



Study Protocol for a Virtual Art Therapy Intervention for LGBTQ-Questioning Youth

Liyu Huang

Department of Medicine, Health, and Society, Vanderbilt University, Nashville, TN, USA

Abstract

LGBTQ-questioning youth are young people who report being uncertain or unsure about their sexual orientation or gender identity. For LGBTQ-questioning youth, current research demonstrates that they have higher rates of depression, suicidality, and bullying compared to both cisgender-heterosexual and LGBTQ youth. Therefore, this paper introduces the currently available popular treatment options for LGBTQ and LGBTQ-questioning youth at an individual, school, and state/federal level as well as the challenges associated with data collection on LGBTQ-questioning youth. The paper then discusses art therapy and its potential as an individual-level treatment option that could be particularly beneficial for LGBTQ-questioning youth due to its emphasis on self-expression and creative exploration. This culminates in a proposed protocol for a study designed to develop and analyze a virtual art therapy treatment regimen for LGBTQ-questioning youth struggling with psychosocial stressors.

Introduction

Heteronormativity is a societal concept where heterosexuality is viewed as “normal,” implying that homosexuality is a deviation from acceptable social behavior. Historically, heteronormativity is grounded in gender studies and feminism, such as with the concept of a “traditional” family where men and women are restricted to specific roles in the household (Herz and Johansson, 2015). In contemporary American society, this concept is often furthered in school systems through the regulation of sex education at both the federal and state levels. Heteronormative families are associated with positive terms like “stable” and “functional,” while homosexual families may be labeled as “untraditional” and told they cannot provide the same “love, support, and direction” (McNeill, 2013). Although heteronormativity is often used in the context of sexual orientation, it can also be applied to gender identity where cisgender individuals are viewed as “normal” and those who are transgender or intersex are viewed as “wrong,” resulting in unnecessarily heavy policing of identities that diverse from traditionally ascribed tenets of gender- and heteronormativity (Schilt and Westbrook, 2009). Even with the increasing representation of lesbian, gay, bisexual, transgender, and queer/questioning (LGBTQ) culture in US media (McInroy and Craig, 2017), many youths across the country remain unexposed to LGBTQ identities or are taught to perceive queerness as a negative trait.

Surveys of “out” LGBTQ community members describe a pattern of identity development

milestones beginning with an awareness of difference, questioning of identity, self-identification, engaging in sexual activity, coming out, and ending with a romantic relationship (Hall et al., 2021). This is not a set path, so the milestones can be rearranged, occur simultaneously, or do not happen at all, but generally, the time between awareness and self-identification is where the term “LGBTQ-questioning” comes from and will be utilized throughout this paper.

The term “LGBTQ-questioning” is often defined in scientific literature as individuals who are unsure of their sexual orientation or gender identity. With “questioning” only recently added as an option for sexual identity in the Youth Risk Behavior Survey in 2021 (Centers for Disease Control, 2023), there is little trend data about the population size of LGBTQ-questioning youth captured in large-scale surveys, but the increasing percentage of LGBTQ youth in recent years (Jones, 2022) likely correlates with higher numbers of LGBTQ-questioning youths. This means that high schoolers and college students are poised to be a prime population for studying LGBTQ-questioning individuals.

Data Collection on LGBTQ-Questioning Youth

Currently, there are very few studies focused specifically on individuals questioning their sexual and gender identities due to how LGBTQ-questioning individuals are frequently mislabeled under the LGBTQ umbrella in research. Many research studies mainly focus on





comparing LGBTQ individuals to their cisgender and/or heterosexual counterparts instead of examining important within-group differences in the LGBTQ community, often due to small sample sizes that can make within-group studies difficult for statistical analysis. The “questioning” identity term can also be interpreted as an umbrella term that is difficult to define in scientific studies. Youths may understand the term as not only questioning heteronormativity but also a transience within different LGBTQ labels (Price-Feeney et al., 2021). Therefore, in any research study focused on LGBTQ-questioning youth, the term questioning must be clearly and explicitly defined in studies to accurately capture data on this specific population.

Research in LGBTQ-questioning youth also faces the same struggles as those studying the general LGBTQ population. Although same-sex marriage has been legalized in the United States (Obergefell v. Hodges, 2015) and employees are protected against discrimination based on sexuality and gender identity under Title VII of the Civil Rights Act of 1964 (Bostock v. Clayton County, 2020), many individuals still feel unsafe in openly identifying as LGBTQ. Therefore, fears about retaining the right to privacy/protection prevent many youths from participating in LGBTQ studies (Snapp et al., 2016). Additionally, when researching youth under 18, there are even more barriers, such as the need for parent or guardian approval. This deters youth who do not want to reveal their identity struggles to their legal guardians or parents for fear of negative consequences. Additionally, even though youths will most likely understand the majority of LGBTQ terminology, this material is still avoided and undiscussed in most school settings, meaning that a lot of terms need to be defined or rephrased to make sure that they are clear and understandable (Clark and Kosciw, 2022).

Mental Health of LGBTQ-Questioning Youth

For LGBTQ-questioning individuals, the coming out process is often associated with stigma and fear, forcing youths to internalize potentially negative thoughts and feelings about their identities. During the formative teenage years, this can create social

isolation, leading to strong negative impacts on the mental health of LGBTQ-questioning youth, leading to higher rates of depression and suicidality compared to not only heterosexual youth but also LGB youth (Birkett et al., 2009). Alongside anxiety disorders, conditions like depression characterized by negative emotions are often referred to as internalizing psychopathology. Internalizing psychopathology then correlates with antisocial behavior and substance use disorders, which are known as externalizing behaviors (Krueger and Markon, 2006). In academic situations like schools where youths spend much of their waking hours, LGBTQ-questioning students also reported “more teasing and general victimization” compared to both heterosexual and LGB students (Espelage et al., 2008), likely leading to higher rates of internalizing psychopathology and externalizing behaviors experienced by LGBTQ-questioning individuals compared to both LGBTQ and heterosexual youths.

Treatment Options for LGBTQ and LGBTQ-Questioning Youth

Strategies for combating mental health issues for LGBTQ and LGBTQ-questioning youth can generally be divided into individual-level treatment, school-based policies and programs, as well as state and federal-level policies. It is important to note that most of the treatments and interventions reviewed below target youth with defined LGBT identities and have not been developed or tested with LGBTQ-questioning youth specifically.

A common individual-level psychotherapy treatment for LGBTQ mental health is cognitive-behavioral therapy (CBT), which is a type of talk therapy often used to address depression and anxiety that focuses on reducing unhelpful ways of thinking, unhelpful behavior patterns, and improving coping strategies (American Psychological Association, 2017). In recent years, efforts have been made to develop LGBTQ-affirming CBT, which focuses on addressing LGBTQ people’s coping skills in the face of stigma such as discrimination and rejection. For example, the Effective Skills to Empower Effective Men (ESTEEM) study found that LGBTQ-affirming CBT was associated with reduced depressive symptoms, alcohol use issues, and





sexually risky behaviors (Burton et al., 2019). A separate study called AFFIRM, conducted with LGBTQ youth, showed significant reductions in depressive symptoms and high acceptability of the intervention (Austin et al., 2018). AFFIRM Online then applied the strategy to a digital platform, once again demonstrating reduced depressive symptoms, high acceptability, and increased coping skills (Craig et al., 2021), showing that LGBTQ-affirming CBT can also be practiced digitally to increase access and engagement. Mental health facilities can also provide individual-level treatment to LGBTQ youth including CBT and other psychotherapies, but a recent survey showed that only 66% of mental health institutions provide services to youths, and of those, only 28% offer LGBTQ-specific services, potentially due to the increased cost of care (Choi et al., 2023). Although some states have more mental health facilities per capita, this means that there are few facilities per capita available to LGBTQ youth, creating geographical barriers to care.

School policies and programs form the second major category for LGBTQ youth mental health treatment due to the permeation of school into daily life, forming the social structure for most youth. Surveys have shown that school clubs like Gender & Sexuality Alliances or Gay-Straight Alliances (GSAs) can provide community and social support, increased access to other resources, and a safe space for LGBTQ youth away from family life (Porta et al., 2017). Additionally, support from authority figures like teachers and administrators can discourage bullying and homophobic/transphobic rhetoric to promote a safer community for students, creating positive effects on the mental health of both LGBTQ and LGBTQ-questioning youth (Espelage et al., 2008). However, these strategies are very context-dependent, requiring the school to already have an existing community of support or, at the very least, administrative buy-in. In particular, students who live in more rural communities or areas with lower adult educational attainment are more likely to also go to a school that is unsupportive or hostile towards LGBTQ individuals (Kosciw et al., 2009). Thus, LGBTQ-questioning youth residing in more rural and socioeconomically deprived areas may have the lowest access to school-based supportive resources.

Lastly, there are state and federal-level policies that implement change on a greater scale, addressing structural stigma. On the federal level, the Protecting LGBTQ Youth Act was introduced in the House of Representatives, seeking to amend the Child Abuse Prevention and Treatment Act to include protections for LGBTQ youth and their families (H.R.1379, 2022), but this bill was not passed. On the state level, California, Iowa, Maryland, New Jersey, New York, and Vermont all have laws requiring school boards to enact anti-harassment policies that specifically include sexual orientation and gender identity. Additionally, Colorado, the District of Columbia, Illinois, Maine, Minnesota, Oregon, Rhode Island, and Washington have laws barring discrimination at school based on sexual orientation and gender identity (Lambda Legal). Even though these thirteen states and the District of Columbia provide legal protections for LGBTQ youth, this still leaves 37 states where youth remain vulnerable. In 2023, the American Civil Liberties Union (ACLU) found 510 anti-LGBTQ bills that were introduced in 40 states, 84 of which were passed into law. This was a record-breaking high compared to the 315 bills introduced in 2022, 29 of which became laws (Migdon, 2023). Many of these bills attacked education alongside access to gender-affirming care for transgender minors, resulting in a restriction on LGBTQ youths' access to knowledge and medical treatment. This simply magnifies the geographical access issues discussed concerning individual-level and school-based treatments where the state in which youths live can offer drastically different protections. Compounded by the alarming rate at which anti-LGBTQ legislation is being enacted, this could lead to worsening trends of mental and physical health for future generations of LGBTQ-questioning youth.

Art Therapy for LGBTQ-Questioning Youth

Although traditional talk therapy like CBT has been proven effective in addressing common mental health issues like depression, fears of stigma, confronting emotions, distrust of therapists, and negative attitudes toward mental disorders are all associated with lower intentions of participating in talk psychotherapy (Pfeiffer and In-Albon, 2022).





In contrast to traditional talk therapy, the novelty of art therapy can circumvent the preconceived stigma traditionally associated with therapy (Riley, 2001). Even though art therapy can encompass a wide variety of practices, generally participants externalize their internal stress, utilizing the creative process to heal. Art therapists help guide their clients to best convey their emotions through a suitable medium (Guttmann and Regev, 2004) like utilizing oil pastels to create smooth and calm images or creating more dramatic and lively effects using colored pencils. Although there are art therapy rooms equipped with multitudes of artistic supplies, most schools have art classrooms with materials that students can access or public libraries that can provide tools like colored pencils and crayons. Growing up in the digital age, many youths are familiar with photography, filmmaking, image modification, and social media platforms that easily combine images and text (Malchiodi, 2012), providing an avenue for virtual art therapy that increases accessibility.

After the artistic process, instead of attempting to interpret the art itself, the art therapist remains neutral to build trust, simply encouraging participants to re-experience stressors through art and utilize the creation process to work towards resolution (Ulman, 2001). Through making non-judgmental comparisons of artistic themes and general motifs instead of directly interpreting the content of each specific art piece, the fear of misconstruing art is lessened, giving youth the ability to draw and create more freely. This helps develop skills with self-expression which have been proven to have positive effects on both physical and emotional well-being (Sedikides and Spencer, 2011). Additionally, art therapy has been combined with other psychotherapy techniques like CBT, leading to increased resilience, positive attitudes, and tolerance of frustration (Sitzer and Stockwell, 2015).

In the context of LGBTQ individuals, art therapy can often improve self-expression and emotional regulation. This can counter feelings of confusion associated with LGBTQ-questioning individuals as well as the negative physical and emotional effects associated with low self-expression (Pelton-Sweet and Sherry, 2008). In particular, the Self-Expression Emotion Regulation in Art Therapy Scales (SERATS) showed improved skills in acceptance and problem-

solving, leading to increased self-esteem and improved agency (Haeyen and Noorthoorn, 2021). Past studies have utilized collages to help gay men and lesbian women explore their experiences with internalized homophobia and outward hatred (Addison, 1996). Art therapy has also been practiced in group settings where creating self-portraits, group murals, and sculptures within a weekly lesbian support group helped deal with issues of relationships, socioeconomic class, and visibility (Brody, 1996). Even though art therapy has been practiced in LGBTQ adults as well as youths, there are still no studies on the effects of art therapy on LGBTQ youths, particularly LGBTQ-questioning youth.

Research Objective

To address the worsened mental health observed among LGBTQ-questioning youth compared to their cisgender-heterosexual and LGBTQ counterparts, this proposed study protocol aims to explore the utilization of art therapy as a tool to increase self-expression and allow for a safer and more accessible way to explore gender and sexuality that will reduce negative internalizing psychopathologies like anxiety disorders and depression as well as externalizing behaviors like antisocial behavior and substance use disorders.

Methods

Participants

This study aims to recruit twelve licensed art therapists with preference given to those who have experience working with LGBTQ youth. A survey will be administered to determine their level of acceptance/understanding of LGBTQ identities, enrolling only those who are accepting and/or have knowledge and clinical skills. These therapists will then be each assigned ten clients from the pool of 120 recruited youths (15-24 years old) across the United States who are questioning their sexuality and/or gender identity. Interested youth participants would complete a brief questionnaire to determine their mental health and LGBTQ-questioning status. Mental health would be determined through questions from the Patient Health Questionnaire-9 (PHQ-9) and the General





Anxiety Disorder-7 (GAD-7). Scores of at least five or higher on either scale would be mild depression and mild anxiety, respectively. LGBTQ identity would be determined through demographic questions, offering multi-select questions about sexuality and gender identification with “unsure” or “questioning” options as well as more implicit questions asking participants if they have ever had sexual experiences with someone of the same gender, sexual attraction towards someone of the same gender, or feelings of dysphoria due to their assigned gender.

Recruitment

The recruitment of art therapists will occur primarily through reaching out to organizations like the American Art Therapy Association as well as those who have published research in relevant journals like *Art Therapy*. Youths will be recruited largely through social media advertisement campaigns on platforms like Instagram, Snapchat, and TikTok which are often used by youth currently aged 15-24. Secondary marketing will be done through advertisement campaigns on popular media streaming platforms like YouTube which also cater to youth. Both social media and media streaming platforms utilize algorithms that can directly target youths with mental health issues and those who are LGBTQ-questioning. Similar studies involving LGBTQ youth have also utilized word of mouth and posters in community, social, and recreational organizations (Snapp et al., 2015). This practice can be extended to higher education and medical institutions, particularly those actively researching LGBTQ youth. Art therapists will be compensated with \$200 while youths will be compensated with \$50 for participating in the study.

Procedures / Interventions

Based on the initial survey given to interested youth participants, those identified as LGBTQ-questioning youth not currently receiving other mental health treatment would then be invited back to participate in the study. Since this study deals with at-risk youth, a waiver of parental consent will be requested from the Institutional Review Board (Stablein and Jacobs, 2011) to avoid potentially outing participants to their parents and reducing this as a barrier to recruitment.

Structural stigma scores from the Movement Advancement Project website will then be used to determine the level of stigma of all therapists and youth participants, ensuring there is less than a ± 1 SD difference. This effort would be aimed at increasing relatability and trust between the youths and art therapists, allowing the art therapist to better address some of the social factors that can influence anti-LGBTQ stigma. To break down geographical barriers, all communication will be done virtually, primarily through popular video conferencing platforms like Microsoft Teams and Google Meet that provide both video meeting and virtual chatting capabilities.

The participants would be enrolled in a standardized 12-week (3-month) independent art therapy treatment regime developed by the recruited art therapists. Treatment will include collage making where youths will utilize materials like magazines and books around their house or photos they have saved on their phone to represent the range of emotions that they feel in one cohesive image. Later on, participants would be asked to create two self-portraits, one representing their internal view of themselves and another representing how they believe others perceive them. At a later date, youths would be asked to modify their original self-portraits to “try on” different identities like drawing themselves with clothes they want to wear, things they hope to own, or activities that they want to do but are afraid to. Building upon these art therapy treatments associated with self-expression and discovery, the art therapists recruited for the study would then increase and refine the treatment regime to create a consistent plan aimed at addressing the individual mental health issues that the participants face within a standard framework of predetermined art therapy treatments.

Measures

At the beginning of the study, all participants will fill out a survey with the PHQ-9, the GAD-7, and other well-established mental health questionnaires to establish baseline mental health. Externalizing behaviors will be measured through The Home and Community Social Behavior Scales (HCSBS) (Merrell et al., 2001) and the Antisocial Behavior Scale (ABS) (Lee and Kim, 2002) as well as direct reporting on the frequency of





substance use. This survey will also include more in-depth questions about self-expression and LGBTQ identity. Additionally, the survey will also be given again at 4-weeks, 8-weeks, and the 12-week concluding mark to collect data on changes in mental health and LGBTQ identity throughout the study. 3-months after the conclusion of the study, the participants will then be assessed again with the same mental health survey supplemented with questions about LGBTQ identity and self-confidence. This would be paired with an exit interview to allow for both the youths and art therapists involved in the study to share thoughts regarding feasibility, acceptability, and changes that they would suggest. This would mark the actual completion of the study where the participants would then be compensated for their time and participation in the study

Data Analysis

The data collected through surveys will be analyzed through within-subject t-tests to analyze changes before, during, and after the treatment program. This will be refined with multilevel linear regression models adjusting for socio-demographic covariates to test the effects of the treatment over time.

Ethics

There are ethical issues with conducting mental health research on youth in general as there is always the possibility of the study negatively affecting their mental health. Therefore participants will always have the option to drop out of the study at any point and receive partial compensation.

Timeline

The recruitment of art therapists is expected to take approximately two months. During months 3-5, participants will be recruited. In this same period, art therapists will receive training regarding working with LGBTQ-questioning youth before being instructed to develop a 3-month treatment regimen for the study. The study will begin in month 6 and run through month 8. The final check-in survey will then be done in month 11. Month 12 will be utilized to analyze the data.

Conflicts of Interest

The author has not disclosed any conflicts of interest

References

- Addison, D. (1996). Message of Acceptance: "Gay-Friendly" Art Therapy for Homosexual Clients. *Art Therapy*, 13(1), 54–56. <https://doi.org/10.1080/07421656.1996.10759193>
- American Psychological Association. (2017). What is cognitive behavioral therapy? Clinical Practice Guidelines for the Treatment of Posttraumatic Stress Disorder. <https://www.apa.org/ptsd-guideline/patients-and-families/cognitive-behavioral>
- Austin, A., Craig, S. L., & D'Souza, S. A. (2018). An AFFIRMative cognitive behavioral intervention for transgender youth: Preliminary effectiveness. *Professional Psychology: Research and Practice*, 49(1), 1–8. <https://doi.org/10.1037/pro0000154>
- Birkett, M., Espelage, D. L., & Koenig, B. (2009). LGB and Questioning Students in Schools: The Moderating Effects of Homophobic Bullying and School Climate on Negative Outcomes. *Journal of Youth and Adolescence*, 38(7), 989–1000. <https://doi.org/10.1007/s10964-008-9389-1>
- Bostock v. Clayton County, 590 U.S. ____ (2020)
- Brody, R. (2013). Becoming Visible: An Art Therapy Support Group for Isolated Low-Income Lesbians. *Art Therapy: Journal of the American Art Therapy Association*, 13, 20–30. <https://doi.org/10.1080/07421656.1996.10759189>
- Burton, C. L., Wang, K., & Pachankis, J. E. (2019). Psychotherapy for the Spectrum of Sexual Minority Stress: Application and Technique of the ESTEEM Treatment Model. *Cognitive and Behavioral Practice*, 26(2), 285–299. <https://doi.org/10.1016/j.cbpra.2017.05.001>
- Centers for Disease Control and Prevention. (2023, April 27). YRBSS Data Summary & Trends. Centers





for Disease Control and Prevention. https://www.cdc.gov/healthyyouth/data/yrbs/yrbs_data_summary_and_trends.htm

Choi, K. R., Wisk, L. E., & Zima, B. T. (2023). Availability of LGBTQ Mental Health Services for US Youth, 2014 to 2020. *JAMA Pediatrics*, 177(8), 865–867. <https://doi.org/10.1001/jamapediatrics.2023.1473>

Clark, C. M., & Kosciw, J. G. (2022). Considerations for Measuring Sexual Orientation and Gender Identity in Surveys of Secondary School Students. Research Brief. In Gay, Lesbian and Straight Education Network (GLSEN). Gay, Lesbian and Straight Education Network (GLSEN). <https://eric.ed.gov/?id=ED623146>

Craig, S. L., Leung, V. W. Y., Pascoe, R., Pang, N., Iacono, G., Austin, A., & Dillon, F. (2021). AFFIRM Online: Utilising an Affirmative Cognitive–Behavioural Digital Intervention to Improve Mental Health, Access, and Engagement among LGBTQ+ Youth and Young Adults. *International Journal of Environmental Research and Public Health*, 18(4), 1541. <https://doi.org/10.3390/ijerph18041541>

Espelage, D. L., Aragon, S. R., Birkett, M., & Koenig, B. W. (2008). Homophobic Teasing, Psychological Outcomes, and Sexual Orientation Among High School Students: What Influence Do Parents and Schools Have? *School Psychology Review*, 37(2), 202–216. <https://doi.org/10.1080/02796015.2008.12087894>

Fish, J. N. (2020). Future Directions in Understanding and Addressing Mental Health among LGBTQ Youth. *Journal of Clinical Child & Adolescent Psychology*, 49(6), 943–956. <https://doi.org/10.1080/15374416.2020.1815207>

Guttmann, J., & Regev, D. (2004). The Phenomenological Approach to Art Therapy. *Journal of Contemporary Psychotherapy*, 34(2), 153–162. <https://doi.org/10.1023/B:JOCP.0000022314.69354.41>

Haeyen, S., & Noorthoorn, E. (2021). Validity of the Self-Expression and Emotion Regulation in Art Therapy Scale (SERATS). *PLOS ONE*, 16(3), e0248315.

<https://doi.org/10.1371/journal.pone.0248315>

Hall, W. J., Dawes, H. C., & Plocek, N. (2021). Sexual Orientation Identity Development Milestones Among Lesbian, Gay, Bisexual, and Queer People: A Systematic Review and Meta-Analysis. *Frontiers in Psychology*, 12, 753954. <https://doi.org/10.3389/fpsyg.2021.753954>

Herz, M., & Johansson, T. (2015). The Normativity of the Concept of Heteronormativity. *Journal of Homosexuality*, 62(8), 1009–1020. <https://doi.org/10.1080/00918369.2015.1021631>

H.R.1379 - 117th Congress (2021-2022): Protecting LGBTQ Youth Act. (2021, February 25). <https://www.congress.gov/bill/117th-congress/house-bill/1379/text>

Jones, J. (2022, February 17). LGBT Identification in U.S. Ticks Up to 7.1%. Gallup.Com. <https://news.gallup.com/poll/389792/lgbt-identification-ticks-up.aspx>

Kosciw, J. G., Greytak, E. A., & Diaz, E. M. (2009). Who, What, Where, When, and Why: Demographic and Ecological Factors Contributing to Hostile School Climate for Lesbian, Gay, Bisexual, and Transgender Youth. *Journal of Youth and Adolescence*, 38(7), 976–988. <https://doi.org/10.1007/s10964-009-9412-1>

Krueger, R. F., & Markon, K. E. (2006). Understanding Psychopathology. *Current Directions in Psychological Science*, 15(3), 113–117.

Lambda Legal. (n.d.). How the law protects LGBTQ youth. Lambda Legal Legacy. <https://legacy.lambdalegal.org/know-your-rights/article/youth-how-the-law-protects>

Lee, Y., & Kim, Y. Y. (2002). Validation of the Antisocial Behavior Scale. *Korean Journal of Child Studies*, 23(3), 109–121.

Malchiodi, C. A. (2012). *Art Therapy and Health Care*. Guilford Press.

McInroy, L. B., & Craig, S. L. (2017). Perspectives of



LGBTQ emerging adults on the depiction and impact of LGBTQ media representation. *Journal of Youth Studies*, 20(1), 32–46. <https://doi.org/10.1080/13676261.2016.1184243>

McNeill, T. (2013). Sex education and the promotion of heteronormativity. *Sexualities*. <https://doi.org/10.1177/1363460713497216>

Merrell, K. W., Streeter, A. L., Boelter, E. W., Caldarella, P., & Gentry, A. (2001). Validity of the home and community social behavior scales: Comparisons with five behavior-rating scales. *Psychology in the Schools*, 38(4), 313–325. <https://doi.org/10.1002/pits.1021>

Migdon, B. (2023, December 28). ACLU says states saw record number of anti-LGBTQ bills in 2023. *The Hill*. <https://thehill.com/homenews/lgbtq/4380719-acclu-states-record-anti-lgbtq-bills-2023/>

Obergefell v. Hodges, 576 US __ (2015)

Pelton-Sweet, L. M., & Sherry, A. (2008). Coming out through Art: A Review of Art Therapy with LGBT Clients. *Art Therapy: Journal of the American Art Therapy Association*, 25(4), 170–176.

Pfeiffer, S., & In-Albon, T. (2022). Barriers to Seeking Psychotherapy for Mental Health Problems in Adolescents: A mixed method study. *Journal of Child and Family Studies*, 31(9), 2571–2581. <https://doi.org/10.1007/s10826-022-02364-4>

Porta, C. M., Singer, E., Mehus, C. J., Gower, A. L., Saewyc, E., Fredkove, W., & Eisenberg, M. E. (2017). LGBTQ Youth's Views on Gay-Straight Alliances: Building Community, Providing Gateways, and Representing Safety and Support. *Journal of School Health*, 87(7), 489–497. <https://doi.org/10.1111/josh.12517>

Price-Feeney, M., Green, A. E., & Dorison, S. H. (2021). Suicidality Among Youth Who are Questioning, Unsure of, or Exploring Their Sexual Identity. *The Journal of Sex Research*, 58(5), 581–588. <https://doi.org/10.1080/00224499.2020.1832184>

Riley, S. (2001). Art therapy with adolescents. *Western Journal of Medicine*, 175(1), 54–57.

Schilt, K., & Westbrook, L. (2009). Doing Gender, Doing Heteronormativity: “Gender Normals,” Transgender People, and the Social Maintenance of Heterosexuality. *Gender & Society*, 23(4), 440–464. <https://doi.org/10.1177/0891243209340034>

Sedikides, C., & Spencer, S. J. (2011). *The Self*. Psychology Press.

Sitzer, D. L., & Stockwell, A. B. (2015). The art of wellness: A 14-week art therapy program for at-risk youth. *The Arts in Psychotherapy*, 45, 69–81. <https://doi.org/10.1016/j.aip.2015.05.007>

Snapp, S. D., Russell, S. T., Arredondo, M., & Skiba, R. (2016). Chapter Five - A Right to Disclose: LGBTQ Youth Representation in Data, Science, and Policy. In S. S. Horn, M. D. Ruck, & L. S. Liben (Eds.), *Advances in Child Development and Behavior* (Vol. 50, pp. 135–159). JAI. <https://doi.org/10.1016/bs.acdb.2015.11.005>

Snapp, S. D., Watson, R. J., Russell, S. T., Diaz, R. M., & Ryan, C. (2015). Social Support Networks for LGBT Young Adults: Low Cost Strategies for Positive Adjustment. *Family Relations*, 64(3), 420–430. <https://doi.org/10.1111/fare.12124>

Stablein, T. and Jacobs, S.H. (2011), “Waiving Parental Consent when Researching At-Risk Youth”, Bass, L.E. and Kinney, D.A. (Ed.) *The Well-Being, Peer Cultures and Rights of Children* (Sociological Studies of Children and Youth, Vol. 14), Emerald Group Publishing Limited, Leeds, pp. 205-226. [https://doi.org/10.1108/S1537-4661\(2011\)0000014014](https://doi.org/10.1108/S1537-4661(2011)0000014014)

Ulman, E. (2001). Art therapy: Problems of definition. *American Journal of Art Therapy*, 40(1), 16.





About The Author

Liyu Huang began his research journey at Vanderbilt University in 2021, initially studying applications of 3D technology in head and neck surgery. His research portfolio has spanned from rhabdomyosarcoma genetics in zebrafish to urologic cancer screening chips and microRNA regulation of glioblastoma. Despite this extensive background in biomedical sciences, he was drawn to explore an interdisciplinary project examining virtual art therapy interventions for LGBTQ-questioning youth since this study allowed him to combine his art history coursework with his passion for supporting LGBTQ+ communities. This commitment to LGBTQ+ advocacy also led him to co-found the Vanderbilt chapter of Out in STEM and present this project at the 2024 Out in STEM national convention.

The opportunity to explore the social determinants of health through this art therapy research was instrumental in Liyu's decision to pursue graduate studies beyond his traditional science background. He graduated from Vanderbilt University in 2024 with a BA in Neuroscience; Medicine, Health, and Society; and Architecture and the Built Environment, and continued to earn his MA in Social Foundations of Health from Vanderbilt, a degree directly inspired by this project.



Liyu Huang

Majors:
Neuroscience;
Medicine, Health, and
Society; &
Architecture and the
Built Environment





VANDER

