Childhood Gender Nonconformity, Bullying Victimization, and Depressive Symptoms Across Adolescence and Early Adulthood: An 11-Year Longitudinal Study

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Abstract

Objective—Childhood gender nonconformity has been associated with increased risk of caregiver abuse and bullying victimization outside the home, but it is unknown whether as a consequence children who are nonconforming are at higher risk of depressive symptoms.

Method—Using data from a large national cohort (N = 10,655), we examined differences in depressive symptoms from ages 12 through 30 years by gender nonconformity before age 11 years. We examined the prevalence of bullying victimization by gender nonconformity, then ascertained whether increased exposure to abuse and bullying accounted for possible increased risk of depressive symptoms. We further compared results stratified by sexual orientation.

Results—Participants in the top decile of childhood gender nonconformity were at elevated risk of depressive symptoms at ages 12 through 30 years (for females, 0.19 standard deviations more depressive symptoms than conforming females; for males, 0.34 standard deviations more symptoms than conforming males). By ages 23 to 30 years, 26% of participants in the top decile of childhood nonconformity had probable mild or moderate depression versus 18% of participants who were conforming ($p < .001$). Abuse and bullying victimization accounted for approximately half the increased prevalence of depressive symptoms in youth who were nonconforming versus conforming. Gender-nonconforming heterosexuals and males were at particularly elevated risk for depressive symptoms.

Conclusion—Gender nonconformity was a strong predictor of depressive symptoms beginning in adolescence, particularly among males and heterosexuals. Physical and emotional bullying and abuse, both inside and outside the home, accounted for much of this increased risk.

Keywords

depression; bullying; child abuse; gender nonconformity

Children of both sexes experience themselves as masculine or feminine to varying degrees and express their masculinity and femininity through friendships, favored activities, clothing, and hair styles.[1] Children who do not conform to the social norms for their biological sex are termed "gender nonconforming." Childhood gender nonconformity has been associated with increased prevalence of childhood sexual abuse and physical and psychological abuse by caregivers.[2,3] Children who are gender nonconforming may also be at elevated risk for bullying victimization by peers and adults outside the home.[4–6] Bullying victimization is a severe psychosocial stressor and has been associated with feelings of helplessness and isolation,[7] anxiety,[8] depression,[9–15] and suicidality.[13,14] Better understanding of risk factors for victimization may improve the efficacy of bullying prevention efforts, and, in turn, may prevent elevated psychiatric symptomatology among at-risk populations.

Children who are gender nonconforming may be at elevated risk for depression in adolescence and early adulthood because of increased exposure to childhood abuse and bullying, compared with gender-conforming children. Depressive symptoms in adolescence have been associated prospectively with lower grades, less engagement in school, and poorer health-related quality of life in adolescence,[16] and increased risk of major depression, anxiety disorders, and suicidality in adulthood.[17] Although gender nonconformity in childhood or adulthood has been associated with bullying victimization in adolescence[18] and depression in adulthood,[4,19,20] the generalizability of existing studies is uncertain because of the use of small selected samples or samples restricted to sexual orientation minorities (gay men, lesbians, and bisexuals). Thus, we have a limited understanding of the magnitude of possible increased risk of depression in nonconforming versus conforming children, and the extent to which increased risk of depression can be attributed to childhood abuse or bullying victimization.

The present study builds on this prior work in four ways. First, we examine for the first time the relationship between childhood gender nonconformity and depression in a large population-based sample not selected on the basis of sexual orientation. In a prior study using this sample, we found that although sexual orientation minorities were more likely than heterosexuals to have been gender nonconforming in early childhood, the majority of participants reporting high levels of gender nonconformity in childhood were heterosexual.[2] Thus, heterosexual youth who were gender nonconforming in childhood may be at elevated risk of depression compared with heterosexual youth who were gender conforming, due in part to targeting of gender nonconforming persons for abuse and bullying victimization. Second, we examine the course of depressive symptoms longitudinally across adolescence and early adulthood in children who were gender nonconforming versus conforming. As changes in nonconformity may occur within individuals across adolescence and early adulthood, and as social acceptance of nonconformity may also change across these developmental periods,[5,21] risk of depression associated with childhood nonconformity may differ significantly at different stages of development. Third, we test for sex differences in the relationship between gender nonconformity, bullying, and depressive symptoms. Gender nonconformity may be less socially accepted in boys than girls,[5,22,23] although the evidence is not consistent.[2,19] Boys who are gender nonconforming may therefore be at greater risk for bullying victimization and depression compared with boys who are conforming than are girls who are nonconforming compared with girls who are conforming. Finally, we examine childhood abuse and bullying victimization as possible mediators of potential increased risk of depression in children who are gender nonconforming.

METHOD

Sample

We used data from the Growing Up Today Study (GUTS), a U.S. population–based longitudinal cohort of 16,882 children of women participating in the Nurses' Health Study II, established in 1996 and followed up annually or biennially. This article reports data primarily from the 1999, 2001, 2003, 2005, 2007, and 2010 waves, when respondents were ages 11 to 30 years. Only participants who responded to either a 2005 or 2007 measure of childhood gender nonconformity were included in this study (N = 10,655). Included participants had lower levels of depressive symptoms in 1999 than did excluded participants (included males, mean = 1.08, excluded males, mean = 1.15; included females, mean = 1.26, excluded females, mean = 1.36).

Measures

Childhood gender nonconformity before age 11 years was assessed retrospectively in 2005 with four questions from the Recalled Childhood Gender Identity/Gender Role Questionnaire[24] regarding the following: preferred toys and games; characters on TV or in movies admired or imitated; roles taken in pretend play; and feelings of femininity and masculinity. Response options ranged on a five-point scale from "always women or girls/ very feminine " to "always boys or men/very masculine. " A nonconformity score was created by taking the mean of responses (Cronbach's $\alpha = 0.78$). The score was then divided into three groups, separately by sex: below median, above median but below top decile, and top decile nonconforming.[2,25] We use recalled gender nonconformity from the 2005 wave because it was most proximate to childhood (mean age at report = 20 years). A score created from identical questions in the 2007 wave was used for participants missing 2005 nonconformity data (n = 1443, 13% of respondents).[2] As defining the top decile of nonconformity as the most nonconforming group was somewhat arbitrary, we conducted additional sensitivity analyses defining the top 5% as the most nonconforming group. Because gender dysphoria rather than gender nonconformity per se may have accounted for depressive symptoms among nonconforming children,[26] we also created a nonconformity score excluding the item regarding feelings of femininity or masculinity and conducted sensitivity analyses using this alternative score.

Depressive symptoms were measured with the Depression Symptoms Scale of the McKnight Risk Factor Survey[27] in each of three waves (1999, 2001, and 2003) and with the Center for Epidemiological Studies Depression Scale–10 (CESD-10) in 2007 and 2010.[28] For the McKnight Risk Factor Survey, each item was coded 0 (never) to 4 (always), and a score was formed from the mean. The three waves of the McKnight measures were pooled and a separate z score was formed for each age of the respondents at the time of questionnaire return (e.g., separate scores were formed for ages 12 through 30 years). The CESD-10 was scored continuously and was dichotomized as recommended, with a score of 11 or higher indicating probable mild or moderate depression.[28] The CESD-10 scale was also z scored separately for each age of the respondent to facilitate comparison with the McKnight scale. We refer to age-specific z scores of depressive symptoms subsequently as "depressive symptoms."

Past-year bullying victimization was measured in 2001 with a question from the World Health Organization Health Behavior of School-aged Children Survey[7]: "During the past year, how often have you been bullied?" Response options included: never, once or twice, sometimes, once a week, and several times a week. As few respondents reported being bullied once a week or more often, these responses were combined with "sometimes" to create a three-level variable reflecting frequency of victimization: never bullied, bullied

once or twice, or bullied sometimes or more often. In addition, two types of bullying victimization before age 11 years by an adult not in the family were measured retrospectively in 2007. Emotional bullying was measured with two questions adapted from the Child Trauma Questionnaire (CTQ)[29] regarding actions by an adult nonfamily member (e.g., "how often did an adult say hurtful or insulting things to you?"). Physical bullying was measured with two questions adapted from the Conflict Tactics Scales (CTS)[30] regarding frequency of threatened and actual physical aggression (i.e., "threatened to kick, punch or physically attack you" and "actually kicked, punched, or attacked you"). Response options ranged from "never" (scored 0) to "very often" (scored 4). We created separate variables for emotional and physical bullying using the mean of responses.

Sexual abuse victimization occurring before age 11 years was assessed with two questions about an adult or older child touching or forcing to touch in a sexual way, and forcing or attempting to force sexual activity by threatening, holding down, or hurting the respondent.[31] Any contact by threat or physical force was considered severe sexual abuse, and any other contact was considered moderate abuse.

Physical and emotional abuse victimization before age 11 years was measured with four questions from the Physical and Emotional Abuse Subscale of the Child Trauma Questionnaire[29] regarding frequency with which an adult in the family did the following: yelled and screamed, said hurtful or insulting things, punished in a way that seemed cruel, or hit the respondent so hard that it left bruises or marks. Physical aggression by an adult in the family before age 11 years was measured with two questions from the Conflict Tactic Scales[30] regarding threatened or actual physical assault. For each construct, items were coded from 0 (never) to 4 (very often), and a score was formed from the mean.

Sexual orientation was assessed with two questions in 2007. First, "Which of the following best describes your feelings? Completely heterosexual (attracted to persons of the opposite sex), mostly heterosexual, bisexual (equally attracted to men and women), mostly homosexual, completely homosexual (gay/lesbian, attracted to persons of the same sex), or unsure."[32] Second, "During your life, the persons with whom you have had sexual contact are?" No sexual contact, females, males, or both.[33] Respondents were categorized according to their orientation identity as reported in the first question, except that respondents who reported "completely heterosexual" feelings and any lifetime same-sex sexual contact were categorized as "heterosexual with same-sex contact." Respondents who were unsure of their orientation (n =30) were dropped from subsequent analyses because of the small size of this group.

Analyses

To ascertain whether children who were gender nonconforming were at elevated risk of depressive symptoms across childhood and early adulthood compared with gender-conforming children, we compared means of depressive symptoms by nonconformity for each assessment, from 1999 to 2010. We calculated prevalence of probable mild or moderate depression by gender nonconformity using the CESD-10 in 2007 and 2010. We then calculated risk ratios for probable mild or moderate depression in 2007 and 2010 by gender nonconformity. In addition, we examined age-specific z scores of depressive symptoms by gender nonconformity.

Next, to examine depressive symptoms across adolescence and early adulthood adjusted for covariates, we modeled depressive symptoms as the dependent variable in a repeated-measures longitudinal model, with gender nonconformity as the independent variable. To assess whether the relationship between depressive symptoms and nonconformity varied

across adolescence and adulthood, we tested age-by-nonconformity interaction terms using age in linear, quadratic, and categorical form.

To investigate whether the relationship between gender nonconformity and depressive symptoms differed by sexual orientation, we tested a sexual orientation–by–gender-nonconformity interaction term in a model with depressive symptoms as the dependent variable. For this term, we dichotomized sexual orientation as heterosexual/sexual minority (gay, lesbian, bisexual, mostly heterosexual, and heterosexual with same-sex contact) to allow the model to converge. In addition, we modeled depressive symptoms stratified by sexual orientation: minority or heterosexual. To determine whether nonconformity was a significant predictor of depressive symptoms independently of sexual orientation, we modeled depressive symptoms as a function of both gender nonconformity and sexual orientation.

As greater exposure to bullying and childhood abuse victimization may account for elevated depressive symptoms in children who were gender nonconforming versus conforming, we compared the prevalence of bullying victimization by nonconformity. Results showing higher prevalence of childhood physical, emotional, and sexual abuse in children who were nonconforming versus conforming have been presented previously.[2,25] We tested for mediation of the relationship between gender nonconformity and depressive symptoms by bullying and childhood abuse by adding these terms as independent variables to the model and calculating the mediation proportion using the SAS Mediate macro.[34] As past-year bullying victimization was assessed in 2001, we restricted these analyses to depression measured in 2001 or later, to ensure that bullying victimization preceded depressive symptoms.

All models used generalized estimating equations, implemented with SAS PROC GENMOD, to account for repeated depression measures for individuals and for family clustering, because some mothers enrolled more than one child in GUTS. We specified an identity link and normal distribution for depressive symptoms. For probable mild or moderate depression, coded dichotomously, we used a log link and a Poisson distribution to estimate risk ratios.[35] As risk for depression is known to differ by sex,[36–38] and as bullying is hypothesized to differ by sex for children who are gender nonconforming,[5] we tested for child's sex–by–nonconformity interaction term in all models. All tests were two sided. All models adjusted for age and adjusted for sex or were stratified by sex.

RESULTS

Participants who reported gender nonconformity in childhood had more depressive symptoms across adolescence and young adulthood compared with participants at the median or below of nonconformity (the reference group of "gender conforming" children) (Figure 1). Youth who had been nonconforming before age 11 years were at elevated risk of probable mild or moderate depression, as measured by the CESD-10, in late adolescence and early adulthood (Table 1). At ages 19 to 27 years (the 2007 wave), 34% of females and 37% of males who had been in the top decile of childhood nonconformity had probable depression versus 26% of females and 22% of males who had been gender conforming ($p < .001$). At ages 22 to 30 years (the 2010 wave), 25% of females and 30% of males who were in the top decile of nonconformity had probable depression versus 19% of females and 17% of males who had been gender conforming ($p < .001$). Risk of probable depression in either 2007 or 2010 was elevated in youth who had been nonconforming in childhood (males above median and below top decile nonconformity, risk ratio [RR] = 1.11, 95% confidence interval (CI) = 0.99–1.25, $p = .08$; males in the top decile of nonconformity, RR =1.67, 95% CI =1.46–1.91, $p < .0001$ compared with conforming males; females above median and

below top decile nonconformity, RR = 1.08, 95% CI = 1.0–1.18, $p < .05$; females in the top decile of nonconformity, RR = 1.26, 95% CI = 1.14–1.38, $p < .0001$, compared with conforming females). Results of sensitivity analyses examining the top 5% as the most nonconforming group were similar, as were results using a score excluding the item regarding feelings of femininity or masculinity (results available on request).

In models adjusted for repeated measures within individuals, youth above median and below top decile of gender nonconformity and youth in the top decile of nonconformity were at elevated risk for depressive symptoms compared with conforming children (Table 2, models 1 and 2). Males who were nonconforming were at even greater risk for depressive symptoms compared with conforming males than were females who were nonconforming compared with conforming females, as indicated by a statistically significant sex-by-nonconformity interaction term (Wald $\chi^2 = 19.95$, $p < .0001$). In sex-stratified models, females in the top decile of nonconformity reported 0.19 standard deviation more depressive symptoms versus females at the median or below of nonconformity (95% CI = 0.14–0.25), whereas the top decile of males who were nonconforming had 0.34 standard deviation greater depressive symptoms compared with males who were conforming (95% CI = 0.26–0.42, Table 2, models 1 and 2). We found that the relationship of gender nonconformity and depression was consistent across adolescence and early adulthood (quadratic terms for age-by-gender-nonconformity interaction were not statistically significant, $\chi^2 = 4$, df = 2, $p = .18$).

In models stratified by sexual orientation (heterosexual versus sexual orientation minority), the difference in depressive symptoms in heterosexuals in the top decile of gender nonconformity versus conforming heterosexuals was approximately three times greater than the difference for nonconforming versus conforming sexual minorities (Table 2, models 3 and 4). However, a gender nonconformity–by-sexual-orientation interaction term was not statistically significant (β estimate = −0.04, $p = .2$). In models restricted to males, the gender nonconformity–by-sexual-orientation interaction term indicated somewhat greater depressive symptoms in nonconforming heterosexuals versus nonconforming minorities, with borderline statistical significance (β estimate = −0.05, z for interaction = −1.71, $p = .08$). In models adjusted for sexual orientation in early adulthood, childhood gender nonconformity remained a predictor of depressive symptoms for youth both above the median of nonconformity and youth in the top decile of nonconformity (Table 2, model 5).

Children who were nonconforming were more likely to experience past-year bullying victimization, although in analyses restricted to girls this difference was not statistically significant. Prevalence of frequent bullying victimization was particularly elevated in boys, with 9.7% of boys in the top decile of nonconformity versus 5.2% of conforming boys reporting bullying victimization sometimes, once a week, or several times per week (Table 3). Similarly, youth who had been nonconforming reported greater prevalence of emotional and physical bullying by adults not in the family before age 11 years, compared with youth who had been gender conforming (Table 3).

In models examining mediation of depressive symptoms by child abuse or bullying, child abuse statistically accounted for more than one-third the increased risk of depressive symptoms in youth who were gender nonconforming in childhood (Table 4, models 1 and 2). Bullying statistically accounted for approximately one-third of elevated depressive symptoms in respondents who were nonconforming (Table 4, model 3). Child abuse and bullying jointly accounted for approximately one-half of elevated depressive symptoms both for respondents who were above the median of nonconformity and for respondents who were in the top decile of nonconformity (Table 4, model 4).

DISCUSSION

Our principal findings are that gender nonconformity before age 11 years was associated with elevated risk for depressive symptoms across adolescence and early adulthood, and that elevated prevalence of child abuse and bullying victimization in children who were nonconforming versus conforming accounted for much of this risk. Notably, we found that gender nonconformity was strongly associated with depressive symptoms among heterosexuals.

Children who were gender nonconforming before age 11 years were at elevated risk both for bullying victimization and for verbal and physical abuse by adults outside the family, in line with previous research in this sample showing elevated risk for childhood physical, emotional, and sexual abuse in children who were nonconforming versus conforming.[2,3] To our knowledge, ours is the first study to examine harassment of children who were gender nonconforming by adults outside the home. Our finding that children who were gender nonconforming were at elevated risk for emotional and physical bullying by nonfamily adults before adolescence suggests that social support of diverse gender expression in children must be strengthened, particularly among adults who frequently interact with children, including healthcare providers, teachers, camp counselors, coaches, and child-care providers.

Only three prior studies have examined the relationship between childhood gender nonconformity and mental health outcomes in heterosexuals.[2,3,19] These studies, together with the present findings, suggest that persons nonconforming in childhood, regardless of sexual orientation, are at greater risk for depressive and anxiety symptoms[19] and posttraumatic stress disorder[2,3] in adulthood. Furthermore, victimization by violence and harassment is identified in these studies and the present study as a likely primary cause of the elevated risk for mental illness across adolescence and early adulthood in children who are nonconforming.

We did not find significant differences in the relationship between depressive symptoms and nonconformity at different ages. It may be that nonconforming persons experience ongoing harassment across childhood, adolescence, and adulthood, as prior studies of adult gay men and lesbians have suggested.[6,20,39] Alternatively, it may be that childhood experiences continue to cause elevated depressive symptoms for nonconforming youth well into adulthood. Experiences of childhood adversity, particularly abuse, are associated with mental and physical health outcomes, even among middle-aged and elderly individuals.[39–43]

We found a sex difference in risk of bullying victimization and depression by gender nonconformity: males who were gender nonconforming were at even greater risk for bullying victimization and depressive symptoms than were females who were gender nonconforming versus, respectively, males and females who were conforming. Although some previous studies have suggested that nonconformity may be less socially accepted and associated with more serious health sequelae in males than females,[22,44] other studies have not shown gender differences.[19] In prior research with this cohort, we found that female and male children who were nonconforming were at equally elevated risk for childhood physical and psychological abuse and posttraumatic stress disorder compared with females and males who were conforming, although males who were nonconforming versus conforming were at elevated risk for sexual abuse compared with females who were nonconforming versus conforming.[2]

Our study has several limitations. We assessed childhood gender nonconformity retrospectively when respondents were aged 17 to 25 years (mean age =20 years), and childhood abuse and bullying by an adult nonfamily member retrospectively when

respondents were aged 19 to 27 years (mean age = 22 years). Thus, faulty recall may have biased our results. In addition, childhood gender nonconformity was first assessed in the 2005 wave; therefore, participants who dropped out of the study before 2005 could not be included in the present study. Because participants who dropped out before the assessment of gender nonconformity had higher levels of depressive symptoms than participants who did not drop out, our results may underestimate the true association between nonconformity and depression.

Our study also has significant strengths. We assessed both past-year bullying and depressive symptoms contemporaneously in adolescence and early adulthood. We assessed depressive symptoms in multiple waves, permitting an evaluation of symptoms across a wide range of ages. Finally, our sample was sufficiently large to examine the relationship of nonconformity with depression within sex and sexual orientation subgroups. Accordingly, we are able to show that bullying in relation to gender nonconformity has implications for heterosexuals as well as sexual orientation minorities.

Psychiatrists and other healthcare providers, parents, and teachers should be aware that children who are nonconforming may be at elevated risk for physical and emotional harassment, both inside and outside the home, from peers and from adults. Importantly, the at-risk population of children who are nonconforming and described here constitutes, by our definition, 10% of all children and is not restricted to the smaller subset of children who may be transgender or have clinically diagnosed gender dysphoria. Thus, children with nonconformity similar to that examined in our study are likely present in every school classroom and neighborhood. School-based anti-bullying programs should be evaluated for their effectiveness in preventing harassment of children who are nonconforming. Comprehensive efforts to increase acceptance of gender nonconformity and to protect children who are nonconforming from harassment and violence are critically needed.

Acknowledgments

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Clinical Guidance

- Children who are somewhat gender nonconforming in behavior or appearance may be experiencing:

  – bullying by children or adults outside the home

  – physical or emotional abuse at home

  – depressive symptoms or other responses to victimization

- Children who are nonconforming should be screened for bullying and abuse victimization and mental health symptomatology.

- If needed, clinical and environmental intervention to reduce bullying and abuse victimization and its effects should be provided.
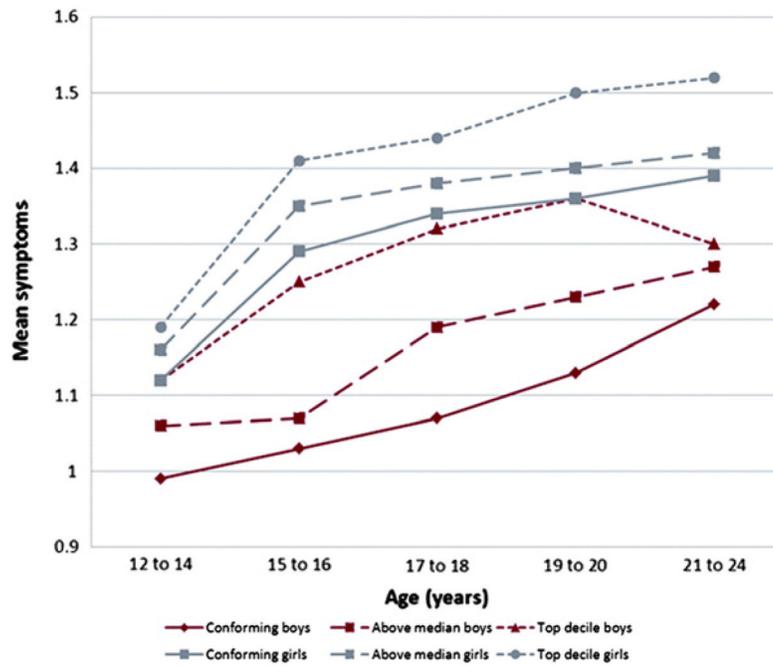
FIGURE 1.
Depressive symptoms (McKnight Survey) across adolescence and early adulthood by childhood gender nonconformity, Growing Up Today Study, 1999–2003 (n = 10,655, n observations = 23,775).

TABLE 1

Probable Mild or Moderate Depression at Ages 19 to 30 Years by Childhood Gender Nonconformity, Growing Up Today Study, 2007 and 2010 Waves (n = 9,355 and n = 7,073)

	Median or Below Gender Nonconformity (n = 4,836), %	Above Median, Below Top Decile Nonconformity (n = 3,159), %	Top Decile Nonconformity (n = 1,360), %
Probable mild or moderate depression, 2007	24.3	26.6	34.4 [***]
Females (n = 5,944)	25.8	27.9	33.5 [***]
Males (n = 3,411)	22.0	24.3	36.6 [***]
Probable mild or moderate depression, 2010	18.0	19.3	25.9 [***]
Females (n = 4,945)	18.7	20.6	24.6 [**]
Males (n = 2,128)	16.5	16.4	29.6 [***]

Note: Depression assessed by the Center for Epidemiologic Studies Depression Scale—10 (CESD-10), with 11 or more symptoms indicating probable depression. Wald χ^2 test for differences in frequency by gender conformity:

[**]
$p < .01$;

[***]
$p < .001$.

TABLE 2

Depressive Symptoms (Age-Specific z-Score) for Ages 12 to 30 Years, as a Function of Childhood Gender Nonconformity, Growing Up Today Study, 1999–2010 (n = 10,655, n observations = 38,365)

	Model 1: Females Only	Model 2: Males Only	Model 3: Heterosexuals Only	Model 4: Sexual-Orientation Minorities Only	Model 5: Adjusted for Sexual Orientation
	β Estimate				
Gender nonconformity					
Median or below (n = 5,527)	0.0 [Ref]				
Above median, below top decile (n = 3,590)	0.07 ***	0.12 ***	0.06 **	−0.03	0.04 *
Top decile (n = 1,538)	0.19 ***	0.34 ***	0.14 ***	0.05	0.13 ***
Male gender (n = 4,018)			−0.22 ***	−0.24 **	−0.23 ***
Male-by-gender-nonconformity interaction			0.02	0.09	0.06 **
Sexual orientation					
Heterosexual (n = 8,610)					0.0 [Ref]
Heterosexual, same-sex partners (n = 178)					0.18 **
Mostly heterosexual (n = 1,477)					0.34 ***
Bisexual (n = 186)					0.62 ***
Gay, lesbian (n = 204)					0.30 ***

Note: Multivariable linear models adjusted for sex or stratified by sex. Coefficients represent standard-deviation differences in depressive symptom score associated with the exposure group compared with the reference group. Positive coefficients indicate more depressive symptoms and negative coefficients indicate fewer depressive symptoms compared with the reference group. z Test statistically significant at:

*
$p < 0.05$;

**
$p < .01$;

***
$p < .001$.

TABLE 3

Bullying Victimization by Gender Nonconformity, Growing Up Today Study, 2001 and 2007 Waves (n = 9,008)

	Median Nonconformity or Below, % (n)	Above Median, Below Top Decile, % (n)	Top Decile Nonconformity, % (n)
Past-year Bullying Victimization (2001)			
Once or twice	15.3 (545)	16.2 (388)	17.6 (179)
Sometimes or more often	3.8 (136)	5.2 (124)	6.1 (62) [**]
Females			
Once or twice	13.5 (303)	13.4 (217)	14.4 (107)
Sometimes or more often	3.0 (67)	3.6 (58)	4.7 (35)
Males			
Once or twice	18.3 (242)	22.1 (171)	25.8 (72)
Sometimes or more often	5.2 (69)	8.5 (66)	9.7 (27) [***]
Emotional bullying by adults before age 11 years			
Sometimes or more often	2.8 (130)	3.1 (95)	5.3 (69) [***]
Females			
Sometimes or more often	2.2 (64)	2.2 (43)	4.8 (45) [***]
Males			
Sometimes or more often	3.7 (66)	4.8 (52)	6.3 (24) [*]
Physical bullying by adults before age 11 years			
More than rarely	2.8 (132)	3.9 (120)	4.7 (62) [**]
Females			
More than rarely	1.8 (52)	3.1 (61)	4.0 (37) [**]
Males			
More than rarely	4.5 (80)	5.4 (59)	6.5 (25)

Note: χ^2 test for differences in frequency by gender-conformity:

[*] $p < .05$;

[**] $p < .01$;

[***] $p < .001$.

TABLE 4

Depressive Symptoms (Age-Specific z-Score) for Ages 14 to 30 Years as a Function of Childhood Gender Nonconformity, Growing Up Today Study, 2001–2010 Waves (n = 6,040; n = 21,494 Observations)

	Model 1: Gender Nonconformity, β estimate	Model 2: With Child Abuse, β estimate	Mediation Proportion[a], %	Model 3: With Bullying, β estimate	Mediation Proportion[a], %	Model 4: With Child Abuse and Bullying, β estimate	Mediation Proportion[a], %
Gender nonconformity							
Above median, below top decile	0.07 ***	0.06 **	34.3 **	0.05 *	36.4 **	0.05 *	51.4 ***
Top decile	0.22 ***	0.16 ***	34.6 ***	0.17 ***	28.8 ***	0.14 ***	46.9 ***
Male sex	−0.28 ***	−0.26 ***		−0.35 ***		−0.32 ***	
Gender-nonconformity-by-male-sex	0.07 *	0.09 **		0.07 **		0.08 **	
Sexual abuse							
Moderate		0.21 ***				0.19 ***	
Severe		0.38 ***				0.33 ***	
Family physical and emotional abuse		0.34 ***				0.27 ***	
Family physical aggression		−0.01				−0.01	
Past year bullying victimization							
Once or twice				0.29 ***		0.26 ***	
Sometimes or more often				0.55 ***		0.48 ***	
Nonfamily adult bullying							
Emotional				0.27 ***		0.18 ***	
Physical				0.02		−0.01	

Note: Multivariable linear models. Coefficients represent standard-deviation differences in depressive symptom score in the exposure group compared with the reference group. Positive coefficients indicate more depressive symptoms and negative coefficients indicate fewer depressive symptoms compared with the reference group. z Test statistically significant at the following:

*
 p < .05;

**
 p < .01;

***
 p < .001.

[a]Mediation proportion is the proportion of the association between gender nonconformity and depressive symptoms that is statistically accounted for by bullying victimization, childhood abuse, or both.