Childhood Gender Nonconformity: A Risk Indicator for Childhood Abuse and Posttraumatic Stress in Youth

WHAT'S KNOWN ON THIS SUBJECT: Childhood gender nonconformity has been associated with poorer relationships with parents, but it is unknown if childhood gender nonconformity is associated with childhood abuse or with posttraumatic stress disorder.

WHAT THIS STUDY ADDS: We identify gender nonconformity before age 11 years as a risk indicator for physical, sexual, and psychological abuse in childhood and lifetime probable posttraumatic stress disorder in youth.

abstract

OBJECTIVES: Childhood gender nonconformity has been associated with poorer relationships with parents, but it is unknown if childhood gender nonconformity is associated with childhood abuse or risk of posttraumatic stress disorder (PTSD) in youth.

METHODS: We examined whether gender nonconformity before age 11 years was associated with childhood sexual, physical, and psychological abuse and lifetime risk of probable PTSD by using self-report questionnaire data from the 2007 wave of the Growing Up Today Study (n = 9864, mean age = 22.7 years), a longitudinal cohort of US youth. We further examined whether higher exposure to childhood abuse mediated possible elevated prevalence of PTSD in nonconforming children. Finally, we examined whether association of childhood gender nonconformity with PTSD was independent of sexual orientation.

RESULTS: Exposure to childhood physical, psychological, and sexual abuse, and probable PTSD were elevated in youth in the top decile of childhood gender nonconformity compared with youth below median nonconformity. Abuse victimization disparities partly mediated PTSD disparities by gender nonconformity. Gender nonconformity predicted increased risk of lifetime probable PTSD in youth after adjustment for sexual orientation.

CONCLUSIONS: We identify gender nonconformity as an indicator of children at increased risk of abuse and probable PTSD. Pediatricians and school health providers should consider abuse screening for this vulnerable population. Further research to understand how gender nonconformity might increase risk of abuse and to develop family interventions to reduce abuse risk is needed. *Pediatrics* 2012;129:410–417

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KEY WORDS

child abuse, gender nonconformity, femininity, masculinity, posttraumatic stress disorders, sexual orientation

ABBREVIATIONS

CI—confidence interval
PTSD—posttraumatic stress disorder
RR—risk ratio

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In middle childhood, sex differences are apparent in children's clothing choice, activities, mannerisms, and interests.[1] These sex differences together constitute gender expression, and children who do not conform to the expression typical of their biological sex are termed "gender nonconforming." Childhood gender nonconformity has been associated with an array of childhood psychosocial stressors, including poorer relationships with parents,[2,3] peer rejection,[3,4] harassment,[5] and physical and verbal victimization.[5–7] Possibly as a consequence of elevated exposure to stressors, childhood gender nonconformity has also been associated with a lower sense of well-being in adolescence[8] and mental health problems in adulthood, including depression and anxiety symptoms,[2] distress,[9] body dissatisfaction,[10] attachment anxiety,[3] and suicidality.[5] Thus, gender nonconformity in childhood may be an important health risk indicator.

Our understanding of the extent to which gender nonconformity is a health risk indicator is restricted by 3 limitations of extant research. First, most studies of childhood gender nonconformity have been conducted using small samples of gay, lesbian, and bisexual adults recruited through gay and lesbian community venues[3,5,6,9–11] (although not all[12]), thus generalizability of findings, particularly to heterosexuals, is unclear. Second, the relationship of nonconformity with health has been assessed with regard to only a few health outcomes. Third, although gender nonconformity has been linked to many childhood interpersonal stressors, it is largely unknown whether nonconformity is associated with childhood sexual, physical, or psychological abuse.[5] Because abuse strongly predicts poorer mental and physical health,[13–21] assessing the relationship of nonconformity to abuse is crucial. To our knowledge, only 2 studies using small, selected samples have examined childhood nonconformity and childhood abuse, and both found an association.[5,11] In addition, a study of homosexual and bisexual men found adulthood femininity was associated with childhood sexual abuse.[22]

Childhood abuse increases risk of posttraumatic stress disorder (PTSD) directly by triggering PTSD[23] and indirectly by both increasing likelihood of exposure to subsequent stressful events[24] and by increasing the risk of developing PTSD following exposure to a stressful event.[25] Thus, if gender-nonconforming children are at higher risk of abuse, they may also be at greater risk for developing PTSD compared with gender-conforming children. PTSD has severe sequelae with particular relevance to youth, including substance abuse,[26] school dropout, teen pregnancy,[27] suicide,[26] mood disorders, relationship instability, and unemployment.[27] Given the high population prevalence of PTSD, its chronicity, and its associated impairment,[27] identifying factors that put children and youth at risk for developing PTSD is vital.

In this article, we examine whether disparities exist in exposure to childhood abuse by recalled childhood gender nonconformity and whether possible disparities might lead to increased risk of lifetime probable PTSD in a community sample of US youth. We further investigate whether these associations are similar for males and females, and for heterosexual and sexual orientation minority youth (gay, lesbian, bisexual, "mostly heterosexual," and heterosexual youth with any same-sex sexual contact).

METHODS

Sample

We use data from the Growing Up Today Study, a US community-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.[28] This article reports data primarily from the 2007 wave, when respondents were 19 to 27 years old (mean age = 22.7 years), which assessed childhood maltreatment, PTSD, and sexual orientation (n = 9864).

Measures

Childhood gender nonconformity was assessed with 4 questions from the Recalled Childhood Gender Identity/Gender Role Questionnaire[29] about behaviors during childhood up to age 11 years, regarding media characters imitated or admired, roles taken in pretend play, favorite toys and games, and feelings of femininity or masculinity. Response options ranged on a 5-point scale from "always women or girls/very 'feminine'" to "always boys or men/'very masculine.'" For each question, there was also an option: "I did not do this type of play/I did not feel 'feminine' or 'masculine.'" These responses did not contribute to the nonconformity score, which was created by taking the mean of responses (Cronbach's α = 0.78). The score was then divided into 3 groups, separately by sex: below median, above median but below top decile, and top decile nonconforming. We examined the top decile of gender nonconformity to identify children who may have noticeably differed from the average gender expression for their sex and because preliminary analyses indicated a nonlinear relationship between nonconformity and our outcomes. We use recalled gender nonconformity from the 2005 wave because it was most proximate to childhood. A score created from identical questions in the 2007 wave was used for participants missing 2005 nonconformity data (n = 1443, 14.6% of respondents). Agreement between the

2005 and 2007 assessments of childhood gender nonconformity was moderate (continuous measure: correlation = 0.74; ordinal measure: weighted κ = 0.52, agreement = 65.5%). Persons missing gender nonconformity responses in both waves were excluded from analyses (n = 303, 3.1%).

Childhood Abuse

All abuse questions asked separately about abuse that occurred during childhood before age 11 years and abuse that occurred when a teenager, defined as ages 11 to 17 years. We created separate variables for these 2 time periods. Physical abuse in each time period was measured with 4 questions from the Conflict Tactics Scales regarding frequency with which an adult in the family pushed, grabbed, or shoved the respondent; spanked for discipline; kicked, punched, physically attacked, or hit with something that could hurt; or hit the respondent so hard it left bruises or marks.[30] Respondents who were kicked, punched, attacked, hit with something, or bruised or marked were considered physically abused.

Sexual abuse was measured with 2 questions that asked the respondent first about being touched by or forced to touch an adult or older child in a sexual way when she or he did not want to, and second about an adult or older child forcing or attempting to force sexual activity by threatening, holding down, or hurting the respondent.[31] An affirmative response to either question was considered sexual abuse, which was coded present or absent. Psychological abuse was measured with 4 questions about frequency of adults in the family yelling and screaming, saying hurtful or insulting things, punishing in a way that seemed cruel, and threatening serious physical harm.[32] Each psychological abuse item was coded from 0 (never) to 4 (very often), and a score was formed from the sum. Respondents who were in the top decile of this score were considered psychologically abused.[33,34]

Lifetime Probable PTSD

Lifetime probable PTSD was measured with Breslau's 7-item Short Screening Scale for DSM-IV PTSD.[35] Respondents were asked about experience of 27 potentially traumatic events, then were asked to think about the most distressing event. Symptoms of PTSD occurring since the event were then queried (eg "Have there ever been times since the event when you felt distant or cut off from people around you?"). By using a 6-symptom cutoff, the Short Screening Scale identified PTSD cases with a sensitivity of 38.0%, specificity of 99.5%, positive predictive value of 87.1%, and negative predictive value of 95.0% in a representative sample of Detroit residents ages 18 to 45 years.[35] We conservatively used this 6-symptom cutoff to increase positive predictive value because prevalence of probable PTSD was high in the Growing Up Today Study using the measure's suggested 4-symptom cutoff (25% compared with 10% in the Detroit sample).

Sexual Orientation

Sexual orientation was assessed with 2 questions. First, "Which of the following best describes your feelings? (1) completely heterosexual (attracted to persons of the opposite sex), (2) mostly heterosexual, (3) bisexual (equally attracted to men and women), (4) mostly homosexual, (5) completely homosexual (gay/lesbian, attracted to persons of the same sex), or (6) unsure."[36] Second, "During your life, the persons with whom you have had sexual contact are? (1) no sexual contact, (2) females, (3) males, or (4) both."[37] 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." People "unsure" of their feelings were excluded (n = 3, 0.03%). Responses from the 2005 wave were used for persons responding to the 2007 wave but who were missing sexual orientation responses in 2007 (n = 382, 3.9%). An additional 77 people (0.8%) did not respond to sexual orientation questions in either wave and were excluded from models.

Covariates

Age at questionnaire return was continuous; race/ethnicity was coded as non-Hispanic white or all other race/ethnicities.

Analyses

To determine if childhood abuse and PTSD were more prevalent among participants with childhood gender nonconformity, we examined prevalence of each type of abuse and PTSD by nonconformity separately by sex. We additionally constructed models examining 4 outcomes: sexual, physical, and psychological abuse occurring at any time during childhood and PTSD, with nonconformity as the independent variable. To ascertain whether these associations varied by sex, we tested sex-by-gender-nonconformity interaction terms. For outcomes for which this interaction term was significant, we stratified models by sex.

Next, to ascertain whether the relationship of gender nonconformity with abuse and PTSD differed by sexual orientation, we modeled abuse or PTSD as the dependent variable with nonconformity, sexual orientation, and a nonconformity-by-sexual-orientation interaction term as independent variables. For models with a sexual-orientation-by-nonconformity interaction term, we dichotomized sexual orientation

as heterosexual or sexual orientation minority to enable models to converge.

To determine whether childhood abuse and sexual orientation in early adulthood accounted for possible gender-nonconformity differences in PTSD by early adulthood, we created a model with PTSD as the dependent variable and gender nonconformity and any sexual, physical, or psychological abuse as the independent variables. We then examined a second model adding sexual orientation as an independent variable. We calculated the mediation proportion for these models by using the publicly available Mediate macro.[38,39] The mediation proportion is the proportion of excess PTSD experienced by persons with histories of childhood nonconformity relative to persons below median nonconformity attributable to elevated exposure to abuse or to abuse and sexual orientation jointly.

Because some women enrolled more than 1 child in the Growing Up Today Study, we used generalized estimating equations to account for clustering of data by family, by using SAS 9.2 (SAS Institute, Inc, Cary, NC).[40,41] To test for differences of prevalence of abuse and PTSD by nonconformity, we specified a binomial distribution with a log link. To estimate risk ratios (RRs) with our dichotomous dependent variables, we specified a Poisson distribution with a log link.[42] Models testing for significance of prevalence differences were unadjusted. All other models were adjusted for race and age at questionnaire completion; models not stratified by sex were adjusted for sex.

Gender nonconformity and abuse or PTSD data were reported by 9489 respondents (3490 men, 5999 women); these respondents were included in reports of prevalence. Excluded respondents (3.8%) were more likely to be men (53.7% excluded were men versus 36.4% included were men, $P < .001$) and were younger than included respondents (mean age = 22.4 years versus 22.7 years, $P < .001$), but did not differ on race/ethnicity or sexual orientation. Statistical models examining mediation included respondents with complete data on abuse, PTSD, and sexual orientation ($n = 8968$; 3246 men, 5722 women). Respondents excluded from models (9.1%) were more likely to be men (51.9% vs 36.3%, $P < .001$) and were younger than included respondents (mean age = 22.3 vs 22.7 years, $P < .001$) but did not differ on race/ethnicity or sexual orientation, among those reporting sexual orientation.

RESULTS

For women, childhood sexual, physical, and psychological abuse and PTSD were more prevalent among persons in the top decile of childhood gender nonconformity compared with those below the median of nonconformity (Table 1). For men, sexual abuse, physical abuse before age 11 years, psychological abuse between the ages of 11 and 17 years, and PTSD were more prevalent among persons in the top decile of nonconformity compared with those below the median of nonconformity. In sensitivity analyses, the relationship of

TABLE 1 Prevalence of Probable PTSD and Childhood Abuse by Childhood Gender Nonconformity, Growing Up Today Study I ($n = 9489$)[a]

	Childhood Gender Nonconformity		
	Below Median ($n = 4895$), %	Above Median but Below Highest Decile ($n = 3211$), %	Highest Decile ($n = 1383$), %
Probable PTSD (lifetime)			
Women	7.4	8.3	12.9***
Men	3.5	6.9***	7.4***
Psychological abuse before age 11 y			
Women	11.6	11.8	17.7***
Men	10.5	10.8	13.2
Psychological abuse ages 11–17 y			
Women	12.0	12.7	18.8***
Men	9.4	12.7	11.7**
Physical abuse before age 11 y			
Women	11.7	12.8	18.0***
Men	13.0	14.8	16.8*
Physical abuse ages 11–17 y			
Women	8.7	9.2	13.8***
Men	9.8	11.7	12.7
Sexual abuse before age 11 y			
Women	7.3	9.0*	11.4***
Men	3.2	4.2	6.0*
Sexual abuse ages 11–17 y			
Women	7.4	8.7	12.0***
Men	1.0	1.6	5.9***
Any physical abuse			
Women	14.0	14.9	21.5***
Men	15.9	18.4	19.8
Any psychological abuse			
Women	15.9	16.3	23.0***
Men	13.3	15.4	15.4
Any sexual abuse			
Women	12.8	15.2*	19.9***
Men	3.8	5.3*	10.5***
Any abuse			
Women	29.0	30.6	39.2***
Men	23.1	26.8*	30.3**

[a] *N*s for some rows are smaller because of missing responses.
Two-sided Wald χ^2 test of significance,
* $P < .05$,
** $P < .01$,
*** $P < .001$.

gender nonconformity with psychological abuse was similar with psychological abuse as a continuous variable. In models adjusted for age, sex, and race, youth in the highest decile of gender nonconformity were at elevated risk of each type of childhood abuse (RR range = 1.4–2.6) (Table 2).

Risk for PTSD was higher for youth both in the top decile of nonconformity (RR = 1.8, 95% confidence interval [CI] = 1.5–2.2) and for youth above median but below top decile of nonconformity (RR = 1.3, 95% CI = 1.1–1.5) (Table 3, Model 1). Elevated exposure to childhood abuse explained part of the increased risk of PTSD among the top decile of nonconforming children (32.8% mediation, $P < .001$). Risk of PTSD was still statistically significantly elevated in both groups above the median of nonconformity after adjustment for childhood abuse and sexual orientation in early adulthood (Table 3, Models 2 and 3). Although childhood gender nonconformity was strongly associated with youth sexual orientation (Fig 1), most youth in the top decile of gender nonconformity were heterosexual (59.6% heterosexual, 2.2% heterosexual with same-sex partners, 24.5% mostly heterosexual, 4.2% bisexual, 9.5% gay/lesbian).

In models for risk of any sexual abuse, sex-by-gender-nonconformity interaction terms indicated higher increased risk for nonconforming males ($P < .01$) versus nonconforming females compared, respectively, to gender-conforming males and females. These results should not be taken to indicate that gender-nonconforming males were at higher absolute risk of sexual abuse than females, however. Females had substantially higher exposure to sexual abuse than males in each category of gender nonconformity (Table 1). Models for physical and psychological abuse and for PTSD did not indicate sex differences in the relationship between gender nonconformity and risk of outcomes. In models for PTSD and all abuse types, the nonconformity-by-sexual-orientation interaction term was not statistically significant. In stratified models, the relationship between nonconformity and all abuse types was very similar among heterosexuals and sexual orientation minorities. Point estimates of the relationship between nonconformity and PTSD were somewhat larger among heterosexuals (top decile RR = 1.6) than sexual orientation minorities (top decile RR = 1.3), but these differences were not statistically significant.

DISCUSSION

We identify gender nonconformity as an important indicator of children at increased risk of sexual, physical, and psychological abuse and of lifetime probable PTSD in early adulthood, both among children who will be heterosexual and children who will have a minority sexual orientation. PTSD is associated with serious sequelae, including health risk behaviors, such as unprotected sex[43] and involvement with interpersonal violence,[44] and physical sequelae, including dysregulated immune function,[45] cardiovascular risk indicators,[46] metabolic syndrome,[47] and chronic pain.[48] National surveys indicate that no more than half of people with PTSD seek treatment,[49] therefore identifying individuals at increased risk for PTSD is crucial for prevention of PTSD sequelae.

Prior research describes possible pathways linking gender nonconformity to abuse. Some parents may be uncomfortable with gender nonconformity in their children,[50,51] possibly increasing their likelihood of being abusive toward gender-nonconforming children. Parents may also see gender nonconformity as an indicator of same-sex sexual orientation or think others will assume their child will be gay or lesbian.[50,52] If parents are uncomfortable with homosexuality, nonconformity may lead to the child being targeted for abuse. Some parents also believe their own parenting can shape their child's gender nonconformity and future sexual orientation[50,52]; thus, their parenting may become more physically or psychologically abusive in an attempt to discourage their child's gender nonconformity or same-sex orientation. In terms of sexual abuse, children who appear to be different from typical children are at higher risk of being targeted. For example, children with physical disabilities and cognitive impairments are at increased risk of sexual abuse.[53] Sexual predators may similarly target gender nonconforming children.

Our study cannot determine the causal relationship between abuse and

TABLE 2 Childhood Gender Nonconformity as Predictor of Childhood Abuse before Age 18 y, Growing Up Today Study I (n = 9280)[a]

Gender nonconformity	Any Childhood Physical Abuse	Any Childhood Psychological Abuse	Any Childhood Sexual Abuse, Men[b]	Any Childhood Sexual Abuse, Women[b]
Below median	1.0 (Reference)	1.0 (Reference)	1.0 (Reference)	1.0 (Reference)
Above median, below top decile	1.1 (1.0–1.2)	1.1 (1.0–1.2)	1.3 (0.9–1.9)	1.2 (1.0–1.4)*
Top decile	1.4 (1.3–1.6)***	1.4 (1.2–1.5)***	2.8 (1.9–4.1)***	1.6 (1.3–1.8)***

Data are RR (95% CI).

[a] All models adjusted for age at questionnaire return, sex, and race.

[b] Models for sexual abuse are presented separately by sex because the sex-by-gender-nonconformity interaction term was statistically significant for sexual abuse. For physical abuse and psychological abuse, the sex-by-gender-nonconformity was not statistically significant, therefore RR estimates apply to both sexes.

Two-sided Wald χ^2 significant at

* $P < .05$,

*** $P < .001$.

TABLE 3 Childhood Gender Nonconformity as a Predictor of Probable PTSD in Youth, With Mediation by Childhood Abuse and Youth Sexual Orientation, Growing Up Today Study I (n = 8968)

	Model 1: Gender Nonconformity, RR (95% CI)	Model 2: Gender Nonconformity and Childhood Abuse, RR (95% CI)	Mediation Proportion Owing to Childhood Abuse, %	Model 3: Gender Nonconformity, Childhood Abuse, and Youth Sexual Orientation, RR (95% CI)	Mediation Proportion Owing to Abuse and Sexual Orientation, %
Gender nonconformity					
Below median	1.0 (Reference)	1.0 (Reference)		1.0 (Reference)	
Above median, below top decile	1.3 (1.1–1.6)**	1.3 (1.1–1.5)**	16.9	1.2 (1.0–1.2)*	34.5**
Top decile	1.8 (1.5–2.2)***	1.5 (1.3–1.8)***	32.8***	1.4 (1.1–1.6)**	51.0***
Childhood abuse					
Sexual, before age 11 y		1.5 (1.2–1.8)***		1.4 (1.2–1.4)***	
Sexual, ages 12–17 y		2.7 (2.3–3.2)***		2.5 (1.6–1.9)***	
Physical, before age 11 y		1.2 (0.9–1.5)		1.1 (1.0–1.3)*	
Physical, ages 12–17 y		1.3 (1.0–1.6)		1.2 (0.9–1.2)	
Psychological, before age 11 y		1.3 (1.0–1.7)		1.3 (0.9,–1.1)	
Psychological, ages 12–17 y		1.9 (1.5–2.4)***		1.8 (1.4–1.7)***	
Sexual orientation					
Heterosexual				1.0 (Reference)	
Heterosexual, same-sex sexual contact				1.3 (0.8–2.1)	
Mostly heterosexual				1.5 (1.3–1.8)***	
Bisexual				2.2 (1.6–3.0)***	
Lesbian/gay				1.7 (0.9–3.0)	

All models adjusted for age at questionnaire return, sex, and race.
Two-sided Wald χ^2 significant at
* $P < .05$,
** $P < .01$,
*** $P < .001$.

gender nonconformity; in other words, the extent to which nonconformity is a risk factor for abuse versus an indicator of abuse. Three prior studies have found evidence for genetic influences on gender nonconformity,[54–56] however, suggesting that nonconformity is at least in part determined by factors unrelated to social environment. An analysis of gender nonconformity and negative parent-child relationship in a twin sample found that a bidirectional relationship between negative parenting and nonconformity fit the data best.[12] Thus, gender nonconformity may also be a response to negative parenting, and therefore may be both an indicator of abuse and a risk factor for abuse, although evidence in favor of either causal direction is limited.

We did not find an interaction effect between gender nonconformity and sex in risk of physical abuse, psychological abuse, or PTSD; however, gender nonconforming males versus females had elevated risk of sexual abuse compared, respectively, with gender conforming males and females. Prior research generally indicates gender nonconformity may be less socially accepted in boys than girls,[9,51,57] with boys receiving more disapproval for gender nonconformity at a younger age from parents[6] and peers,[58] although studies also report mixed findings.[58,59] Thus, prior research suggests gender nonconformity may have a stronger relationship to child maltreatment and its sequelae in boys versus girls; however, our results on the whole do not support this hypothesis.

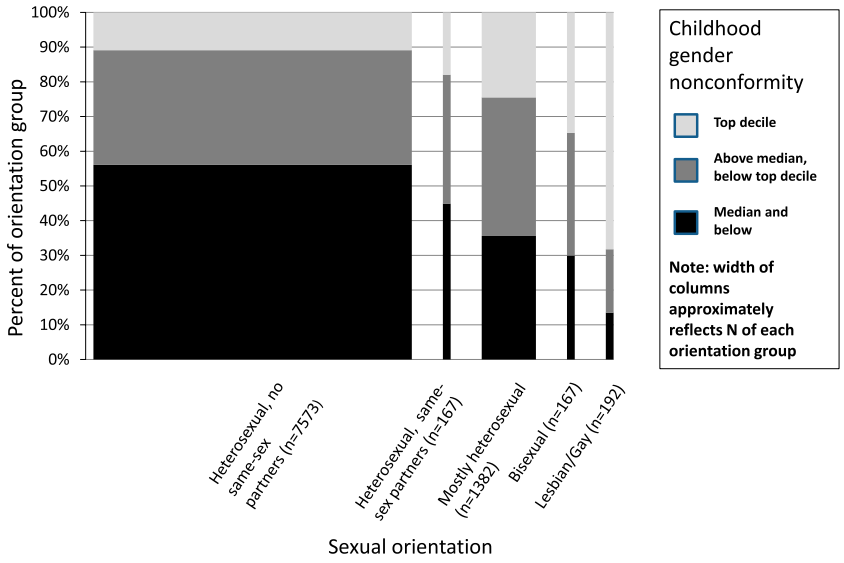

FIGURE 1
Gender nonconformity before age 11 years and sexual orientation in youth, Growing Up Today Study, 2007 (n = 9481).

Our findings should be considered in light of 3 limitations. First, we relied on retrospective reporting of childhood gender nonconformity and abuse, therefore recall error could bias estimates. A study comparing adulthood reporting of childhood nonconformity with independent ratings based on childhood home video recordings found good concordance, however.[60] Second, persons willing to describe themselves as having gender nonconforming behaviors in childhood may also be more willing to report abuse victimization histories compared with persons not willing to describe themselves as gender nonconforming,[61] which would inflate estimates of the association between nonconformity and abuse. Third, our sample was predominantly white (93%); thus, findings may not apply to other groups.

Our study has implications for pediatricians, teachers, and others who work with children. Childhood abuse is associated with a host of detrimental sequelae, including smoking,[13] alcohol abuse, drug addiction,[14] HIV risk behaviors,[15] unintended pregnancy,[16] suicide attempts,[17] diabetes,[18] elevated BMI, hypertension,[19] cardiovascular disease,[20] and asthma,[21] among others. Three of the 4 components of our measure of childhood nonconformity queried observable behaviors, suggesting that parents, teachers, and health care providers may be able to identify children at possible increased risk of abuse by observation. Identifying children at risk for abuse may facilitate prevention measures, intervention to stop abuse if needed, or treatment following abuse. Further research to understand how gender nonconformity might increase risk of abuse and to develop family interventions to reduce abuse risk is needed.

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