# Physical activity, affirmation, and bullying in underserved youth

by

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# Abstract

Introduction: Sexual and gender minority (SGM) youth have mental and physical health outcome disparities compared to their non-SGM counterparts. There is a volatile political and social environment based on their identities where SGM youth can face ridicule and bullying from peers at school. This ridicule can lead to lower physical activity levels, maladaptive eating habits, and increased risk of depression and suicidality. This study's intent is to better understand SGM youth physical activity behavior and test if having an affirming or rejecting environment influences physical activity participation.

Methods: The survey is an adapted form of the LGBTQ+ National Teen Survey by Watson et al. The study measured demographics, physical activity and sport participation, peer harassment, family acceptance and family rejection. The study was conducted as an electronic survey with respondents from an after-school SGM youth program. A youth advocate was used to ensure safety and anonymity of respondents.

Results: There were 20 respondents (4 cisgendered boys, 7 transgender boys, 0 cisgender girls, 2 transgender girls, 4 gender non-conforming, and 3 with a different identity). Orientation had 6 bisexual, 6 queer, 4 asexual, 2 gay or lesbian, 1 still figuring out their identity and 1 something other than these. For physical activity participation, 2 had met CDC recommendations of 60 minutes of MVPA per day and 9 had never played on a school sports team. 8 were harassed for their gender, sexuality or how masculine or feminine they were. Six heard their caregivers tell them they were proud of them for their identity and 11 had their caregivers ridicule them for their identity.

Conclusion: SGM youth are not meeting CDC guidelines and there is a volatile environment around these youth. Greater efforts for inclusion are needed at home and at school sports teams. Parents need education to support their SGM youth.

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# Chapter 1 - **Introduction**

## Background

Adolescence (12yrs-18yrs) can be a strenuous time for youth with rapid cognitive changes, biological development, a shifting parent-adolescent relationship, peer relations, and developing a sense of self (Steinberg & Morris, 2001; van Sluijs et al., 2021). During this time of development, youth are increasingly identifying as a sexual and gender minority (SGM), with 25% of high school kids having identities categorized as lesbian, gay, bisexual, or questioning (Center for Disease Control, 2023a). This is a higher percentage than has been seen in the past (Harris Interactive, 2013). While growing social acceptance may be an influence of this increase in publicly identifying as SGM, it is also posited that other generations view and express their forms of gender and sexuality differently (Watson et al, 2020). One way that is different is that exploring gender identity, orientation, and roles in youth is becoming normalized (Youth, 2024). However, social acceptance is not comprehensive in schools with 60% of SGM youth reported being bullied at school as opposed to 28% of heterosexual students experiencing bullying (Hertz et al, 2013). This trend has not changed much over the past decade with the majority (53%) of SGM youth being verbally harassed due to people believing they were SGM (The Trevor Project, 2023). Bullying of the SGM youth population increases negative outcomes such as: maladaptive eating, low physical activity, stress (Himmelstein et al., 2019), increased depression, decreased self-esteem and even negating the benefits of physical activity (Kirklewski et al., 2021).

## Youth Physical Activity and Mental Health

Physical activity has many well-known benefits to both physical and mental health outcomes (CDC, 2023b). However, during adolescence, there is a significant decrease in individuals meeting the CDC recommendations for physical activity (Kumar et al., 2015). The recommendations for children aged 6-17 are: 60 minutes of moderate-to-vigorous aerobic activity every day, at least three days of resistance activities per week (e.g. push-ups), and at least 3 days of bone strengthening activities per week (e.g. jumping) (CDC, 2023c). Failure to meet these recommendations can lead to many health risks for youth such as: increased chance of diabetes, overweight or obesity, higher risk of depression, anxiety, and stress (van Sluijs et al., 2021; CDC, 2022). Health risks due to low physical activity exacerbate an already difficult mental health crisis among youth (Abrams, 2023). While Covid-19 brought challenges to youth mental health, the years 2011-2021 showed a trend with a 40% increase in persistent feelings of sadness and hopelessness, including suicidal thoughts and behaviors (Abrams, 2023). While this affects all youth, there is a more nuanced situation with SGM youth and the disparity of their mental and physical health to non-SGM (cisgendered and heterosexual) youth that warrants further attention.

## Inequities that Lead to PA Disparities among SGM Youth

### *Peer Victimization and Health Behaviors*

There are several aspects of the adolescent experience in which there are disparities between SGM youth and non-SGM youth. Peer victimization is one such aspect and is often described as physical and verbal harassment and violence, bullying, or threats to bring physical harm to the victim (The Trevor Project, 2023; HRC, 2023). Along with the difference with bullying at school,51% of SGM youth (compared to 25% of non-SGM youth) reported verbal harassment at school and 30% of SGM youth (compared to 17% of non-SGM youth) said they did not have an adult they could talk to about personal problems (Human Rights Campaign, 2012). A lower percent of SGM youth claimed they were happy (37%) compared to non-SGM youth (67%) (Human Rights Campaign, 2012). One 2023 study found that 53% of SGM youth were verbally harassed because people thought they were SGM, and 24% were physically threatened or harmed due to their sexual orientation or gender identity (The Trevor Project, 2023). In another study, it was found that SGM youth are at greater risk of victimization by their peers, unexcused absences from school, suicidal thoughts and attempts (Robinson & Espelage, 2011). Other health-related behaviors are also seen across SGM demographics. SGM youth, (including trans youth) were significantly more likely to try to lose weight, engage in unhealthy weight control, be physically inactive and were less likely to play on a sports team than non-SGM youth (Lucassen et al., 2019). Another study analyzed the Youth Risk Behavior Surveillance System showing that SGM boys were more likely to report physical inactivity than non-SGM boys, particularly associated with less participation with school sports teams (Ancheta et al., 2021). SGM girls were more likely to be sedentary daily with TV watching than non-SGM girls (Ancheta et al., 2021).

There is a difference in perspective SGM and non-SGM youth face (Human Rights Campaign, 2012). They reported on the most prevalent problem they faced with unaccepting families, school and bullying problems, and a fear of being out or open to the public being SGM youth's biggest and non-SGM youths' were: classes/exams/grades, what college to go to and career choice, and the financial pressures related to their job or college (Human Rights Campaign, 2012). Both SGM and non-SGM youth were asked if they could have one thing change in their lives and had vastly different responses. SGM youth stated that a change in understanding, tolerance and hate towards them was the most important followed by their parent/family situation and where and who they live with and non-SGM youth said that the change they'd like to see most was in their money and finances, their appearance and weight, and improving their mental health (Human Rights Campaign, 2012). These are two vastly different mindsets and experiences for adolescent kids to have. The cause of the difference of focus can be attributed to several factors.

### *Community and Societal Factors that Lead to Negative Health Outcomes*

Home life and the parent-child relationship can influence physical activity behavior, eating habits and mental health of SGM youth (Abrams, 2023; Himmelstein et al., 2019; Hertz et al., 2013). Negative interactions between SGM youth and peers can lead to maladaptive eating habits like severe binge eating, dieting, weight-control strategies, and eating to cope (Himmelstein et al., 2019). These behaviors are significantly increased when weight-based victimization came from family members (Himmelstein et al., 2019). However, weight-based victimization is not the only negative interaction SGM youth must worry about with their family. Some SGM youth fear family rejection due to their SGM identity. Some have been forced to live on the street because their family has kicked out that family member for their identity (Tellier, 2017. People who are homeless have lower levels of physical activity and worse overall health (Stringer et al., 2019). Those who come from highly rejecting families are eight times more likely to attempt suicide than those who come from supportive families (Ryan, 2009). These negative interactions and impacts on family relationships can be partially attributed to the family's use of religion (Etengoff & Daiute, 2014). Religion has also been used in legislation to discriminate against minorities, SGM included (ACLU, 2024). Transgender athletes are currently being focused on with 61 active bills across the United States attempting to ban trans athletes from participating in sports as the gender they identify as (The Trevor Project, 2024). Often these bills are predicated on the notion that allowing transgender athletes to participate will cause harm to cisgender athletes, however there is no evidence to suggest this (Goldberg, 2021; Oberlin, 2023). Other examples of state legislative oppression to the SGM youth from 2023 are Kansas House Bill 2238, Senate Bill 180, and Senate Bill 233 (Peele, 2023). Bills like these negatively impact the well-being of 90% of SGM youth and lead to them and their families consider moving states in response (The Trevor Project, 2024). Legislative support discriminating against the SGM community and extreme rhetoric by anti-gay politicians normalizes negative attitudes and emboldens violence against the SGM community (Santorio, 2022). SGM youth are more likely to be victimized by antigay prejudice events than SGM adults and the psychological consequences from victimization may be more severe (Meyer, 2003). Being exposed to negative experiences and living conditions can lead to chronic stress and negative mental health behaviors (Tellier, 2017; Lucassen et al., 2019; Meyer, 2003).

## Minority Stress Theory

Stress can be defined as "any condition having the potential to arouse the adaptive machinery of the individual," (Pearlin, 1999, p. 163). Stress can also reduce enjoyment in physical activity in adolescents (Ajibewa et al., 2021). While stress often focuses on individual events and conditions that force adaptation, an elaboration of stress theory looks at social stress. One categorization of stress suggests that in addition to personal events, the conditions of the social environment are also a source of stress which impacts mental and physical health (Meyer, 2003). With social sources of stress, there is a supposition that there is a strong impact on those who belong to socially stigmatized groups like race/ethnicity, gender or sexuality, or socioeconomic status (Meyer, 2003). To further focus on the identification and categorization of stress that SGM youth face, Meyer's Model of Minority Stress elaborates on the conditions, stressors, and outcomes that those in stigmatized social groups experience (Lucassen et al., 2019; Meyer, 2003; Tellier, 2017). Meyer defines minority stress as "the excess stress to which individuals from stigmatized social categories are exposed as a result of their social, often minority, position," (Meyer, 2003). He arranged the influencers of minority stress into four categories: prejudice events, expectations of rejection and discrimination, concealment versus disclosure, and internalized homophobia (Meyer, 2003; Tellier, 2017). This type of stress is experienced by SGM youth and can influence negative behaviors and outcomes such as lower physical activity levels (Meyer, 2003).

## Mitigation of Youth SGM Inequities Through Affirming Environments

There have been attempts to create affirming environments for SGM youth at school through antibullying programs, Gay-Straight Alliances, (GSA, aka Gender and Sexuality Alliances) and third places (The Trevor Project, 2015; Sadowski, 2017; Hertz et al., 2013; Finlay et al., 2019). GSA's and some third places are environments that affirm one's identity creating a safe space to express oneself and supports SGM youth (Sadowski, 2017). Having a place that is accepting and affirming may provide relief to SGM youth under chronic pressure from minority stress (Hertz et al., 2013; Szalacha, 2003). Antibullying programs have also been shown to be effective at reducing bullying and improving mental health (Fraguas et al., 2021). Other programs like the Safe Schools Program for Gay and Lesbian Students helped improve the climate resulting in significantly less harassment than schools without this kind of program (Szalacha, 2003). GSA's have shown to increase levels of peer acceptance and feel more connected to their school communities (Sardowski, 2017). Youth who felt school connectedness (the degree to which youth feel that adults and peers care about them and are invested in their success) during middle and high school had fewer problems with substance abuse, mental health, and suicidality (Abrams, 2023). Third spaces are infrastructure, organizations, and institutions outside of home and school life, can provide life-saving roles in communities by facilitating social connections with people (Finlay et al., 2019). There needs to be efforts to improve the well-being of SGM youth in America, but knowing where to start is challenging as this is an under-served population (The Trevor Project, 2024).

## Statement of Problem and Purpose of Study

There is a youth mental health crisis, significant disparities between SGM and non-SGM youth in physical and mental health outcomes, and volatile political and social environments for SGM youth that result in chronic stress. Due to these issues, SGM youth physical activity, eating behavior, and mental health are being negatively impacted. While it is well known that physical activity can improve mental and physical health, evidence suggests that being victimized by peers at school, family at home, or oppressed with legislation by policy makers increases the difficulty of starting and maintaining physical activity habits.

There is limited literature studying SGM youth's physical activity behavior and factors that can positively or negatively influence such behavior. The primary purpose of this study is to better understand SGM youth physical activity behaviors and how negative (e.g. bullying, discrimination) and positive (e.g., acceptance, affirming environments) factors impact their physical activity behaviors

# Chapter 2 - Literature Review

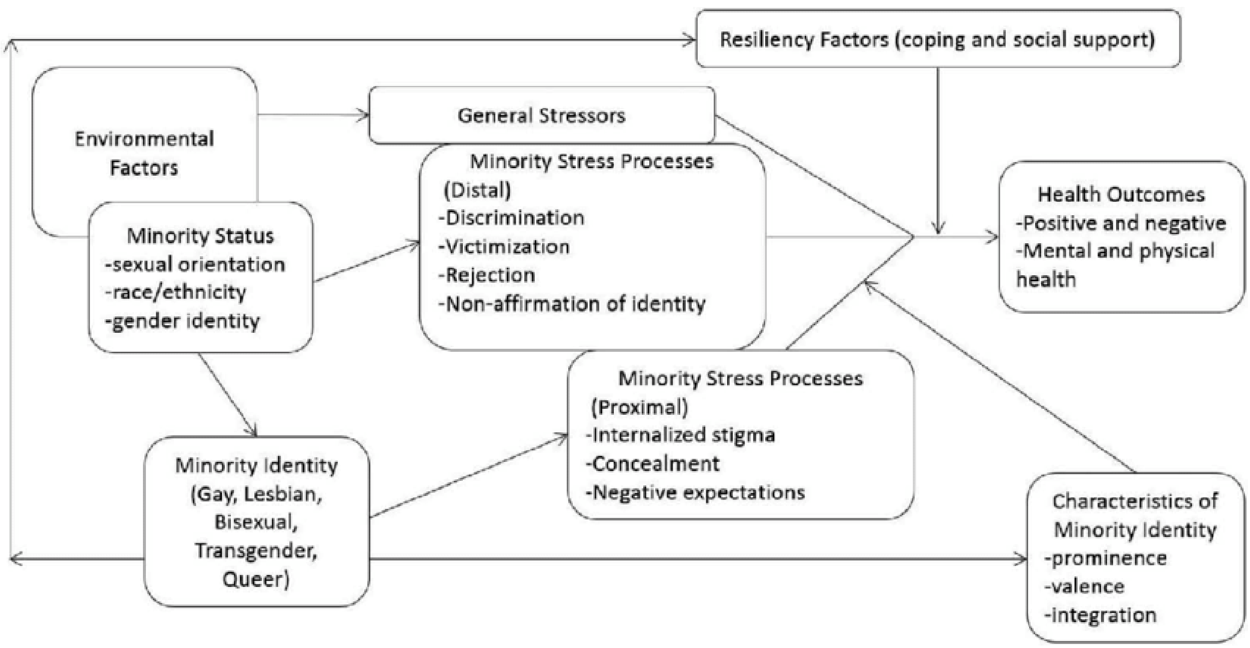
## Background

The SGM youth population is severely under researched. A cursory search of PubMed using the search terms "Youth physical activity and mental health" yielded over 5,000 results. However, when adding the term "LGBTQ" or "Queer" or "Sexual and Gender Minority," no result exceeded 25. While this does not encompass the totality of the scientific conversation or have the rigor of a scoping or systematic review, it does help set the tone of what can be expected regarding the gap of knowledge within this field. With that in mind, it may be unsurprising to learn that most studies done with the SGM youth population are quantitative, most commonly, surveys that explore identity, bullying and victimization, mental health, physical activity, and social climate (Kirklewski et al., 2021; Lindstrom & Rosvall, 2020; Watson et al., 2020; HRC, 2012; Ubeda-Colomer et al., 2020; Himmelstein et al., 2020; Robinson & Espelage, 2011; Ancheta et al., 2021).

## Theoretical Framework

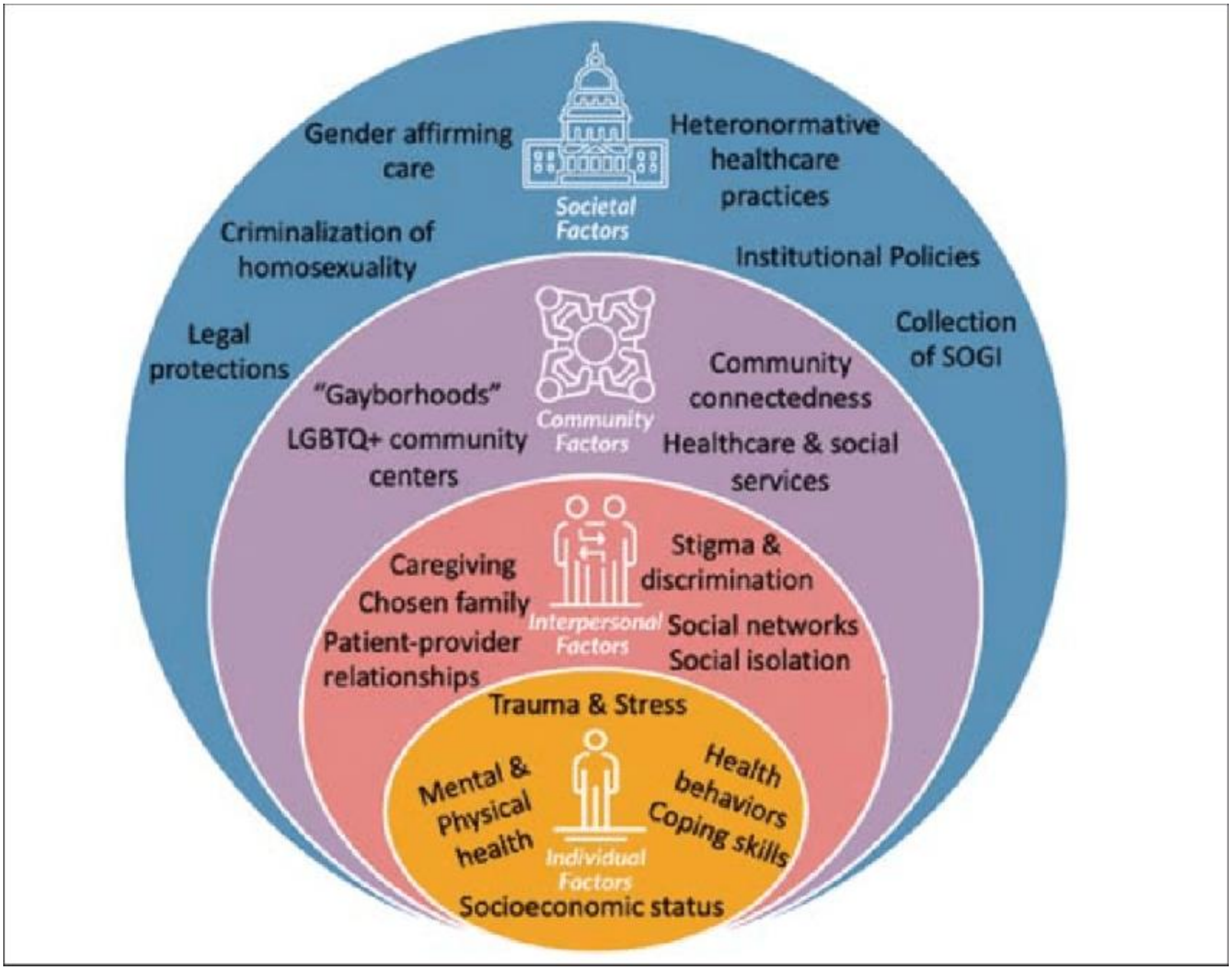
To illustrate the key factors and processes influencing minority stress, Figure 1 shows a model on minority stress (Lange et al., 2020). In addition to typical environmental factors and general stressors, minority stress also has several other influences. There are proximal stress processes like intrapersonal feelings about oneself or the feeling to hide their identity, and distal stress processes such as interpersonal issues like discrimination, victimization, or rejection by others (Lange et al., 2020). These processes add an extra layer of stress to manage for minorities that the majority don't have to deal with. The status of the minority also influences characteristics of the model, whether that's the sexual orientation, race/ethnicity, or gender identity and the minority identity itself like being Gay, Lesbian, Transgender, or Queer (Lange et al., 2020). These connect and influence both stress and resiliency factors. These factors and processes positively or negatively affect the health outcomes of minorities (Lange et al., 2020; Meyer, 2003). This study uses the minority stress model to guide question development as the distal processes impact physical activity behavior and influence proximal stress processes. While minority stress may be influenced by distal factors, stress itself is largely looked at as an individual factor in the social ecological model (National Institutes of Health Sexual and Gender Minority Research Office, 2021).

**Figure 1.** Minority Stress Model ***(Lange et al., 2020) adapted from (Meyer, 2013) and (Testa et al., 2015).***




For a better understanding of the framework on researching minority health and health disparities in SGM health, the National institutes of Health Sexual and Gender Minority Research Office uses an ecological model. Figure 2 depicts factors influencing the SGM population within the multiple levels of the social ecological model.

**Figure 2.** Sexual and Gender Minority Health Research Framework. Adapted from the National Institutes of Health Sexual and Gender Minority Health Disparities Research Framework (National Institutes of Health Sexual & Gender Minority Research Office, 2021).




Although there are influences on SGM youth from every level of the model, this study is primarily exploring factors from the individual, interpersonal, and community levels. Through this framework and the minority stress model, it is expected to see how the social environment at school, home, and third places are associated with the health behavior choices SGM youth make.

Keeping societal and community factors in mind, one white paper highlights the human rights issues that pertain to SGM youth and their health consequences (Tellier, 2017). Citing the 1948 UN Declaration of Human Rights, the International Commission of Jurists, and the Human Rights Council, Tellier establishes that systematic discrimination is against these resolutions (Tellier, 2017). However, these resolutions are not legally binding, which allows states to discriminate by enacting "draconian laws which endangers the lives of their citizens," (Tellier, 2017, p. 217). The prejudice tone set by these discriminatory laws condones and can lead to verbal and physical aggression to the SGM population, which leads to minority stress (Meyer, 2003; Tellier, 2017). Minority stress directly influences the physical and mental health of the minority, but the effect is greater in adolescent and young adults which seem to be more vulnerable than older SGM adults (Tellier, 2017). Some recommendations offered were to demand states offer greater protections in the SGM community, developing friendly and safe environments where young people can access care, and improving education to health care practitioners, administrators and staff (Tellier, 2017).

## Bullying and Suicide

In 2011, an anonymous survey with 13,213 respondents ranging from 7$^{th}$-12$^{th}$ grade students was done (Robinson & Espelage, 2011). The study measured students' risks for suicide ideation and attempts, cyber-bullying and composite victimization, school belongingness, and unexcused absences (Robinson & Espelage, 2011). While they found that generally SGM youth had higher risk for suicidal ideation and attempts, victimization, unexcused absences, and lower school belongingness, it is important to note that there was heterogeneity within the SGM subgroups (gay/lesbian/bisexual/transgender) (Robinson & Espelage, 2011). The SGM population is often looked at and studied as a monolith, and research that focuses on SGM subgroups can lead to better understanding and tailored treatments in the future.

Hertz et al. looks at bullying and suicide from a public health approach (Hertz et al., 2013). The editorial they wrote highlights the difference in bullying victimization between SGM youth and non-SGM youth (60% reported vs 28% reported) (Hertz et al., 2013). They also state how any involvement in bullying greatly increases suicide ideation and attempts (Hertz et al., 2013). To address the risks associated with bullying and the complexities, acknowledging bullying isn't the only reason one may be suicidal, they recommend an integrated approach that focuses on shared risk and protective factors (Hertz et al., 2013). Some of the factors to be addressed are increasing social connectedness, having access to supportive adults, antibullying policies and school-based suicide prevention programs (Hertz et al., 2013). These aspects can help foster a supportive environment at school and at home that are more than just the individual skill-building level of mitigation (Hertz et al., 2013). School connectedness is also associated with sports and extracurricular activity participation, so building these positive environments for SGM youth, especially on sports teams, can lead to positive outcomes for these youth (HRC, 2023).

## LGBTQ+ National Teen Survey

The most notable survey conducted has been the LGBTQ+ National Teen Survey. Developed by Dr. Ryan Watson and Dr. Rebeca Puhl with the Human Rights Campaign, this survey had a broad reach and specificity for the SGM population. There were three articles published from this study, the first of which documented current gender and sexual identities in

SGM youth, described the intersections of gender, sexual, and ethnoracial identities, and to notate the amount of youth who identified with established categories or emerging categories (Watson et al., 2020). The survey also asked about feelings of family rejection and acceptance, school connectedness, comfortability using restrooms and locker rooms of identified gender, and sports participation. The primary findings were focused on sexual and gender identity and emergent new identities that will help researchers broaden their sample size and accuracy in future endeavors.

The second study examined the moderating effect of physical activity on the relationship between bullying and mental health in SGM youth (Kirklewski et al., 2020). Results were that physical activity has a negative correlation with depression (more physical activity equals lower depression) and a positive correlation with self-esteem (more physical activity equals higher self-esteem). However, a post hoc analysis found that the mental health benefits of physical activity were reduced to negligible levels by those experiencing bullying as opposed to those not being bullied (Kirklewski et al., 2020). Their recommendation was to address bullying history first so that physical activity interventions would have significant positive outcomes on SGM youth mental health (Kirklewski et al., 2020).

The third study examined weight-based victimization, eating behaviors, and weight-related health in SGM youth (n=17,112) (Himmelstein et al., 2019). They found consistent associations with weight-based victimization and dieting, adverse eating, and weight-related health behaviors in SGM youth, even accounting for gender identity, sexual identity, age, race, and BMI percentile (Himmelstein et al., 2019). There were lower levels of physical activity and more reasons to avoid exercise when weight-based victimization was from family members, and when it was from school peers, there were also more reasons to avoid exercise, but more physical activity (Himmelstein et al., 2019). While causal inferences can't be made due to the study being cross-sectional, highlighting these associations is important so that interventions or other solutions will be educated on how to proceed, whether interpersonal, community or other factors on the social ecological model is used.

## Sexual Identity and Health Behaviors

Some research has explored the relationship between sexual identity and health behaviors. One study analyzed Youth Risk Behavior Surveillance System (YRBS) data from 2009-2017 to examine if peer victimization explained sexual identity differences in health behaviors and weight. They found that SGM boys reported less physical activity than non-SGM boys with an association of less participation in school sports (Ancheta et al., 2021). They also found that the addition of peer victimization attenuated association of sexual identity to some health behaviors like tobacco and alcohol use in both SGM boy and girl groups (Ancheta et al., 2021). Another study examined sexual orientation differences between physical activity, eating behaviors, and weight status (Luk et al., 2018). They found that sexual minority youth ate fruits and vegetables more frequently than their non-SGM counterparts and there was less frequent physical activity reported among sexual minority males (Luk et al., 2018). Also, while parental expectations were associated with more vigorous physical activity in non-SGM youth, sexual minority males had lower levels of vigorous physical activity (Luke et al., 2018). For sexual minority females, exercising with a same-sex peer lowered the risk of higher BMI in that group meaning that peer influence may be a potential intervention target to reduce disparities in physical activity behavior (Luk et al., 2018).

There are other studies that look at the social environment and its effect on physical activity. Friends can play a crucial role in becoming and remaining physically active and can help internalize a sense of belonging when there isn't much family support. (Martins et al., 2020).

Another study also found that youth physical activity is associated with their friend’s physical activity (Maturo & Cunningham, 2013). A third study found that a youth’s physical activity can be influenced to be higher if their friend’s levels are higher than theirs (Sawka et al., 2013).

Youth sports and P.E. are important tools for social development (Anderson-Butcher, 2019). Youth sports can help promote social and/or life skills and it can also help social development by addressing social problems through sport (Anderson-Butcher, 2019). However, participation by SGM youth is unequal to their non-SGM counterparts with SGM youth being significantly less involved (Kulick et al., 2018). SGM youth also felt less safe than non-SGM youth when utilizing facilities at school P.E. and youth sports (Kulick et al., 2018). Another study found that SGM youth often present fears and insecurities and are relegated to the background of P.E. activities and receive mocking gestures and insults from their peers (Hortiguela-Alcala et al., 2022).

The studies presented here summarize literature on SGM youth health behaviors and several influences therein. From sexual and gender identity to victimization by peers or family members, there are many factors that affect physical activity levels. It is important to keep in mind the framework of sexual and gender minorities and minority stress theory to understand the mental load and stress SGM youth deal with that can lead to better or worse physical activity behavior.

# Chapter 3 - **Methodology**

## Study Design

This study includes a cross-sectional survey based on the Watson et al LGBTQ+ National Teen Survey. This study tries to understand physical activity participation as well as negative (e.g. bullying, discrimination) and positive (e.g. acceptance, affirming environment) factors that might impact physical activity behaviors in SGM youth. This survey also utilizes the YRBS to know how many days SGM youth are getting 60 minutes of moderate to vigorous physical activity. The survey also measures sports participation. Affirmation and acceptance are looked at from a parental point of view, as well as rejection. Peer victimization at school is also measured.

## Study Location and Participants

### *Site description.*

The study took place at one non-profit youth organization catering to SGM youth in a moderate sized Midwest town. The non-profit is a youth-led after-school program dedicated to providing a positive environment to youth aged 12 through 18 with a specific mission to provide direct services, advocacy, and education in support of queer and trans youth. While open to all youth, it primarily targets SGM youth as a demographic to be an affirming and safe place for them to explore identity. The organization is led by a youth board of directors and overseen by an executive director that is a licensed social worker.

## Participants

The target demographic for the survey is SGM youth. Inclusion criteria indicated that participants should be at least 12 years old and in middle school, to 18 years old and in high school and identify as an SGM youth. Originally, inclusion criteria also stated SGM youth had to be 'in school'. However, due to low recruitment numbers, the inclusion criteria were adapted to allow youth fitting the age range, but not currently attending school. To be identified as a SGM youth, they must either identify as transgender, non-binary, genderqueer, or otherwise not cisgendered, that is, not identifying with the gender they were assigned at birth. or identify as having a sexual orientation other than heterosexual. This can include homosexual, bisexual, asexual, demisexual or questioning. Those that identify as cisgendered and heterosexual were excluded from the study.

Participants were recruited by word-of-mouth announcements at the organization by the executive director and the principal investigator. A digital recruitment flyer was utilized and posted onto their social media accounts. An announcement was also made on the organization's discord server with reminders every week to encourage participation.

Youth assent was obtained from all youth and informed consent was obtained from parent/guardians. In some cases, if youth did not feel comfortable discussing this study with their parent/guardian due to their SGM status (e.g., youth do not identify themselves as SGM publicly or at home due to fear of physical, social, or mental consequences), informed consent was obtained via a youth advocate. The youth advocate, a license social worker and director of the organization, completed all study training and signed the informed consent in place of the parent or guardian. This person has a long-standing rapport with the youth who attend and is known by many of their parents and guardians. Those youth that choose to utilize the youth advocate will have this person ensure their understanding of the consent forms and help attain informed consent with youth assent. This practice has been utilized in other studies with youth identifying as SGM to protect their right to privacy (Schelbe et al., 2015; Panfil et al., 2017; Kiperman, 2018). No compensation was provided for taking the survey. All study procedures were approved by Kansas State University Institutional Review Board (#IRB-11849). No incentives were offered to participants.

## Data Collection

An adapted version of the survey was made, removing some subjects and adding questions about physical activity taken from the Youth Risk Behavior Surveillance System. Data were collected in Spring 2024 via an electronic survey administered through Qualtrics. The survey consisting of 47 questions and lasting approximately 40-60 minutes captured data using a modified version of the LGBTQ National Teen Survey (Watson et al., 2020) with questions from the Youth Behavioral Risk Survey (CDC, 2023). Overall, the survey focused data collection into four blocks: demographics, physical activity behavior, experiences with an affirming environment, and experiences with bullying. The latter two sections specifically focus on the experiences of youth identifying as SGM youth.

Dr. Watson's survey covered a much broader set of topics than the current study was measuring. His survey looked more deeply at school achievement and discipline, sex education, stress levels, body image, substance abuse, and racism. These sets of questions were not used in the current study as they were not pertaining to physical activity participation and not the focus of the influencing factors of SGM youth physical health behaviors. However, this does not alter the fact that the vast majority of questions used in the current study were taken from his survey. The demographic, family acceptance and rejection, and physical activity questions were used from the Watson survey, the main addition was the YRBS question about how many days the youth were active for 60 minutes.

## Demographics

The survey collected standard demographic information about age, grade, race and ethnicity. starting with “How old are you?” with answers ranging from “12 years or younger,” to “18 years or older.” For grade, they were asked “In what grade are you?” with responses ranging from “7$^{th}$ grade” to “12$^{th}$ grade,” and there was an option to put “I am not in school.” Ethnicity was also notated, asking respondents to state how they describe themselves with “White, non-Hispanic, non-Latino,” “Black or African American,” “American Indian or Alaska Native,” “Asian or Pacific Islander,” “Latino, Hispanic, or Mexican-American,” and “Other” which was an open text box to fill in. The question instructed respondents to select all that apply, which means some chose multiple ethnicities.

The following questions pertained to sex, gender, and sexual orientation. Respondents were asked “What sex were you assigned at birth?” and could respond (i.e. male, female, intersex, or prefer not to answer). They were then asked, “What is your current gender identity?” with other response options (i.e. cisgender boy, cisgender girl, trans male/trans boy, trans female/trans girl, genderqueer/gender non-conforming, different identity with text option, and prefer not to answer). This question is from Watson et al. (2020), and originated with “Male” and “Female” as options to choose, but for this survey the options were modified to “Cisgender boy/girl” to utilize more current and relatable language to the youth taking the survey and to further separate the categories of sex and gender, (Watson et al., 2020; Kosciesza, 2022). For sexual orientation, youth were asked, “How do you describe your sexuality?” with responses “Gay or Lesbian,” “Bisexual,” “Straight, that is not gay,” “Something else,” and “I don't want to answer this.” To gain a more thorough understanding of any subgroups within the SGM youth community, a follow up question was asked if “Something else” was marked. They were asked “By something else, do you mean that..." with responses being "You are not straight, but you identify with another term such as queer, trisexual, omnisexual, or pansexual," "You are asexual," "You have not figured out your sexuality or in the process of figuring it out," "You do not think of yourself of having a sexuality," "You do not use labels to identify yourself," "You made a mistake and did not mean to put this answer, and "You mean something else," which had an open response.

## Survey description

The first block of the survey was used to identify SGM youth that met the inclusion criteria by asking about age, grade, gender identity, sexual orientation, and who their guardian is (mother, father, uncle etc.). The second block of questions gathered data on physical activity habits such as how often and what intensity they exercise, if they avoid exercise, and if they play on a school sports team and why. The third block of questions asked about their social environment and how affirming it is.  This area focused on school and home life, if they feel safe, is there a place that is affirming to their identity, do they have an adult they trust and further questions if they identify as transgender. The final block also pertained to their social environment, but from the lens of bullying. It asks if they experienced bullying due to their identity at school or at home.

## Measures

The primary measure for this study is weekly physical activity participation. The CDC guidelines of one hour of moderate to vigorous activity per day is the standard. A single item was taken from the Youth Behavior Risk Survey asking respondents how many of the last seven days were physically active for 60 minutes (CDC, 2023d). Additionally, the Godin Leisure Time Exercise Questionnaire (Godin, 2011) collected information on the past seven days of physical activity participation in different levels of physical activity. Respondents were asked, on average, how many days of the previous seven did they engage in different levels of physical activity for at least 15 minutes labelled as “Strenuous” (heart beats rapidly), “Moderate” (not exhaustive), and “Mild” (minimal effort) (Godin, 2011). The options to answer the questionnaire said “1-2 times a week,” “3-4 times a week,” “5 or more times a week,” or “Never,” (Godin, 2011). This measure was recategorized into three categories based on standard scoring protocols: “Active,” “Moderately Active,” or “Insufficiently Active/Sedentary” (Godin, 2011). Calculations were done by multiplying the times a week by 9 for strenuous, 5 for moderate, and 3 for mild levels of physical activity. The results are added together to make one final number which depending on the amount defines the level of activity Summed totals were categorized into Active (24 or more) Moderately Active (14-23), or Insufficiently Active/Sedentary (13 or less) (Godin, 2011).

A major note for the Godin Leisure Time Exercise Questionnaire is that it was designed and validated for adult physical activity. This will skew the data for youth showing more will have been considered active than what is the case based on CDC recommendations. Youth need much more activity weekly and daily than adults. There is a modified version designed for youth physical activity, but its validation study came back with low correlation in both fall and spring assessments (r= 0.22, r= 0.24 respectively) (Zelener & Schneider, 2016). This is why the modified adult version is used, with the expectation that there will be a skew towards being active even if the YRBS responses don’t match.

## Data analysis

The analysis software is SPSS 29. Descriptive statistics will be run showing means and standard deviations. The purpose of this study is to better understand SGM youth physical activity behavior and now negative and positive factors impact their physical activity behaviors. Therefore, the intent is to run a chi square analysis looking at peer bullying (ever vs never) and meeting physical recommendations (yes/no). Other analysis will include family rejection (ever vs never) and meeting physical activity recommendations, and finally family acceptance (ever vs never) and meeting physical activity recommendations. There were several steps to the data screening process. For demographic information, responses were compiled into categories based on gender identity and sexual orientation for inclusion criteria. Physical activity participation was broken down into categories of either meeting CDC recommendations or not and compared to national averages. Sports participation was also compared to national averages. For peer harassment, feelings of safety and reasons for bullying were analyzed. Family rejection and acceptance were compiled into different tables with descriptives showing the responses of the SGM youth.

# Chapter 4 - **Results**

A total of 20 SGM youth responded to the survey (n=20). The majority of respondents were non-Hispanic White (90%) with a mean age of 16 years old (SD=1). For sex assigned at birth 40.0% were assigned male, 50.0% female, 5.0% intersex, and 5.0% had marked "I prefer not to say." Gender identity had a different distribution with 20% identifying as a cisgender boy, 35.0% as a trans boy, 10.0% as a trans girl, 20.0% as genderqueer/gender non-conforming, and 15.0% had a different identity. None of the respondents identified as a cisgender girl. Regarding sexual identity/orientation 10% identified as gay or lesbian, 30.0% as bisexual, and 60.0% as something else. To further explain "something else," 30.0% identified as not straight but a different term like queer, trisexual, omnisexual, or pansexual, 20.0% as asexual, 5.0% have not figured out or are in the process of figuring it out, and 5.0% as something else and used the text box to write in their answer.

**Table 1.**

*Sexual and Gender Minority Youth Sample Demographics*

| | N | % |
|---|---|---|
| Race | | |
| White Non-Hispanic | 18 | 90.0 |
| American Indian or Alaska Native | 2 | 10.0 |
| Black or African American | 1 | 5.0 |
| Latino, Hispanic, or Mexican-American | 1 | 5.0 |
| Sex Assigned at Birth | | |
| Female | 10 | 50.0 |
| Male | 8 | 40.0 |
| Intersex | 1 | 5.0 |
| Prefer not to say | 1 | 5.0 |
| Gender | | |
| Trans Male/Trans Boy | 7 | 35.0 |
| Cisgender Boy | 4 | 20.0 |
| Genderqueer/Gender Non-Conforming | 4 | 20.0 |
| Different Identity | 3 | 15.0 |
| Trans Female/Trans Girl | 2 | 10.0 |
| Cisgender Girl | 0 | 0.0 |
| Sexuality | | |
| Bisexual | 6 | 30.0 |
| You are not straight, but identify with another term such as Queer, Trisexual, Omnisexual, or Pansexual. | 6 | 30.0 |
| You are Asexual | 4 | 20.0 |
| Gay or Lesbian | 2 | 10.0 |
| You have not figured out your sexuality, or are in the process of figuring it out. | 1 | 5.0 |
| You mean something else | 1 | 5.0 |

## Physical Activity Participation

SGM youth self-reported their participation. The mean days active was 3.6 days (SD=2.1) and the range was from 0 days a week to 7 days a week of 60 minutes of being physically active (see table 5). According to the Godin Leisure Time Exercise Questionnaire, 70% reported to be active, 20% moderately active, and 10% insufficiently active. SGM youth reported how often in a week during leisure time they engaged in PA to work up a sweat, 5% reported often, 70% reported sometimes, and 25% reported never/rarely.

**Table 2.**

*During the past 7 days, on how many days were you physically active for a total of at least 60 minutes per day?*

| N = 20 | Frequency | Percent |
|---|---|---|
| 0 Days | 3 | 15.0 |
| 1 Day | 0 | 0.0 |
| 2 Days | 3 | 15.0 |
| 3 Days | 3 | 15.0 |
| 4 Days | 3 | 15.0 |
| 5 Days | 6 | 30.0 |
| 6 Days | 0 | 0.0 |
| 7 Days | 2 | 10.0 |

Over half of SGM youth (60%) reported they have avoided exercise. Reasons for avoiding exercise (Table 3) included not feeling motivated, it is physically uncomfortable or painful and they don't have time. Half of SGM youth (50%) stated they used to play on a sports team but don't anymore while 45% responded they have never played on a school team. Five percent of SGM youth stated they currently play on a sports team for school. Table 4 shows reasons why they don't play on a sports team, but there were some reasons of note. Forty-five percent feel like they will not be accepted on the team because of their SGM identity, 20% have been told by teachers, coaches, or administrators that they cannot play on the team of their gender identity, 15% are not allowed to use the locker room that matches their gender identity, and 15% had a different reason from the ones offered in the survey.

**Table 3.**

*Why Do You Avoid Exercise?*

| | Frequency | Percent |
|---|---|---|
| You are just not motivated | 10 | 13.9 |
| It's physically uncomfortable/painful | 7 | 9.7 |
| You don't have time in your schedule | 7 | 9.7 |
| You would rather spend your time on other things | 7 | 9.7 |
| You have physical limitations that keep you from starting | 6 | 8.3 |
| You don't want others to see you exercising | 5 | 6.9 |
| You don't have the right exercise equipment | 5 | 6.9 |
| You don't feel athletic enough to exercise | 4 | 5.6 |
| It makes you feel silly | 4 | 5.6 |
| You don't have anyone to exercise with | 4 | 5.6 |
| You don't have any place to exercise | 4 | 5.6 |
| It seems too hard to get started | 3 | 4.2 |
| You've tried and failed in the past | 3 | 4.2 |
| It makes you sweat | 1 | 1.4 |
| You have tried before and not gotten any benefit | 1 | 1.4 |
| You don't have any exercise clothes/shoes | 1 | 1.4 |

**Table 4.**

*Why Don't You Play School Sports?*

| | Frequency | Percent |
|---|---|---|
| I am not interested in playing on a sports team | 11 | 23.0 |
| I do not feel like I would be accepted on the team because I am LGBTQ | 9 | 19.0 |
| I am too busy with other activities | 8 | 17.0 |
| I don't feel safe participating in sports at school | 7 | 14.0 |
| I can't play because of an injury or disability | 6 | 13.0 |
| Teachers, coaches or administrators told me I am not allowed to play on the team that matches my gender identity | 4 | 8.0 |
| I am not able to use the locker room that matches my gender identity | 3 | 6.0 |

## Social and Physical Environments for SGM Youth Physical Activity

### *School*

Just under half of SGM youth reported they have been bullied by other students often or very often due to their gender (40%) sexuality (40%) or how feminine or masculine they were (40%). The top reasons SGM youth are most often teased or treated badly at school is their sexuality and gender (Table 5).

**Table 5.**

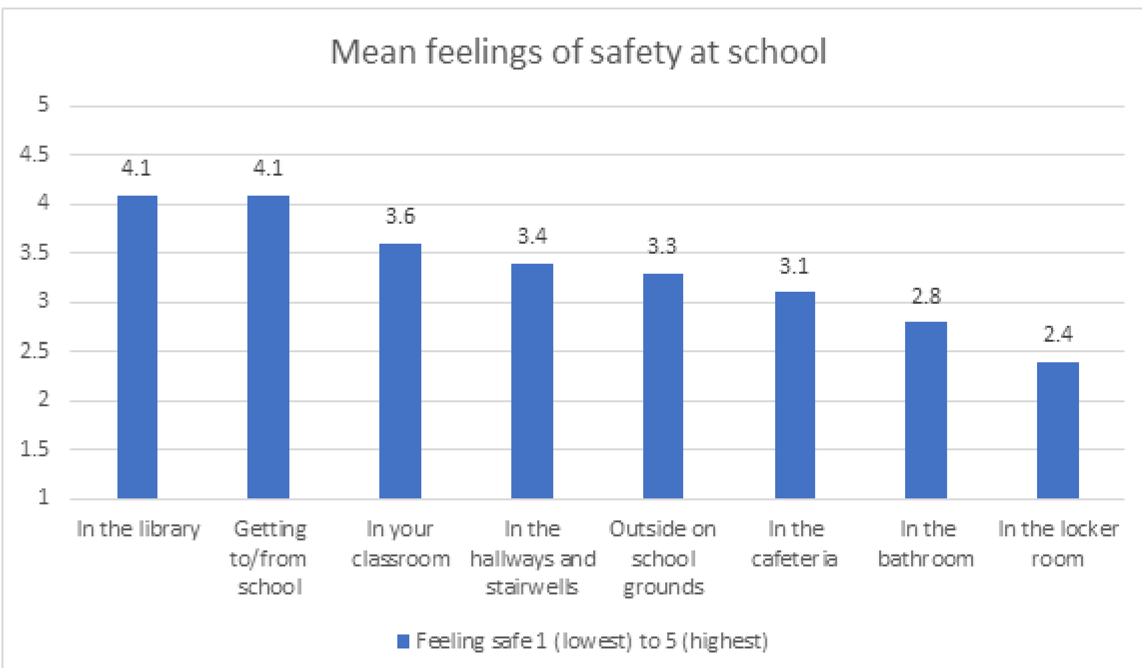
*What is the reason that you are MOST often teased or treated badly at school?*

| | Frequency | Percent |
|---|---|---|
| Sexuality, or being gay/lesbian/bisexual/something other than heterosexual | 6 | 30.0 |

| | | |
|---|---|---|
| I am not teased at school | 4 | 20.0 |
| Gender | 3 | 15.0 |
| How masculine feminine I am | 2 | 10.0 |
| Body Weight | 2 | 10.0 |
| Something else | 2 | 10.0 |
| Disability | 1 | 5.0 |

The youth stated how often they felt safe at certain locations at school and when going to or coming from school. Almost half of SGM youth (45%) reported they felt the least safe in the bathroom and locker rooms. Figure 3 shows the average feelings of safety across school locations (1 meaning lowest and 5 meaning highest feelings of safety).

**Figure 3.** Where at school do you feel safe?




There was also a question pertaining to bathroom and locker room usage. SGM youth were asked if they use the restrooms and locker rooms that match their gender identity. 35% said they always did, 10% said most of the time they did, and 55% said they never did.

Over half of SGM youth (55%) reported they never used the restrooms and locker rooms that match their gender identity. Transgender youth were asked follow-up questions as to why they may not use the rooms that matched their gender identity. Three quarters of transgender youth (75%) didn't feel safe to use the restrooms or locker rooms that matched their gender identity. When they are unable to use the restrooms and locker rooms that match their gender identity, transgender youth were asked to explain what they did instead. Almost half of Transgender youth (40%) don't use the locker rooms and restrooms that match their gender identity, and just over one third (35%) try not to use the bathroom at school at all.

Regarding support within the school, most SGM youth (90%) stated they had or currently have a Gay/Straight Alliance or similar group. All SGM youth claimed they have at least one teacher or other adult in school they can talk to if they have a problem. All SGM youth believe either some of or most of the teachers and staff are supportive of SGM people. Half of SGM youth were not sure if their teachers really cared about them and gave them encouragement and support.

**Table 6**.

*Indicate how you feel about each statement (1 definitely yes, 2 somewhat yes, 3 somewhat no, definitely no)*

| | Mean | Std. Deviation |
|---|---|---|
| Do you accept your LGBTQ identity? | 1.2 | 0.41 |
| Do you have access to information about LGBTQ issues? | 1.2 | 0.41 |
| Do you have access to support groups for LGBTQ adolescents? | 1.3 | 0.47 |
| Are you involved in events or organizations that promote the rights of LGBTQ individuals? | 1.6 | 0.82 |
| Do you have any LGBTQ role models? | 1.7 | 0.87 |
| As an LGBTQ person, are you able to be yourself in school? | 1.8 | 0.91 |
| Are there other members of your family we are/were openly LGBTQ? | 1.8 | 1.1 |
| Are you able to imagine yourself in the future as an LGBTQ parent? | 2.0 | 0.97 |
| Are you able to imagine yourself in the future in a committed romantic relationship? | 2.0 | 0.80 |

| | | |
|---|---|---|
| As an LGBTQ person, are you able to be yourself at home? | 2.0 | 0.76 |
| As an LGBTQ person, are you able to be yourself in your neighborhood? | 2.4 | 1.3 |
| As an LGBTQ person, are you able to be yourself with your friends? | 2.6 | 0.89 |
| Do you feel pride in being an LGBTQ person? | 2.7 | 1.1 |

## Family Acceptance

The majority of SGM youth (70%) reported that their parents/caregivers never told their child they were proud of them because of their SGM identity. Sixty-five percent of SGM youth said their parents/caregivers never express admiration towards them due to their sexual orientation gender identity, or gender expression. Over half of SGM youth stated their parents/caregivers never suggested they were a role model due to how they handled their sexual orientation, gender identity, or gender expression. The majority of SGM youth (85%) reported their parents/caregivers never went to a support group for people with SGM family members.

## Family Rejection

On the other side of the spectrum, SGM youth were also asked four questions about their parents' view of their identity from a rejection perspective. Over half of SGM youth (65%) never had their parents/caregivers call them negative/insulting names related to their sexual orientation, gender identity, or gender expression. Half of SGM youth reported their parents/caregivers never ridicule or make fun of them because of their sexual orientation, gender identity, or gender expression. Over half of SGM youth (65%) reported their parents/caregivers never tell them negative things like they were bad, worthless or no good because of their sexual orientation, gender identity, or gender expression. Over half of SGM youth (55%) reported that they hear negative comments about LGBTQ people, in general, from any of their caregivers/parents.

### Social Climate

When asked if they believed things were getting better or worse in their community in terms of accepting lesbian, gay, bisexual, transgender, and queer people, 65% believed things were getting sort of better and 35% believed things were getting sort of worse. None of them believed things were getting *much* better or worse, and none of them believed things were not changing. They were also asked if they have any adult LGBTQ (SGM) role models and 85% said they either definitely did or somewhat did. 90% were somewhat or involved with events or organizations that promote the rights of LGBTQ individuals. 100% either somewhat or definitely had access to information about LGBTQ issues and access to support groups. Table 9 shows the other topics asked of the youth and the average level of agreement with each statement.

# Chapter 5 - Discussion

The purpose of this study was to better understand physical activity behaviors in SGM youth as well as investigate if negative factors (bullying) or positive factors (acceptance, affirmation) were associated with physical activity behaviors.

### Physical Activity

Results indicated that the participants in this study are not meeting the recommended amounts of daily physical activity. Only 15% met the recommended 60 minutes per day of physical activity. This amount of physical activity participation was lower than the global average of 20% of youth being sufficiently active (van Sluijs et al., 2021). This finding demonstrates the need to increase physical activity participation for SGM youth. Improving the social climate for SGM youth may help with increasing physical activity as friendship is shown to be an influencer of physical activity (Maturo & Cunningham, 2013; Sawka et al., 2013). Friendship fosters a sense of belonging which can promote higher physical activity levels (Martins et al., 2020).

With almost half of SGM youth not participating in school sports because they do not feel they will be accepted on the team due to their SGM status, there is a need for an increase in inclusion for SGM youth. School sports, and even physical education have been known to be repressive places for SGM youth (Landi, 2018). To further support this point, one third of SGM youth do not participate in school sports because they do not feel safe doing so. Addressing sport culture around school sports teams could help SGM youth to participate (Kulick et al., 2019). With a change in culture, there could be less fear of rejection from peers and a reduction in feeling less safe when utilizing facilities for P.E./sports (Kulick et al., 2019; Landi, 2018).

## Bullying and Affirmation

At school, SGM youth are more at risk of being bullied (Kirklewski, 2021). This study found that just under half of SGM youth were being bullied often or very often due to their gender, sexuality, and how masculine or feminine they are. This data, however, falls below national findings where sexual orientation was responsible for a majority of bullying (Kirklewski, 2021). Similarly, over half of SGM students reported their gender being the reason for being bullied (Kirklewski, 2021).

Regarding feelings of safety, there is room for improvement. Considering the controversy surrounding trans people and bathrooms (Bagagli et al., 2019), it is unsurprising that SGM youth in the present study felt the least safe in the locker room and in the bathroom at school. This finding is similar to previous research where SGM youth felt less safe inside locker rooms and bathrooms than their non-SGM counterparts (Kulick et al., 2019). This is also shown with over half of SGM youth from the current study who never use the restroom or locker room of their gender identity. Instead, they attempt not to go to the bathroom at school and avoid changing clothes even when they should (after P.E.). These behaviors coupled with the controversies about SGM youth, specifically trans youth, and the sports bans that are happening lead directly to less physical activity and sport participation (The Trevor Project, 2024).

The present study found that two-thirds of these SGM youth felt that things were getting "sort of better" for their community. With most or all having access to information about LGBTQ issues, support groups, and organizations that promote LGBTQ rights, the SGM youth who responded to the survey have support systems that are expected when recruiting from an affirming organization. However, the survey respondents indicated they don't have much pride in themselves, and don't feel like they can be themselves with their friends and in their neighborhood. Therefore, in the local environment, increased acceptance is needed. This change will help improve the mental health benefits of physical activity for those who have experienced bullying (Kirklewski, 2021). This increased acceptance could improve physical activity participation (Kulick et al., 2019).

## Family Acceptance and Rejection

Parents from this study can improve their levels of acceptance of their SGM children. With the majority never telling their child they are proud of them for their SGM identity it is understandable that having pride in oneself was not a common response. Also, most parents/caregivers from this study do not attend support groups for people with SGM family members. These parents are not being proactive in learning about their child's identity and how to better support them. While there is a gap in the literature on the influence of families on SGM youth physical activity, what is known is that parents need aid in helping their children to navigate systems relevant to their health (Newcomb et al., 2019).

Parents of this study can also improve when it comes to levels of rejection. Most SGM youth were not called names or had negative insults said to them by their parents. However, they may treat their SGM child with indifference that may seem like a lack of support (Khaleque, 2015). This study found that half of SGM youth had their parents/caregivers ridicule or make fun of their child due to their SGM status. Having to worry about their peers ridiculing them is troublesome enough to cause minority stress, parents that also do this only exacerbate their child's problems (Frost & Meyer, 2023). Finally, over half of SGM youth hear negative comments about SGM people in general from their parents. Even if it is not directed at them, those that identify as part of that community can be negatively impacted. Parental support, or lack of, can be pivotal regarding SGM youth's mental health and behavior to the point that the benefits of physical activity are negligible (McCurdy & Russell., 2023; Kirklewski et al., 2021). This is shown through the low percentage of youth from this study meeting CDC recommendations for physical activity and the majority of their parents victimizing them.

## Transgender Experience at School

Transgender youth have extra considerations when operating day to day (The Trevor Project, 2023). Expressing their gender identity could be a cause of bullying or scorn from peers or parents (HRC, 2023; The Trevor Project, 2024. However, from this survey, over half of trans youth always or mostly dress and express their gender identity and are called by their preferred name. While over half of trans youth are expressing themselves, more should feel safe to do so. Regarding pronoun usage, more than half either never were or occasionally called by their preferred pronouns. There is a disconnect between respecting trans youth's chosen name and their pronouns and should be addressed.

Bathroom and locker room usage is a controversial topic regarding transgender people (Bagagli et al., 2021). Forty-five percent of the present study's trans youth do not feel safe to use the bathroom or locker room that matched their gender identity. While in either room, fearing for one's safety should not be such a prominent issue. Also, one third of trans youth try not to use the bathroom at all at school due to this fear. Those who do not shower or change clothes at school even when they should, do not deserve to feel that way.

## Study Considerations

While normal research has many safeguards in place to ensure proper rigor, ethical protocol, and participant safety, there are several additional considerations to keep in mind when conducting research with SGM youth.

### *Barriers to working with SGM youth*

Working with minors requires another layer of approval in the form of parental consent along with youth assent. Getting parental consent posed a challenge as parents may not know about their child's SGM status and the consent process would potentially "out" them. Given the sociopolitical climate surrounding the topic of the SGM population in general, it cannot be assumed that parents would react in a way that ensures their child's safety. To address this barrier, a youth advocate was used. The advocate is a licensed social worker and was trained in proper research protocol to IRB standards. This ensured that the youth were properly informed about the study and their role in it.

Another barrier to accessing youth was availability. While the organization was accommodating, their operating hours were after school and off school grounds. Accessing youth on the school or district level could have led to more respondents, but school board approval for this study would be needed. Similar to concerns for parents having a negative reaction, there was cause to believe not all the local school board members would approve of the study or have a negative reaction that may influence policy for these youth. If distributed to the school district, it may also bring unwanted negative attention from their peers to the SGM youth who take the survey.

There were also youth who did not participate in the survey. While reasoning for refusal was not asked, there are potential factors that could lead to this response. They may not have the rapport built for them to be comfortable enough to answer such personal questions. There may be fears of privacy being protected or lack of self-confidence in answering questions during a time of change. There were also some who showed interest but did not end up taking the survey, even after reminders. Also, having only one organization that had access to SGM youth willing to work with the research team limited potential responses.

### *Collaborating Organizations*

Having the organization serve as the testing site and pool to recruit from was invaluable to getting what information there could be. However, this led to a much shorter reach of respondents. Only working with one organization was not intentional. Several other organizations across the state were contacted. Unfortunately, none of these organizations either replied, or conclusively stated they would get involved. There was one other organization that expressed interest, but responses from them slowed and altogether stopped after a couple of correspondences.

The main difference between this program and these other organizations is that the primary investigator had spent time building rapport with the SGM youth and employees at this organization previously. Building rapport with this population and its organization may be key to getting access to SGM youth.

## Added Value of a Youth Advocate

It is important to reiterate the impact a youth advocate has on this research. It allowed navigating the legal status, power differentials, and developmental capacities of youth while also maintaining anonymity (Schelbe et al., 2015; Panfil et al., 2017). This practice can help attain greater reach in the research field by increasing the participant pool who otherwise would not be able to (Kiperman, 2018).

Training youth advocates for research should also be considered. This advocate is a licensed social worker but was not trained in research methods specific to this study. Completing Citi training in a timely manner was a barrier to the study timeline. The advocate is heavily involved with the organization as the executive director. On top of the administrative work, meetings, and running of the organization, they also provided a great deal of direct services daily to SGM youth. The advocate, therefore, also had much rapport with the SGM youth attending the organization which may have facilitated great interest from youth. The youth advocate having rapport with the respondents is facilitated by their ability to ensure the youth understands and can assent to participation in the study.

## Final Considerations

A weakness of this study is the sample size. The small sample size limited the ability to conduct the planned analysis exploring associations between physical activity participation and factors specific to SGM youth. While it was expected that due to the controversy surrounding the population and the barriers to getting informed consent and assent would mean an underpowered study, the number of respondents still underperformed these lower expectations. This could be due to several factors. As the average age was 16, it can be expected that they have begun to get jobs, driver's licenses, and cars, therefore leading to less time spent at the organization. There is also the possibility that these youths who have built relationships with each other at the organization are now spending time together off site.

Another limitation is sampling bias. As the respondents were all taken from the youth attending the organization, they are more predisposed to having positive factors that could affect their physical activity or other measures like affirmation. As part of the participating organization, SMG youth in this study were exposed to adults who verbally affirmed them daily, provide emotional support during crises, and build a positive environment for them. While this may not directly affect their experiences at home or school, this could help them navigate the struggles they face in those environments.

## Future Research

The study found that the majority of youth did not meet physical activity guidelines supporting a need for more interventions to increase physical activity for SGM youth. There is also a need to improve the social climate through anti-bullying programs, direct intervention from teachers, and better anti-bullying training for administration, but especially education for parents to enable support of their SGM children. There are also several different steps to take to improve the validity of this study or guide future endeavors. The first would be to expand the respondent pool. While attempts to do so by contacting other organizations that serve a similar function to this program have been made for this study, it is worth searching for others. Building rapport with these organizations and even potential respondents is recommended. Collaborating with the local school district could also increase the number of respondents, but it is imperative that the anonymity of any SGM youth participating or interested in a project like this is protected. Navigating the political climate and the process of attaining school board approval is also to be considered. As there is such little data and so much difficulty reaching this population, extra care is needed. It is important to continue to research this population and bring new data to scientific conversation.

This study was done to understand physical activity behavior in SGM youth regarding affirmation and bullying. What was found necessitates further research on this vulnerable population. Accessing this population has many barriers and while there are practices to mitigate these barriers, more needs to be done to broaden the reach of these studies while protecting youth safety. These youth need support as they develop in their identity and health behaviors. Inclusivity and acceptance will help bridge the gap between mental health and physical health outcomes and physical activity behaviors. Family acceptance or rejection impacts these youth, and support from their parents is paramount. It’s time to bring change for SGM youth.

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