

Structural Cissexism, Mental Health, and Unmet Health Care Needs Among Gender-Diverse Adolescents in the United States

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See also LGBTQ+ Well-Being and Joy, pp. 188–239.

Objectives. To examine the associations between state-level structural cissexism and both mental health and unmet mental health care needs among a large national sample of gender-diverse adolescents (GDAs).

Methods. We measured structural cissexism by using a composite index of state-level indicators, including antitransgender laws and policies and explicit cissexist attitudes. Using participants' state identifiers, we linked this measure to individual-level mental health data from a subsample of 5658 GDAs (aged 13–18 years; mean age = 15.8 years; SD = 1.5) from the LGBTQ National Teen Survey conducted in 2022.

Results. GDAs in states with higher levels of structural cissexism reported greater depression and anxiety symptoms compared with those in states with lower levels. In addition, compared with GDAs in states with lower structural cissexism, those in states with higher structural cissexism were more likely to report unmet mental health care needs.

Conclusions. Our findings demonstrate significant associations between structural cissexism and mental health and health care utilization among GDAs. These results underscore the urgent need for transgender-affirming and protective policies and multidimensional and multilevel interventions across social environments to support GDA well-being and ensure equitable access to mental health services. (*Am J Public Health.* 2026;116(2):240–250. <https://doi.org/10.2105/AJPH.2025.308313>)

Gender-diverse adolescents (GDAs; e.g., transgender and nonbinary adolescents) report worse mental health outcomes compared with their cisgender peers,¹ potentially necessitating the need for and utilization of mental health care services.² Recent research indicates that GDAs not only experience greater mental health concerns, such as depressive symptoms and suicidal ideation, but also express higher willingness to seek help from

counselors or therapists than cisgender adolescents.³ Despite GDAs' mental health disparities and willingness toward accessing mental health care services, several factors, including discrimination within health care settings and lack of provider knowledge about transgender-specific needs, may impede access and use of such services when needed.^{4,5}

Mental health disparities among GDAs have predominantly been

attributed to individual-level experiences of cissexism,⁶ which manifests in both interpersonal and intrapersonal forms.^{7,8} Interpersonal cissexism includes active discrimination (e.g., harassment, rejection, or denial of services) and passive exclusion (e.g., assumptions of cisgender identity in everyday interactions). Intrapersonal cissexism involves internalized negative beliefs about one's gender identity and strategic identity concealment for

safety. However, because not all forms of structural cissexism are readily apparent or consciously perceived by GDAs, research relying primarily on individual-level measures may systematically underestimate the full scope and impact of oppression on mental health outcomes. Moreover, this primary focus on individual-level experiences has resulted in a dearth of research examining how structural forms of cissexism affect GDAs' mental health, thereby limiting our understanding of the broader systemic forces contributing to these disparities.⁶

Structural cissexism is multidimensional and mutually informed by institutional laws, policies, social attitudes, and cultural norms that systematically restrict opportunities and resources for gender-diverse individuals,⁹ including both explicitly discriminatory policies (e.g., bans on gender-affirming care) and systemic barriers (e.g., lack of transgender-inclusive health care coverage). In 2024, 701 antitransgender bills were introduced across the country, of which 207 specifically targeted GDAs in educational settings.¹⁰ Alarmingly, an estimated 96 800 GDAs aged 13 to 17 years—nearly one third of the GDA population—live in states that enacted cissexist restrictions affecting their access to health care, sports participation, or school bathroom use in 2023.¹¹ Given these nationwide legislative attacks targeting gender-diverse populations and the substantial number of affected GDAs, understanding how structural cissexism shapes GDAs' mental health and health care experiences is essential for informing meaningful structural-level interventions.

Ecosocial theory¹²—which posits that social inequalities in health arise from the embodiment of complex and cumulative interactions between

societal institutions, communities, and individuals—provides a framework for understanding how structural cissexism contributes to population-level health disparities among GDAs. Structurally cissexist policies and institutions facilitate societal invalidation and marginalization of GDAs, creating chronic stressors that become biologically embodied and manifest as poor mental health outcomes and unmet health care needs. Existing literature with primarily adult samples consistently demonstrates that structural cissexism is associated with greater psychological distress and mental health concerns,^{13–19} but negatively associated with mental health care utilization.^{20,21} Specifically regarding mental health care utilization, gender-diverse adults who reside in states with higher levels of structural cissexism were less likely to seek gender-affirming care services, including psychotherapy or counseling,^{20,21} suggesting that transgender-inclusive and protective laws and policies may facilitate greater access to mental health care services. Moreover, states with higher levels of structural cissexism had restrictive state laws or policies that manifested in health care environments with fewer adolescent-focused mental health providers specializing in transgender-specific care,²² further impeding GDAs' access to and utilization of mental health care.

While significant associations between structural cissexism and both mental health^{13–19} and mental health care utilization^{16,20,21} have been demonstrated, several knowledge gaps remain in this field. First, most studies have focused on gender-diverse adults, with only one known study examining GDAs,¹⁷ particularly concerning given recent antitransgender legislation increasingly targeting transgender youths. Notably, Miller-Jacobs et al. examined

associations between state-level policies and mental and behavioral health among transgender adolescents from 14 states.¹⁷ Their analysis of 4 sexual and gender minority (SGM)-specific policies (e.g., antibullying laws, transgender student guidance) revealed protective associations between specific affirming policies and reduced depression and cigarette use. The current study extends this foundational work by expanding geographic scope beyond the 14-state limitation and developing a composite structural cissexism index that incorporates several laws and policies and social attitudes. Second, the assessment of structural cissexism has primarily relied on laws and policies related to gender-diverse individuals' rights. Whereas the presence of laws and policies provides more objective assessments of structural oppression, the assessment of social attitudes provides a lens into the cultural norms and customs of an environment that both shape and are shaped by such laws and policies.⁹ Thus, to fully capture gender-diverse individuals' experiences of structural cissexism, measures should quantify both antitransgender laws and policies and cissexist attitudes.²³ Third, to our knowledge, no previous studies have examined the association between structural cissexism and unmet mental health care needs in the GDA population.

To address these critical gaps, we investigated the associations between structural cissexism and both depression and anxiety symptoms and unmet mental health care needs among GDAs. We assessed structural cissexism using publicly available data sets: (1) the Movement Advancement Project (MAP) policy tracking database,²⁴ which documents 45 state-level transgender-related laws or policies, and (2) Project Implicit's database,²⁵ which includes measures of explicit cissexist attitudes

among thousands of respondents throughout the United States. Using both data sources and following recent methodological approaches in the field,^{19,22,26} we developed a composite index that captures multiple components of structural cissexism, including antitransgender laws and policies and explicit cissexist attitudes. We hypothesized that GDAs in US states with higher structural cissexism would experience greater depression and anxiety symptoms and report more unmet mental health care needs than those in states with lower structural cissexism.

METHODS

We analyzed a subsample of GDAs ($n = 5658$) from the LGBTQ National Teen Survey of 17 578 SGM adolescents aged 13 to 18 years conducted in 2022. This nonprobability sample was recruited through multiple social media platforms and in-person advertising. Study graphics reached more than 1 million people on Facebook and Instagram, with community partners extending recruitment to Reddit, Discord, Twitch, and TikTok. Informed assent was obtained from all participants. Parental consent was waived, consistent with established practices in previous research involving SGM adolescents.²⁷ More detailed information has been described elsewhere.²⁸

Individual-level data provided information on state of residence, mental health and health care outcomes, and demographic characteristics, which were merged with state-level structural cissexism measures. Of the 17 578 participants, 11 170 (63.5%) identified as gender diverse. Among GDA participants, missing values occurred as follows: state information ($n = 3442$; 30.8%), race and ethnicity ($n = 14$;

0.1%), sex assigned at birth ($n = 47$; 0.4%), depression and anxiety symptoms ($n = 2009$; 18.0%), and mental health care utilization ($n = 494$; 4.4%). The final analytic sample was 5658 participants for depression and anxiety analyses and 5164 participants for health care utilization analyses, representing all 50 states and the District of Columbia (DC).

Analysis of missingness patterns revealed systematic nonresponse among participants. Of the 2009 participants with incomplete 4-item Patient Health Questionnaire for Depression and Anxiety (PHQ-4) data, 1958 (97.5%) were missing all 4 PHQ-4 items. Among these participants, 1773 (90.6%) also had missing values for both mental health care utilization questions. As both the PHQ-4 and utilization items were located toward the end of the survey, this pattern suggests systematic rather than random missingness. The missingness likely reflects survey noncompletion or participant dropout rather than item-specific nonresponse. Given the systematic and extensive nature of the missingness pattern, we employed listwise deletion to avoid potentially biased estimates that could result from imputation models with insufficient information to reliably estimate missing values.

Measures

We measured structural cissexism using a composite index of state-level indicators and linked this measure to participants' individual mental health data using state identifiers.

Structural cissexism. To quantify structural cissexism across US states and the District of Columbia, we developed an index using state-level data from 2 sources: (1) antitransgender laws and

policies from the MAP²⁴ and (2) explicit attitudes toward transgender people from Project Implicit.²⁵

MAP is a nonprofit organization that tracks states' laws and policies specific to sexual orientation and gender identity across the United States.²⁴ As of March 2022, MAP included 45 state-level SGM-related laws and policies across 7 domains²⁴:

1. relationship and parental recognition,
2. nondiscrimination,
3. religious exemptions,
4. youths,
5. health care,
6. criminal justice, and
7. identity documents.

Consistent with previous work,^{19,22} we specifically used the comprehensive gender identity indicators from the MAP. We assigned scores to individual laws and policies in each US state and the District of Columbia as follows: –1 (restrictive), 0 (absent), and 1 (supportive). We summed scores for individual laws and policies across the 7 domains. Complete details on such laws and policies can be accessed through the MAP website,²⁴ though policies may have changed since March 2022.

Project Implicit is a web-based platform offering the Implicit Association Test and explicit measures of attitudes toward transgender people.²⁹ We incorporated indicators of state-level antitransgender explicit attitudes using data from Project Implicit, which have been administered since 2020 (pooled across years 2020–2022). Explicit attitudes were measured from thermometer items in which participants rated how warm or cold they felt toward cisgender and transgender people on a 0 (coldest) to 10 (warmest) scale. State-level aggregate scores were calculated

by averaging individual ratings for cisgender and transgender people within each state. To reflect the comparative nature of regional attitudes scores, explicit attitudes were operationalized as a difference score computed at the state level.^{30,31} Specifically, this difference score was calculated by subtracting the average cisgender rating from the average transgender rating. Of the 629 620 initial responses, 235 383 responses were included in the final analysis after removing those with missing state information ($n = 379\,960$) and missing explicit attitudes data ($n = 14\,277$).

Consistent with previous work,^{19,22,26} we examined the psychometric properties of our state-level structural cissexism index by conducting an exploratory factor analysis on each state's MAP scores (7 domains included individually) and explicit attitudes toward transgender people. We leveraged factor analysis to minimize measurement error and enhance construct validity in structural stigma measurement, while recognizing high correlations among structural cissexism indicators ($r = 0.53\text{--}0.77$).^{19,22,26} We reverse-coded all indicators where necessary to ensure that higher values indicated greater structural cissexism and then standardized. Following these steps, we conducted factor analysis on these indicators. The scree plot with parallel analysis suggested a 1-factor solution, with factor loadings ranging from 0.59 to 0.97 (Table A, available as a supplement to the online version of this article at <https://ajph.org>), explaining 69% of variance in state-level structural cissexism indicators. We computed model-generated, normally distributed factor scores for each state, with state-level structural cissexism being lowest in Oregon (-1.31) and highest in Alabama (1.83 ; Figure 1; Table B, available as a

supplement to the online version of this article at <https://ajph.org>).

Depression and anxiety symptoms.

Symptoms of depression and anxiety were assessed using the PHQ-4,³² a 4-item screening scale in which participants rated the frequency of such symptoms over the past 2 weeks from 0 (not at all) to 3 (nearly every day). PHQ-4 sum scores ranged from 0 to 12, with good internal consistency (Cronbach $\alpha = 0.83$).

Mental health care utilization.

We assessed mental health care utilization by using 2 questions: whether participants had received therapy or counseling services in the past 12 months, and if not, whether they wished they had. Response options for both questions were "Yes" or "No." Based on the combined responses to these 2 questions, we classified participants into 3 categories: (1) received care, (2) unmet mental health care needs (wished for but did not receive care), (3) neither wished for nor received care.

Demographic variables. Participants reported their age, race and ethnicity, sex assigned at birth, gender identity, and sexual orientation; survey questions and response categories are presented in Table C (available as a supplement to the online version of this article at <https://ajph.org>).

Analytic Plan

We conducted all statistical analyses using R version 4.3.1 (R Foundation for Statistical Computing, Vienna, Austria). For the analysis of health care utilization outcomes, we included 5164 GDA participants after excluding those with missing data on utilization questions ($n = 494$). Although participants were

nested within states, we did not use multilevel models because of minimal clustering (intraclass correlation coefficients = 0.002–0.003). Instead, we calculated cluster-robust standard errors using the sandwich package in R^{33,34} for linear regression models examining depression and anxiety symptoms and developed a custom implementation analyzing multinomial regression models for mental health care utilization.³⁵ This approach adjusted standard error estimates to account for potential within-state correlations.

In the adjusted models, we included age, race and ethnicity, sex assigned at birth, gender identity, and sexual orientation as covariates. These demographic variables are related to exposure to structural cissexism and independently impact mental health outcomes, thus meeting confounding criteria. For example, race and ethnicity shape structural cissexism exposure through residential segregation patterns rooted in legacies of White supremacy and intersectional experiences of racism and cissexism.³⁶ Sexual orientation may be associated with structural cissexism exposure through SGM community networks and geographic clustering in areas with varying levels of acceptance and resources.³⁷ There are also well-documented mental health inequities across each demographic category attributable to stigma, prejudice, and discrimination.³⁸ Therefore, they were conceptualized as potential confounders that could create spurious associations between structural cissexism and mental health outcomes if not controlled, consistent with established structural cissexism research.^{13–21} Correlation analyses confirmed that these demographic characteristics show significant associations with mental health and health

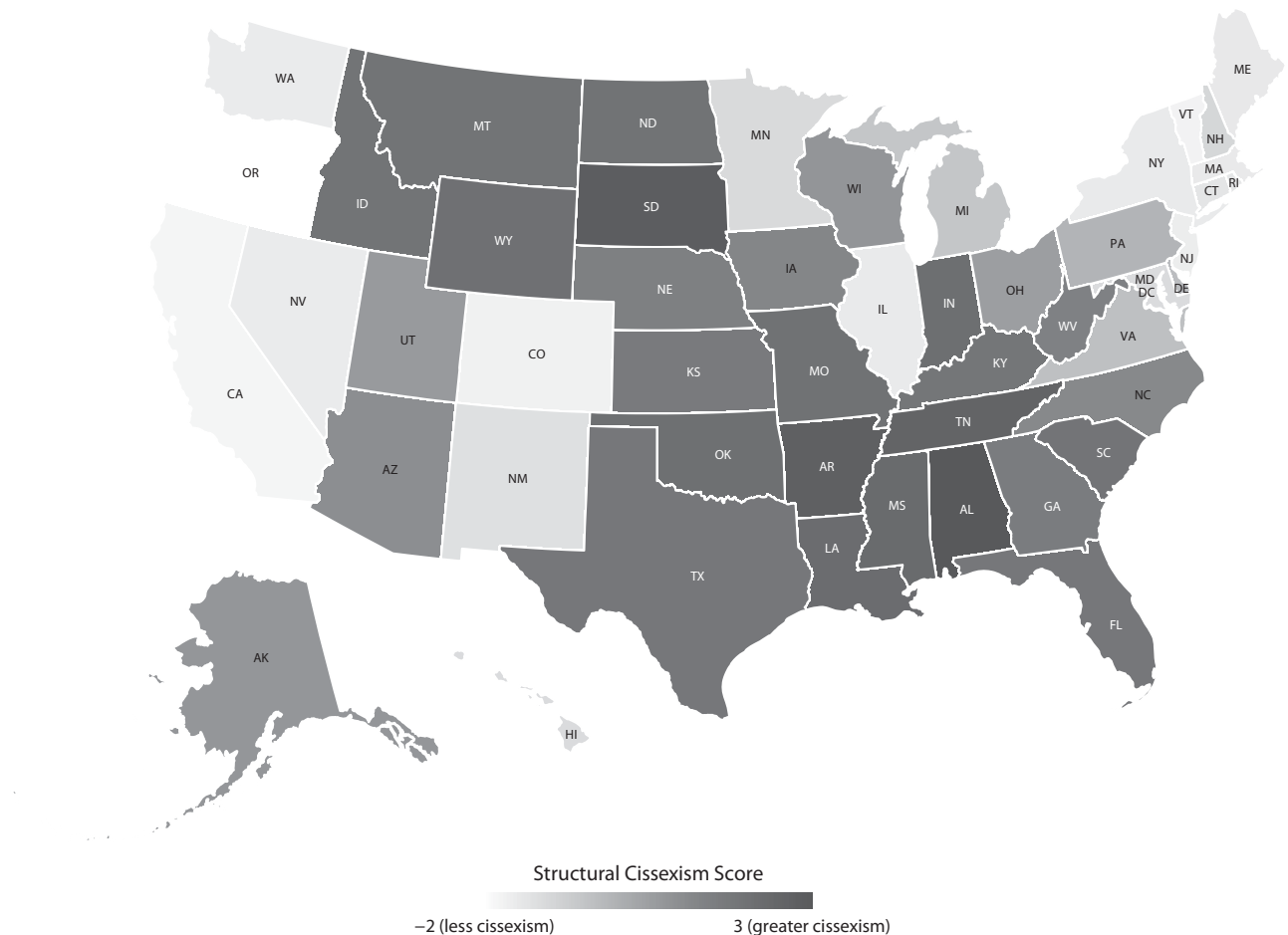


FIGURE 1— Structural Cissexism Factor Scores by State and District of Columbia Using State-Level Data From Movement Advancement Project (2022) and Project Implicit (2020–2022): United States

Note. Each state score is provided in Table B (available as a supplement to the online version of this article at <https://ajph.org>).

care outcomes (except for sexual orientation and its association with depression and anxiety symptoms), supporting their inclusion as confounders in our models. For multinomial regression models examining mental health care utilization, we also included the summed score of the PHQ-4 to adjust for mental health symptoms.

RESULTS

Of the 5658 GDAs included in our analysis, the mean age was 15.8 years ($SD = 1.5$), with the majority (59.8%)

identifying as nonbinary or other gender identity (Table 1). We used the PHQ-4 to assess depression and anxiety symptoms, which had a mean score of 6.9 ($SD = 3.3$; median score = 6.0), indicating moderate symptoms.³² Nearly 35% of the sample reported unmet mental health care needs.

Structural cissexism was significantly associated with depression and anxiety symptoms (adjusted $b = 0.11$; robust $SE = 0.04$; 95% confidence interval $[CI] = 0.02, 0.20$), even after adjusting for individual-level demographic characteristics (Table 2). Specifically, GDAs

who lived in states with higher structural cissexism reported greater levels of depression and anxiety symptoms than those who lived in states with lower structural cissexism. To contextualize these findings, GDAs in states with high versus low structural cissexism have expected PHQ-4 scores of 7.05 and 6.83, respectively, demonstrating a 0.22-point difference that shifts individuals from the 46th to 55th percentile of depression and anxiety symptoms. This difference shows how state-level policies can meaningfully impact mental health outcomes at the population

TABLE 1— Descriptive Statistics for Demographic Characteristics of the Gender-Diverse Adolescents: United States, LGBTQ National Teen Survey, 2022

	Full Sample (n = 5658), No. (%) or Mean $\pm$ SD
Age, y; range = 13–18 y	15.8 $\pm$ 1.5
Race and ethnicity	
Non-Hispanic White	3786 (66.9)
Non-Hispanic Asian or Asian American	197 (3.5)
Non-Hispanic Black/African American	218 (3.9)
Hispanic/Latine	919 (16.2)
Non-Hispanic American Indian/Alaska Native/Pacific Islander	34 (0.6)
Non-Hispanic biracial/multiracial	465 (8.2)
Non-Hispanic other racial and ethnic minority	39 (0.7)
Sex assigned at birth	
Male	1472 (26.0)
Female	4167 (73.7)
Intersex	19 (0.3)
Gender identity	
Nonbinary	2543 (45.0)
Transgender boy	1634 (28.9)
Transgender girl	643 (11.4)
Other gender identity	838 (14.8)
Sexual orientation	
Gay or lesbian	1327 (23.5)
Bisexual	1380 (24.4)
Queer	747 (13.2)
Pansexual	969 (17.1)
Asexual	596 (10.5)
Other	639 (11.3)
Depression and anxiety symptoms (PHQ-4; range = 0–12)	6.9 $\pm$ 3.3
Mental health care utilization ^a	
Received	3047 (59.0)
Unmet mental health care needs (wished for but not received)	1778 (34.4)
Neither wished for nor received	339 (6.6)

Note. PHQ-4 = 4-item Patient Health Questionnaire for Depression and Anxiety.

^aMissing values in mental health care utilization = 494.

level through moving adolescents across clinically relevant thresholds.

Our multinomial regression analyses revealed a significant association between structural cissexism and mental health care utilization (Table 3). Specifically, GDAs who lived in states with higher structural cissexism had a greater likelihood of reporting unmet needs

(adjusted odds ratio [AOR] = 1.10; 95% CI = 1.08, 1.13). We also found a significant association between structural cissexism and the “neither wished for nor received care” category when compared with the “received care” category (AOR = 0.95; 95% CI = 0.93, 0.97), indicating that GDAs in states with greater structural cissexism were less likely to

report neither wishing for nor receiving care. To test the robustness of our composite structural cissexism index and whether each indicator independently contributes to outcomes, we conducted sensitivity analyses (1) performing multiple imputation analysis and (2) examining each MAP policy domain individually and the explicit cissexist attitudes indicator separately. These analyses showed consistent results in general, supporting the validity of our composite index (Tables 2 and 3).

DISCUSSION

Considering the exponential increase in antitransgender laws and policies across US states,³⁹ it is imperative to understand how such structurally cissexist restrictions may impact the health and well-being of GDAs. We developed a composite index of structural cissexism to examine the associations between structural cissexism, mental health, and unmet mental health care needs among GDAs. As hypothesized, our findings demonstrate positive associations between structural cissexism and depression and anxiety symptoms as well as unmet mental health care needs, such that those GDAs in states with higher structural cissexism reported greater depression and anxiety symptoms and unmet needs. These results are consistent with previous research that has theorized the harmful health impacts of antitransgender laws and policies, primarily among gender-diverse adults.^{13–21} Our findings are among the first to examine the association between structural cissexism and its effects on GDAs’ well-being, extending previous work by using a composite index of structural cissexism toward adolescent populations.

TABLE 2— Association Between Structural Cissexism and Depression and Anxiety Symptoms Among Gender-Diverse Adolescents: United States, LGBTQ National Teen Survey, 2022

Continuous Outcome	Adjusted Model, b (SE; 95% CI)
Main analysis	
Composite index: structural cissexism	0.11 (0.04; 0.02, 0.20)
Sensitivity analyses	
Analysis 1: multiple imputation analysis (n = 7667 ^a)	
Model 1. structural cissexism	0.09 (0.05; 0.00, 0.18)
Analysis 2: gender identity policy domain individually (Movement Advancement Project)	
Model 2-1. relationship and parental recognition	0.06 (0.05; -0.04, 0.15)
Model 2-2. nondiscrimination	0.04 (0.04; -0.04, 0.13)
Model 2-3. religious exemptions	0.06 (0.04; -0.02, 0.14)
Model 2-4. youths	0.11 (0.04; 0.03, 0.20)
Model 2-5. health care	0.13 (0.04; 0.04, 0.21)
Model 2-6. criminal justice	0.12 (0.04; 0.04, 0.21)
Model 2-7. identity documents	0.10 (0.05; 0.01, 0.19)
Analysis 3: attitudinal indicator separately (Project Implicit)	
Model 3. explicit cissexist attitudes	0.10 (0.04; 0.02, 0.18)

Note. CI = confidence interval. Each row under “Sensitivity analyses” represents a separate model. Analysis 1 used multiple imputation (1 model), analysis 2 examined each policy domain from the Movement Advancement Project individually (7 separate models), and analysis 3 examined the attitudinal indicator from Project Implicit as a standalone predictor (1 model). Standard errors are cluster-robust, clustered by state, for linear regression models. Covariates for adjusted models included age, race and ethnicity, sex assigned at birth, gender identity, and sexual orientation. For categorical covariates, reference groups were “non-Hispanic/Latine White” for race and ethnicity, “male” for sex assigned at birth, “nonbinary” for gender identity, and “gay or lesbian” for sexual orientation. Reference categories were selected based on sample size (i.e., non-Hispanic/Latine White for race and ethnicity, nonbinary for gender identity) and theoretical considerations (i.e., male for sex assigned at birth, gay or lesbian for sexual orientation). Additional analyses including caregiver’s education level as a proxy for socioeconomic status showed similar patterns of results, although this variable was excluded from main analyses because of substantial missing data.

^aMultiple imputation analysis was performed for outcome variables only (depression/anxiety symptoms and unmet mental health care needs) using structural cissexism, state of residence, age, race and ethnicity, sex assigned at birth, gender identity, and sexual orientation as auxiliary variables. Twenty imputed data sets were generated using the MICE package in R version 4.3.1 with 10 iterations, and results were pooled using Rubin’s rules. Analysis included 7667 gender-diverse adolescents from 17 578 total participants, excluding those not identifying as gender diverse (n = 6408) and those with missing state (n = 3442), race and ethnicity (n = 14), or sex assigned at birth (n = 47) data.

The significant and positive associations between structural cissexism and depression and anxiety symptoms can be explained through multiple and interconnected pathways.^{8,12} According to ecosocial theory¹² and the oppression-based stress framework,⁶ cissexist laws and policies as well as hostile and unwelcoming environments

for GDAs expose them to chronic stressors of cissexist discrimination. Previous work documents the associations between interpersonal cissexism (e.g., bullying, discrimination) and poorer mental health outcomes for GDAs,⁴⁰ as well as the potential for interpersonal cissexism to foster internalized cissexist attitudes.⁷ This evidence suggests that

structural cissexism operates across multiple socioecological levels, creating cascading effects that compound mental health risks for GDAs. In addition, these structural exposures become biologically embodied across critical developmental periods, manifesting as adverse mental health outcomes with potential long-term effects on mental health trajectories throughout the lifespan.

Our findings also indicate that GDAs in states with higher structural cissexism were more likely to report unmet mental health care needs, aligning with ecosocial theory¹² in suggesting how structural cissexism creates cascading barriers to health care access. Many cissexist bills have been deliberately introduced and formalized into laws across the United States that specifically limit access to transgender-affirming care, particularly for youths. Relatedly, previous research has demonstrated that states with more cissexist laws and policies have fewer transgender-specific adolescent mental health providers available.²² Such provider shortage has been identified as a significant predictor of unmet mental health care needs among sexual-minority adolescents.⁴¹ Beyond direct policy restrictions, overall cissexist environments may undermine familial support and acceptance, making it unsafe for GDAs to seek mental health care services because of risks of being outed, denied service, or harassed. This demonstrates how structural cissexism becomes embodied through both institutional and interpersonal barriers, ultimately limiting GDAs’ ability to access supportive care.

Collectively, our findings underscore the importance of further research that examines structural cissexism and its impact on GDAs’ health and health care

TABLE 3— Association Between Structural Cissexism and Mental Health Care Utilization Among Gender-Diverse Adolescents: United States, LGBTQ National Teen Survey, 2022

Categorical Outcome	Adjusted Model, OR (95% CI)
Unmet mental health care needs (vs received)	
Main analysis, composite index: structural cissexism	1.10 (1.08, 1.13)
Sensitivity analysis 1: multiple imputation analysis (n = 7667 ^a)	
Model 1. structural cissexism	1.06 (1.03, 1.10)
Sensitivity analysis 2: gender identity policy domain individually (Movement Advancement Project)	
Model 2-1. relationship and parental recognition	1.09 (1.07, 1.11)
Model 2-2. nondiscrimination	1.09 (1.06, 1.11)
Model 2-3. religious exemptions	1.09 (1.07, 1.12)
Model 2-4. youths	1.10 (1.08, 1.13)
Model 2-5. health care	1.10 (1.08, 1.12)
Model 2-6. criminal justice	1.07 (1.05, 1.09)
Model 2-7. identity documents	1.08 (1.06, 1.11)
Sensitivity analysis 3: attitudinal indicator separately (Project Implicit)	
Model 3. explicit cissexist attitudes	1.08 (1.06, 1.10)
Neither wished for nor received (vs received)	
Main analysis, composite index: structural cissexism	0.95 (0.93, 0.97)
Sensitivity analysis 1: multiple imputation analysis (n = 7667 ^a)	
Model 1. structural cissexism	1.02 (0.96, 1.08)
Sensitivity analysis 2: gender identity policy domain individually (Movement Advancement Project)	
Model 2-1. relationship and parental recognition	1.01 (0.99, 1.04)
Model 2-2. nondiscrimination	0.95 (0.93, 0.97)
Model 2-3. religious exemptions	0.98 (0.96, 1.00)
Model 2-4. youths	0.97 (0.95, 0.99)
Model 2-5. health care	0.98 (0.96, 1.00)
Model 2-6. criminal justice	0.94 (0.92, 0.96)
Model 2-7. identity documents	0.98 (0.96, 1.00)
Sensitivity analysis 3: attitudinal indicator separately (Project Implicit)	
Model 3. explicit cissexist attitudes	0.90 (0.88, 0.92)

Note. CI = confidence interval; OR = odds ratio. Each model under sensitivity analysis 1, 2, and 3 represents a separate model. Sensitivity analysis 1 used multiple imputation (1 model), analysis 2 examined each policy domain from the Movement Advancement Project individually (7 separate models), and analysis 3 examined the attitudinal indicator from Project Implicit as a standalone predictor (1 model). Standard errors are cluster-robust, clustered by state, for multinomial logistic regression models. Covariates for adjusted models included age, race and ethnicity, sex assigned at birth, gender identity, sexual orientation, and the summed score of the 4-item Patient Health Questionnaire for Depression and Anxiety. For categorical covariates, reference groups were “non-Hispanic/Latine White” for race and ethnicity, “male” for sex assigned at birth, “nonbinary” for gender identity, and “gay or lesbian” for sexual orientation. Reference categories were selected based on sample size (i.e., non-Hispanic/Latine White for race and ethnicity, nonbinary for gender identity) and theoretical considerations (i.e., male for sex assigned at birth, gay or lesbian for sexual orientation). Additional analyses including caregiver’s education level as a proxy for socioeconomic status showed similar patterns of results, although this variable was excluded from main analyses because of substantial missing data.

^aMultiple imputation analysis was performed for outcome variables only (depression/anxiety symptoms and unmet mental health care needs) using structural cissexism, state of residence, age, race and ethnicity, sex assigned at birth, gender identity, and sexual orientation as auxiliary variables. Twenty imputed data sets were generated using the MICE package in R version 4.3.1 with 10 iterations, and results were pooled using Rubin’s rules. Analysis included 7667 gender-diverse adolescents from 17 578 total participants, excluding those not identifying as gender diverse (n = 6408) and those with missing state (n = 3442), race and ethnicity (n = 14), or sex assigned at birth (n = 47) data.

utilization. To the best of our knowledge, only 1 other study has examined the health impacts tied to structural cissexism, using antitransgender laws and

policies individually, among GDAs.¹⁷ From a life course perspective, adolescence is a critical developmental period marked by rapid changes in social,

physical, and cognitive development, making it an optimal time to examine how ontogenetic and sociohistorical time intersect to shape mental health

symptomatology.^{42,43} Exposure to structural cissexism may accumulate over time alongside exposures to other oppression-based stressors (e.g., bias-based harassment). This accumulation has the potential to deplete GDAs' preemptive coping resources and contribute to deleterious long-term effects on mental health during adulthood.⁴⁴ Critically, laws and policies, social attitudes, and cultural norms that contribute to structural cissexism are dynamic,²³ requiring longitudinal designs to capture how these changes in social, political, and legal environments over time impact GDAs' long-term health.

Limitations

Several limitations should be considered when interpreting our results. First, we used a nonprobability subsample of GDAs from a national survey, which limits the generalizability of our findings and potentially biases results toward those able to access the survey, those comfortable disclosing their gender identity, those with increased mental health symptomatology, and those with issues in accessing health care. Also, the systematic pattern of missingness, particularly the co-occurrence of missing PHQ-4 and health care utilization data, may limit generalizability given the observed differences in socio-demographic characteristics between included and excluded participants (Table D, available as a supplement to the online version of this article at <https://ajph.org>).

Second, causal inference is limited by our cross-sectional study design. In addition, while migration patterns among gender-diverse populations may introduce selection bias, this concern is likely reduced in our adolescent sample given their limited autonomy to

relocate compared with adults. Third, while combining multiple indicators strengthened our measurement of structural cissexism, the data sources had different time frames (MAP from 2022 and Project Implicit pooled across 2020–2022), which may not accurately capture potential changes in attitudes over time. Fourth, our study has measurement limitations including the brief PHQ-4 assessment and the unmet needs measure (limited to therapy and counseling services and not capturing other dimensions of utilization barriers).

Despite these limitations, our study has notable strengths. We generated a composite index of structural cissexism, which included both antitransgender laws and policies and explicit cissexist attitudes, using publicly available data sets. This approach offers a deeper understanding of how structural cissexism—encompassing institutional laws, policies, and attitudes—impacts GDAs' mental health and health care utilization. In addition, our large, national, and geographically diverse sample allows broader conclusions about the impacts of structural cissexism on the lives of GDAs.

Conclusions and Policy Implications

Our novel findings underscore significant associations between state-level structural cissexism and both mental health symptoms and unmet mental health care needs among GDAs. As antitransgender legislation proliferates across the United States, these results highlight the urgent need for protective laws and policies and interventions to support GDAs' mental health and ensure equitable access to mental health care services. The downstream impacts

of structural cissexism could be mitigated through the implementation of protective and affirming policies for GDAs. Multidimensional and multilevel approaches across social environments, such as antitransgender bullying policies in schools and initiatives to increase transgender-affirming clinician availability, are essential to counter structural cissexism and its embodied impacts on GDAs' mental health and health care accessibility. At the practice level, health care providers should recognize the structural challenges GDAs face and implement inclusive strategies (e.g., creating transgender-affirming clinical environments) to support their mental health and health care needs. Future research should prioritize multidimensional approaches to developing and validating measures of structural cissexism.²³ In addition, researchers should examine how structural cissexism impacts GDAs' mental health and health care utilization through an intersectional lens, exploring how it interacts with other forms of structural oppression and demographic characteristics. **AJPH**

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H. Lee led the study's conceptualization and design, conducted formal analysis, interpreted the data, and took the lead in drafting and revising the article. T. R. Sullivan, J. R. Abramson, and P. S. McCauley contributed to data interpretation and participated in drafting and revising the article. R. J. Watson oversaw data collection and investigation and contributed to the article revision. E. H. Mereish played a key role in the study's conceptualization and design, contributed to data interpretation, and critically revised the article. All authors have reviewed and approved the final version of this article.

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CONFLICTS OF INTEREST

The authors declare no conflicts of interest.

HUMAN PARTICIPANT PROTECTION

All procedures were approved by the University of Connecticut's institutional review board.

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