Criminal-Justice and School Sanctions Against Nonheterosexual Youth: A National Longitudinal Study

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WHAT'S KNOWN ON THIS SUBJECT: Nonheterosexual youth are vulnerable to a variety of health risks. In addition, anecdotal reports have suggested that they may be overrepresented among adolescents who have received a variety of institutional sanctions.

WHAT THIS STUDY ADDS: This is the first study to use a nationally representative, population-based sample to document that nonheterosexual youth, particularly girls, have greater odds than their peers of experiencing school and criminal-justice sanctions.

abstract

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OBJECTIVE: Nonheterosexual adolescents are vulnerable to health risks including addiction, bullying, and familial abuse. We examined whether they also suffer disproportionate school and criminal-justice sanctions.

METHODS: The National Longitudinal Study of Adolescent Health followed a nationally representative sample of adolescents who were in grades 7 through 12 in 1994–1995. Data from the 1994–1995 survey and the 2001–2002 follow-up were analyzed. Three measures were used to assess nonheterosexuality: same-sex attraction, same-sex romantic relationships, and lesbian, gay, or bisexual (LGB) self-identification. Six outcomes were assessed: school expulsion; police stops; juvenile arrest; juvenile conviction; adult arrest; and adult conviction. Multivariate analyses controlled for adolescents' sociodemographics and behaviors, including illegal conduct.

RESULTS: Nonheterosexuality consistently predicted a higher risk for sanctions. For example, in multivariate analyses, nonheterosexual adolescents had greater odds of being stopped by the police (odds ratio: 1.38 [$P < .0001$] for same-sex attraction and 1.53 [$P < .0001$] for LGB self-identification). Similar trends were observed for school expulsion, juvenile arrest and conviction, and adult conviction. Nonheterosexual girls were at particularly high risk.

CONCLUSIONS: Nonheterosexual youth suffer disproportionate educational and criminal-justice punishments that are not explained by greater engagement in illegal or transgressive behaviors. Understanding and addressing these disparities might reduce school expulsions, arrests, and incarceration and their dire social and health consequences. *Pediatrics* 2011;127:49–57

Nonheterosexual adolescents often face discrimination. At home, some nonheterosexual adolescents experience verbal and physical abuse; 26% of nonheterosexual children leave their families because of conflicts over sexual orientation, and many become homeless.[1,2] Thirty percent suffer family violence after "coming out."[1] Harassment by peers is also common.[3–10]

It is not surprising that nonheterosexual adolescents experience high rates of depression and suicide.[3,9,11–13] In addition, they are more likely than other adolescents to engage in high-risk sexual and substance-use behaviors, to carry weapons (often as a precaution against assault), and to engage in petty survival crimes because of homelessness.[2,3,5,11,14–19] These activities place nonheterosexual adolescents at risk for school and criminal-justice sanctions. Nonheterosexual youth also are more likely than their peers to be referred to courts by their families through PINS (Person in Need of Supervision) or CHINS (Child in Need of Supervision) petitions.[8] In addition, consensual same-sex sexual acts more often trigger punishments than equivalent opposite-sex behaviors.[8,19,20] Indeed, until the Supreme Court's 2003 ruling in *Lawrence et al v Texas,*[20] states could legally prosecute same-sex couples for consensual sexual acts. Anecdotal reports[5,21] have suggested that nonheterosexual girls may be particularly overrepresented in the juvenile-justice system. Scholars have suggested that the overrepresentation of nonheterosexual girls may relate to the historical role of the juvenile-justice system in policing girls' sexuality,[22] as well as a heightened juvenile-justice system and media opprobrium directed at girls with "aggressive" or "masculine" gender presentations.[23]

To our knowledge, no previous studies have examined whether nonheterosexual youth are overrepresented among those who have received school and criminal-justice sanctions nationally. Using data from the National Longitudinal Study of Adolescent Health (Add Health), we examined this question after controlling for transgressive and illegal behaviors.

METHODS

Study Design and Sample

Add Health, conducted by the Carolina Population Center, consists of repeated surveys of a nationally representative sample of youth who were in grades 7 through 12 during the 1994–1995 school year. The sampling frame was school based; all students who were listed on selected school rosters were eligible, and there was oversampling of some groups. In total, 20 747 adolescents participated in the wave 1 in-home interviews. Special techniques, including the use of individual headsets and direct entry of answers into laptop computers, were developed to elicit sensitive information. In 1996, Add Health wave 2 resurveyed 14 738 wave 1 participants.

Wave 3 of Add Health, conducted in 2001–2002 when the respondents were aged 18 to 26 years, included 15 170 wave 1 respondents. In addition to questions originally asked during wave 1, wave 3 respondents were asked about their criminal-justice contacts. Wave 3 excluded subjects who were outside the United States, but efforts were made to recontact incarcerated subjects. Our analysis included 15 170 people who participated in both waves 1 and 3.[24] Sensitivity analyses were performed only using data on adolescents who participated in waves 1 through 3. Yale University's institutional review board approved this research.

Measures: Predictor Variables

Researchers commonly recognize attraction, behavior, and identity as 3 components of sexual orientation and have noted the importance of examining all 3 of them.[25,26] Attraction consists of desires and fantasies; behavior consists of sexual activities that involve physical contact and sexual arousal; and identity involves the labels and meanings that individuals attach to their own sexualities.[27]

The Add Health surveys included questions that assess all 3 components. In all waves participants were asked, "Have you ever had a romantic attraction to a male?" and "Have you ever had a romantic attraction to a female?" Respondents who reported an attraction to a person of their own gender in either wave were considered to have experienced same-sex attraction. In addition, participants in all 3 waves were asked to describe their romantic and sexual relationships, including their partners' genders. Respondents who listed a same-sex relationship in either study wave were considered to have had a same-sex relationship. In wave 3 only, respondents were asked, "Choose the description that best fits how you think about yourself" (response options: 100% heterosexual [straight], mostly heterosexual [straight] but somewhat attracted to people of your own gender, bisexual—that is, attracted to men and women equally, mostly homosexual [gay] but somewhat attracted to people of the opposite gender, 100% homosexual [gay], and not sexually attracted to either males or females [the few adolescents who selected this last option were excluded]). For the main analyses, sample-size considerations dictated that self-identification be specified dichotomously as 100% heterosexual versus other than 100% heterosexual. In this article we refer to all youth in the latter category as lesbian,

gay, or bisexual (LGB). The broader term "nonheterosexual" is used to indicate any youth who self-identified as LGB or who affirmed a same-sex attraction or relationship.

The variety of answers given to these questions illustrates the complexity and fluidity of adolescents' sexual orientations.[28] Of Add Health respondents who indicated same-sex attraction in wave 1, only 27% reported such attraction in wave 3. In wave 1, only 9% of respondents who indicated a same-sex attraction reported a same-sex relationship. In addition, 28% of respondents who experienced a same-sex relationship self-identified as entirely heterosexual. For this analysis, each component (attraction, relationship, and self-identification) was modeled separately. In addition, supplemental bivariate models were created to examine adolescents who might be "questioning," as defined by self-reporting same-sex attraction while self-identifying as 100% heterosexual. With other supplemental bivariate models we examined each self-identification category separately.

Transgressive Behavior and Other Control Variables

Because nonheterosexual adolescents engage in high rates of some transgressive behaviors, and each instance of such behaviors represents an exposure to the risk of sanction, control for these behaviors was necessary to elucidate the impact of sexual orientation, per se. Add Health asked questions about behaviors in the following form: "In the past 12 months, how often did you X?" Responses were coded as 0 for never, 1 for 1 to 2 times, 2 for 3 to 4 times, and 3 for 5 or more times.

For the current analysis, 3 indices were created to summarize transgressive behaviors. One index, "minor transgressions," summed responses to questions regarding low-risk misbe-

haviors such as running away, lying to parents about whereabouts, shoplifting, getting drunk, graffiti-writing, vandalism, and public rowdiness. The resulting index ranged from 0 to 21. A second index, "moderate transgressions," was based on responses to 5 questions regarding stealing objects worth less or more than $50, selling drugs, driving a car without the owner's permission, and burglary. The resulting index ranged from 0 to 15. A final index, "violent behavior," summed responses regarding physical fighting, injuring someone, using or threatening someone with a weapon, and participating in a group fight. The resulting index ranged from 0 to 12. In total, 9 transgressive-behavior indices were created, 3 for each study wave. The main models included only wave 1 indices to minimize endogeneity (ie, the tendency of sanctions to worsen an adolescent's behavior); sensitivity analyses included all 9 indices in the models.

In addition to behavior, models controlled for age, gender, self-identified race/ethnicity (white, black, Latino, and other) and family socioeconomic status, as modeled by a 10-level composite index based on income, occupation, and parental education.[29]

Outcomes: Institutional Sanctions

Add Health included detailed questions about school expulsions and criminal-justice contacts, which were summarized into 6 outcomes:

1. ever expelled from school;
2. ever stopped by police;
3. ever arrested before the age of 18;
4. ever convicted (or pled guilty) in juvenile court;
5. ever arrested after turning 18; and
6. ever convicted (or pled guilty) in adult court.

Although Add Health attempted to locate wave 1 participants who were incarcerated during wave 3, it seems

likely (on the basis of the low reported incarceration rate) that incarcerated youth were undersampled.[30] Table 1 summarizes all variables modeled.

Statistical Analysis

Stata/SE 10 for Windows, was used for all analyses.[31] Bivariate relationships between the 3 measures of nonheterosexuality (attraction, relationship, and LGB self-identification) and the 6 institutional sanctions were examined by using χ^2 tests.

Eighteen sets of logistic regression models were constructed to examine the relationships between each of the 3 measures of nonheterosexuality and each of the 6 sanctions while controlling for sociodemographic factors and misbehaviors. Each set of models was constructed first for the entire sample and then according to gender. Separate models were not constructed for race or socioeconomic status subgroups because of sample size. All analyses were corrected for sampling probabilities and clustering. Because of multiple testing, findings with P values between .05 and .001 are described as showing a trend and should be interpreted cautiously; only findings with a P value of $<.001$ were deemed statistically significant. Results for cells that contained fewer than 10 respondents are not reported.

RESULTS

Of 15 170 respondents who provided data for both the wave 1 and 3 surveys, 13.4% of male and 17.1% of female respondents reported same-sex attraction, 4.8% of male and 6.2% of female respondents reported same-sex relationships, and 5.6% of male and 14.5% of female respondents self-identified as LGB (ie, other than 100% heterosexual). Male subjects were more likely to respond that they were either 100% homosexual or 100% heterosexual,

TABLE 1 Descriptive Statistics for Analysis Variables

Outcome Variable (Sanction)	Wave Measured	n	Mean ± SD or % (SE)[a]
Ever expelled from school	3	15 155	7.3 (0.21)
Ever stopped or detained by the police	3	15 011	19.4 (0.32)
Ever arrested before the age of 18	3	15 145	4.4 (0.17)
Ever convicted (or pled guilty) in juvenile court	3	15 154	2.0 (0.11)
Ever arrested after the age of 18	3	15 159	2.1 (0.12)
Ever convicted (or pled guilty) in adult court	3	15 152	4.8 (0.17)
Independent variables (indicators of nonheterosexuality)			
Reported same-sex attraction	1–3	15 170	15.4 (0.29)
Reported same-sex relationship	1–3	13 877	5.9 (0.20)
Self-identified as LGB (anything other than 100% heterosexual)	3	15 057	9.9 (0.25)
Control variables			
Gender (female)	1	15 170	52.8 (0.40)
Age at wave 3, y	3	15 170	21.96 ± 1.774
Black	1	15 159	21.5 (0.33)
Latino/Latina	1	15 159	16.1 (0.30)
Asian American	1	15 159	7.0 (0.21)
Other race (other than white)	1	15 170	1.9 (0.11)
Family SES (10-level ordinal variable)	1	15 170	5.916 ± 2.528
Minor transgression (22-level ordinal variable)	1	13 587	2.953 ± 3.166
Moderate transgression (16-level ordinal variable)	1	15 028	0.757 ± 1.698
Violent behavior (13-level ordinal variable)	1	15 037	0.996 ± 1.740

[a] Mean ± SD and % (SE) are for wave 3 respondents.

whereas female subjects more often self-identified in middle categories.

Transgressive behavior was common among all respondents; 76% reported minor transgressions, 30% reported moderate transgressions, and 41% reported violent behavior. Nonheterosexual adolescents engaged in more minor and moderate transgressions but not violence. Adolescents who were attracted to the same sex averaged 3.60 on the minor-transgression scale (vs 2.84 for other adolescents; $P < .0001$), 1.03 on the moderate-transgression scale (vs 0.71 for other adolescents; $P < .0001$), and 1.08 on the violence scale (vs 0.98 for other adolescents; $P = .11$). Respondents who were involved in same-sex relationships tended to report more minor transgressions (scaled score: 3.72 vs 3.14 for other adolescents; $P = .004$) but not more moderate transgressions (1.03 vs 0.83; $P = .07$) or violent behavior (1.19 vs 1.10; $P = .06$). Respondents who self-identified as LGB averaged higher on the minor-

transgression scale (3.71 vs 2.84 for their peers; $P < .0001$) and on the moderate-transgression scale (1.00 vs 0.70; $P < .0001$) but showed a trend toward less violence (0.85 vs 1.00; $P = .02$). Supplemental models of misbehaviors according to detailed self-identification category appear in Appendix 1. As seen in previous studies,[32] male adolescents exhibited more transgressive behaviors than female adolescents (details available from the authors).

Bivariate Results

Table 2 presents bivariate relationships between the 3 nonheterosexuality indicators and the 6 sanctions. Youth who indicated same-sex attraction or relationships showed a trend toward greater sanctions in 12 of 36 comparisons. In contrast, sanction rates among self-identified LGB youth differed according to gender. Only self-identified LGB female subjects consistently experienced significantly more sanctions, and LGB male subjects

showed a trend toward lower rates of school expulsion.

Using supplemental bivariate analyses we explored alternative specifications of the self-identification variable. First, each detailed self-identification category was analyzed and gave varying results for different sanctions (Appendix 2). Then, the definition of LGB was iteratively expanded from 100% homosexual by adding each of the 3 middle categories between 100% homosexual and 100% heterosexual (data not shown). The trend of these iterative analyses was consistent: LGB identity predicted greater sanctions relative to 100% heterosexual in all 4 of the valid models ($P < .05$). Finally, to explore questioning, data from adolescents who reported a same-sex attraction but self-identified as 100% heterosexual were analyzed (Appendix 3); these youth seemed to be at elevated risk of all sanctions except adult arrest. Because of the sample size, neither multivariate nor gender-stratified models were possible for alternate specifications of the self-identification variable.

Multivariate Results

The association between nonheterosexuality and elevated risk of sanctions persisted in the multivariate models (Table 3). In all 18 primary models, the odds ratio (OR) for each indicator of nonheterosexuality (attraction, relationship, and self-identification) exceeded 1.0, although many of these ORs were nonsignificant.

Both same-sex attraction and LGB self-identification were significantly associated with police stops, whereas same-sex relationship showed a similar trend. In addition, youth who experienced same-sex attraction showed a trend toward more school expulsion and adult convictions (OR: ~1.4).

TABLE 2 Nonheterosexuality and Institutional Sanctions: Bivariate Analysis

	Same-Sex Attraction		Same-Sex Relationship		Nonheterosexual Self-identification	
	Experienced Same-Sex Attraction ($N = 2336$), % (P)[a]	Never Experienced Same-Sex Attraction ($N = 12\,863$), %	Reported Same-Sex Relationship ($N = 820$), % (P)[a]	Did Not Report Same-Sex Relationship ($N = 13\,057$), %	Identified as LGB (Other Than 100% Heterosexual) ($N = 1491$), % (P)[a]	Identified as 100% Heterosexual ($N = 13\,490$), %
Expulsion from school	9.7 (.005)[b]	7.2[b]	9.6 (.25)	7.9	5.2 (.01)[b]	7.6[b]
Female	5.8 (.009)[b]	3.5[b]	4.6 (.66)	4.1	4.7 (.24)	3.6
Male	14.7 (.01)[b]	10.5[b]	15.9 (.12)	11.5	6.7 (.04)[b]	11.2[b]
Stopped by police	24.7 (<.0001)[b]	19.8[b]	26.2 (.018)[b]	21.1[b]	23.5 (.06)	20.5
Female	16.2 (.0001)[b]	9.6[b]	14.1 (.15)	11.0	19.5 (<.0001)[b]	9.5[b]
Male	35.9 (.003)[b]	29.4[b]	41.6 (.004)[b]	30.8[b]	33.5 (.33)	30.2
Arrested before the age of 18	6.3 (.09)	4.9	7.0 (.12)	5.3	5.2 (.94)	5.2
Female	3.2 (.003)[b]	1.3[b]	3.1 (.08)	1.6	4.1 (<.0001)[b]	1.2[b]
Male	10.3 (.20)	8.3	11.9 (.16)	8.8	8.0 (.78)	8.7
Juvenile conviction	2.9 (.25)	2.2	3.2 (.37)	2.5	2.4 (.85)	2.3
Female	0.9 (.08)	0.4	1.0 (.12)	0.5	1.3 (.0004)[b]	0.4[b]
Male	5.4 (.17)	3.9	5.9 (.38)	4.4	5.3 (.46)	4.1
Arrested after the age of 18	3.0 (.51)	2.6	2.9 (.91)	2.8	2.1 (.29)	2.8
Female	1.1 (.015)[b]	0.3[b]	0.2 (.46)	0.5	1.5 (.0001)[b]	0.3[b]
Male	5.4 (.58)	4.7	6.1 (.52)	4.9	3.5 (.38)	4.9
Adult conviction	6.7 (.032)[b]	5.2[b]	7.3 (.20)	5.7	5.3 (.84)	5.5
Female	3.4 (<.0001)[b]	1.3[b]	2.5 (.40)	1.8	4.3 (<.0001)[b]	1.2[b]
Male	11.0 (.10)	8.8	13.3 (.13)	9.5	8.1 (.56)	9.2

[a] Numbers in parentheses represent the P value compared with heterosexual youth, defined by the absence of the given indicator of nonheterosexual status.
[b] $P \le .05$.

TABLE 3 Multivariate ORs for Institutional Sanctions Associated With Nonheterosexual Status

	Same-Sex Attraction, OR (P)		Same-Sex Relationship, OR (P)		LGB Self-identification, OR (P)	
	OR (P)	n	OR (P)	n	OR (P)	n
Expulsion from school	1.41 (.02)[a]	12 801[a]	1.34 (.18)	11 739	0.96 (.81)	12 635
Female	1.59 (.04)[a]	6830[a]	1.20 (.53)	6274	1.18 (.28)	6721
Male	1.29 (.16)	5971	1.40 (.22)	5465	0.67 (.21)	5914
Stopped by police	1.38 (<.0001)[a]	12 689[a]	1.33 (.03)[a]	11 638[a]	1.53 (<.0001)[a]	12 538[a]
Female	1.39 (.02)[a]	6797[a]	1.07 (.76)	6248	1.78 (<.0001)[a]	6695[a]
Male	1.33 (.007)[a]	5892[a]	1.51 (.02)[a]	5390[a]	1.22 (.20)	5843
Arrested before the age of 18	1.36 (.10)	12 793	1.36 (.17)	11 730	1.60 (.02)[a]	12 625[a]
Female	1.64 (.20)	6831	1.48 (.35)	6275	2.48 (.003)[a]	6721[a]
Male	1.23 (.34)	5962	1.31 (.32)	5455	1.10 (.77)	5904
Juvenile conviction	1.41 (.20)	12 800	1.31 (.40)	11 737	1.90 (.02)[a]	12 632[a]
Female	1.72 (.36)	6725	1.74 (.32)	6174	3.05 (.02)[a]	6616[a]
Male	1.36 (.27)	5966	1.24 (.57)	5460	1.65 (.20)	5908
Arrested after the age of 18	1.25 (.38)	12 805	1.10 (.79)	11 741	1.44 (.20)	12 637
Female	2.49 (.16)	6726	0.43 (.42)	6175	4.34 (.007)[a]	6617[a]
Male	1.08 (.79)	5970	1.18 (.68)	5463	0.81 (.64)	5912
Adult conviction	1.42 (.01)[a]	12 796[a]	1.43 (.10)	11 734	1.41 (.03)[a]	12 629[a]
Female	1.80 (.03)[a]	6833[a]	1.12 (.81)	6277	2.26 (.003)[a]	6723[a]
Male	1.29 (.12)	5963	1.50 (.12)	5457	0.96 (.86)	5906

Data were controlled for age, race, behavior, and socioeconomic status.
[a] $P \le .05$.

Self-identification as LGB showed a trend toward higher odds of all sanctions except school expulsion and adult arrest. This result was surprising, because of the 3 nonheterosexuality indicators, LGB self-identification showed the weakest bivariate relationship with sanctions. The stronger multivariate association may have emerged because of control for violent behavior.

As in the bivariate models, there were some gender differences. Nonheterosexuality showed a trend toward higher odds of sanctions in 8 of 18 stratified models for female subjects but in only 2 of 18 for male subjects. The association between same-sex attraction and sanctions seemed stronger for female subjects (ORs often

approached 2.0). The association between same-sex relationships and sanctions did not vary according to gender. Self-identification as LGB showed the same gendered association with sanctions as those in the bivariate models. Female subjects, but not male subjects, who self-identified as LGB had very high odds of experiencing most sanctions.

DISCUSSION

These findings suggest that nonheterosexual adolescents, particularly girls, suffer punishments by school and criminal-justice authorities that are disproportionate to their rates of transgressive behavior. Although the results of some small surveys and ethnographic studies have suggested an overrepresentation of nonheterosexual adolescents among those who received various sanctions,[1,5,8,13,19,21] ours is the first documentation of this phenomenon in a nationally representative, population-based sample.

Overall, nonheterosexual adolescents had between 1.25 and 3 times greater odds than their heterosexual peers of experiencing sanction, depending on the indicator of nonheterosexuality and the sanction examined. This elevated risk was present for boys and girls who indicated same-sex attraction and same-sex relationships and for girls who self-identified as LGB, even after controlling for nonheterosexual youths' greater engagement in minor and moderate transgressive behaviors (nonheterosexual youth do not engage in more violent behaviors than their peers).

As in other studies,[33] self-identification patterns differed according to gender; more male subjects identified as 100% heterosexual or 100% homosexual, whereas more female subjects selected middle categories. The response patterns of female study participants were concordant with Diamond's[34,35] findings that many young women's sexualities are fluid and not amenable to rigid classification. The current analysis revealed additional gender differences in sanction disparities; nonheterosexual girls were at particularly high risk. In addition, it seems that youth who question their sexuality may be at especially high risk for sanctions, although sample-size limitations precluded detailed exploration of this hypothesis.

There are several potential explanations for our findings. Institutional decision-makers may focus on nonheterosexual youth for punishment for sexual or other behaviors or be less likely to consider mitigating factors such as immaturity or self-defense. Indeed, teachers often overlook harassment of nonheterosexual students by their peers, and youth who report such abuse are frequently ignored or blamed for their victimization.[3,6,10] In addition, nonheterosexual youth sometimes encounter homophobia in health care and child welfare systems.[1,36,37] Thus, nonheterosexual youth who are harassed or engage in risky behaviors may find that instead of support, therapy, or services, their behaviors elicit punishment.

Alternatively, unmeasured confounders, such as misbehaviors not captured in Add Health, might drive the observed associations. Of particular concern are youth who might report nonheterosexuality as part of a broad pattern of defiant behavior. Although possible, such confounding seems unlikely. Multivariate models controlled for a variety of transgressive behaviors, including those in which nonheterosexual youth tend to engage. Moreover, in sensitivity analyses that included additional behavior controls constructed from waves 2 and 3, ORs closely resembled those in the principal analyses, although missing data reduced the sample size by 27%, which precluded subgroup analysis (results available from the authors).

Residual confounding according to behavior might occur if nonheterosexual respondents were more reluctant than others to report transgressive behaviors. However, because nonheterosexuality was determined according to self-report, youth who self-identified as nonheterosexual were, by definition, willing to report at least some sensitive personal information. A similar willingness among other respondents cannot be assumed. Although incarceration might be thought to encourage same-sex sexual behavior, incarceration was much too rare in the sample to explain the results.

The broad definition of nonheterosexuality captured adolescents who self-identified as heterosexual but experienced occasional same-sex attraction or relationships. Arguably, however, this makes the findings stronger because of the suggestion that mere exploration of nonheterosexuality, regardless of self-identification, places youth at risk for sanctions.

The fact that nonheterosexual youth are more likely than other adolescents to run away from home[2] suggests that they may be overrepresented among the 5577 subjects lost from the sample between waves 1 and 3. If runaway youth are more likely to experience sanctions, the lost subjects may have made the conclusions of this analysis overly conservative. College attendance is another possible confounder; some, but not all, reports have suggested that low education attainment is associated with heterosexuality.[38] However, Add Health's methods make it unlikely that college students would be selectively lost to follow-up.

A final limitation is the distortion that may have resulted from multiple testing. However, the number of ORs with a P value of <.05 was high (8 of 18 for

the overall population), and many findings were significant at $P < .001$ or greater. In addition, although the overall sample size was large ($>$100 000 person-years of observation), the relatively small numbers of respondents who experienced sanctions and indicated nonheterosexuality limited the study power. Sample-size limitations also precluded the analysis of racial subgroups; nonwhite adolescents represent an important group for future study, given their overrepresentation among those receiving sanctions.[39]

Add Health lacks reliable information about gender identity. The wave 3 survey included questions from the Bem Sex-Role Inventory, which was designed to elicit gender identity by asking respondents to affirm statements such as "I love children." Unfortunately, the Bem Inventory correlates poorly with gender self-identification[40] and, hence, was not analyzed. Because many nonheterosexual people are gender-nonconforming,[41] however, the results of this study suggest that nonnormative gender identity might contribute to sanction disparities. Indeed, results of qualitative studies have suggested that transgendered individuals are at particular risk of discrimination and victimization within the school and criminal-justice systems.[19,21]

CONCLUSIONS

Our findings indicate that nonheterosexual adolescents suffer disproportionate punishments by schools and the criminal-justice system, which implicates not only schools, police, and courts but also other youth-serving health and welfare systems that often fail to meet the needs of nonheterosexual adolescents. Thus, our results suggest an urgent need for all child-serving professionals to reflect on strategies to reduce the criminalization of nonheterosexual youth as they navigate adolescence in an often hostile society.

ACKNOWLEDGMENTS

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APPENDIX 1 Mean Behavior Scores According to Detailed Self-identification Category

	100% Homosexual (N = 131)	Mostly Homosexual (N = 96)	Bisexual (N = 245)	Mostly Heterosexual (N = 1019)	100% Heterosexual (N = 13 490)
Minor transgressive behavior	2.31	3.08	3.76	3.94	2.84
Moderate transgressive behavior	0.57	0.77	0.96	1.08	0.70
Violent behavior	0.46	0.49	1.04	0.89	1.00

APPENDIX 2 Institutional Sanctions According to Detailed Self-identification Category: Bivariate Analysis

	100% Homosexual (N = 131), %	Mostly Homosexual (N = 96), %	Bisexual (N = 245), %	Mostly Heterosexual (N = 1019), %	100% Heterosexual (N = 13 490), %
Expulsion from school	6.6	5.6	6.8	4.7	7.6
Police stop	21.5	23.2	25.8	23.2	20.5
Under-18 arrest	1.5	3.1	6.8	5.6	5.2
Juvenile conviction	1.4	1.0	1.6	2.9	2.3
Over-18 arrest	0.1	1.0	3.0	2.2	2.8
Adult conviction	1.4	5.7	6.6	5.5	5.5

APPENDIX 3 Institutional Sanctions for Questioning Youth: Bivariate Analysis

	Questioning Adolescents: Reported Same-Sex Attraction in Any Study Wave, but Self-identified as 100% Heterosexual ($N = 1133$), % (P)	All Other Adolescents ($N = 13\,048$), %
Expulsion from school	12.3 (<.0001)[a]	7.0[a]
Police stop	26.2 (.0009)[a]	20.3[a]
Under-18 arrest	7.5 (.02)[a]	5.0[a]
Juvenile conviction	3.6 (.03)[a]	2.2[a]
Over-18 arrest	3.7 (.15)	2.6
Adult conviction	7.7 (.02)[a]	5.3[a]

[a] $P \leq .05$.

DRINKING WATER: *We have two cats and a dog in the house. We always know when the dog is drinking water because we can hear her lapping and splashing water onto the floor. Catching the cats drinking is much harder. I never hear them, and they don't seem to create a mess. According to an article on* New YorkTimes.com *(November 11, 2010:1–3), there is good reason why they are so neat. Neither dogs nor cats can create suction so they must use an alternative way to get water into their mouths. Dogs create a shallow cup with the tip of their tongue which is pulled up into the mouth. Cats on the other hand, use surface tension to create a mound of water. Using high speed cameras, engineers discovered that cats insert their tongue into the water but just barely. The tongue is then withdrawn at rapid speed creating and pulling a column of water behind it. Cats seem to know exactly when the force of gravity will overcome the surface tension that created the column. At that exact instant, the cat closes his or her jaws around the column of water and swallows. All this takes place four times per second, too fast for the human eye to see. Engineers went on to create a mechanical model of this mechanism to calculate the optimal rate at which cats should be lapping water to get the most water into their mouth. Cats, it seems, are good engineers as they lap at the exact speed needed to maximize drinking. While the equation for optimal lapping frequency (weight raised to the power of minus one-sixth and multiplied by 4.6) is not taught in high schools, all cats seem to know it as studies showed that house cats as well as lions, leopards, and jaguars all lap at this speed. The next time I see Ingrid at the water bowl, I will have to admire her remarkable skills.*

Noted by WVR, MD