

Prevalence of Gender-Diverse Youth in an Urban School District

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In many studies on gender-diverse youth (GDY), those whose gender identity and sex assigned at birth do not fully align, researchers cite the 2017 Youth Risk Behavior Survey finding that 1.8% of US high school students identify as “transgender.”¹ This was the first nationally representative prevalence estimate of GDY and was higher than previous estimates. However, the question assessing gender identity (“Do you identify as transgender?”) likely underrepresents the prevalence of GDY because many do not identify with the word “transgender.” As an alternative, researchers recommend a 2-step question: (1) What was your sex assigned at birth? (2) Which of the following best describes your gender identity?^{2,3}

Much of the research involving GDY has been conducted in clinical settings, in which there is a predominance of white and masculine-identified youth.^{4–7} GDY of color, specifically Black and Hispanic transgender women, are more likely than other gender-diverse people to experience violence and socioeconomic disadvantage because of systemic racism and transmisogyny.⁸ These systemic inequities likely result in decreased access to gender-affirming care. Because access to gender-affirming care is associated with improved health outcomes,⁹ identifying groups who are not receiving care is vital to creating more equitable access to care for all GDY, but especially Black and Hispanic transgender women. The goal of this study was to assess the prevalence of GDY in a school-based

sample to (1) document the prevalence of GDY by using a 2-step approach and (2) examine prevalence by race and ethnicity and gender identity.

METHODS

In October of 2018, a modified version of the Youth Risk Behavior Survey was distributed to ninth- to 12th-graders in 13 high schools, reaching 91% of the ~4930 students in a Northeastern mid-sized city school district. The survey included a 2-step gender identity question: (1) “What is your sex (the sex you were assigned at birth, on your birth certificate)?” with the options “female” and “male” and (2) “Which of the following best describes you (select all that apply)?” with the options “girl,” “boy,” “trans girl,” “trans boy,” “genderqueer,” “nonbinary,” and “another identity.” Of 4730 returned surveys, 37 were found to be unreadable, and 243 were deemed mischievous responders or had <20 answered questions. An additional 1282 participants skipped questions regarding race and ethnicity or gender identity and were excluded from this analysis. Descriptive statistics were calculated by using Stata/SE, version 15.1 (Stata Corp, College Station, TX).

RESULTS

Of 3168 surveys analyzed, incongruence between gender identity and sex assigned at birth was identified in 291 participants (9.2%; Table 1). This prevalence was 7.1% among white youth and higher among American Indian, Alaskan Native, Asian American,



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Dr Kidd conceptualized and designed the study, conducted the analysis, drafted the initial manuscript, and revised the manuscript; Drs Sequeira, Douglas, Inwards-Breland, Miller, and Coulter and author Paglisotti provided substantial contributions to the conception, design, analysis, and interpretation of the data and revised the article critically; and all authors approved the final manuscript as submitted and agree to be accountable for all aspects of the work.

DOI: <https://doi.org/10.1542/peds.2020-049823>

Accepted for publication Feb 11, 2021

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PEDIATRICS (ISSN Numbers: Print, 0031-4005; Online, 1098-4275).

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FINANCIAL DISCLOSURE: The authors have indicated they have no financial relationships relevant to this article to disclose.

To cite: Kidd KM, Sequeira GM, Douglas C, et al. Prevalence of Gender-Diverse Youth in an Urban School District. *Pediatrics*. 2021;147(6):e2020049823

TABLE 1 Gender by Race and/or Ethnicity

	Total (<i>N</i> = 3168), <i>n</i> (%)	White (<i>n</i> = 1307), <i>n</i> (%)	Black (<i>n</i> = 988), <i>n</i> (%)	Multiracial ^a (<i>n</i> = 425), <i>n</i> (%)	Hispanic ^b (<i>n</i> = 291), <i>n</i> (%)	Other Race ^c (<i>n</i> = 157), <i>n</i> (%)
Cisgender youth	2877 (90.8)	1214 (92.3)	890 (90.1)	388 (91.3)	249 (85.6)	136 (86.7)
GDY ^d	291 (9.2)	93 (7.1)	98 (9.9)	37 (8.7)	42 (14.4)	21 (13.4)

^a "Multiracial" represents all who selected multiple racial identities, except for those who identified as Hispanic.

^b "Hispanic" represents all who identified as "Hispanic," regardless of other racial identities indicated.

^c "Other Race" represents those who identified as Asian American, Native Hawaiian, Pacific Islander, American Indian, or Alaska Native because these groups were too small to represent individually.

^d "GDY" represents all who expressed any discordance between their indicated sex assigned at birth and their gender identity and includes transgender, nonbinary, and other noncisgender identities.

Pacific Islander, and/or Native Hawaiian, Hispanic, Black, and multiracial youth (13.4%, 14.4%, 9.9%, and 8.7% respectively). Gender identity among GDY was split between masculine (29.9%), feminine (38.8%), and nonbinary identities (31.3%), with 38 (13.1%) selecting >1 identity (Table 2).

DISCUSSION

Nearly 10% of high school students surveyed reported a gender-diverse identity. The prevalence of GDY in this study is 5 times higher than current national estimates from a study involving 10 states and 9 urban school districts.¹ Although these data were collected from a single urban school district, the findings may approximate a less biased estimate of the prevalence of youth with gender-diverse identities, given how gender identity was operationalized.

Additionally, the demographics of GDY in this school-based study differ from those of GDY accessing gender-affirming care in the same region. A 2018 survey from the only pediatric gender clinic in the region found the majority of patients identified as white (88%) and masculine (65%).¹⁰ This clinic's findings are consistent with other pediatric gender clinics across the United States⁴⁻⁷ and highlight the lack of diversity among youth receiving gender-affirming care, especially with respect to race and/or ethnicity and gender. These disparities suggest that gender clinics may not be reaching youth at the highest risk of experiencing violence, victimization, socioeconomic disadvantage, and health disparities: Black and Hispanic transgender women. Researchers should consider using a 2-step approach, as outlined above, to better reflect prevalence of GDY, particularly in statewide and national level surveys, with sample

sizes allowing analysis of potential differences in gender identity by race and/or ethnicity and age. In addition to encouraging continued refinement of gender identity measures, particularly for youth, these findings underscore the need to re-evaluate systems and structures that continue to perpetuate inequities in access to gender-affirming care.

ACKNOWLEDGMENTS

We thank the Allegheny County Health Department for their role in data collection and for the use of these data. We are grateful to Pittsburgh Public School Board leadership for their collaboration.

ABBREVIATION

GDY: gender-diverse youth

TABLE 2 GDY by Gender Identity and Race and/or Ethnicity

	Total GDY (<i>n</i> = 291), <i>n</i> (%)	White (<i>n</i> = 93), <i>n</i> (%)	Black (<i>n</i> = 98), <i>n</i> (%)	Multiracial ^a (<i>n</i> = 37), <i>n</i> (%)	Hispanic ^b (<i>n</i> = 42), <i>n</i> (%)	Other Race ^c (<i>n</i> = 21), <i>n</i> (%)
Binary ^d transmasculine youth	87 (29.9)	26 (30.0)	34 (34.7)	11 (29.7)	13 (30.9)	3 (14.3)
Binary ^d transfeminine youth	113 (38.8)	30 (32.3)	44 (44.9)	11 (29.7)	18 (42.9)	10 (46.7)
Nonbinary youth ^e	91 (31.3)	37 (39.8)	20 (20.4)	15 (40.5)	11 (26.2)	8 (38.1)

"GDY" represents all who expressed any discordance between their indicated sex assigned at birth and their gender identity.

^a "Multiracial" represents all who selected multiple racial identities, except for those who identified as Hispanic.

^b "Hispanic" represents all who identified as "Hispanic," regardless of other racial identities indicated.

^c "Other Race" represents those who identified as Asian American, Native Hawaiian, Pacific Islander, American Indian, or Alaska Native because these groups were too small to represent individually.

^d "Binary transmasculine" and "binary transfeminine" reflect youth who selected "boy" or "transboy" and "girl" or "transgirl" exclusively.

^e "Nonbinary" represents all individuals who selected "nonbinary," "genderqueer," or "another identity," including 24 individuals who selected these identities in addition to a binary identity.

FUNDING: Supported by the National Institutes of Health through the National Institute of Alcohol Abuse and Alcoholism grant K01AA027564 to Dr Coulter as well as the National Center for Advancing Translational Science of the National Institutes of Health grant TL1TRR1858, principal investigator Kraemer, for Kidd. The content is solely the responsibility of the authors and does not necessarily represent the official views of the National Institutes of Health. The National Institutes of Health was not involved in the study design the writing of the protocol or the decision to submit for publication. This research was also supported by the Seattle Children's Research Institute Career Development Award. The data collection was supported by the Heinz Endowments and the Grable Foundation. Funded by the National Institutes of Health (NIH).

POTENTIAL CONFLICT OF INTEREST: The authors have indicated they have no potential conflicts of interest to disclose.

COMPANION PAPER: A companion to this article can be found online at www.pediatrics.org/cgi/doi/10.1542/peds.2021-050278.

REFERENCES

1. Johns MM, Lowry R, Andrzejewski J, et al. Transgender identity and experiences of violence victimization, substance use, suicide risk, and sexual risk behaviors among high school students - 19 states and large urban school districts, 2017. *MMWR Morb Mortal Wkly Rep.* 2019;68(3):67–71
2. Fraser G. Evaluating inclusive gender identity measures for use in quantitative psychological research. *Psychol Sex.* 2018;9(4):343–357
3. Tordoff DM, Morgan J, Dombrowski JC, Golden MR, Barbee LA. Increased ascertainment of transgender and non-binary patients using a 2-step versus 1-step gender identity intake question in an STD clinic setting. *Sex Transm Dis.* 2019;46(4):254–259
4. Chen M, Fuqua J, Eugster EA. Characteristics of referrals for gender dysphoria over a 13-year period. *J Adolesc Health.* 2016;58(3):369–371
5. Handler T, Hojilla JC, Varghese R, Wellenstein W, Satre DD, Zaritsky E. Trends in referrals to a pediatric transgender clinic. *Pediatrics.* 2019; 144(5):e20191368
6. Gridley SJ, Crouch JM, Evans Y, et al. Youth and caregiver perspectives on barriers to gender-affirming health care for transgender youth. *J Adolesc Health.* 2016;59(3):254–261
7. O'Bryan J, Leon K, Wolf-Gould C, Scribani M, Tallman N, Gadowski A. Building a pediatric patient registry to study health outcomes among transgender and gender expansive youth at a rural gender clinic. *Transgend Health.* 2018;3(1):179–189
8. Garofalo R, Deleon J, Osmer E, Doll M, Harper GW. Overlooked, misunderstood and at-risk: exploring the lives and HIV risk of ethnic minority male-to-female transgender youth. *J Adolesc Health.* 2006;38(3):230–236
9. Sorbara JC, Chiniara LN, Thompson S, Palmert MR. Mental health and timing of gender-affirming care. *Pediatrics.* 2020;146(4):e20193600
10. Sequeira GM, Ray KN, Miller E, Coulter RWS. Transgender youth's disclosure of gender identity to providers outside of specialized gender centers. *J Adolesc Health.* 2020;66(6):691–698