathy and numbness." Others shared the experience of ambivalence to school while depressed.

Recalling a time when the student struggled with their grades for a few weeks, another participant stated, "I did absolutely nothing in the class. I would just come to class and sit and stare and do, like, the bare minimum and then leave." Several students left public school due to anxiety. They opted instead for private school, began homeschooling, or they decided to pursue their GED.

Of the negative behavioral outcomes reported by adolescents and their parents, issues at school (e.g., poor attendance, low grades) were the most frequently reported. Participants understood the implications of poor school performance on future educational attainment. A few recognized that due to grades and their mental health, they would likely have to stay close to home for college. Only one parent discussed leaving Texas for college. Because their child identified as transgender, it was important to the parent that the state, city, and school embraced gender diversity.

DISCUSSION

Our goal was to create a concise conceptual model of the pathways in which ACEs contribute to the development of poor mental health in SGM adolescents. Consistent with literature on maladaptive coping, we found adolescents in our sample relied on withdrawal and avoidance to cope when dealing with stressful situations (Seiffge-Krenke, 2000). Often, this was a barrier to reaching out to adults who could help provide extra support.

Our findings are consistent with the Minority Stress Theory (Meyer, 2003) by noting SGM adolescents' experiences with discrimination and victimization at school. Hendricks

and Testa's adapted framework emphasizes the importance of traumatic events, such as ACEs, on the internal processes of transgender individuals. Previous research has examined the role of ACEs on lesbian, gay, and bisexual adults in the U.S. (Blosnich & Andersen, 2015), but the researchers did not identify non-cisgender individuals in their sample or create a conceptual model of their findings. Consistent with previous research and the adapted minority stress framework, we found that ACEs and minority stress are two sources of trauma that should be addressed together, especially among transgender adolescents (Blosnich & Andersen, 2015; Hendricks & Testa, 2012). To expand on their framework, we created pathways between ACEs and poor mental health. Our model, rooted in theory and consistent with previous research, can be a useful framework for intervention development and evaluation targeting SGM adolescents.

Due to their mistrust of others, we found that SGM adolescents may not be willing to disclose traumatic events to adults, which could be a barrier to mental health treatment. Interventionists, clinicians, and SGM-serving organizations should be cognizant of that unwillingness when working with SGM adolescents. Researchers have recently been calling for trauma-informed care for those working with SGM adolescents (McCormick, Scheyd, & Terrazas, 2018), which our findings support. To address a possible withholding of information without an established relationship of trust with adolescents, we suggest all SGM adolescents, regardless of disclosed events, be treated as though they have experienced traumatic experiences. Our findings also underscore the need for more family-based research for SGM adolescents. When adverse experiences occur within the household, it is important to consider how the family can work together to minimize future occurrences. Family-based

interventions should focus on how to increase family resilience (Hadfield & Ungar, 2018).

Additionally, understanding the antecedents to adverse childhood experiences could help

determine how to prevent them in the future. Researchers should examine the effect

intergenerational ACEs has on SGM adolescents' mental health. It is also important to note

that one supportive parent may not alleviate the trauma experienced by SGM adolescents.

Therefore, although it may appear an adolescent has adequate family support, SGM

adolescents should still be evaluated for previous ACEs.

A strength of this study when examining ACEs was the use of parent-adolescent

dyads. We were able to use two sources of information to corroborate experiences and

provide more context about situations and relationships. Another strength was recruitment

from a community-based organization with an established relationship of trust from SGM

adolescents. *Hatch Youth* helped assure skeptical adolescents that we would treat their

experiences with respect and be protective of their privacy. Without a history of trust, it

would have been difficult to recruit SGM adolescents and their parents.

Although partnering with *Hatch Youth* was advantageous, recruiting from a single

community-based organization was also a limitation of the study, since we had to rely on a

convenience sample. Additionally, our sample consisted of SGM adolescents who were out

to their parents. SGM adolescents who are not out may have vastly different experiences that

our study could not capture. Participants who enrolled in the study may also have had a

vested interest in mental health, possibly biasing their responses.

Our model can help clinicians and SGM-serving organizations conceptualize how

ACEs affect mental health and help provide a theoretical basis for intervention. For SGM

adolescents who have experienced ACEs or other forms of discrimination or victimization, maladaptive coping, such as withdrawal and avoidance, may be a barrier to diagnosis and treatment. Therefore, implementing a trauma-informed approach for all SGM adolescents may be the best way to ensure that adolescents who are not ready or willing to disclose past experiences get the care they need.

Table 11. Adolescent Participant Characteristics (*N* = 11)

Adolescent Characteristics	*N (%)*
Age Range: 12-18 (Mean, Standard Deviation)	M = 15.5, SD = 2.1
Race	
White, non-Hispanic	5 (45.5)
Black, non-Hispanic	1 (9.1)
White, Hispanic	4 (36.4)
Black, Hispanic	1 (9.1)
Gender	
Cis-gender Female	2 (18.2)
Cis-gender Male	1 (9.1)
Transgender Female	2 (18.2)
Transgender Male	4 (36.4)
Non-binary	2 (18.2)
Sexual Identity	
Gay	1 (9.1)
Lesbian	2 (18.2)
Pansexual	5 (45.5)
Demisexual and Pansexual	1 (9.1)
Queer	1 (9.1)
None	1 (9.1)

Table 12. Parent Participant Characteristics (*N* = 11)

Parent Characteristics	*N (%)*
Age Range: 41-54 (Mean, Standard Deviation)	M = 45.9, SD = 4.0
Race	
White, non-Hispanic	7 (63.6)
Black, non-Hispanic	1 (9.1)
Gender	
Cis-gender Female	9 (81.8)
Cis-gender Male	2 (18.2)
Sexual Identity	
Straight	8 (72.7)
Lesbian	1 (9.1)
Pansexual	1 (9.1)
Demisexual	1 (9.1)

Table 13. Frequency of Coded Adverse Childhood Experiences ($N = 11$)

Adverse Childhood Experience	N (%)
Parental Separation/Divorce	7 (63.6)
Parental Mental Illness	7 (63.6)
Household Substance Misuse	4 (36.4)
Sexual Abuse	2 (18.2)
Incarcerated Household Member	2 (18.2)
Emotional Abuse	2 (18.2)
Emotional Neglect	2 (18.2)
Household Violence	1 (9.1)

FIGURE

Figure 1. The SGM ACEs Model
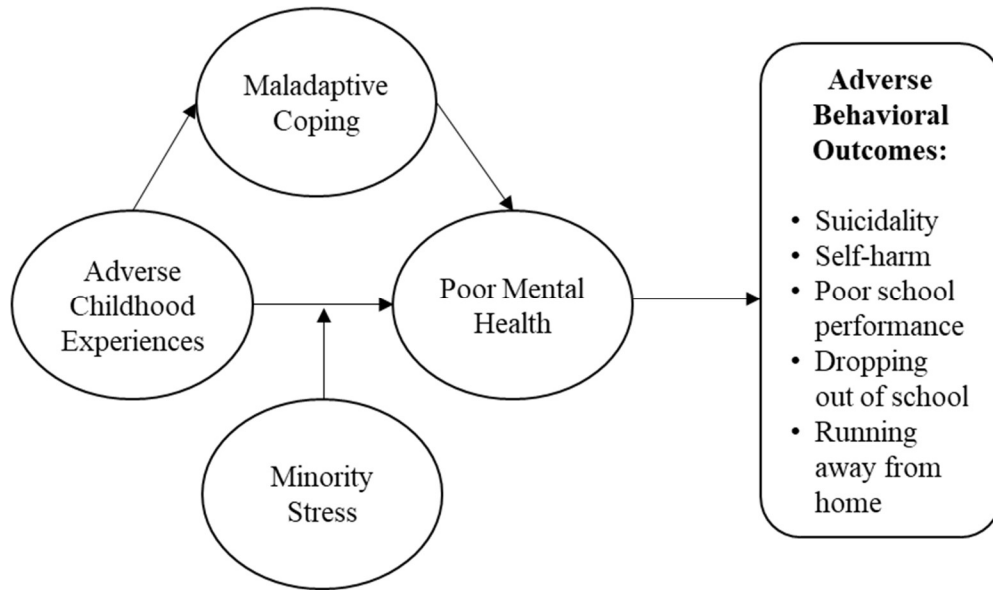
CONCLUSION

SGM adolescents are at an increased risk for poor mental health outcomes when compared to their heterosexual, cisgender peers. Like previous research on nationwide samples, we found high rates of depression, anxiety, and suicidal ideation among SGM adolescents in our online and *Hatch Youth* samples (Centers for Disease Control and Prevention, 2017; Kann et al., 2016; Marshal et al., 2011). Our findings highlight the need for targeted interventions among this population, especially for non-cisgender and non-monosexual adolescents (Kann et al., 2016).

Although findings from this dissertation reflect much of the literature on SGM adolescents' mental health, there are some notable exceptions. In Paper 1, we found unanticipated differences among racial and ethnic minority adolescents in Texas regarding depression and suicidal ideation. Our findings suggested minority status may be protective against poor mental health outcomes.

One implication of these findings is that more research is needed targeting racial and ethnic minority adolescents to determine whether these findings are replicable. If so, research is needed to determine: 1) what, specifically, are these protective factors; 2) whether these factors are changeable or adaptable; and 3) how to encourage SGM adolescents and possibly their families to adopt these protective factors.

In Paper 2, we found SGM adolescents who were at a very high risk for suicidal ideation due to the high prevalence of depression among the sample appeared to benefit from participating in a drop-in center. This finding is similar to previous research on *Hatch Youth* (Romijnders et al., 2017; Wilkerson, Lawler, Romijnders, Armstead, & Bauldry, 2018;

Wilkerson, Schick, Romijnders, Bauldry, & Butame, 2017). However, even with the support of peers, role models, and mentors provided by participation in *Hatch Youth*, we found school connectedness to be an important aspect of SGM adolescents' mental health. These findings underscore the need for school-based initiatives geared toward fostering feelings of school connectedness among students, particularly among SGM adolescents.

Much of the research regarding the school environment and its effects on SGM adolescents has focused on Genders and Sexualities Alliances (GSAs; formerly Gay-Straight Alliances). While merely the presence of GSAs in schools has a positive effect on SGM adolescents' mental health (Marx & Kettrey, 2016), this may not be enough to promote feelings of school connectedness. School connectedness is a result of the culture of the school, not only whether a GSA is present. More research is needed on school-wide or district-wide initiatives to change the culture of acceptance and inclusivity in schools. Such initiatives could include training among staff and volunteers to help them become more aware of the mental and emotional needs of adolescents and by creating school networks that can identify children at risk for mental health concerns and link them to the resources they need.

Additionally, given Texas's political climate, which is less inclusive to SGM adolescents than other States in the U.S. (Human Rights Campaign, 2017; Movement Advancement Project, 2018), some Texas schools may be unwilling to encourage the formation of a GSA. While changing educational policy on a State level may be a positive long-term goal, it is not a goal that can meet the needs of current students. The alternative may be a city-wide or district-wide policy change initiative on school culture.

In Paper 3, we found parental support for SGM adolescents was not solely dependent on having an open dialogue about sexual orientation and gender identity, as all the participants in the Family VOICES study were out to their parents. Instead, among the SGM adolescents in our sample, ACEs appeared to be the primary precursor to poor mental health. Through adverse or traumatic experiences, adolescents struggled with the expression of their needs and emotions. As a result of these experiences, through time, the adolescents developed poor coping skills when dealing with stress and anxiety. Inability to trust adults and be open about their needs was related to symptoms of mental distress.

Our findings suggest the need to address trauma when working with SGM adolescents, whether in the classroom, clinic, or community organization. Due to an unwillingness to disclose traumatic events, it is important to treat every individual as though they had experienced adverse or traumatic experiences. This includes being aware of potentially triggering conversations and approaching SGM adolescents with empathy and openness.

These findings also suggest a need for more family-based research with SGM adolescents. As the culture in the U.S. becomes more accepting of differences in sexual and gender expression, adolescents may be more willing to come out to their parents. This creates an opportune time to intervene with families who may need extra support. Resources and research are needed to help identify these families and help them create a sense of family resilience and continue the open, honest dialogue created by disclosure of adolescents' sexual orientation or gender identity.

Given the implications of our findings, future research on SGM youth in Texas should include researching racial and ethnic differences among SGM adolescents' mental health, developing school-based interventions for promoting school connectedness, and adapting trauma-informed, family-based interventions for SGM adolescents. SGM adolescents living in Texas face many hurdles to acceptance and inclusion. Through advocacy, research, and intervention, we hope to address the mental health needs of this vulnerable population.

APPENDICES

Appendix A: Glossary of Terms

Adolescent	For this dissertation, adolescent refers to youth ages 13-19
Agender	When a person does not identify with a specific gender
Bisexual Orientation	Attraction to both men and women
Cisgender	When personal identity and gender corresponds with sex at birth
Demisexual Orientation	When a person can only experience sexual attraction to a person after an emotional bond is formed
"Don't Say Gay" Law	Also referred to as "No Promo Homo" laws, these laws expressly forbid teachers from discussing SGM issues, including sexual health
Gay	When a person, most commonly a male, is attracted to persons of the same sex
Gender Binary	Classification of sex and gender into two distinct and opposite groups, masculine and feminine
Gender Dysphoria	When a person feels significant distress concerning their personal identity and gender, which does not correspond with sex at birth
Gender Expression	How persons express their gender identity through various forms, such as the way they dress and their behavior
Gender Identity	How a person perceives their gender, whether or not it corresponds with sex at birth
Gender Nonconformity	When a person's gender expression does not align with society's expectations of appropriate gender expression

Gender Queer	When a person does not subscribe to conventional gender identities and may identify with neither, both, or a combination of male and female genders; often used interchangeably with the term non-binary
Hegemonic	Dominant traits, socially or politically
Heterosexual Orientation	Attraction to members of the opposite sex
Homosexual Orientation	Attraction to members of the same sex
Latin/o/a/x	Identification as Latino, Latina, or Latinx; Latinx is considered a gender neutral identification
Lesbian	Women who are attracted to other women
Minority Stress	Chronic stress faced by stigmatized individuals
Monosexual	Attraction to only one sex or gender; person may identify as heterosexual or homosexual, in contrast to bisexuality or pansexuality
Non-binary	When a person does not subscribe to conventional gender identities and may identify with neither, both, or a combination of male and female genders; often used interchangeably with the term gender queer
Pansexual Orientation	Attraction to other persons regardless of their biological sex, gender, or gender identity
Queer	Encompassing all forms of non-heterosexual, non-cisgender identities
Questioning	Persons who are exploring or unsure about their gender, sexual identity, and/or orientation and who do not wish to define themselves by social labels
Sexual Identity	A person's perception of their own romantic or sexual attractions.
Social Ties	Connections among people that allow them to share experiences, behaviors, and interactions

Transgender	When personal identity and gender does not correspond with sex at birth

Appendix B: Parent Recruitment Letter for the Family VOICES study

Hello, Hatch Parent!

My name is Sylvia Lawler, and I am a doctoral student at
The University of Texas Health Science Center at Houston.
For the past two years, I have co-authored publications
on the many benefits of *Hatch Youth* on LGBTQ
adolescents' mental health. However, I strongly believe *Hatch*
is only part of the equation.

YOU are just as important.

For my doctoral dissertation, I am conducting a small study called the Family VOICES
Project (Valuing Openness, Involvement, Communication, and Emotional Support). I will
be conducting interviews with youth who attend *Hatch Youth* meetings and one of their
parents. I would be thrilled if you agree to be interviewed for approximately one hour.
Your child will also be interviewed on the same day, but the two interviews will be
conducted separately.

During the interview, we will discuss your relationship and the ways you support your
child's mental health and well-being. You and your child will each receive $20 for your
time. You will also receive a small gift to show my appreciation.

There are two options for the interviews: 1. I will interview your child at the Montrose
Center before a *Hatch* meeting, and you will be interviewed during the *Hatch* meeting.
2. You and your child may meet with me at a time and place that is convenient for you,
provided there is adequate privacy for both individual interviews.

As a bisexual member of the LGBTQ community, I know how difficult it can be for
adolescents to feel accepted and understood by others. As a parent to a five-year-old, I
also know how important it is to feel like you are doing the best you can for your child.

My hope is that findings from this study will help other parents strengthen their
relationship with their LGBTQ children. Please discuss this study with your child. If you
are both willing to participate, please call or text me at 281-217-5537 to set up a
meeting. I am asking that only the parent contact me to set up a meeting as verification
of your willingness to participate. If you have questions about this research study, you
can also reach me via email at Sylvia.M.Morales@uth.tmc.edu

I hope to see you soon!

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