HHS Public Access

Author manuscript

J Adolesc Health. Author manuscript; available in PMC 2025 June 01.

Published in final edited form as:

J Adolesc Health. 2024 June ; 74(6): 1256–1259. doi:10.1016/j.jadohealth.2024.01.013.

Chest binding: Sociodemographic characteristics among a national sample of transgender and gender diverse adolescents

Meg D. Bishop, PhD[a], **Antonia E. Caba, MPH**[b], **Ryan J. Watson, PhD**[b], **Jessica N. Fish, PhD**[a]

[a]University of Maryland, College Park

[b]University of Connecticut

Abstract

Purpose: There is a paucity of national data documenting chest binding practices among transgender and gender diverse (TGD) adolescents, despite the possibility that adolescents chest bind at high rates due to gender identity exploration and/or structural barriers to accessing other gender affirmation strategies.

Methods: We used data from the 2022 LGBTQ National Teen Survey to estimate the prevalence and sociodemographic characteristics of chest binding frequency among TGD adolescents assigned female at birth (AFAB; n = 6,080), and, in supplementary analyses, a broader sample of AFAB and intersex LGBTQ+ adolescents (n = 7,122).

Results: Nearly two-thirds (63.8%) of TGD AFAB adolescents in our sample reported chest binding. Over 80% of transgender boys reported chest binding. Chest binding varied by some sociodemographics but was prevalent across many characteristics.

Discussion: Chest binding is a common gender exploration and affirmation strategy among TGD AFAB adolescents. Adolescent health providers require data to inform evidence-based healthcare related to chest binding.

Keywords

chest binding; gender affirmation; transgender; adolescence

Chest binding, the use of materials such as tight garments or athletic tape to flatten chest tissue, is a prevalent practice for mitigating gender dysphoria and promoting gender expression for transgender and gender diverse (TGD) people assigned female at birth (AFAB).[1–4] Chest binding may be especially important for TGD adolescents, who often lack the financial, familial, and medical resources to access gender-affirming medical interventions when desired.[3,5] The relation between chest binding and health is complex.

Address correspondence to: Meg Bishop, Department of Family Science, 4200 Valley Dr, College Park, MD 20742, mbishop3@umd.edu.

Conflict of Interest Disclosures (includes financial disclosures): The authors have no conflicts of interest to disclose.

Although chest binding often bolsters mental health by improving self-esteem and social safety, it can result in physical side effects, including musculoskeletal pain, skin irritation, and breathing problems.[1,4]

Understanding adolescent chest binding is particularly pressing given the influx of U.S. state legislation restricting gender-affirming medical care, specifically for youth under age 18.[6] These structural restrictions may compound TGD adolescents' reliance on non-surgical interventions such as chest binding to alleviate gender dysphoria. Thus, there is an urgent need for data and education for healthcare professionals to support adolescents who chest bind or who desire to chest bind.

Despite the preponderance and clinical relevance of chest binding, there is a paucity of empirical data documenting adolescents' chest binding practices. Among three studies on the topic,[2,3,7] all used relatively small samples (n = 30–684), and none exclusively documented the experiences of adolescents 18 years old or younger. To expand limited empirical understandings of adolescent chest binding and identify areas for future research, this study documented the prevalence and sociodemographic differences among TGD AFAB adolescents who do and do not chest bind in a large national sample of LGBTQ+ adolescents.

Methods

Data were from the 2022 LGBTQ National Teen Survey, a cross-sectional non-probability sample of 17,578 LGBTQ+ adolescents ages 13–18 who resided in the U.S. Participants completed the survey online and were eligible to receive a $5 gift card for participation (see Supplementary Documents for details). Data were collected in partnership with the Human Rights Campaign and the University of Connecticut Institutional Review Board approved the study.

We estimated the prevalence of chest binding among TGD AFAB adolescents who provided a valid response to the chest binding frequency item (n = 6,080), which was dichotomized (0 = "never", 1 = "less than once per week or more frequently"; see Supplementary Documents). We examined sociodemographic and behavioral characteristics associated with chest binding using Pearson chi-square analyses and t-tests. As a robustness check, we also estimated associations with a recoded chest binding variable such that 0 = "never or less than once per week" and 1 = "binds once per week or more frequently". Given a paucity of data on chest binding among other LGBTQ+ adolescent subgroups, in a supplemental analysis, we expanded the analytic sample to include AFAB cisgender girls (n=1,497), intersex youth (n=36), and AFAB or intersex youth with unreported gender identities (n=9), in addition to TGD AFAB adolescents.

Among our TGD AFAB and expanded supplemental study samples, respectively, 22.3% and 28.9% were missing responses to the binding item, primarily due to survey attrition. See Supplementary Documents for additional details.

Results

Table 1 presents proportions and sociodemographic differences among TGD AFAB adolescents who do and do not chest bind. Nearly two-thirds of TGD AFAB adolescents (63.8%) reported chest binding, 24.7% of whom reported chest binding 7 days per week. Among transgender boys, 82.4% reported chest binding, whereas 30.2%−58.0% of AFAB adolescents with other gender diverse identities reported chest binding. Multiracial and White adolescents reported the highest prevalence of chest binding (65.1%−67.4%), while Black/African American and Asian adolescents reported relatively lower prevalence (49.3% −51.0%). Those who reported chest binding were older than those who did not chest bind. Additionally, TGD AFAB adolescents who chest bind reported more masculine gender expression, less feminine gender expression, more outness regarding their LGBTQ+ identities, and younger self-realization and disclosure of TGD identities relative to those who do not chest bind. No differences emerged by sexual orientation, Latine ethnicity, school type, caregiver education, or religion.

Results of robustness checks (Supplemental Table 1) yielded substantively similar findings except for BMI (nullified) and school type, where those at private religious schools reported lower prevalence of chest binding than those in other schools.

In supplemental analyses expanding our sample (Supplemental Table 2), 7.3% of cisgender girls and 38.9% of intersex adolescents reported chest binding. Among adolescents who bind, approximately 24.2% reported binding seven days per week.

Discussion

To raise awareness of research and practice needs regarding adolescent chest binding, we estimated the proportion and sociodemographic and behavioral characteristics of TGD AFAB adolescents who chest bind in a large national sample of LGBTQ+ adolescents ages 13–18. Nearly two-thirds of TGD AFAB adolescents and over 80% of transgender boys reported chest binding. Our findings echo prior research showing that chest binding is a common strategy for gender exploration and affirmation among TGD youth.[3,5,8] By examining chest binding among a broader sample of AFAB and intersex adolescents, we extend the literature to document this practice across adolescents with a diversity of genders, sexes, and sexual identities. These descriptive findings suggest the need for future research to explore chest binding measurement and the mechanisms underlying whether, how, and why specific subgroups of adolescents chest bind.

Limitations of our study include high attrition across the survey and a non-probability sample. Additionally, in this secondary analysis, we could not ascertain adolescents' experiences with puberty suppression, hormone therapy, and/or gender dysphoria, which may influence chest binding practices. Last, some adolescents assigned male at birth may also chest bind to reduce gendered body shape and weight concerns[9] or as a response to gynecomastia (i.e., enlargement of breast tissue in males).[10] Additional research that includes measures of both chest binding practices and motives with large and representative samples is necessary to better understand and support adolescent chest binding.

As TGD disclosure among youth increases[11] and access to gender-affirming medical care decreases, TGD adolescents and healthcare providers will increasingly require data and training to inform evidence-based healthcare for adolescents who chest bind. Nevertheless, there is a limited empirical base and lack of standardized medical recommendations about chest binding. To address the growing needs of an already disenfranchised adolescent population, data collection about chest binding should be prioritized.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

Funding/Support:

This research was supported by F32AA030194, awarded to Bishop by the National Institutes on Alcohol Abuse and Alcoholism, and K01DA047918 awarded to Watson by the National Institutes of Drug Abuse. Bishop and Fish also acknowledge support from the University of Maryland Prevention Research Center cooperative agreement U48DP006382 from the Centers for Disease Control and Prevention (CDC) and P2CHD041041, awarded to the Maryland Population Research Center by the Eunice Kennedy Shriver National Institute of Child Health and Human Development.

Role of Funder/Sponsor (if any):

The NIH had no role in the design and conduct of the study.

Abbreviations:

LGBTQ+	lesbian, gay, bisexual, transgender, queer, and other sexual and gender minority people

References

1. Peitzmeier S, Gardner I, Weinand J, Corbet A, Acevedo K. Health impact of chest binding among transgender adults: a community-engaged, cross-sectional study. Culture, Health & Sexuality. 2017;19(1):64–75. doi:10.1080/13691058.2016.1191675
2. Mehringer JE, Harrison JB, Quain KM, Shea JA, Hawkins LA, Dowshen NL. Experience of Chest Dysphoria and Masculinizing Chest Surgery in Transmasculine Youth. Pediatrics. Published online February 1, 2021. doi:10.1542/peds.2020-013300
3. Julian JM, Salvetti B, Held JI, Murray PM, Lara-Rojas L, Olson-Kennedy J. The Impact of Chest Binding in Transgender and Gender Diverse Youth and Young Adults. Journal of Adolescent Health. Published online October 2020. doi:10.1016/j.jadohealth.2020.09.029
4. Jarrett BA, Corbet AL, Gardner IH, Weinand JD, Peitzmeier SM. Chest Binding and Care Seeking Among Transmasculine Adults: A Cross-Sectional Study. Transgender Health. 2018;3(1):170–178. doi:10.1089/trgh.2018.0017 [PubMed: 30564633]
5. Peitzmeier SM, Silberholz J, Gardner IH, Weinand J, Acevedo K. Time to first onset of chest binding–related symptoms in transgender youth. Pediatrics. 2021;147(3):e20200728. doi:10.1542/peds.2020-0728
6. Alberti PM, Alvarado CS, Bishop MD, et al. To Protect Evidence-Based Medicine and Promote Health Justice, Protect Gender-Affirming Medical Care. Center For Health Justice. Published 2023. Accessed May 28, 2023. https://www.aamchealthjustice.org/news/policy/gamc-trans-youth
7. Ascha M, Sasson DC, Sood R, et al. Top surgery and chest dysphoria among transmasculine and nonbinary adolescents and young adults. JAMA Pediatr. 2022;176(11):1115. doi:10.1001/jamapediatrics.2022.3424 [PubMed: 36156703]

8. Jones T, del P de Bolger A, Dune T, Lykins A, Hawkes G. Female-to-Male (FtM) Transgender People's Experiences in Australia: A National Study. Springer International Publishing; 2015. doi:10.1007/978-3-319-13829-9

9. Calzo JP, Corliss HL, Blood EA, Field AE, Austin SB. Development of muscularity and weight concerns in heterosexual and sexual minority males. Health Psychol. 2013;32(1):42–51. doi:10.1037/a0028964 [PubMed: 23316852]

10. Boston Children's Hospital. Gynecomastia. Accessed October 16, 2023. https://www.childrenshospital.org/conditions/gynecomastia

11. Herman JL, Flores AR, O'Neill KK. How many adults and youth identify as transgender in the United States? The Williams Institute, UCLA School of Law. Published online 2022:26

Implications and Contributions:

Chest binding is a prevalent practice among transgender and gender diverse adolescents assigned female at birth and LGBTQ+ intersex youth. To address the growing needs of this already disenfranchised adolescent population, data collection and healthcare provider training about chest binding should be prioritized.

Table 1.

Sociodemographic Characteristics of Chest Binding among Transgender and Gender Diverse Adolescents Assigned Female at Birth (n = 6,080)

Variable	Total *n* (%)[a]/ mean (*SD*)	Binds Chest *n* (%)[b]/mean (*SD*)	Does Not Bind Chest *n* (%)[b]/ mean (*SD*)	X^2/T-Test, *p*
		3878 (63.8)	2202 (36.2)	
Gender identity (*n* = 6080)				$X^2(4) = 691.31$, $p < .001$
Transgender boy	2256 (37.1)	1860 (82.4)	396 (17.6)	
Gender nonconforming	245 (4.0)	133 (54.3)	112 (45.7)	
Genderqueer, genderfluid, or gender nonbinary	2621 (43.1)	1520 (58.0)	1101 (42.0)	
Questioning	516 (8.5)	156 (30.2)	360 (69.8)	
Something else	442 (7.3)	209 (47.3)	233 (52.7)	
Sexual orientation (*n* = 6080)				$X^2(7) = 12.07$, $p = .10$
Gay/lesbian	1430 (23.5)	903 (63.1)	527 (36.9)	
Bisexual	1390 (22.9)	891 (64.1)	499 (35.9)	
Straight/Heterosexual	53 (0.9)	36 (67.9)	17 (32.1)	
Queer	877 (14.4)	594 (67.7)	283 (32.3)	
Pansexual	930 (15.3)	564 (60.6)	366 (39.4)	
Asexual	744 (12.2)	464 (62.4)	280 (37.6)	
Questioning	205 (3.4)	137 (66.8)	68 (33.2)	
Something else	451 (7.4)	289 (64.1)	162 (35.9)	
Racial identity (*n* = 6063)				$X^2(5) = 50.38$, $p < .001$
American Indian/Alaska Native	83 (1.4)	52 (62.7)	31 (37.3)	
Asian	204 (3.4)	104 (51.0)	100 (49.0)	
Black/African American	284 (4.7)	140 (49.3)	144 (50.7)	
White	4397 (72.5)	2862 (65.1)	1535 (34.9)	
Multiracial	711 (11.7)	479 (67.4)	232 (32.6)	
Something else	384 (6.3)	229 (59.6)	155 (40.4)	
Latine ethnicity (*n* = 6072)				$X^2(1) = 0.60$, $p = .44$
Yes	1004 (16.5)	651 (64.8)	353 (35.2)	
No	5068 (83.5)	3221 (63.6)	1847 (36.4)	
Age (*n* = 6080, range = 13–18)	15.60 (1.47)	15.69 (1.45)	15.45 (1.51)	$t(4409.42) = 6.02$, $p < .001$
U.S. census region (*n* = 4676)				$X^2(3) = 15.49$, $p = .001$
Midwest	1212 (25.9)	763 (63.0)	449 (37.0)	
Northeast	846 (18.1)	528 (62.4)	318 (37.6)	
South	1476 (31.6)	931 (63.1)	545 (36.9)	
West	1142 (24.4)	791 (69.3)	351 (30.7)	
Grade (*n* = 6077)				$X^2(7) = 63.01$, $p < .001$
Seventh grade and younger	169 (2.8)	77 (45.6)	92 (54.4)	
Eighth grade	613 (10.1)	353 (57.6)	260 (42.4)	
Ninth grade	1117 (18.4)	684 (61.2)	433 (38.8)	

Variable	Total *n* (%)[a]/ mean (*SD*)	Binds Chest *n* (%)[b]/mean (*SD*)	Does Not Bind Chest *n* (%)[b]/ mean (*SD*)	X^2/T-Test, *p*
Tenth grade	1287 (21.2)	865 (67.2)	422 (32.8)	
Eleventh grade	1259 (20.7)	805 (63.9)	454 (36.1)	
Twelfth grade	914 (15.0)	589 (64.4)	325 (35.6)	
College or trade school	468 (7.7)	311 (66.5)	157 (33.5)	
I am not in school	250 (4.1)	191 (76.4)	59 (23.6)	
School type (n = 5814)				$X^2(4) = 9.05$, $p = .06$
Charter	283 (4.9)	192 (67.8)	91 (32.2)	
Public school	4798 (82.5)	3015 (62.8)	1783 (37.2)	
Private school (religious)	245 (4.2)	142 (58.0)	103 (42.0)	
Private school (non-religious)	253 (4.4)	172 (68.0)	81 (32.0)	
Homeschool	235 (4.0)	155 (66.0)	80 (34.0)	
Employment status (n = 6007)				$X^2(1) = 9.88$, $p = .002$
No	4775 (79.5)	2998 (62.8)	1777 (37.2)	
Yes	1232 (20.5)	833 (67.6)	399 (32.4)	
Caregiver education (n = 5493)				$X^2(5) = 7.78$, $p = .17$
Less than HS/GED	133 (2.4)	77 (57.9)	56 (42.1)	
High school/GED	697 (12.7)	454 (65.1)	243 (34.9)	
Vocational/Technical School	129 (2.3)	90 (69.8)	39 (30.2)	
Some college	801 (14.6)	518 (64.7)	283 (35.3)	
College graduate	2181 (39.7)	1426 (65.4)	755 (34.6)	
Postgrad degree or higher	1552 (28.3)	969 (62.4)	583 (37.6)	
Religious affiliation (n = 6063)				$X^2(3) = 5.84$, $p = .12$
Christian	3553 (58.6)	2242 (63.1)	1311 (36.9)	
Jewish	153 (2.5)	95 (62.1)	58 (37.9)	
Something else	426 (7.0)	259 (60.8)	167 (39.2)	
No religion	1931 (31.8)	1270 (65.8)	661 (34.2)	
BMI (n = 5904, range = 9.57–60.07)	24.53 (6.65)	24.36 (6.44)	24.82 (7.01)	$t(4126.77) = -2.48$, p = .01
Masculine gender expression (n = 6072, range = 1–5)	3.03 (0.87)	3.21 (0.83)	2.72 (0.83)	$t(6070) = 22.16$, $p <$ .001
Feminine gender Expression (n = 6077, range = 1–5)	2.74 (0.93)	2.57 (0.90)	3.05 (0.90)	$t(4585.35) = -20.13$, $p <$ .001
Sexual orientation outness:				
At least one caregiver (n = 5957)				$X^2(1) = 80.88$, $p < .001$
Yes	4469 (75.0)	2993 (67.0)	1476 (33.0)	
No	1488 (25.0)	804 (54.0)	684 (46.0)	
Doctors and other healthcare providers (n = 5588; range = 1–5)	1.94 (1.38)	2.11 (1.46)	1.64 (1.17)	$t(4939.04) = 13.29$, $p <$ .001
Mental health providers / therapists (n = 4576; range = 1–5)	3.25 (1.74)	3.48 (1.69)	2.81 (1.77)	$t(3051.94) = 12.18$, $p <$ .001
Gender identity outness:				
At least one caregiver (n = 5075)				$X^2(1) = 334.05$, $p < .001$

Variable	Total *n* (%)[a]/ mean (*SD*)	Binds Chest *n* (%)[b]/mean (*SD*)	Does Not Bind Chest *n* (%)[b]/ mean (*SD*)	X^2/T-Test, *p*
Yes	2907 (57.3)	2153 (74.1)	754 (25.9)	
No	2168 (42.7)	1064 (49.1)	1104 (50.9)	
Doctors and other healthcare providers (*n* = 5611, range = 1–5)	1.99 (1.52)	2.28 (1.63)	1.49 (1.13)	*t*(5356.75) = 21.45, p < .001
Mental health providers / therapists (*n* = 4682, range = 1–5)	2.99 (1.82)	3.37 (1.76)	2.29 (1.71)	*t*(3372.12) = 20.26, *p* < .001
Age of first non-cisgender realization (*n* = 5858, range = 0–18)	12.22 (2.91)	11.92 (2.97)	12.76 (2.74)	*t*(4615.11) = −10.92, *p* < .001
Age of first non-cisgender disclosure (*n* = 5524, range = 0–18)	13.64 (2.01)	13.58 (1.95)	13.75 (2.12)	*t*(5522) = −2.99, *p* = .003

Note. The threshold for statistical significance was $p = .05$. All valid responses were retained for each variable, resulting in a different sample for each sociodemographic characteristic. AFAB transgender girls ($n = 38$) were omitted due to low interpretability.

[a]Percentages reflect column percentages.

[b]Percentages reflect row percentages.