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# Cyberbullying Victimization Among Transgender and Gender-Questioning Early Adolescents

*Jason M. Nagata, MD, MSc; Priyadharshini Balasubramanian, MPH; Thang Diep, AB; Kyle T. Ganson, PhD, MSW; Alexander Testa, PhD; Jinbo He, PhD; Fiona C. Baker, PhD*

From the Department of Pediatrics (JM Nagata, P Balasubramanian, and T Diep), University of California, San Francisco, Calif; Factor-Inwentash Faculty of Social Work (KT Ganson), University of Toronto, Ontario, Canada; Department of Management (A Testa), Policy and Community Health, University of Texas Health Science Center at Houston, Houston, Tex; Division of Applied Psychology (J He), School of Humanities and Social Science, The Chinese University of Hong Kong, Shenzhen, Guangdong, China; Center for Health Sciences (FC Baker), SRI International, Menlo Park, Calif; School of Physiology (FC Baker), University of the Witwatersrand, Johannesburg, South Africa
Address correspondence to Jason M. Nagata, MD, MSc, Pediatrics, Division of Adolescent and Young Adult Medicine, Box 0503, 550 16th Street, Floor 4, San Francisco, CA 94143 (e-mail: Jason.Nagata@ucsf.edu).
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## ABSTRACT

***OBJECTIVE:*** To determine the association between transgender or gender-questioning identity and cyberbullying victimization in a diverse national sample of early adolescents in the United States.

***METHODS:*** We analyzed cross-sectional data from the Adolescent Brain Cognitive Development Study (year 3, 2019–2021, 11–14 years old, 48.8% female, 47.6% racial and ethnic minority). Logistic regression analyses were conducted to estimate the associations between transgender or gender-questioning identity and lifetime cyberbullying victimization, adjusting for sociodemographic confounders.

***RESULTS:*** In a sample of 9989 adolescents (1.0% transgender, 1.1% gender-questioning), both transgender (odds ratio [OR] 2.24, 95% confidence interval [CI] 1.22–4.10) and gender-questioning (OR 1.91, 95% CI 1.05–3.47) adolescents had greater odds of cyberbullying victimization compared to their cisgender peers. There was no evidence of significant effect modification of the association between transgender identity and cyberbullying victimization by sex assigned at birth.

***CONCLUSIONS:*** Transgender and gender-questioning early adolescents experience higher rates of cyberbullying victimization than their cisgender peers. Future research could investigate the risk and protective factors for cyberbullying in gender minority adolescents.

**KEYWORDS:** adolescent; cyberbullying; digital media; gender minority; LGBTQ+; transgender

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## WHAT'S NEW

In a demographically diverse national sample of early adolescents, transgender and gender-questioning adolescents experienced roughly 2 times greater odds of cyberbullying victimization compared to their cisgender peers.

Digital media usage has become a critical aspect of adolescents' daily lives in recent years.[1] With the rise of new social media platforms and digital technologies, the potential exposure to cyberbullying victimization has also increased.[2] Cyberbullying is defined as the intentional and repeated harm done by a perpetrator to a victim using electronic devices (eg, smartphones, gaming consoles, tablets, computers).[3] Cyberbullying victimization is associated with depressive symptoms and psychosomatic problems, including sleep disturbances.[4,5] Additionally, the negative effects of cyberbullying, like suicide ideation and attempts, were greater than the effects of traditional bullying,[6] making cyberbullying a pressing public health issue impacting adolescents.[7]

For transgender and gender-questioning adolescents, cyberbullying may be an added stressor with negative health implications. Adolescents with transgender or gender-questioning identities already face disproportionately higher rates of discrimination, exclusion, and victimization that are linked to worse mental health.[8] Since these adolescents hold marginalized identities that are scrutinized on interpersonal and structural levels, bullying can translate to social media platforms. Unlike traditional bullying in which most aggressions take place at school,[9] online platforms provide ready access to victims[10] and anonymity[11] that could enable perpetrators, including those who cannot target transgender or


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gender-questioning adolescents through in-person settings, to attack with little-to-no repercussions. Transgender or gender-questioning youth also depend on digital media to seek safe spaces and sexual and gender health resources that are not readily accessible to them,[12–15] leading to elevated online platform use that could increase their encounters with cyberbullying in the process.[16]

Prior research on cyberbullying has revealed a disproportionate impact on sexual and gender minority (SGM) adolescents (eg, lesbian, gay, bisexual, and transgender or gender-questioning adolescents),[12,17] yet the distinct experiences of cyberbullying in transgender or gender-questioning adolescents remain underexplored. In a study of adolescents between the ages of 13 to 18, cyberbullying was nearly 3 times as likely to affect adolescents with SGM identification than those with non-SGM identification.[12] Another study found SGM adolescents impacted by cyberbullying in 1 metropolitan area were at a significantly higher risk of depressive symptoms, suicidal ideation, self-injury, and suicide attempts compared to non-SGM adolescents.[17] However, these studies conflated the experiences of gender minorities (eg, transgender, gender-questioning) with those of sexual minorities (eg, lesbian, gay, bisexual). A systematic review of the effects of cyberbullying on SGM adolescents across 27 studies also found that transgender adolescents comprised as little as 0.25% of the sample in studies where transgender participants were included.[18] Studies that did include transgender participants only analyzed bullying in school-based settings rather than cyberbullying[19,20] and examined cyberbullying only in transgender adults.[21] The few studies that investigated cyberbullying specifically in transgender adolescents found higher instances of cyberbullying in this population, but the data either did not encompass the experiences of early adolescents with transgender and gender-questioning identity[22] or were more than a decade old.[23]

To address the gaps in the current literature, our study aimed to investigate cyberbullying in transgender and gender-questioning early adolescents based on a large, demographically diverse national sample of 12 to 13-year-olds. We hypothesized that transgender and gender-questioning adolescents would experience greater cyberbullying victimization compared to their cisgender peers.

## METHODS

We conducted a cross-sectional analysis of data from the year 3 follow-up of the Adolescent Brain Cognitive Development (ABCD) Study (5.0 release). The ABCD Study is the largest long-term longitudinal study of adolescent health, brain, and cognitive development in 11,876 children recruited from 21 sites across the United States in 2016–2018 (baseline). The ABCD Study sample, recruitment, protocol, and measures have been previously described in detail.[24] Participants were 11 to 14 years old during the 3-year follow-up (2019–2021). A total of 9989 participants met the criteria for inclusion in the study, with complete data for the gender identity and cyberbullying questions. Centralized institutional review board approval was received from the University of California, San Diego, and the institutional review boards of each respective study site were also approved. Written assent was obtained from the adolescent study participants, and written consent was obtained from their parents/guardians.

### INDEPENDENT VARIABLE: TRANSGENDER AND GENDER-QUESTIONING IDENTITY

Adolescents reported their own gender minority identity ("Are you transgender?" Yes; Maybe; No; I do not understand this question; Refuse to answer) at the year 3 follow-up of the ABCD Study.[25] For terminology purposes, in this study, adolescents who responded "yes" were considered transgender, adolescents who responded "maybe" were considered gender-questioning, and adolescents who responded "no" were considered cisgender. We use "gender minority" as a more inclusive umbrella term when referring to both transgender and gender-questioning adolescents together.

### DEPENDENT VARIABLE: LIFETIME CYBERBULLYING VICTIMIZATION

At the year 3 follow-up, participants completed a self-reported questionnaire on the experience of lifetime cyberbullying victimization.[5,7] A dichotomous variable indicating the participants' lifetime history of cyberbullying victimization was captured based on the following question: "Have you ever been cyberbullied, where someone was trying on purpose to harm you or be mean to you online, in texts, or group texts, or on social media (like Instagram or Snapchat)?".

### COVARIATES

Sex assigned at birth (female or male), age of the participant, race and ethnicity (White, Latino, Black, Asian, Native American, other), household income (greater or less than $75,000, the median US household income),[26] and highest parental education status were self-reported by participants and/or their caregivers. The study site and data collection period (before or during the coronavirus disease 2019 [COVID-19] pandemic) were also included as confounders. Time spent on the internet (hours per day) was based on adolescent self-report.

### STATISTICAL ANALYSIS

Data analyses were performed using Stata 18 (StataCorp, College Station, Tex). Logistic regression was used to analyze the associations between the exposure variable (transgender or gender-questioning identity) and the outcome variable (lifetime cyberbullying victimization) in unadjusted models and models controlling for age, sex assigned at birth, race/ethnicity, household income, parent education, data collection period, and study site. In supplemental analyses, we additionally adjusted for time spent on the internet (Supplementary Appendix A), tested for effect modification by the sex assigned at birth, and

**Table 1**. Sociodemographic and Cyberbullying Characteristics of Adolescent Brain Cognitive Development (ABCD) Study Participants (N = 9989)

| Sociodemographic and Cyberbullying Characteristics | Mean (SD)/% |
|---|---|
| Age (years) | 12.91 (0.65) |
| Sex assigned at birth (%) | |
| Female | 48.8% |
| Male | 51.2% |
| Race and ethnicity (%) | |
| White | 52.4% |
| Latino/Hispanic | 20.1% |
| Black | 17.3% |
| Asian | 5.5% |
| Native American | 3.2% |
| Other | 1.5% |
| Household income (%) | |
| Less than $75,000 | 56.8% |
| $75,000 and greater | 43.2% |
| Parents' highest education (%) | |
| High school education or less | 16.2% |
| College education or more | 83.8% |
| Transgender identification (%) | |
| No | 94.7% |
| Yes | 1.0% |
| Maybe | 1.1% |
| I do not understand this question | 2.6% |
| Decline to answer | 0.6% |
| Lifetime cyberbullying victimization (%) | 9.8% |

SD indicates standard deviation.

ABCD sampling weights were applied based on the American Community Survey from the US Census.

showed analyses stratified by the sex assigned at birth (Supplementary Appendix B). The analyses were standardized using sample weighting based on the American Community Survey from the US Census.[27]

## RESULTS

Table 1 describes the sociodemographic characteristics of the 9989 adolescents who participated in this analysis. Participants had a mean age of 12.9 years, with 48.8% female and 47.6% racial and ethnic minority populations. Overall, 9.8% experienced cyberbullying victimization in their lifetime. In our analytical sample, 1.0% of adolescents identified as transgender (responding "yes" to the transgender question), and 1.1% identified as gender-questioning (responding "maybe" to the transgender question).

Table 2 shows the associations between transgender or gender-questioning identification and lifetime cyberbullying victimization while adjusting for sociodemographic characteristics. Transgender identification was associated with higher odds of lifetime cyberbullying victimization compared to cisgender identification (OR 2.24, 95% CI 1.22–4.10, $P = 0.009$). Questioning one's gender identity was associated with higher odds of lifetime cyberbullying victimization compared to cisgender identification (OR 1.91, 95% CI 1.05–3.47 $P = 0.035$). When additionally adjusting for internet usage, findings were similar but slightly attenuated (Supplementary Appendix A).

We conducted exploratory logistic regression analyses examining gender minority identity associations with cyberbullying victimization stratified by sex assigned at birth (Supplementary Appendix B). Among participants with female sex assigned at birth, transgender identification was associated with higher odds of cyberbullying victimization compared to cisgender identification (OR 2.06, 95% CI 1.10–3.84, $P = 0.024$). Similarly, among participants with male sex assigned at birth, transgender identification was associated with higher odds of cyberbullying victimization compared to cisgender identification (OR 5.73, 95% CI 0.99–33.20, $P = 0.052$), although the confidence intervals were wide and crossed 1.00. There was no evidence of significant effect modification by sex assigned at birth on the association between gender identity and cyberbullying (all $P$ for interaction $> 0.05$).

## DISCUSSION

In a demographically diverse national sample of early adolescents, our study found that transgender early adolescents experience over 2 times the odds of lifetime cyberbullying victimization compared to cisgender adolescents. Additionally, early adolescents who are questioning their gender identity experience almost 2 times higher odds of lifetime cyberbullying victimization compared to their cisgender peers.

The results of our study add to the literature by investigating the associations between lifetime cyberbullying victimization and transgender and gender-questioning identification in early adolescents. Previous research found that

**Table 2**. Associations Between Gender Identity and Cyberbullying Victimization in the Adolescent Brain Cognitive Development (ABCD) Study

| | Unadjusted | | Adjusted | |
|---|---|---|---|---|
| | OR (95% CI) | *P* | OR (95% CI) | *P* |
| Transgender identification | | | | |
| No | Reference | – | Reference | – |
| Yes | **3.04 (1.76, 5.27)** | **< 0.001** | **2.24 (1.22, 4.10)** | **0.009** |
| Maybe | **2.28 (1.31, 3.95)** | **0.003** | **1.91 (1.05, 3.47)** | **0.035** |
| I do not understand this question | 0.80 (0.48, 1.33) | 0.388 | 0.97 (0.58, 1.61) | 0.900 |
| Decline to answer | 1.39 (0.58, 3.35) | 0.461 | 1.68 (0.68, 4.16) | 0.259 |

Bold indicates $P < 0.05$. ABCD sampling weights were applied based on the American Community Survey from the US Census.

Adjusted models include age, sex assigned at birth, race and ethnicity, household income, parent education, data collection period, and study site.

cyberbullying victimization was at least 2 times more prevalent in adolescents with SGM identification than those with non-SGM identification[12,17] and that transgender older adolescents experience higher rates of cyberbullying victimization.[22] Our study contributes to this line of investigation by centering around the historically overlooked subgroup of transgender and gender-questioning early adolescents, with findings in accordance with prior studies in gender-minority older adolescents and young adults.

The higher prevalence of cyberbullying victimization in gender minority early adolescents may be influenced by factors such as elevated digital media use[12] and, for some, the lack of in-person support networks.[28] After adjusting for internet use, the association between transgender and gender-questioning identification and cyberbullying was slightly attenuated, supporting the internet as a partial explanation for the association. For instance, gender minority adolescents may experience or fear family rejection.[28] Additionally, gender minority adolescents who experience in-person bullying victimization at school may perceive their school climate as unsafe.[19] The rejection, victimization, and absence of support experienced by some gender minority youth from their immediate social circles, such as parents, family, and peers, have consistently been linked with mental distress and suicidality.[29,30]

Due to the lack of family and school connectedness, gender minority adolescents may rely on digital media and online platforms for access to community and resources. For instance, SGM youth in one study used online text-based chat platforms to seek social support while being isolated at home with unsupportive family members during the COVID-19 pandemic.[13] Another study found that seeing the narratives of other transgender people and learning about gender-affirming care through social media provided affirmational support and a sense of empowerment.[14] For some transgender and gender-questioning adolescents, online platforms may serve as alternative avenues to form connections with other gender minority youth, explore their gender identity, and inquire about sexual and gender health resources such as gender-affirming therapy.[12–15]

However, digital media also provide a platform for discrimination, with some gender minority adolescents reporting not only witnessing harmful content related to their gender identity[14] but also experiencing sexual harassment and cyberbullying due to their gender expression.[12] Additionally, gender minority adolescents may already experience higher rates of exclusion and discrimination,[8,20,31,32] including structural violence like the criminalization of gender-affirming care,[33] that could translate into these online environments. Considering the complex interactions between digital media and this vulnerable population, these findings highlight the importance of understanding the risk and protective factors for cyberbullying in gender minority adolescents.

While our study has notable strengths, there are also several limitations. The temporality and causality of the associations cannot be determined, given the cross-sectional design of this study. Additionally, the assessment of cyberbullying is subjected to reporting bias since the data were collected via self-reported surveys. The cyberbullying measure in our study does not account for repeated harm and may not fully align with the definition of cyberbullying commonly used in the literature. The demographic survey also did not explicitly differentiate between various subtypes of gender minority identification (nonbinary, intersex, genderqueer, etc.). However, the higher percentage of the adolescents aged 12 to 13 in our study may engage in a more fluid exploration of gender identity compared to their older counterparts due to their developmental stage. Our estimated prevalence of adolescents who identify as transgender (1.0%) and gender-questioning (1.1%) is congruent with estimates of the transgender population in the United States (~1.4% in adolescents ages 13–17).[34] This present study contributes to the literature by studying cyberbullying in a large, diverse, national dataset of 12 to 13-year-old gender minority early adolescents.

## Conclusion

Our findings support the need for additional exploration of the social epidemiology of cyberbullying in gender minority early adolescents. Further investigation into the online behaviors and purposes of these digital interactions in gender minority early adolescents may offer valuable insights into the risk and protective factors for cyberbullying. These efforts can also provide the groundwork for evidence-based preventions and interventions that are tailored to support the unique needs of gender minority adolescents due to the nuanced ways they navigate digital media. For instance, the presence of media literacy programs in school is associated with reduced rates of depression in transgender adolescents,[35] highlighting the critical need to equip young people with the knowledge and skills to form a community and seek resources on online platforms safely. Interventions should also focus on educating potential perpetrators about the impacts of cyberbullying and promoting empathy to foster a safer digital environment. Additionally, future studies can examine cyberbullying in adolescents across different gender minority identification subgroups (eg, nonbinary, intersex, genderqueer), which may shed light on the differential associations between risk factors and health outcomes.

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The funders had no role in the study analysis, the decision to publish the study, or the preparation of the manuscript.

## Declaration of Competing Interest

The authors have no conflict to declare.

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## SUPPLEMENTARY DATA

Supplementary data associated with this article can be found in the online version at doi:10.1016/j.acap.2024.102624.

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